S. Hrg. 107–509

GAS PRICES: HOW ARE THEY REALLY SET?

HEARINGS

BEFORE THE

PERMANENT SUBCOMMITTEE OF INVESTIGATIONS

OF THE

COMMITTEE ON
GOVERNMENTAL AFFAIRS
UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

APRIL 30 AND MAY 2, 2002

Printed for the use of the Committee on Governmental Affairs

U.S. GOVERNMENT PRINTING OFFICE

80–298 PDF WASHINGTON : 2002

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2250 Mail: Stop SSOP, Washington, DC 20402–0001

COMMITTEE ON GOVERNMENTAL AFFAIRS

JOSEPH I. LIEBERMAN, Connecticut, *Chairman*

CARL LEVIN, Michigan	FRED THOMPSON, Tennessee
DANIEL K. AKAKA, Hawaii	TED STEVENS, Alaska
RICHARD J. DURBIN, Illinois	SUSAN M. COLLINS, Maine
ROBERT G. TORRICELLI, New Jersey	GEORGE V. VOINOVICH, Ohio
MAX CLELAND, Georgia	THAD COCHRAN, Mississippi
THOMAS R. CARPER, Delaware	ROBERT F. BENNETT, Utah
JEAN CARNAHAN, Missouri	JIM BUNNING, Kentucky
MARK DAYTON, Minnesota	PETER G. FITZGERALD, Illinois

JOYCE A. RECHTSCHAFFEN, *Staff Director and Counsel*
RICHARD A. HERTLING, *Minority Staff Director*
DARLA D. CASSELL, *Chief Clerk*

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

CARL LEVIN, Michigan, *Chairman*

DANIEL K. AKAKA, Hawaii,	SUSAN M. COLLINS, Maine
RICHARD J. DURBIN, Illinois	TED STEVENS, Alaska
ROBERT G. TORRICELLI, New Jersey	GEORGE V. VOINOVICH, Ohio
MAX CLELAND, Georgia	THAD COCHRAN, Mississippi
THOMAS R. CARPER, Delaware	ROBERT F. BENNETT, Utah
JEAN CARNAHAN, Missouri	JIM BUNNING, Kentucky
MARK DAYTON, Minnesota	PETER G. FITZGERALD, Illinois

ELISE J. BEAN, *Acting Staff Director and Chief Counsel*
DAN M. BERKOVITZ, *Counsel*
LAURA E. STUBER, *Counsel*
KIM CORTHELL, *Minority Staff Director*
MARY D. ROBERTSON, *Chief Clerk*

CONTENTS

Opening statements: Page
Senator Levin 1, 79
Senator Collins 10, 81
Senator Akaka 12
Senator Lieberman 13, 82
Senator Carnahan 15
Senator Voinovich 16
Senator Bunning 18
Prepared statement for May 2, 2002:
Senator Bunning 129

WITNESSES

TUESDAY, APRIL 30, 2002

James S. Carter, Regional Director, U.S., ExxonMobil Fuels Marketing Company, Fairfax, Virginia 20
Gary Heminger, President, Marathon Ashland Petroleum, Findlay, Ohio 21
Ross J. Pillari, Group Vice President, U.S. Marketing, BP, Warrenville, Illinois 24
David C. Reeves, President, North America Products, ChevronTexaco Corporation, San Ramon, California 26
Rob Routs, President and Chief Executive Officer, Shell Oil Products U.S., Houston, Texas 29

THURSDAY, MAY 2, 2002

Hon. Ron Wyden, a U.S. Senator from the State of Oregon 85
Richard Blumenthal, Attorney General, State of Connecticut, Hartford, Connecticut 89
Jennifer M. Granholm, Attorney General, State of Michigan, Lansing, Michigan 91
Tom Greene, Senior Assistant Attorney General for Antitrust, California Department of Justice, Sacramento, California 95
Peter Ashton, President, Innovation and Information Consultants, Inc., Concord, Massachusetts 108
Justine S. Hastings, Assistant Professor of Economics, Dartmouth College, Hanover, New Hampshire 112
R. Preston McAfee, Murray S. Johnson Professor of Economics, University of Texas, Austin, Texas 115
Philip K. Verleger, Jr., President, PK Verleger, LLC, Newport Beach, California 118

ALPHABETICAL LIST OF WITNESSES

Ashton, Peter K.:
Testimony 108
Prepared statement with attachments 204
Blumenthal, Richard:
Testimony 89
Prepared statement 179
Carter, James S.:
Testimony 20
Prepared statement with an attachment 130
Granholm, Jennifer M.:
Testimony 91
Prepared statement 187

Page

Greene, Tom:
Testimony 95
Prepared statement 198
Hastings, Justine S.:
Testimony 112
Prepared statement with attachments 215
Heminger, Gary:
Testimony 21
Prepared statement 146
McAfee, R. Preston:
Testimony 115
Prepared statement 227
Pillari, Ross J.:
Testimony 24
Prepared statement 157
Reeves, David C.:
Testimony 26
Prepared statement 161
Routs, Rob:
Testimony 29
Prepared statement 170
Verleger, Philip K., Jr.:
Testimony 118
Prepared statement 239
Wyden, Hon. Ron:
Testimony 85
Prepared statement, May 2, 2002 175

EXHIBITS

1. Chart: *Average Midwestern Retail Gasoline Prices, January 1999-April 2002* 250
2. Chart: *Michigan Retail and Rack Prices, January-August 2001* 251
3. Chart: *Average United States Retail Gasoline Prices, January 1995-April 2002* 252
4. Recent Mergers 253
5. Chart: *HHI Index for United States Gasoline Wholesale Market in 1994* 254
6. Chart: *HHI Index for United States Gasoline Wholesale Market in 2000* 255
7. Chart: *Market Share of Top 4 Firms in the Gasoline Wholesale Market in 1994* 256
8. Chart: *Market Share of Top 4 Firms in the Gasoline Wholesale Market in 2000* 257
9. Chart: *Illinois Retail Prices (Net Taxes), June 2001* 258
10. Chart: *Maine Retail Prices (Net Taxes) by Brand, January-August 2001* 259
11. Chart: *Michigan Retail, Rack, and Spot Market Prices, January-August 2001* 260
12. Chart: *Michigan Retail Prices (Net Taxes) by Brand, April 2001* 261
13. BP Amoco Midwest/Mid Continent Strategy 262
14. BP Amoco CEO Statements 266
15. Powerine Memo 267
16. ARCO West Coast Market Fundamentals 268
17. ARCO Memo on Role In Market 269
18. 1992 Texaco Memo 271
19. 1993 Chevron Memo 272
20. 1996 Texaco Memo 273
21. 1997 Pricing Strategy Emails 274
22. Chart: *Wolverine Pipeline System Overview* 276
23. Chart: *Pipeline Transportation Charges in 1999* 277
24. Chart: *Michigan Daily Retail Price Changes (Net Taxes) by Brand, April 9–14, 2001* 278
25. Chart: *Petroleum Administration for Defense Districts (PADD)* 279
26. Marathon Oil Company, Summary: Short-Term Price Outlook 280
27. Letter from Gary R. Heminger, President, Marathon Ashland Petroleum, dated May 13, 2002, to the Permanent Subcommittee on Investigations, clarifying April 30th testimony 281

Page

28. Letter from James S. Carter, Regional Director, U.S., ExxonMobil Fuels Marketing Company, dated May 17, 2002, to the Permanent Subcommittee on Investigations, clarifying April 30th testimony 282
29. Letter from Ross J. Pillari, President, BP America Inc., dated May 16, 2002, to the Permanent Subcommittee on Investigations, clarifying April 30th testimony 285
30. Letter from ChevronTexaco, dated May 14, 2002, to the Permanent Subcommittee on Investigations, clarifying April 30th testimony of David C. Reeves 287
31. Memorandum from James S. Carter, Regional Director U.S., ExxonMobil Fuels Marketing Company, dated May 2, 2002, to the Permanent Subcommittee on Investigations, clarifying the record on zone pricing 288
32. Supplemental questions and answers for the record of Ross J. Pillari, BP America, Inc. 289
33. Supplemental questions and answers for the record of Gary R. Heminger, Marathon Ashland Petroleum 294
34. Supplemental questions and answers for the record of Rob J. Routs, Shell Oil Products 299
35. Supplemental questions and answers for the record of David C. Reeves, ChevronTexaco Corporation 302
36. Supplemental questions and answers for the record of James S. Carter, ExxonMobil Fuels Marketing Company 311
37. ChevronTexaco's comments on the Permanent Subcommittee on Investigations' Majority Staff Report entitled *Gas Prices: How Are They Really Set?* 314
38. Attachments to prepared statement of David C. Reeves, President, North American Products, ChevronTexaco Corporation ..... *
39. Report of the Permanent Subcommittee on Investigations' Majority Staff entitled, *Gas Prices: How Are They Really Set?* 322

* May be found in the files of the Subcommittee

GAS PRICES: HOW ARE THEY REALLY SET?

TUESDAY, APRIL 30, 2002

U.S. SENATE,
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS,
OF THE COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The Committee met, pursuant to notice, at 9:34 a.m., in room SH–216, Hart Senate Office Building, Hon. Carl Levin, Chairman of the Subcommittee, presiding.

Present: Senators Levin, Lieberman, Akaka, Durbin, Carnahan, Dayton, Collins, Stevens, Voinovich, and Bunning.

Staff Present: Linda J. Gustitus, Chief of Staff for Senator Levin; Mary D. Robertson, Chief Clerk; Laura Stuber, Counsel; Dan Berkovitz, Counsel; Edna Falk Curtin, Detailee/General Accounting Office; Cliff Tomaszewski, Detailee/Department of Energy; Kim Corthell, Minority Staff Director; Eileen Fisher, Investigator to the Minority; David Mount, Detailee/Secret Service; Joyce Rechtschaffen, Staff Director and Counsel, Governmental Affairs Committee; and Laurie Rubenstein (Senator Lieberman).

OPENING STATEMENT OF SENATOR LEVIN

Senator LEVIN. Good morning, everybody. Today the Permanent Subcommittee on Investigations opens 2 days of hearings on how gas prices are set in the United States. Gas is the lifeblood of our economy, and through luck, pluck, hard work, and ingenuity, we have been able to have the gasoline that we need in this country.

Most of us take for granted the fact that in most urban areas we can go a few blocks and find a gas station that has gas, and with the 5 minutes it now takes to fill up our tanks, we can be off and about our business in no time. It is easy to lose sight of the fact that the gas that we put in our tanks is the product of an incredibly complicated, worldwide network of countries, companies, and individuals who, using advanced technology and science, take crude oil from under the ground or under the seas, then put it in tankers the size of two football fields, ship it across oceans or through long pipelines to ports in the United States, pipe it into refineries, heat it under the most dangerous circumstances, and produce gasoline in that process. That gas is then piped or barged across the country to terminals where trucks unload and deliver it to individual gas stations. It is an amazing process that goes on day after day, hour after hour—24/7, as they say—to enable America's ready access to the liquid that makes our lives run.

With the central role that gas plays in all of our lives, it is no wonder that the public is highly attuned and sensitive to its price.

And when the price of gas jumps dramatically at the pump without any apparent reason, and when all stations regardless of brand appear to raise and lower their prices at the same time and by the same amount, the public understandably gets suspicious. That is what happened over 11 months ago when we started this investigation. The Midwest had just experienced for the second year in a row a price spike leading into the Memorial Day holiday. Exhibit 1[1] over to my left shows those gas spikes. Exhibit 11[2] shows the 2001 spike and shows that it was not due to increases in the price of crude oil. Exhibit 11 over there is the one that is on the left, and Exhibit 1 is the one that is on the right. Consumers were upset. They didn't trust the answers from the oil companies that the price spikes were just supply and demand at work.

Since the spikes in spring of 2000 and 2001, the Midwest also witnessed a Labor Day price spike last year, and nationwide, gas prices have increased in the last few months faster than at any time in the past 50 years. Price spikes are becoming a way of life in the United States and not without serious consequences.

As we can see from the next exhibit, Exhibit 3,[3] at the same time approximately each year not only does the groundhog look for his shadow but for rising gas prices as well. But there are serious consequences to this new pattern. Sudden increases in gasoline prices are costly to the consumer and disrupt our economy, because the cost of transportation, which is based on the cost of fuel, affects the cost of all of our goods and services. Last year's increases in the price of gasoline helped push the American economy into a recession, and this year's increases are threatening the current recovery.

For every 1 cent per gallon increase in the price of gas, the income to oil companies goes up $1 billion a year.

To try to get to the bottom of questions about gas prices, I asked the staff of our Permanent Subcommittee to investigate just how gas prices are set. After an extensive investigation, the Majority staff of the Subcommittee issued a 400-page report laying out their findings. The report looks in detail at three regions of the country: The West Coast (California in particular); the Midwest (Michigan, Ohio, and Illinois in particular); and the East Coast (Maine and the Washington, DC, area in particular).

The Majority staff found that the mergers in the oil industry over the last few years and the closing of many refineries over the past 20 years have increased the concentration in the refining industry, that is, there are far fewer refining companies. And as we can see from Exhibit 4,[4] there have been many, many mergers that have been approved in recent years. And just to list a few of them, in 1998 Marathon and Ashland Oil merged their downstream assets; in 1998, British Petroleum (BP), merged with Amoco; in 1999, Exxon Corporation merged with Mobil Corporation; in 2000, BP Amoco acquired ARCO. Many of these are mega-mergers.

Under one accepted test for concentration, 28 States would now be considered tight oligopolies. Now, Exhibits 7 and 8[5] will dem-

[1] See Exhibit No. 1 which appears in the Appendix on page 250.
[2] See Exhibit No. 11 which appears in the Appendix on page 260.
[3] See Exhibit No. 3 which appears in the Appendix on page 252.
[4] See Exhibit No. 4 which appears in the Appendix on page 253.
[5] See Exhibits No. 7 and 8 appear in the Appendix on pages 256 and 257.

onstrate this. As you can see from these two exhibits, which use the 4-firm concentration ratios—and that is an accepted measurement of concentration of oil companies and their control of the market in a particular area—there has been a dramatic increase in the number of States with high levels of concentration between 1994 and 2000. In fact, the number of States which have a high level of concentration have doubled from 14 to 28 during those 6 years.

The red areas show the levels at which the numbers reflect a tight oligopoly, which is a 4-firm concentration ratio of more than 60 percent of the market. And as you can see from these charts, the District of Columbia is the most concentrated market, followed by Hawaii, Alaska, and a number of States in the Midwest, including my home State of Michigan.

As is true in this industry, as in any other industry, the more competition, the better for the consumer; the less competition, the worse for the consumer. But when an industry is concentrated, individual companies can have a significant effect on the price of a product, like gasoline, by the decisions that they make on supply. And that is what is happening today, in a number of markets, at least, in the United States. The reality is that a tight balance between demand and supply and low inventories are major contributors to price spikes, because in that tenuous condition, with the demand for gas being inelastic, that is, staying pretty constant despite the price, two things happen: In normal times when the market is concentrated, prices can be spiked before holidays, for instance, with less fear of competition driving it back down; and in times when there is a market disruption, the market responds wildly to the slightest problem or potential problem. We experienced major price spikes in the Midwest in just 2 years for these reasons.

Internal documents from several oil companies confirm that oil companies view it to be in their economic interest to keep gas inventories low and supply tight. Several documents from California show that refiners in California sought in the mid-1990's to prevent imports into California in order to make the market tight. One external Exxon memo advises the company to "not do deals that supports other's importing barrels to the West Coast."

Similarly, an internal Mobil memo counsels against importing gasoline, saying that it would depress profit margins.

California refiners also sought to limit the overall refinery capacity in that State.

One Mobil document talks about how to block the proposed start-up of the Powerine refinery. "Needless to say, we would all like to see Powerine stay down." It then proposes accomplishing this by buying all its product and marketing it themselves. "Especially," this memo says, "if they start to market below our incremental cost of production." And then the memo notes that buying Powerine's product the previous year had worked and it was "a major reason that the RGF premium"—the reformulated gas premium—". . . went from 1 cent per gallon to 3 to 5 cents per gallon."

A Texaco memo discusses how to use changes in fuel specifications to reduce supplies. The memo says, "Significant events need to occur to assist in reducing supplies and/or increasing the demand for gasoline." One example of a significant event, the memo

says, would be to seek the elimination of the requirement for an oxygenate which, the memo says, would make oxygenate usage go down, which would then have to be replaced by gasoline and, therefore, reduce the supply of gasoline. The memo says, "Much effort is being exerted to see that this happens in the Pacific Northwest."

California refiners also exported gas, that is, shipped gas out of California—to keep the market in that State tight.

An ARCO internal document discusses the need to export to prevent supply from building up in the State. The memo indicates that ARCO should export in order to intentionally alter the supply/demand balance within California and not just as a passive response to prevailing economic conditions. In that same presentation, one strategy discussed is to "exchange and trade selectively to preserve market discipline."

Another document in the Subcommittee files indicates that one company would export gasoline out of California to the Gulf Coast, even at a loss, with the rationale that such losses "would be more than offset by an incremental improvement in the market price of the much larger volumes of [gas] left behind."

Another company's plan indicates that exporting gasoline can "improve market conditions," and that the company was willing to "take [a] hit on price to firm up the market."

An internal BP document from 1999 reflects similar thinking with respect to the Midwest. The document reflects a discussion among senior BP executives of possible strategies to increase refining margins by reducing the supply of gasoline in the Midwest. It discusses "opportunities" to increase Midwestern gas prices by 1 to 3 cents per gallon by reducing the supply of gasoline. Options included: Shutting down refining capacity; convincing cities outside of the Midwest to require reformulated gas that was not readily available in their areas, thereby pulling supplies from the Midwest; exporting product to Canada; lobbying for environmental regulations that would slow down the movement of gasoline in pipelines; shipping products other than gasoline in pipelines; and providing incentives to others not to provide gasoline in Chicago.

BP officials told the Subcommittee staff that these ideas were only part of a "brainstorming" session. Well, what they were brainstorming about at a high level was manipulating supply in ways that are deeply troubling, and we will go through that document in some detail later this morning.

In another document from the Midwest, an internal Marathon document, Marathon even called Hurricane Georges a "helping hand" to oil producers because it "caused some major refinery closures, threatened offshore oil production and imports, and generally lent some bullishness to the oil futures market."

And that is the heart of the problem with respect to gas prices in the United States, at least in certain regions of the country. The refining market is so concentrated that oil companies can act to limit supply and from time to time spike prices to maximize profits, and because there is insufficient competition, and other companies' supplies are also kept tight, there is little to no challenge to that action. That is the major problem, or at least one major problem, as I see it. The ability to control supply allows oil companies to spike prices in a concentrated market without adequate competi-

tion to challenge them. And, also, the few companies that control the market often keep their prices in sync with each other, going up and down together in a fixed relationship to each other.

That is another part of the staff analysis. Most oil companies and gas stations, at least in these concentrated markets, try to keep their prices at a constant price differential with respect to one or more competitors. For example, one company decided that its station in Los Angeles should price the lower of ARCO stations plus 6 cents per gallon, or the average price of major branded stations in the area. Another oil company followed a pricing policy in Baltimore as follows, "We will initiate upward, we will follow Amoco, and Shell quickly."

Different companies' prices in specific markets tend to go up and down together, with companies tending to stake out a position in each market vis-a-vis the competitors and holding that position. Hence, it will often appear that, over time, gasoline prices in that market move together in a ribbon-like manner, so that as a brand moves up and down, it nevertheless remains at a constant differential with respect to other brands. Look at the retail pricing chart for Illinois for June 2001, and one from Maine for January to August 2002. Those are Exhibits 9 and 10,[1] and you see that ribbon-like move with brands of gasoline staying in the same relationship to each other price-wise as prices go up and down.

In Michigan and Ohio we found a clear leader-follower pricing practice. Speedway, owned by Marathon, has a pricing practice that bumps up the retail price of gasoline on Wednesdays and Thursdays, and that is Exhibit 2.[2] As the price leader in Michigan, once Speedway goes up, the other brands follow. And you can see those bumps on that chart on the right. The typical pattern after that is for Speedway to come down pretty quickly in price, while the other brands follow them down more slowly. Other companies follow similar practices in other areas.

The Majority staff report also addresses several other important issues with respect to gasoline pricing, including zone pricing, recommended retail prices, the advent of hyper-markets, which are the discount superstores like Wal-Mart and Cosco that now sell the lowest priced gasoline in the market, and the impact of boutique fuels, which are fuels required for specific locations to address particular environmental situations.

This morning we are going to hear from top marketing executives of five major oil companies: Marathon Ashland, British Petroleum or BP, ExxonMobil, ChevronTexaco, and Shell Oil.

And then on Thursday, we will hear from Senator Wyden, who has been looking into the subject of gas prices for a long time; from three Attorneys General (the Attorneys General from California, Connecticut, and Michigan), all of whom have been active in challenging gasoline price increases in their States; and we will hear from a panel of economists and industry experts on the issues that are raised in the report.

I want to just take a moment to say a special thanks to the Majority staff who worked so hard on this report and put together

[1] See Exhibits No. 9 and 10 appear in the Appendix on pages 258 and 259.
[2] See Exhibit No. 2 which appears in the Appendix on page 251.

such a thorough product. I also want to express my appreciation to Senator Collins and her staff for their support and to Senator Durbin and his staff, who assisted in the interviews.

When you think about the complexity of the issues and the size of this industry and the task of reading through tens of thousands of pages of material, a small team produced a well-written report in less than a year, and we are grateful to them for that effort.

[The prepared statement of Senator Levin follows:]

STATEMENT OF SENATOR CARL LEVIN

Good morning ladies and gentlemen. Today the Permanent Subcommittee on Investigations opens two days of hearings on how gas prices are set in the United States. Gas is the lifeblood of our economy, and through luck, pluck, hard work and ingenuity we've been able to have the gasoline we need in this country.

Most of us take for granted the fact that in most urban areas, we can go a few blocks and find a gas station that has gas and with the five minutes it now takes to fill up our tanks, we can be off and about our business in no time. It's easy to lose sight of the fact that the gas we put in our tanks is the product of an incredibly complicated, worldwide network of countries, companies, and individuals who, using advanced technology and science, take crude oil from under the ground or under the seas, put it in tankers the size of two football fields, ship it across the ocean to ports in New York, California, and the Gulf Coast, pipe it into refineries, heat it under the most dangerous circumstances and produce gas in that process. That gas is then piped or barged across the country to terminals where trucks unload it and deliver it to individual gas stations. It's an amazing process that goes on day after day, hour after hour, 24–7 as they say, to enable America's ready access to the liquid that makes our lives run.

With the central role that gas plays in all of our lives, it is no wonder that the public is highly attuned and sensitive to its price. And when the price of gas jumps dramatically at the pump without any apparent reason, and when all stations regardless of brand appear to raise and lower their prices at the same time and by the same amount, the public gets suspicious. That's what happened over 11 months ago when we started this investigation. The Midwest had just experienced for the second year in a row a price spike leading into the Memorial Day holiday. (Exhibits 1 and 2) Consumers were upset; they didn't trust the answers from the oil companies that the price spikes were just supply and demand at work.

In Michigan, the price of gas seemed to leap up overnight by the same amount across all brands of gas at all stations. If there were real competition in the industry, people asked, why would the prices of different brands go up and down together and just before the holidays?

Since the spikes in spring of 2000 and 2001, the Midwest has also witnessed a Labor Day price spike last year and nationwide, gas prices have increased in the last few months faster than at any time in the past 50 years. Price spikes are becoming a way of life in the United States and not without serious consequences. (Exhibit 3.) At the same time each year not only does the groundhog look for his shadow but for rising gas prices as well. But there are serious consequences to this new pattern. Sudden increases in gasoline prices are costly to the consumer and disrupt our economy, because the cost of transportation, which is based on the cost of fuel, affects the cost of all our goods and services. Last year's increases in the price of gasoline helped push the American economy into a recession, and this year's increases are threatening the current recovery.

Increased gas prices also represent a significant shift in wealth. For every 1 cent/gallon increase in the price of gas, the income to the oil companies goes up $1 billion a year.

To try to get to the bottom of questions about gas prices, I asked the staff of our Permanent Subcommittee to investigate just how gas prices are set. After interviewing representatives from the oil companies, distributors, service station owners and dealers, trade association representatives, lawyers and economists; after analyzing data from the Energy Information Administration and wholesale and retail price data purchased from the Oil Price Information Service; after reviewing over 250,000 documents subpoenaed from a number of major oil companies and one pipeline company, the Majority Staff of the Subcommittee issued a 400 page report yesterday laying out their findings.

The report includes an analysis of the operations and structure of the oil industry with particular focus on the downstream portion—that is, from the refinery to the

pump. Due to staff and time constraints, the staff looked in detail at just three regions of the country: the West Coast (California in particular); the Midwest (Michigan, Ohio and Illinois, in particular); and the East Coast (Maine and the Washington, D.C. area, in particular).

The Majority Staff's findings are contained in the Executive Summary at the front of the report and provide the basis for these two days of hearings. (For those unable to obtain a hard copy, the report is available on the PSI website.) The Majority Staff found that the mergers in the oil industry over the last few years and the closing of many refineries over the past 20 years have increased the concentration in the refining industry, that is there are fewer refining companies. (Exhibit 4.) Under one test for concentration in at least 9 states the refining and marketing industry is highly concentrated and in at least 28 states it is at least moderately concentrated. Under another test for concentration, 28 states would be considered tight oligopolies. Let me explain.

The Department of Justice and the Federal Trade Commission measure market concentration in two ways. One is the Herfindahl-Hirshman Index or HHI; the other is the 4-firm concentration ratio. The report describes how each of these measures of concentration works. This morning, we have charts showing these measures for all 50 states and the District of Columbia. (Exhibits 5–8.) As you can see from these charts, there's been a dramatic increase in the number of states with moderate to high levels of concentration between 1994 and 2000. The red areas show the levels at which the numbers reflect high concentration. Under Department of Justice Guidelines, an HHI of between 1000 and 1800 is "moderately concentrated," and an HHI over 1800 is considered to be "highly concentrated." A 4-firm concentration ratio of more than 60 percent shows a "tight oligopoly." As you can see from these charts, D.C. is the most concentrated market, followed by Hawaii, Alaska, and a number of states in the Midwest; my home state of Michigan is considered a "tight oligopoly" under the 4-firm ratio and just below "highly concentrated" using the HHI index.

As is true in this industry as in any other, the more competition, the better for the consumer; the less competition, the worse of the consumer. But when an industry is concentrated, individual companies can have a significant effect on the price of a product, like gasoline, by the decisions they make on supply. That's what's happening today, in a number of markets in the United States. The reality is, that a tight balance between demand and supply and low inventories are major contributors to price spikes, because in that tenuous condition, with the demand for gas being inelastic, that is, staying pretty constant despite the price, two things happen: 1) in normal times when the market is concentrated, prices can be spiked before holidays, for instance with less fear of competition driving it back down; 2) in times when there is a market disruption, the market responds wildly to the slightest problem or potential problem. We experienced major price spikes in the Midwest in just two years for those reasons. Let's walk through each of those prices spikes.

Low inventories have helped to create the conditions for price spikes in the Midwest, which have occurred when demand has increased (near driving holidays) and/or the supply of gasoline was disrupted. Not unlike oil companies nationwide, oil companies in the Midwest have adopted just-in-time inventory practices, resulting in crude oil and product stocks that frequently are just above minimum operating levels. And, in the spring of 2000 and 2001, the conversion from the production and supply of winter-grade gasoline to summer-grade gasoline further contributed to low inventories just prior to a seasonal increase in demand. With the stage set by those two factors, the oil companies took actions over these past two years in accordance with their profit maximizing strategies that significantly contributed to the price spikes when disruptions in supply occurred:

—During the spring of 2000, three major refiners determined it wasn't in their economic self interest to produce any more RFG [reformulated gas] than that required to meet the demands of their own customers, and so in that year they produced 23% less RFG than in the prior year, not enough to supply everyone who wanted to purchase it. That contributed to the short supply in the spot market for RFG, contributing to the price spike of spring 2000. While Marathon did have surplus RFG, it withheld some of it from the market so as to not lower prices.

—In the summer of 2001, major refiners deliberately reduced gasoline production, even in the face of unusually high demand at the end of the summer driving season, contributing significantly to the price spike of 2001.

Nationwide, in the winter of 2001–2002, demand fell and inventories rose following the tragic events of September 11, 2001. With reduced demand and higher inventories, prices fell. As a result, refining profits fell and refiners cut back on production in order to obtain higher profits. Along with the increase in the price of crude oil and market speculation, these reductions in production and the increase

in industry concentration significantly contributed to the run-up in price in the late winter and continuing into the early spring of this year.

Internal documents from several oil companies confirm that the oil companies view it to be in their economic interest to keep gas inventories low and the supply and demand balance tight.

Several documents from California show that refiners in California sought in the mid-90's to prevent imports into California in order to make the market "tight."

- One internal Exxon memo advises the company to "not do deals that supports other's importing barrels to the West Coast."
- Similarly, an internal Mobil memo counsels against importing gasoline, saying it would depress margins.

California refiners also sought to limit the overall refinery capacity in the state.

- One Mobil document talks about how to block the proposed startup of the Powerine refinery. "Needless to say," the memo says, "we would all like to see Powerine stay down." It then proposes accomplishing this by buying all its product and marketing it themselves. "Especially," the memo says, "if they start to market below our incremental cost of production." The memo then notes that buying Powerine's product the previous year, when it was below Mobil's "incremental cost of production" had worked and it was "a major reason that the RFG premium . . . went from 1 cent per gallon to 3–5 cents per gallon."
- A Texaco memo discusses how to use changes in fuel specifications to reduce supplies. The memo says, "Significant events need to occur to assist in reducing supplies and/or increasing the demand for gasoline." One example of a significant event, the memo says would be to eliminate the requirement for an oxygenate which, the memo says, would make oxygenate usage go down which reduces total volume of gasoline supplies. The memo says, "Much effort is being exerted to see that this happens in the Pacific Northwest."

California refiners also exported gas—that is, shipped gas out of California—to keep the market in that state tight.

- An ARCO internal document discusses the need to export to prevent supply from building up in the state. The memo indicates that ARCO should export in order to intentionally alter the supply/demand balance within California and not just as a passive response to the prevailing economic conditions. In that same presentation, one strategy discussed is to "exchange and trade selectively to preserve market discipline."
- Another document in the Subcommittee files indicates that one company would export gasoline out of California to the Gulf Coast, even at a loss, with the rationale that such losses "would be more than offset by an incremental improvement in the market price of the much larger volumes of [gas] left behind."
- Another company's plan indicates that exporting gasoline can "improve market conditions," and that the company was willing to "take [a] hit on price to firm up market."

An internal BP document from 1999 reflects similar thinking with respect to the Midwest. The document reflects a discussion amongst senior BP executives of possible strategies to increase refining margins, and it mentions "significant opportunities to influence the crude supply/demand balance." It notes that these "opportunities" can increase Midwestern prices by 1 to 3 cents per gallon." The memo discusses strategies to reduce the supply of gasoline in the Midwest. It lists some possible options, including: shutting down refining capacity, convincing cities to require reformulated gas that is not readily available, exporting product to Canada, lobbying for environmental regulations that would slow down the movement of gasoline in pipelines, shipping products other than gasoline on pipelines that can carry gasoline, and providing incentives to others not to provide gasoline in Chicago. BP officials told the Subcommittee staff that these ideas were only part of a "brainstorming" session and that none of the options for reducing supply were adopted. We'll go through this document in some detail later this morning. In another document from the Midwest, an internal Marathon document, Marathon even called Hurricane George a "helping hand" to oil producers because it "caused some major refinery closures, threatened off-shore oil production and imports, and generally lent some bullishness to the oil futures market."

And that is the heart of the problem with respect to gas prices in the United States today—in certain regions of the country—the refining market is so concentrated, that oil companies can act to limit supply and from time to time spike prices to maximize profits, and because there is insufficient competition, there is little-to-no challenge to that action. That's the major problem as I see it. The ability

to control supply allows oil companies to spike prices in a concentrated market without adequate competition to challenge them.

The Majority Staff made some other significant findings. Oil companies do not set wholesale (rack) or retail prices based solely upon the cost to manufacture and sell gasoline; rather wholesale (rack) and retail prices are set on the basis of market conditions, including the prices of competitors. Most oil companies and gasoline stations try to keep their prices at a constant price differential with respect to one or more competitors. For example one company decided that its station in Los Angeles should price the lower of ARCO stations plus 6 cents per gallon, or the average price of major branded stations in the area. Another oil company followed a pricing policy in Baltimore as follows:

"We will initiate upward, we will follow Amoco, Shell quickly . . . we will be slow to come down in a dropping market."

Because many oil companies and gasoline retailers set their retail price on the basis of the prices of their retail competitors, prices in each specific market tend to go up and down together. And oil companies tend to stake out a position in each market vis-a-vis the competitors and hold that position. Hence, it will often appear that, over time, gasoline prices in that market move together in a "ribbon-like" manner—so that as a brand moves up and down it nonetheless remains at a constant differential with respect to the other brands. Look at this retail pricing chart for Illinois for June 2001, and this one from Maine for January-August 2001. (Exhibits 9 and 10.)

In Michigan and Ohio we found a clear leader-follower pricing practice. Speedway, owned by Marathon, has a pricing practice that bumps up the price of gasoline on Wednesdays or Thursdays. As the price leader in Michigan, once Speedway goes up, the other brand follows. The typical pattern after that is for Speedway to come down in price pretty quickly, while the other brands follow them down more slowly. You can see this very clearly in these charts from January to August 2001 and April 2001. (Exhibits 11 and 12.)

Oil companies also use a system of what they call "zone pricing" in order to maximize the prices and revenues at each gas station. Since under the antitrust law, they are prohibited from selling wholesale product at a different price to similarly situated retailers, the oil companies have developed a system for differentiating among retailers in the same immediate area. In doing so, they can charge the retailers different wholesale prices for their gasoline. The way they accomplish this is by dividing a state or region into zones. A zone is supposed to represent a particular market, and the stations in that zone are supposed to be in competition with each other. The oil companies use a highly sophisticated combination of factors to identify particular zones. For example, if most people buy their gas on their way home from work instead of on their way to work, a station on one side of a rush hour street may be treated as in one zone and the same brand station on the other side of the street in another zone. The oil company will then charge those two gas stations different prices for their gasoline, because the station on the side of the street with easy access for evening rush hour traffic may be able to get a higher price for its gas than the station on the other side of the street. That's the kind of thinking that goes into the zone pricing system, and it allows the oil companies to charge the highest possible amount for their gas in a given area.

Another pricing practice the Majority Staff uncovered has to do with how gas station owners set their retail prices. The Majority Staff learned that for those stations that lease from a major oil company (about one-fourth of the 117,000 branded stations) the oil company actually recommends to the station dealer a retail price. Now by law, the oil company is prohibited from telling a lessee dealer what it can charge for gasoline, but that doesn't keep oil companies from "recommending" a price. And the Majority Staff was told by several dealers that if they don't charge their retail customers the recommended price, the next delivery of gas from the oil company will reflect any increase instituted by the dealer. These dealers are saying that if they decide to price their gas at $1.40/gallon when the oil company recommends $1.35, the next delivery of gasoline to the station (and deliveries are sometimes daily for busy stations) will have a 5 cent/gallon increase in the price to the retailer. If these allegations are true, then the practical effect would be that the recommended price is subtly or not so subtly being enforced.

The Majority Staff report also address several other important issues with respect to gasoline pricing—including the advent of hypermarkets, those are the discount super-stores like Wal-Mart and Cosco that now sell the lowest priced gasoline in the market; and the impact of boutique fuels, fuels required for specific locations to address particular environmental situations. This morning we will hear from the top marketing executives of five major oil companies: Marathon Ashland, BP, ExxonMobil, ChevronTexaco, and Shell Oil.

On Thursday we will hear from Senator Wyden, who has also been looking into the subject of gas prices; three Attorneys General, from California, Connecticut and Michigan, all of whom have been active in challenging gasolines price increases in their states; and we will hear from a panel of economists and industry experts on the issues raised in the report.

I want to take this opportunity to say a special thanks to the Majority Staff who worked so hard on this report and put together such a thorough product. The Subcommittee's thanks go to Dan Berkovitz, the lead writer of the report; Laura Stuber, counsel to the Subcommittee who oversaw the dozens of interviews with individual gas station owners and operators and ably drafted portions of the report and oversaw its development; Edna Curtin, a detailee from the General Accounting Office who did a substantial portion of the price analysis and chart development; Cliff Tomaszewski, a detailee from the Department of Energy who provided background research on the oil industry and the production and marketing of gasoline; Bob Roach, chief investigator who was responsible for the discussion of the Wolverine Pipeline case; and Mary Robertson, the Subcommittee's Chief Clerk who again, amazed us all with her ability to pull together a complex report for production.

I also want to express my appreciation to Senator Collins and her staff for their support and to Senator Durbin and his staff who assisted in the interviews.

It has been a team effort, and when you think about the complexity of the issues, the size of the industry, and the task of reading through tens of thousands of pages of materials, it is highly impressive that such a small team produced such a well-written report in less than a year.

Senator LEVIN. Senator Collins.

OPENING STATEMENT OF SENATOR COLLINS

Senator COLLINS. Thank you, Mr. Chairman.

First, let me thank the Subcommittee Chairman, Senator Levin, for convening these hearings to examine the pricing of gasoline and the causes of price spikes. Oil and gasoline are vital to virtually every aspect of our economy, which depends on stable and reasonable energy prices to prosper.

Consumers are justifiably concerned and confused about the high price of gasoline. From the first week to the last week of March, for example, gasoline prices rose about 23 cents per gallon nationwide. This increase is a record for a 4-week period. This price jump is particularly noteworthy as it pre-dates both the seasonal transition from winter to summer gasoline that takes place beginning May 1, as well as the beginning of the driving season that typically starts around Memorial Day.

While price spikes have been most dramatic in the Midwest, Maine and other regions of the country have not been immune to price spikes and price volatility. In recent weeks, gas prices in Maine have edged up sharply, with recent price increases ranging from 8 to 20 cents in just 1 week's time.

Just as inexplicable are gasoline prices that are significantly higher in one Maine town than in other towns further from supply points.

High gasoline prices have a negative effect on the U.S. economy overall, but particularly on low-income families and small businesses.

Geographically, Maine is a large State, and many Mainers have to commute long distances to get to work, to go to school, and to go shopping. Gasoline prices affect all sectors of the economy by raising the cost of transportation. I have met frequently with truckers, for example, in my State who talk about the impact of rising diesel prices on their ability to earn a living. As our country strug-

gles to strengthen the economy, it is vital that high gasoline prices or price spikes not derail these efforts.

The gasoline industry has changed dramatically over the past 20 years. Perhaps the most significant change that has occurred is the increased concentration in the industry that the Chairman has mentioned, including such mergers as Marathon and Ashland Oil; Exxon and Mobil; BP and Amoco, and then ARCO; and Chevron and Texaco, to name just a few. The two largest mergers, I would note, between Exxon and Mobil, and BP and Amoco, were approved during the Clinton Administration, as was the Marathon and Ashland Oil merger. Clearly these mergers have had an impact on competition within the marketplace. This trend has resulted in increasingly concentrated refining and marketing industries, which can then result in higher prices for consumers.

According to the 2002 annual report on competition in the retail petroleum markets prepared by Maine's Attorney General, Maine's gasoline markets are relatively concentrated, which means that the level of competition within these markets is generally low. Maine's more rural counties tend to be extremely concentrated, meaning that there is even less competition. Competition is more healthy in the more populous areas of my State. Overall, however, the Attorney General's report indicates that concentration has been inching up gradually over the past few years, a troubling development.

Another change is the closure of more than half of the refineries in the United States. Yet refining capacity has remained nearly what it was before the refinery closures. This is due to increased efficiencies and a very high rate of capacity operation, about 96 percent. By contrast, the average capacity utilization rate in other U.S. industries is 82 percent. This means that the 150 refineries still operating in the United States are responsible for producing ever more product as demand continues to grow. It also means that there is no room for error, either through a refinery breakdown or a demand miscalculation on the part of refiners.

Yet another significant development has been the proliferation of gasoline blends. Prior to 1995, only conventional gasoline was sold in the United States. Now there are more than 16 different blends of gasoline due to various Federal, State, and local fuel requirements. As a result, when an area has a supply disruption due, for example, to a refinery fire or a pipeline rupture, it is more difficult to meet the demand with gasoline from another area, particularly if one of those areas also requires a unique blend.

Many of Maine's gasoline distributors have told me that they are very concerned about the impact of the proliferation of gasoline blends and the difficulties this creates in getting enough of the appropriate type for each market. Not only do the number of blends make it harder to get each type of gasoline for each market, but it also creates the need for additional infrastructure. In particular, terminals need more tanks to store each type of gasoline. These are other costs that are undoubtedly passed on to the consumer in the form of higher prices, and I want to explore with our witnesses the impact of boutique fuels on prices.

In Maine, we have two types of gasoline. Conventional gasoline is sold year round in much of the State. But during the summer, in the southern counties, because of concerns over water quality,

we use a State-required blend that helps to improve water quality, yet doesn't appear to result in as severe groundwater pollution as the Federal reformulated fuel. In Massachusetts, eastern New Hampshire, and Connecticut, however, Federal RFG is sold, which makes a total of three types of gasoline required in just one small corner of New England.

Today we will hear testimony from representatives of several of the largest oil companies. I look forward to discussing with them the increased concentration in the industry, which I view as a negative development, as well as to hear their explanation of gasoline price spikes and the recent price hikes that people in Maine have been experiencing, as well as citizens elsewhere. I look forward to hearing what can be done to avert price spikes that cost consumers millions of dollars and threaten our economic recovery.

Senator LEVIN. Thank you, Senator Collins. We will use the early-bird rule here. Senator Akaka.

OPENING STATEMENT OF SENATOR AKAKA

Senator AKAKA. Thank you very much, Mr. Chairman. I want to thank you for holding the first of 2 days of hearings on this very important and timely matter.

The rising cost of gasoline across the United States is alarming, and I applaud your efforts to uncover the reasons for this trend so that we may devise a plan to protect American consumers. I would like to take this opportunity to thank you for this report and the good work by your staff.

High gasoline prices are not new to Hawaii. According to the Subcommittee report, Midwestern gasoline prices spiked to the highest in the Nation during the spring of 2000 and 2001. During this time, prices in the Midwest eclipsed those in the State of Hawaii to earn the dubious distinction of highest in the Nation.

For more than 20 years, Hawaii has consistently had the highest gasoline prices in the Nation. From 1995 through the first half of 1998, gasoline prices in Hawaii averaged more than 30 cents per gallon higher than the U.S. mainland prices.

We don't have price spikes in Hawaii. We have had one long continuous spike.

On any day that you check www.gaspricewatch.com, you will find a gas station in Hawaii at the top of the list. On Monday, for example, the record for the highest price for regular unleaded gas in the Nation was held by a station in Pukalani, Hawaii, at $1.89 per gallon.

According to the Attorney General of Hawaii, higher prices cannot be attributed to higher refining costs within the State of Hawaii or higher transportation costs to the State. For example, the price of gasoline in Hawaii has exceeded the cost of buying refined gasoline in California and transporting it to Hawaii by more than 20 cents per gallon. Moreover, the cost of transporting crude oil to Hawaii or refining gasoline in Hawaii is not higher than similar costs on the mainland. As such, the State's higher retail prices may be the result of having a highly concentrated market. Hawaii has only two refineries and four firms selling wholesale gasoline. This leaves the State with one of the highest concentration levels of re-

fining and gasoline supply in the Nation—a significant problem according to your report, Mr. Chairman.

Once again, Hawaii has the highest gasoline prices in the Nation. Just last week the American Automobile Association reported that the national average price of regular unleaded gasoline was $1.41 per gallon. At the same time the average regular unleaded gas price in Hawaii was approximately $1.69 per gallon. California was second with an average of $1.66 per gallon. Such high prices hurt the hard-working men and women in Hawaii and in the rest of the country. As your report states, this could push the American economy back into a recession.

Currently Hawaii State lawmakers are seeking information on how gas prices are set as they look at ways to bring the State's gas prices more in line with the national average. Over the weekend a conference committee of the Hawaii State legislature reached an agreement on a bill to regulate gas prices in Hawaii. I understand that many other States are concerned with this issue and may be looking at similar proposals. I am hopeful that Chairman Levin's interest in gasoline prices will spur continued attention to this issue, specifically for States with higher prices such as Hawaii. Because Hawaii has such consistently high gasoline prices, it generally does not draw the attention that unusual price spikes command.

I would like to know, and my constituents would like to know, what happens at the pump. Why are some States always faced with higher gasoline prices than others? I anticipate the testimony we receive today and the information in your report, Mr. Chairman, will aid in answering this critical question and lead to lower prices for States like Hawaii.

Thank you very much, Mr. Chairman.

Senator LEVIN. Thank you, Senator Akaka. Senator Lieberman.

OPENING STATEMENT OF SENATOR LIEBERMAN

Senator LIEBERMAN. Thanks very much, Senator Levin. I want to commend you and your staff and Senator Collins and her staff for working so hard on a matter of such critical importance to the American economy and to millions of American consumers. You have produced a very substantive, thoughtful and important report, and as Chairman of the full Senate Governmental Affairs Committee, may I say I am very proud of the quality and constructiveness of this report.

When gasoline gets dramatically more expensive, as it seems to do every spring, summer and other times of the year, all Americans pay the price. The entire economy feels the pinch. Just this spring, as the Permanent Subcommittee on Investigation's Report points out, retail prices have increased faster than at any time in the past 50 years. American consumers obviously remain wary of future price hikes, puzzled and angered by the forces that seem to make the price of gas as volatile as gasoline is combustible. They are not alone. Even those in government with a statutory responsibility to understand the energy industry have been working hard to learn precisely how gas prices are set. This Permanent Subcommittee on Investigation's Report is a major contribution to that effort, and it

appropriately focuses our concentration on the oil industry's growing concentration.

Over the past 20 years and particularly over the past 5 years, big oil companies have been merging, and these larger and larger corporations have been squeezing small refineries out of the market. They are also controlling more and more gas stations, setting prices and carving out market share through sole supplier agreements and zone pricing plans.

But the American consumer is often left at the short end of the pump, at the mercy of wild price fluctuations and big price spikes. That is made worse by the fact that while their own pocketbooks are being pinched, consumers see the oil companies making huge profits. As PSI's report points out, the increase in gas prices from 1999 to 2000 had been matched only once in history, and the year 2000 income for major energy companies from refining and marketing was up 57 percent from 1999. In other words, the hundreds of additional dollars paid by the average consumer for gasoline resulted in unusually large profits for the oil industry. Over the course of a year every 10-cent increase in the price of gasoline results in approximately $10 billion in additional oil company revenues.

Now, a free market economy like ours is a wonderful thing, but the price of that freedom, as we have learned from the Enron debacle, is constant vigilance against market abuses. And the question before us today is: Are the interests of consumers being served by the increasing domination of the gasoline and oil markets by fewer and fewer large companies? Each of the mergers that has changed the landscape of the oil industry has been approved by the Federal Trade Commission, but given the effects of these mergers on the marketplace, it does seem to me to be worth asking whether the Federal Trade Commission is using all the right criteria for evaluating these mergers, and whether its policy of ordering newly-merged companies to divest their refineries is in fact good for the American consumer. The net effect of those divestitures, as has been pointed out, has been to reduce the responsiveness of the marketplace when demand goes up and therefore increase the likelihood of price spikes.

As William Baer, then Director of the FTC's Bureau of Competition, said in 1999, "Competition is critical to this industry, and that concentration, as well as increases in concentration, even to the levels that the antitrust agencies call moderately concentrated, can have substantial adverse effects on competition." The main point being that concentration can have adverse effects, and from this report certainly appears to have had such effects on competition.

Mr. Chairman, I want to conclude by pointing out how critical an energy policy priority today's hearing should underline, and that of course is energy diversification. The tremendous volatility of gas prices is in part the result of volatility of global politics and economics. We have had turmoil in Venezuela, fourth largest provider of imported American oil. We have had, obviously, a serious and ongoing crisis in the Middle East. So that even in a maximally competitive and healthy marketplace, these global changes would make oil prices volatile, and therefore would put periodic price pinches on American gasoline consumers. That calls on us to have

the foresight to diversify our energy supply to plan new sources of energy, rather than continuing our long-term reliance on oil so that the U.S. economy and policy is not at the mercy of such fluctuations. The energy bill passed by the Senate last week, in my opinion, offers us an opportunity to start doing that.

But let me come back to the beginning, Mr. Chairman. I thank you and your staff for an extraordinary piece of work that is clearly in the public interest. Thank you very much.

Senator LEVIN. Thank you very much, Senator Lieberman. Senator Carnahan.

OPENING STATEMENT BY SENATOR CARNAHAN

Senator CARNAHAN. Thank you, Mr. Chairman.

If you were to ask most Americans what the current price of gasoline is, I am certain that they would be able to tell you. They can probably even tell you what the price is at two different stations in comparison. Americans pay attention to gas prices. Why? Because travel, and thus fuel, impact virtually every part of their lives, from driving to work, to taking the kids to after-school activities, to whether or not they can afford a family vacation. And the ripple effects of gas price spikes extend to businesses as well. As gas prices rise, costs to businesses also increase. And when the cost of doing business is greater, someone has to pay.

Whether directly or indirectly, gas prices have a tremendous impact on the American family's bottom line. Consumers are the ones that bear the burden of spikes and increases in gas prices. For those living on a fixed income, like most seniors in Missouri, the price spikes have an even greater negative effect. Last summer, for the second year in a row, the Midwest experienced significant increases and fluctuations in gas prices, and we want to know why.

So I applaud Senator Levin for initiating and overseeing this investigation. When constituents ask why our gas prices are increasing, they deserve an answer, and this report provides that answer.

However, that answer is complex, and we find it is not just one factor that is the cause, but rather, a set of market trends that have combined to cause price spikes. Several of these trends are troubling. First is the more frequent fluctuation in gas prices. Oftentimes prices fluctuate more in a month than they previously did in years. Second, there is the refiners' ability and willingness to influence prices by controlling supply. And third, the decrease in competition brought on by mergers in oil companies and with it an increase in prices.

The message of this report is unsettling. The situation is worse than it has been in a long time, and there are no signs that these trends that have caused volatility will end any time soon. These are significant findings that we need to keep in mind as we develop policies that impact the gasoline market. In such a volatile and concentrated market, we must be vigilant on behalf of consumers. And I hope that this Subcommittee will continue monitoring this issue and help us to develop policies that protect our economy, our businesses, and our consumers.

Thank you, Mr. Chairman.

Senator LEVIN. Thank you very much, Senator Carnahan. Senator Voinovich.

OPENING STATEMENT OF SENATOR VOINOVICH

Senator VOINOVICH. Thank you, Mr. Chairman, for holding this hearing.

The impact of high and unpredictable gasoline prices is a problem that has plagued consumers in my home State of Ohio for the past few years, and I would like to commend the Chairman for the time that you and your staff have put in on this important issue.

I would also like to welcome our witnesses, particularly Gary Heminger, who is the President of Marathon Ashland Oil and who has a large installation in the State of Ohio, and one of our great corporate citizens; and Mr. Pillari, even though I am very unhappy with BP moving their North American Headquarters out of Cleveland, Ohio, to Chicago, you still have a large presence in our State. I will never forget that while I was Governor of Ohio, because of an enormous investment of money made by BP, we brought down the emissions in the Toledo area and helped us obtain our ambient air standards there which was very, very helpful.

Two years ago the full Committee, at my request and several other Senators, held a series of hearings looking into this same issue: Gasoline price spikes. It is very interesting that the players have changed but the companies are the same here before us.

At that time, politicians, analysts, and business owners were busy pointing to a whole host of reasons for the 2000 price hikes. Alleged price gouging and collusion among oil companies was one thing. Lack of domestic production, reformulated gasoline, economics and the law of supply and demand; pipeline and other transportation problems; you name it.

At the time the Federal Trade Commission also was asked to investigate the Midwest gasoline price situation. I would like to point out that that was the Federal Trade Commission that was under the jurisdiction of President Clinton. I supported the investigation, because I believed that my constituents had the right to know why their gasoline prices were high and if the actions by the oil companies were behind the high prices. In March 2001 the FTC issued their report and found that there was no evidence of collusion. The report did find that the high gas prices were caused by a mixture of structural and operating decisions with primary factors including refinery production problems, low inventory levels, and pipeline breaks.

And, Senator Levin, you and I experienced them. We had a break in the Wolverine pipeline coming down from Michigan and then there was another one, the Explorer coming up from Texas, that were both ruptured.

The FTC report also found that the damage was minimized because the industry responded quickly with an increased supply of gasoline to the Midwest. Unfortunately, similar price increases were seen last year and we have seen similar gas prices this year and will, I am sure, see even more of them with what is going on in the Middle East and Persian Gulf.

Well, there have been signs that gasoline prices are dropping. That is of little consolation to families in the Midwest where prices are still high. I am concerned about that, just like everyone else. I watch those gas station prices.

Most people who have been around, as long as I have been, remember the Arab oil embargo of 1973, when costs went up, gas shortages were everywhere, and people sat in long lines to get gas. Some of the younger people in this country do not remember it. I remember it. At that time the United States only relied on 35 percent foreign oil to meet our domestic needs. Today our reliance on foreign oil averages 58 percent. And when we had the crisis a couple of years ago, it got up to over 60 percent.

The American people want to know why nothing has been done in the last 29 years to reduce our dependence on foreign oil. In my opinion, we botched one opportunity when we in the Senate did not provide for exploratory drilling in ANWR. I have been around this business over 35 years. All too often in government, when a problem comes up, we have a tendency to treat it as if it were a barking dog. Give it a bone, a little attention and it stops barking, and when it stops barking, ignore it until it starts barking again. That is what we have done in this country in terms of the supply of gasoline.

Such neglectful treatment of such a vital component of our Nation's economy is unconscionable. We lack an energy policy by this country, and hopefully we are going to have one by the end of this session.

With the Senate's passage last week of the energy bill, I think we are one step closer to preventing these unpredictable gas price spikes. However, in my opinion, there are still many issues that must be addressed before we are going to be able to have a reliable and predictable gasoline supply.

The report prepared by the Democratic staff of the Subcommittee recognizes that the number of refineries in this country went from a high of 324 in 1981 to 155 in 2001. Additionally, I think it is important to remind my colleagues that there have been no refineries constructed since 1976. Additionally, it is extremely unlikely that a new refinery will be built because of the difficulties with siting new refineries, many of them environmental, and many of them have to do with the rate of return on building a new refinery. I would like to hear from the witnesses why we cannot get more refineries built in the United States of America. In 1982 there were over 300 refineries in this country; just over 68 percent of their capacity was being utilized. Today our Nation's refineries operate at near peak capacity. If a refinery has a problem, you can almost see it immediately reflected in the price of gasoline. While increased refining capacity has increased by nearly 1 million barrels per day since 1986, that still does not replace the 3 million barrels per day that was lost in the closure of 120 refineries during the 1980's.

At the same time I am concerned about our Nation's infrastructure for distributing gasoline. In 2000, distribution problems were one of the major contributing factors to the extreme price hikes experienced by my constituents. I already mentioned the two pipelines. Until they were back operating at full capacity, they significantly limited the amount of gasoline that was being brought into Ohio, resulting in higher prices. This situation is not unique. Nationwide our pipelines are operating at capacity, and if a break or other problem is experienced, then the gasoline being distributed to gas stations will be limited. The best way to eliminate this problem

with our distribution system is to improve our infrastructure. Only by expanding pipeline capacity can we improve reliability and competition and lessen the risk of unexpected price hikes.

Finally, I would like to point out that the report prepared by the Subcommittee focuses only on the downstream industry, leaving out one of the most variable factors in gasoline pricing, the price of crude oil. According to the Energy Information Administration, in March this year crude oil accounted for 41 percent of the cost of gasoline. Over the last 4 years crude oil prices have varied dramatically—listen to this—from $11 a barrel to $33 a barrel. It only makes sense that if you have significant differences in crude oil prices, then you will see price spike in gasoline.

I would like to thank the witnesses for being with us today and I look forward to your testimony.

Senator LEVIN. Thank you very much, Senator Voinovich. Senator Bunning.

OPENING STATEMENT OF SENATOR BUNNING

Senator BUNNING. Thank you, Mr. Chairman.

Gasoline is what makes this country move. We rely on it to get to work, pick up our kids from school, travel on business, and deliver goods and services to companies and homes across this country. Americans use 123 billion gallons of gasoline each year. Did you hear me? 123 billion gallons. In the Commonwealth of Kentucky we used about 2.1 billion gallons in the year 2000. We are all concerned about fluctuations in gasoline prices. It affects how much disposable income Americans have left over at the end of the week. It determines the health of our economy and the ability of businesses to operate. I routinely hear from Kentuckians who are concerned about gasoline prices, particularly after prices spiked last year post September 11. Gas companies and gasoline stations should be fair with their customers, and any activity like price gouging or collusion should not be allowed.

There is probably no other commodity Americans regularly purchase that fluctuates as much as gasoline. Refiners and retail stores should be held to the highest standards. Recently price fluctuations seem to have become wilder and lots of people want to know what has been going on. If they are like me the average consumer does not know why prices have been going up and down, but they would like to know more. So this hearing gives everyone a chance to explain things and gives us a chance to look at the regulatory and delivery systems we have now. I have heard reports that margins between supply and demand in the gas market have become smaller in recent years, and so mistakes in matching up the two can lead to price swings.

Some also complained about market concentration among retail brands and how that affects price and availability. I do not know if either of those claims are true, but I am interested in hearing from those in the industry who have come here today. Also as a part of any discussion, we also have to make sure that the government role as regulators does not contribute to the problem. In fact we need to know what we can do in the opposite direction to encourage companies to make investments in our Nation's infrastructure, including what Senator Voinovich said, in new refineries that

will help ease this problem in the future. For example, I understand some producers are having problems building a pipeline that could move gas and help alleviate some of the gas price problems that occurred last summer in the Midwest. The industry is trying to build a new pipeline called the Cardinal that would run 150 miles through Ohio and West Virginia and would end up in Kentucky. The Corps of Engineers is hassling this project, not allowing it to be completed and making it very difficult to complete. Red tape has slowed this process. We need to work harder to construct a smarter more efficient regulatory framework.

I appreciate the time our witnesses have taken to come and testify. I look forward to hearing from them.

Thank you, Mr. Chairman.

Senator LEVIN. Thank you very much, Senator Bunning.

Let me also note the presence of Senator Wyden, who I indicated will be testifying before us on Thursday. He has joined our panel and he has been long involved in investigating gas prices and trying to understand and transmit to the public the reasons for the gas price spikes that we face.

Senator LEVIN. Let me now introduce our panel of witnesses who are with us this morning. We are grateful for their presence and appreciate their presence. They are all executives from five of the top oil companies in the world. And we invited these witnesses because they are in charge of U.S. operations for each company, so that they have the expertise to answer some of the questions that we will be asking. We have at the witness table James Carter, who is the U.S. Regional Director of ExxonMobil; Gary Heminger, President of Marathon Ashland Petroleum; Ross Pillari, Group Vice President for U.S. Marketing of BP; David Reeves, President of North American Products for ChevronTexaco; and finally, Rob Routs, President and CEO of Shell Oil.

And we look forward to hearing your views, and pursuant to Rule VI, all witnesses who testify before this Subcommittee are required to be sworn, and I would ask you to please stand and to raise your right hand.

Do you swear that the testimony that you will give before this Subcommittee this morning will be the truth, the whole truth, and nothing but the truth, so help you, God?

WITNESSES: I do.

Senator LEVIN. Thank you. We will be using a timing system today, and approximately 1 minute before the red light comes on, you will see lights change from green to yellow, giving you an opportunity to conclude your remarks. All your testimony will be printed in the record as written. We ask that you limit your oral testimony to no more than 10 minutes. We will have a lunch break approximately at 12:30.

Mr. Carter, please proceed.

TESTIMONY OF JAMES S. CARTER,[1] REGIONAL DIRECTOR, U.S., EXXONMOBIL FUELS MARKETING COMPANY, FAIRFAX, VIRGINIA

Mr. CARTER. Thank you, Mr. Chairman. I am Jim Carter, Regional Director, U.S., ExxonMobil Fuels Marketing Company. I appreciate this opportunity to discuss the causes for price volatility in the gasoline marketplace and our recommendations to help deal with these fluctuations.

ExxonMobil markets fuel products in 47 States and the District of Columbia. Our goal is to provide reliable supplies to our customers at competitive prices while respecting the environment and protecting the safety of the communities we serve. In the interest of time, I will summarize my remarks and ask that my written testimony be entered in the record.

Senator LEVIN. It will be. Thank you.

Mr. CARTER. Our company understands the public sensitivity to price swings and the impact of fluctuating prices on consumers' budgets. The market for gasoline is one of the most visible of all consumer goods. Customers see our prices every day, as some of you have mentioned, and readily know when they are rising and falling. In fact, customers often contact us when they are rising.

I aim to leave you today with the following messages: Gasoline prices reflect a fiercely competitive market operating with high transparency and a tight supply/demand balance. The market efficiently sets gasoline prices that reflect supply and demand balances, and consumers benefit in the long term when the free market is allowed to work. U.S. refiners and gasoline marketers compete vigorously, as evidenced by low margins and returns. Over the last 20 years, combined refining and marketing returns on capital have averaged 5 percent. New players have recently entered both of these businesses.

Marketing has evolved over the past several decades from a focus on automotive needs such as service and gasoline to now service and convenience. The market today includes not only so-called major brands such as Exxon and Mobil but also convenience store chains, supermarkets and discount retailers or hyper-markets. The traditional major suppliers combined have 45 percent of the gasoline retail market today. Over the next 3 to 5 years the hypermarket share is projected to grow from 3 to 4 percent today to almost 16 percent, which is higher than ExxonMobil's current market share.

With more choices than ever before, gasoline consumers are clearly benefited by this increased competition. Both gasoline margins and retail prices have declined over time. After adjusting for inflation, average retail gasoline prices have exhibited a general downward trend during the past 80 years. Of course, there has been some interim fluctuation based on true oil prices.

Measured in 1999 dollars, gasoline prices have declined from around $2.50 in 1920 to about $1.50 in 2000, even as taxes have increased. Today taxes make up 30 percent of the retail price.

[1] The prepared statement of Mr. Carter with an attachment appear in the Appendix on page 130.

There are three main causes for gasoline price volatility: Changes in crude oil prices, market transparency, and the proliferation of fuel specifications. Crude oil prices currently comprise about 40 percent of the retail gasoline price. Since late January crude oil prices have increased by over $7 a barrel, accounting for 15 to 20 cents of the total gasoline price increase of roughly 30 cents per gallon.

Instant availability of global news has made markets highly transparent. Prices in commodity futures markets respond quickly to world events. High transparency makes markets more efficient, but it can also increase volatility.

Today's many boutique gasoline specifications place significant demands on the refining industry. Summer grades are more difficult and expensive to make because they require additional processing to meet environmental standards. This reduces refining capacity in the summer when demand is the highest. A disruption at a single refinery can quickly upset the balance. Boutique gasolines also present logistics challenges. They limit distribution system flexibility and reduce interchangeability of supply among terminals.

Industry consolidation, which the Subcommittee has raised as an issue, based on refining concentration analysis by State, has not contributed to increased price volatility. Refining concentration should be analyzed regionally, as most States are not self-contained refining markets. Even with recent mergers, there are still a large number of independent refiners and marketers.

To minimize the effects of market disruptions and increase industry capacity we recommend three changes. First, reduce the number of boutique gasolines. That will increase our flexibility in refining and distribution. Second, appropriately sequence future changes in product specifications to eliminate overlap and bunching of requirements, which will help ensure that necessary investments can be completed without affecting supply stability. Finally, ensure appropriate interpretation and enforcement of regulations that affect capacity and supply.

I would be happy to address your questions that you might have. However, I hope that you will understand that due to the competitive concerns, it would not be appropriate for us to discuss company sensitive data. I'd prefer to address that in another setting.

Thank you for the opportunity to comment.

Senator LEVIN. Thank you very much, Mr. Carter, and we in our exhibits have also tried to protect those proprietary matters that would cause disclosure of information which would not be appropriate to competitors, and we have made that effort as well.

Mr. Heminger.

TESTIMONY OF GARY HEMINGER,[1] PRESIDENT, MARATHON ASHLAND PETROLEUM, FINDLAY, OHIO

Mr. HEMINGER. Thank you, Mr. Chairman, and Members of the Subcommittee. I thank you for allowing me the opportunity to meet with you today.

[1] The prepared statement of Mr. Heminger with attachments appear in the Appendix on page 146.

I am Gary Heminger, President of Marathon Ashland Petroleum. Mr. Chairman, I, too, have a written report for the record.

Senator LEVIN. Thank you.

Mr. HEMINGER. We are a Midwest company headquartered in Findlay, Ohio. We have major facilities and a number of employees in several of the States of the Members, including 2,000 employees in Illinois, 2,500 in Indiana, 3,200 in Kentucky, 3,200 in Michigan, and 8,000 in Ohio.

Unlike many refiners we consistently supply all segments of the gasoline market including independent distributors and retailers. In fact, these customers represent our largest single customer market.

We appreciate the Subcommittee's interest in this very important topic and agree with a number of findings in the just-released report of the Subcommittee staff, including No. 1, the finding that our new Cardinal and Centennial Pipeline projects should make a positive difference to the Midwest consumer. We obviously agree. No. 2, the finding that the mandated winter to summer fuel changeover reduces inventories just before the warm weather driving season, that has a price effect. And No. 3, the finding that our company made and sold 33 percent more reformulated gasoline in 2000, a period when many other refiners had cut back their production.

A central question in this hearing is whether my company deliberately withheld reformulated gasoline from the market in the spring of 2000 to boost prices. The answer is an emphatic no. The fact is that Marathon Ashland Petroleum produced 33 percent more reformulated gasoline than the year before and we sold every drop. Let me repeat that. We produced 33 percent more and sold every drop. Any assertion to the contrary is just plain wrong.

Our pricing procedures also follow sound business models. We consider our cost of supply, the amount of supply, the anticipated demand and a range of market indicators. Fuel markets everywhere follow the price of crude oil. However, individual markets have their own unique sensitivities. In the Midwest, for example, consumers use 25 percent more fuel than the Midwest refineries produce. The balance is shipped to the region by pipeline or barge usually from the Gulf Coast. Any disruption in transportation service has the potential to produce price volatility. We understand that the ups and downs of gasoline price upset consumers. Despite volatility, the Lundberg survey found that motorists in the Midwest actually paid 1.6 cents per gallon less than the U.S. average from 1998 to 2001. In fact, adjusted for inflation gasoline now sells at close to an all-time low. This is true for very few other products. But then few markets are as uniquely competitive as the one that brings America's motorists to approximately 180,000 retail gasoline outlets, a market that is growing even more competitive with the emergence of hypermarket gasoline retailers.

I believe that few companies have been as responsive and customer focused as Marathon Ashland. I am extremely proud of the people and how they responded during the periods of supply imbalance in 2000 and 2001. During those years we increased our refining throughput, testing to the design limits, our plants already running at the high end of historic norms. When a major pipeline

failure took about 400 million gallons out of the market, we ran additional transport trucks 24 hours a day, 7 days a week to supply our customers as best we could. We flew in additional drivers to fill the greatly expanded route schedules and driving times. We also took the highly unusual step of shipping gasoline from far away as Newfoundland. We increased our sales. In fact we sold more product than we produced. In 2000, for example, we sold approximately 2 billion gallons more gasoline than our plants refined, an outcome possible only because we dedicated our logistics resources to bringing fuel from where it was made to where it was needed. We took extraordinary steps to keep our customers supplied.

One reason the supply disruption of 2000 and 2001 produced such dramatic price effects is that the Nation's refining and delivery systems are severely constrained, particularly during periods of peak demand. Understanding this context is important to appreciating why prices may spike when a refinery goes down or a pipeline connection to the Gulf Coast is interrupted. It is estimated that the Midwest has a refined product shortage of about 42 million gallons a day, and this puts a great burden on our ability to move fuel from where it is made to where it is needed. Yet our distribution is highly constrained.

During periods of peak demand pipelines can't grant suppliers all the shipping capacity they need. If there is an outage for a reason, there is very little if any makeup capacity. At Marathon Ashland we're trying to address these issues. On the production side we have a new coker at our Garyville, Louisiana, refinery that produces enough gasoline for about 60,000 cars a day with no additional crude oil throughput. A major capital investment project is now under way at our Catlettsburg, Kentucky, refinery in addition to numerous smaller projects completed or under way. We are constantly looking at cost effective ways to improve our refineries to increase production, reduce emissions, and improve efficiency.

We're also working to address the delivery issue. Earlier this month the Marathon Ashland joint venture began operation on Centennial Pipeline, a new refined products pipeline that connects the Midwest with the Gulf Coast. We also plan to build the Cardinal Products Pipeline to link one of the Midwest fastest-growing markets, Columbus, Ohio, with the Ohio River and our Catlettsburg, Kentucky, refinery. These projects are expensive. In fact, just since its inception in 1998 Marathon Ashland has invested a total of more than $2.5 billion in refining, marketing and transportation. We plan to continue to invest heavily to meet clean fuel regulations and the growing needs of our customers.

Three of our Midwest refineries, St. Paul Park, Minnesota; Canton, Ohio; and Detroit, Michigan, are very small. They lack either the inherent efficiencies of larger facilities or the location advantage of Gulf Coast refineries. Every refinery in this size or class is vulnerable. Were it not for the efficiencies realized from the combination of the downstream assets of Marathon Oil and Ashland, Incorporated, it is questionable whether either company would have been able to survive as an independent refining and marketing company.

Marathon Ashland and its employees are committed to help the Midwest growing energy needs. These government measures would help: Regulatory certainty, appropriate rule phase-in, policies that encourage investment in the industry, and expedited permitting. The Department of Energy indicates petroleum hydrocarbons are likely to be the predominant source of transportation fuel in America for at least the next 20 years. Government and industry need to work together to help assure supply reliability and affordability for America's fuel customers.

I look forward to making the effort a productive and long-lasting one. And I appreciate the opportunity to appear before this Subcommittee. Thank you, Mr. Chairman.

Senator LEVIN. Mr. Heminger, thank you very much. Mr. Pillari.

TESTIMONY OF ROSS J. PILLARI,[1] GROUP VICE PRESIDENT, U.S. MARKETING FOR BP, WARRENVILLE, ILLINOIS

Mr. PILLARI. Thank you, Mr. Chairman. Good morning. My name is Ross Pillari and I am a Group Vice President of Marketing for BP. BP is a supplier of fuels for transport and power in the United States under the BP, Amoco, and Arco brands. I, too, have submitted a written report for the record, Mr. Chairman.

Senator LEVIN. Thank you.

Mr. PILLARI. I am pleased to appear here this morning to speak on behalf of my company and address the issues of gasoline price volatility. It is a subject that attracts the attention of many interested parties, but most importantly is on the minds of our customers as they make their buying decisions.

The price of gasoline is also a business issue for the thousands of gasoline dealers, distributors, refiners, and energy companies who invest their personal and corporate funds in this volatile and intensely competitive business. As each of these businesses works to manage within this complex market volatility, they are faced with trying to explain increasing gasoline prices such as we have seen in the last 60 days. However, when gasoline prices are low, as they were in January, in some markets reaching as low as $1.05 a gallon, there are generally few questions, and little understanding that this effect is also a function of volatility. Yet it is important to note that in this period and in similar periods of volatility, this country has, on average, maintained the most reliable supply and the most efficient distribution system at the lowest prices in the world. This is an important fact because it demonstrates our ability to dampen at least some of the effects of volatility.

In the long run gasoline prices are directly related to crude oil prices. Over 90 percent of the change in gasoline prices is directly related to changes in the price of crude. In just the past 24 months crude prices have bounced from lows of around $10 per barrel to highs of over $28 per barrel, as have already been mentioned. And gasoline prices have moved in tandem. The increased gasoline price volatility over the last 18 months is consistent with the volatility in the price of crude oil. Crude oil prices react to world events. Crude oil prices react to world economic demand. The market will

[1] The prepared statement of Mr. Pillari appears in the Appendix on page 157.

naturally adapt to the ebbs and flows of this demand, resulting in normal market-based volatility. As crude demand increase, crude supply has historically increased to meet it. We have seen additional resources brought online in the Gulf of Mexico and other locations around the world. In just one of these areas, the Gulf of Mexico, my company is spending billions of dollars to find these new resources. These investments for additional supplies are based on an assumed long-term price for crude oil. But this is not likely to be a static price. It is more likely to be a volatile price based on the many factors I have already mentioned. This same volatility will naturally flow through and have an effect on the gasoline product markets.

However, the cost of crude oil is just one of the factors that influences gasoline price volatility. As we have seen in the past, supply disruptions from unexpected and in some cases catastrophic refinery problems, pipeline outages, and import patterns will also cause volatility in our gasoline markets.

Volatility tends to rectify itself with the natural actions of the marketplace. Changes in gasoline price affects supply so that the market reaches the equilibrium price where supply and demand is in balance. During this balancing process, the market experiences price volatility and initiates the market-based actions that will attract the very supply that will dampen this affect.

Nowhere was this more in evidence than in the actions taken by our company to supply gasoline to the Midwest and the West Coast during supply disruptions of the past two summers. BP reacted to these market conditions by taking a number of actions including blending chemical feedstocks into the gasoline pool to maximize volumes, moving barrels from our Toledo refinery into Detroit to free up Chicago-based refinery barrels for sale or supply in that market, transporting gasoline from European refineries to the Midwest, moving gasoline components from our Kwinana, Australia, refinery to the West Coast, and delivering additional volumes into Chicago via Explorer Pipeline when space was available.

As a result of these efforts, BP was able to make more of its gasoline available to the Midwest and West Coast, and also to dampen the price effect of the disruptions, but not without temporary price volatility as the market corrected itself. At the street level the U.S. gasoline market has gone through a dramatic change over the last 10 years, primarily driven by consumer demands for quick service, convenience products, and low prices. These changes continue. And the driver of these changes is the consumer. The consumer is demanding better and more progressive retail options for purchasing gasoline. These new outlets, whether investments by a jobber, an integrated oil company, or a grocery store chain, are complex and multi-faceted businesses. They require multimillion dollars investments. There is no slack in the economic drivers of this system that would allow for increasing costs or inventory to dampen or absorb price volatility. But we must look at the facts and analyze the impact of these market factors over the last few months.

While we have seen volatility in gasoline prices due to world crude oil market volatility, we have actually experienced lower retail prices over the first part of this year. According to DOE statistics, the price of gasoline during the first quarter of this year has

averaged about $1.20 per gallon compared with $1.48 during the same period last year. We have seen the price move from a low in January of nearly a dollar, as I mentioned before, in some markets to their recent highs, in some cases as high as $1.60 in the Illinois market, which are still nearly 15 to 20 cents below the highs of last year. But as the price of crude oil has begun to stabilize, so have retail gasoline prices. They are beginning to come down already.

At the same time gasoline production in the United States has increased by 3.6 percent over last year, and nationwide inventories of both RFG and regular gasoline are at or above their prior year levels. No single factor is the cause of volatility. It is the totality of these factors that makes the market work so effectively in achieving each period of equilibrium. Consumers in the United States continue to benefit from the intensely competitive U.S. refining and marketing industry. More sophisticated and cost efficient business models are constantly evolving in the marketplace at an ever-quickening pace. In the last few years the market has seen the entry and growth of large format independents, convenience store chains, the addition of gasoline at hypermarkets and grocery store chains, and the accompanying growth in their market share. The consumer has more offers and better offers to choose from.

At the same time the need to realize economies of scale, reduce costs, access new markets and better manage risks, while continuing to deliver value to shareholders has resulted in a number of mergers, acquisitions, and consolidations. The net result is that cost reductions and efficiencies from mergers have resulted in greater value for the consumer as evidenced by prices the same or lower than in previous years. To this end we continue to operate our refineries at high levels of production, maintain our inventories at levels required to meet our customers' needs, and establish our role as a preferred supplier.

The marketplace works. And while it is working, it will reflect the realities of the actions required to balance supply and demand. Artificial interventions are likely to result in consequences and unpredictable results.

As we have throughout this discussion, BP is prepared to continue to work with this Subcommittee and to be as helpful to you as possible. I will be pleased to take questions.

Senator LEVIN. Thank you very much, Mr. Pillari, and we thank you all, by the way, and your companies, for your cooperation with this Subcommittee. We have sought out a significant amount of information. We have obtained that information, and we are appreciative of it, and we appreciate your willingness to continue to work with the Subcommittee on that basis.

Mr. Reeves.

TESTIMONY OF DAVID C. REEVES,[1] PRESIDENT, NORTH AMERICA PRODUCTS, CHEVRONTEXACO CORPORATION, SAN RAMON, CALIFORNIA

Mr. REEVES. Thank you, Mr. Chairman and Senators. It's my pleasure to be here today to testify before the Subcommittee. My name is Dave Reeves and I'm the President of North America Prod-

[1] The prepared statement of Mr. Reeves appears in the Appendix on page 161.

ucts, which is the ChevronTexaco entity responsible for refining, marketing, and distribution in the United States.

In the United States we refine and market gasoline under the Chevron brand, and I'll be referring throughout my testimony to our United States' operations as Chevron. Although our corporate name is ChevronTexaco, we do not own, operate, or supply any of the former Texaco refineries or retail outlets in the United States. The FTC required that those facilities be sold as a condition of our merger last year.

To cover the issues the Subcommittee asked us to address, let me talk briefly about gasoline production and delivery. Chevron operates six fuel refineries in the United States with a total refining capacity of roughly 900,000 barrels a day. Our largest refineries are located in Pascagoula, Mississippi, and El Segundo and Richmond, California. We have one medium-sized refinery in El Paso, Texas, and two smaller refineries, one in Hawaii and one in Salt Lake City.

Chevron's share of the gasoline market in the United States is roughly 6 to 7 percent. We sell gasoline in 28 States and the District of Columbia through about 8,000 Chevron branded retail service stations. Over 90 percent of our stations are operated by independent jobbers or dealers who choose to brand with Chevron. Less than 10 percent of our stations are owned and operated directly by Chevron. We market on the West Coast, throughout the South, Hawaii, Alaska, and in portions of the Rocky Mountains. We are a smaller marketer in the Mid-Atlantic region through jobber-served stations. We do not refine or market in the Midwest or the Northeast.

With respect to the Subcommittee's question about the adequacy of the industry infrastructure, I can best comment on my company. We continue to invest substantial sums to ensure that our infrastructure is adequate to meet our customers' needs. For example, our Pascagoula, Mississippi, refinery has begun work on its clean fuels project. When completed next year it will be one of the first refineries in the Nation capable of producing both low-sulfur gasoline and on-highway diesel fuel outside California. The project will be completed in advance of the national deadlines, primarily to meet local fuel requirements in Birmingham, Alabama, and Atlanta, Georgia, which are key marketing locations for the Pascagoula refinery. In general, while I think it has been noted that the capacity of the industry is strained in some parts, I do believe it will continue to grow to meet demand as long as the conditions to do so are economic.

One concern of the Subcommittee is the series of mergers over the last 6 or 7 years, and like mergers in other business sectors, the mergers have been driven, I believe, by both a need to improve efficiency by reducing costs, and a need to compete in a world that requires strong companies capable of finding, developing, and delivering energy for the future generations. Those were major factors in the merger with Chevron and Texaco.

Turning to gasoline pricing, I believe the Subcommittee's report accurately reflects that gasoline prices are set based on competition. They are the result of the combination of complex factors of supply, demand, and competitive forces. At Chevron our primary

aim is to keep our independent dealers and jobbers competitive with the station down the street. As a result of competition, gasoline prices in constant dollars have been generally declining over a 20-year period and are a good value compared to many other goods and services, and to gasoline prices in many other countries.

I recognize that those facts alone may be little comfort to families whose budgets are strained when gasoline prices increase rapidly, and I recognize that gasoline prices do tend to fluctuate, both up and down, more than many or most other products. It's important to recognize in addition that there are many factors that cause price fluctuations, including rapidly-changing crude oil prices, the ever-growing demand for gasoline, temporary refinery outages, and in some cases the annual changeover from winter grade to summer grade gasoline specifications. That changeover reduces inventories at the same time seasonal demand begins to increase for the summer driving season.

Gasoline prices have also been a concern of many government agencies, and there have been obviously many investigations of gasoline pricing and fluctuations in the last several years. Those investigations have consistently shown that there have not been any conspiracies or antitrust violations, but rather that the fluctuations simply reflect that the market is working as it should. For example, the California Energy Commission concluded that the price spike in California in 1996 was caused primarily by a fire at a competitor's refinery, which removed some 10 percent of the supply for several months. Gasoline prices did in fact increase rapidly, which dampened demand and created the incentive to import gasoline from as far away as Finland. Prices then returned to lower levels. And as the Energy Commission put it, "The market worked."

I've reviewed the Subcommittee's report, and while I can't say that I have fully digested all 396 pages, I'd like to offer a few additional comments on it. First of all the report appears to miss the most basic reason for fluctuations in gasoline prices, and that is the changes in crude oil. The report notes that the average gasoline price across the United States went up by 35 cents from early 1999 to 2000. Two things are important about that observation. First, the report uses early 1999 as the starting point even though gasoline prices were at historic lows at that point so that the increase appears larger than if the report focused on a different time period. And more importantly, as Senator Voinovich noted earlier, it fails to take into account that the cost of raw materials, crude oil, increased by an even greater amount during that period of time.

In addition the report refers to the various mergers and acquisitions that have taken place, most of them in the last decade, and suggests that they have reduced competition. I believe that they have increased competition. The mergers created stronger companies which were more efficient and thus better able to compete. The FTC also typically required the merging companies to divest refining and marketing assets, where retaining the assets could have been a competitive problem. The end result, as shown by the Subcommittee's charts—I think it's on page 84 in your report[1]—is

[1] See Permanent Subcommittee on Investigations' Majority Staff Report, *Gas Prices: How Are They Really Set,* which is reprinted in the Appendix on page 322.

that industry gross margins and operating costs have been declining, while net margins and rates of returns have remained fairly constant and low. Industry rates of returns have averaged about 5 to 6 percent, reflecting the fierce competition that we face. Consumers have been the beneficiary of the competition.

One more observation on the report. It refers to documents used in a California case entitled *Aguilar* dealing with California gasoline prices. What is not particularly clear in the report, however, is that all three levels of courts in California considered those very same documents and determined that they did not establish any wrongdoing. The trial court and the California Court of Appeals threw out the case as unfounded, and the California Supreme Court unanimously affirmed that decision.

Finally, the Subcommittee has asked what can be done regarding gasoline price fluctuations. Speaking for Chevron, our people are doing our very best to operate our refineries and distribution system safely and reliably. It is our No. 1 priority. We devote a lot of resources to making sure that we continue progress to being world class in reliability. We're also doing our best to be fully ready to meet new government requirements for fuels. The government can also take steps to ensure that reliable supplies of gasoline and other fuels are available for the American consumer. For example, the government can set performance-based standards for fuels, so that refiners have the freedom to use the most efficient methods to meet those standards. The government can also take steps to minimize and eliminate things that interfere with markets such as mandates and subsidies, and the government can streamline permitting wherever possible, which we believe can be done without compromising environmental protections.

Thank you again, Mr. Chairman and Senators for the opportunity to testify before your Subcommittee today, and I would be happy to answer any questions as the hearing goes on.

Senator LEVIN. Thank you very much, Mr. Reeves. Mr. Routs.

TESTIMONY OF ROB ROUTS,[1] PRESIDENT AND CHIEF EXECUTIVE OFFICER, SHELL OIL PRODUCTS US, HOUSTON, TEXAS

Mr. ROUTS. Thank you, Mr. Chairman. Whatever I am going to say is going to be a repeat by now, but I would like to go through my remarks, anyway.

Mr. Chairman, Members of the Subcommittee, for the record, my name is Rob Routs, and I am the president and CEO of Shell Oil Products US

Shell Oil Products US is a marketer of fuels, lubricants, services, and solutions to consumer and business-to-business customers in the automotive, commercial, and industrial sectors. Shell Oil Products US operates refineries, a lubricants business, and a pipeline and terminal system. Together with its affiliate Motiva Enterprises LLC, Shell Oil Products US supplies nearly 22,000 branded service stations.

I have been asked to share with the Subcommittee our thoughts on the United States' motor fuels market and the factors that contribute to the volatility of the price our customers pay at the pump.

[1] The prepared statement of Mr. Routs appears in the Appendix on page 170.

America's growth has been fueled in large part by the stable supply of reasonably priced energy. In fact, the price of gasoline has remained fairly constant when adjusted for inflation.

A recent analysis by the American Petroleum Institute stated: "In inflation-adjusted 2002-dollar terms, today's price is low compared to the historical 84-year record of recorded pump prices. In fact, motor gasoline prices are 45 percent lower than the 1981 record high of $2.64 per gallon. Between then and now, the real cost of motor gasoline to consumers fell by $1.19 per gallon. This decline can be attributed largely to lower crude costs, but manufacturing, distribution, and marketing costs are lower as well."

Shell remains committed to ensuring that we meet the needs of our customers by providing them with a reliable supply of quality products at competitive prices.

Still, there are a number of factors that have contributed to the volatility of the recent past. These factors still exist today and will continue to influence the price of gasoline in the future.

One of the greatest challenges we face as an industry is supplying an ever increasing number of boutique fuels to an ever expanding number of niche markets. Prior to 1990, there were six kinds of gasoline sold in the United States. Today, requirements imposed by Federal, State, and local governments have contributed to the creation of an ever expanding number of motor fuels and other petroleum products. Again, according to the American Petroleum Institute, "One pipeline company, Atlanta-based Colonial, delivers 90 different products for 85 shippers to 270 terminals and more than 1,000 storage tanks. In any given month, Colonial may ship 30 different grades of gasoline."

When a region, State, or city requires a unique fuel, it becomes a fuel island, unable to use nearby supply should the delivery of their special blend be interrupted. The smaller the market, the more isolated they become, and the more difficult it is for us to move products into that area on short notice.

Not only are we being asked to supply a greater number of fuels, but the specifications of these fuels often change with the seasons. These seasonal fuel variations require us to draw down inventories as we switch from one fuel to another. We conduct this fuel switch in April and May and September and October. When we switch fuels in the spring, we must draw down inventories to ensure that our fuel remains compliant. During this time markets are particularly exposed to volatility should a supply disruption occur.

In an effort to address the proliferation of the fuels in America, we have been working with Congress on the establishment of a study to look at the issue. This study is included in the Senate's energy bill. We look forward to participating in the development of policies and programs intended to reduce the number of fuels used in this country without compromising environmental quality.

At the same time, the infrastructure for producing and distributing fuels has been running at a very high utilization rate. America's refineries, for example, were running at 94 percent utilization last summer. At these high rates, there is little reserve capacity that can be turned on when demand peaks or another source of supply shuts down. Likewise, pipelines, particularly those that

bring product to inland markets, are also operating at or near capacity.

In recent years, oil has been as low as $10 a barrel and as high as $30 a barrel. Today that same barrel costs $25.

The factors influencing the cost of crude are global in nature. Crude oil is a commodity that is traded on various exchanges around the world. As with most commodities, supply and demand—real and perceived—determine what participants in the market are willing to pay for a barrel of oil. As a result, factors that range from regional conflict to the shut-in of platforms in the Gulf of Mexico can all influence the price of crude oil. These types of events can often contribute to short-term price volatility.

Finally, the business of refining and marketing fuel is itself changing as merchant refiners and non-integrated marketers have grown. They rely on the spot market for selling and acquiring product, and it is often the gasoline spot market that leads prices higher during disruptions in the supply and distribution system.

Together, boutique fuels, high utilization rates, seasonal fuel requirements, fluctuating crude prices, and the growth of merchant refiners have all contributed to the volatility in the price of gasoline that has become common over the last couple of years.

Given that the price of a gallon of gasoline is determined by a marketplace that is influenced by a variety of factors, many of which are not within the control of those who refine, market, and distribute fuel, is there anything that can be done to ease this volatility?

First, we must stem the proliferation of boutique fuels so that product can be shifted from one market to another when supply disruptions occur or demand peaks. As I said earlier, we support the establishment of a study to look at this issue and provide recommendations.

Second, we must look for ways to streamline the permitting and construction of new and expanded facilities used in the production, transportation, and distribution of fuels.

More importantly, we must let the free market work and avoid the development of schemes intended to control or influence the price of gasoline.

In the years ahead, I expect that we will continue to see mergers, acquisitions, and divestments in the oil industry. Like any business, we continually search for opportunities that will make us more competitive relative to our peers. The efficiencies and synergies we often recognize through these types of transactions allow us to continue to provide our customers with a competitively priced product.

In some instances, the consolidation in the industry, particularly in refining, is being driven by the huge capital investments needed to meet ever more demanding regulatory requirements. Many smaller companies simply cannot justify the investment in plants and facilities needed to produce today's cleaner burning fuels.

Finally, the Subcommittee has expressed an interest in how we price our product. Let me first say that the members of our industry never discuss amongst themselves how we price our product. Not only would that be illegal under Federal antitrust statutes, but it would also disadvantage our ability to stay competitive in the

marketplace. I can tell you that we price our product relative to the market and that we are constantly striving to provide our customers quality motor fuels at a price that is competitive. Of course, the cost of crude is the single greatest cost in a gallon of gasoline. Many other elements contribute to the price of a gallon of gasoline. According to the Energy Information Agency, "Federal, State, and local taxes are a large component of the retail price of gasoline. Taxes, not including county and local taxes, account for about 28 percent of the cost of a gallon. Within this national average, Federal excise taxes are 18.4 cents per gallon, and State excise taxes about 20 cents a gallon. Also, some States levy additional sales taxes, some applied to the Federal and State excise taxes. Additional local county and city taxes can have a significant impact on the price of gasoline.

"Refining costs and profits comprise about 14 percent of the retail price of gasoline. This component varies from region to region due to the different formulations required in the different parts of the country.

"Distribution, marketing, and retail station costs and profits combined make up about 12 percent of the cost of a gallon of gasoline. From the refiner, most gasoline is shipped first by pipeline to terminals near consuming areas, then loaded into trucks for delivery to individual stations. Some retail outlets are owned and operated by refiners, while others are independent businesses which purchase gasoline for resale to the public. The price on the pump reflects both the retailer's purchase price cost and the other costs of operating the service station. It also reflects local market conditions and factors, such as the desirability of the location and the marketing strategy of the owner."

Remember, the final price for a gallon of gasoline is determined by the retailer. And that price, which is included in the last 12 percent from the above, is set after he or she adds their costs or profits to the price they pay for the product.

I hope that I have helped you understand the many factors that influence the price of a gallon of gasoline and why that price sometimes can be volatile. I hope you can also appreciate the substantial capital investments and long-range planning that is required for the oil industry to quench the thirst our country has for the fuels that keep us mobile.

Yet despite all of the challenges I have outlined, and many more I have not, I believe a gallon of gasoline remains a great bargain in constant dollars. I look forward to answering any questions you might have. Thank you.

Senator LEVIN. Thank you very much, Mr. Routs. Thank you all for your statements.

Let me just say at the outset that I think we all recognize that the price of gas is directly affected by the factors that you have all identified. That is not in dispute. We chose to look at the downstream market. We did not look at, for instance, the price of crude oil as a factor, even though it is obviously a major factor.

By the way, the price of crude oil was not a factor in the price spikes of 2000 and 2001. It was those price spikes which really caused me to begin this investigation. And as we saw from the ear-

lier charts, those spikes had nothing to do with the price of crude oil.

There are other factors which you have mentioned: The growing number of boutique fuels, increasing and inelastic demand for gasoline in the United States, supply disruptions, reduction in the number of refineries, and a number of other factors which you mentioned. Those are factors. But what we want to focus on is what our staff investigation disclosed, which is strong evidence that you don't simply respond to market factors, but that you actively help to create and maintain a tight market.

Now, where there is little competition—in other words, in areas of high concentration—the creation and maintenance of tight supply gives undue power over price to those companies that are engaged in that market. I want to go through some of the documents that the staff identified and go through the words of the company—not mine, not consultants, not my staff, but the words of the companies themselves in these documents.

I want to start with a document that is found in the BP files from 1999. This is found on pages 274 and 282 of the staff report.[1] I have enlarged portions of it so we can all look at it. It is from a meeting of the Business Unit Leaders, or BULs, at BP on June 1, 1999, and it discusses BP's Midwest/Mid-Continent strategy, in the words of the document.

Now, we were told that the BULs, as they are called, are companies' executives at the senior vice president level, so these are top people in the BP organization.

First of all, Mr. Pillari, how many are of these senior executives who attended this meeting? About how many?

Mr. PILLARI. Probably about six or seven.

Senator LEVIN. Thank you. Now, this meeting is not just a casual meeting. It is taking up the time of top executives at BP. It is a continuation of a discussion that started in April because the first part of the agenda for the meeting is a recap of the presentation from that April meeting.

The presentation makes it clear that the purpose of the meeting was to come up with a strategy for the company, and this was not just presented by a low-ranking employee to the top executives, some employee who was dreaming up options on his own or her own. To be presented at this level, it had to have had some direction or support from a high level, presumably under the supervision of a senior officials. And, obviously, it is the product of a lot of work and a lot of thought.

One part of this document refers to the Midwest/Mid Continent as a niche, I assume a market niche. I am just wondering first, Mr. Pillari, what is——

Mr. PILLARI. Those are actually designations of two of the business units. There was a Midwest Business Unit and a Mid Continent Business Unit. So it would be describing those two organizational functions.

Senator LEVIN. What is meant by niche?

---

[1] See Permanent Subcommittee on Investigations' Majority Staff Report, *Gas Prices: How Are They Really Set,* which is reprinted in the Appendix on page 322.

Mr. PILLARI. Well, since I wasn't there, I don't actually know. I'm assuming if you look at it, that given we were organized around the Midwest and the mid-continent, they would look at that geographic market and refer to it as the geography of the mid-continent and the Midwest.

Senator LEVIN. Now, at the top box on page 277,[1] the presentation says that, "We can influence niche value [1 to 3 cents per gallon] but our actions need to be significant [greater than 50,000 barrels per day] to be sustainable [more than 3 years]." I take that to mean that you can affect the price of gasoline in the Midwest by 1 to 3 cents a gallon if you take certain actions, and just stop me if that is an inaccurate presentation of what it is because I want to get to the point.

Then the memo goes on to present ways that you can achieve that increase in the price of gasoline. And so to achieve that goal, there are a number of options that are discussed at that meeting and presented, I gather many of which or most of which were not adopted but nonetheless considered as options to achieve that goal. And the rest of the page goes on to make some general observations about the Midwest market.

The second dot from the bottom says that, "There are significant opportunities to influence the crude supply/demand balance."

And then it goes on to say—or to discuss the market levers that are available to BP to influence the supply/demand balance in the Midwest, and I want to look at market lever No. 1, and this is on page 281.[1] This is the product short market lever. There are two pages in the presentation on product short market levers. One is product short (1), which is page 281, and then there is product short (2), and I want to go over these thoughts that were presented to these executives, these options that were presented.

On product short (1)—Exhibits 13,[2] I am informed. On product short (1), the first bullet is "shut down niche internal supply." That would mean reducing supply inside of the Midwest. Then it goes through a number of ways to achieve that. The first way to achieve that reduction of supply is "to offer supply agreements in exchange for capacity shutdown," which means that BP would promise to supply gasoline if other refiners would agree to shut down their refineries or their capacity at their refineries, which would give BP greater control over supply.

I understand you did not adopt that recommendation. First, I am wondering why you did not adopt that recommendation.

Mr. PILLARI. Well, sir, first of all, I would say you are correct when you say these were presented to the business unit leaders. They were rejected by the business unit leaders. They were rejected because it is inappropriate to have this kind of activity in the marketplace, and it's naive to think that activities like this could influence the marketplace.

Senator LEVIN. So the people who were presenting these options to the senior executives were presenting a bunch of inappropriate options. They had been first presented in April and then presum-

[1] See Permanent Subcommittee on Investigations' Majority Staff Report, *Gas Prices: How Are They Really Set,* which is reprinted in the Appendix on page 322.

[2] See Exhibit No. 13 which appears in the Appendix on page 262.

ably not rejected in April but then recapped in June. Is that correct?

Mr. PILLARI. The issues presented in April—and if I could, the context for this group, it was a study group that was involved in the integration of the company back then. So we were looking at the Midwest and the mid-continent where we had two refineries, two logistics systems, and two of everything. And the study group was asked to go away and think through scenarios or possibilities or options as a result of this integration.

In April, they returned to the business unit leaders and to the group and said there were some obvious things. We could rationalize the number of trucks that we had because we were now going past similar retail outlets. So we had synergies that we could make that were very obvious. In April, none of these issues was discussed.

In June, it's my understanding—because I wasn't there, but it's my understanding that these options were presented to the BULs, who rejected them and they never went past that group.

Senator LEVIN. All right. Did the people who presented these inappropriate options, were they fired or disciplined in some way?

Mr. PILLARI. They have certainly been counseled and trained on understanding the appropriate way to behave and the regulations in the marketplace. These were not senior people who did the studies.

Senator LEVIN. To the other oil companies here, have you ever entered into a supply agreement or offered to enter into a supply agreement in exchange for the shutdown of refinery—excuse me, in exchange for the shutdown or reduction of refinery capacity? Mr. Carter.

Mr. CARTER. Absolutely not.

Senator LEVIN. Mr. Heminger.

Mr. HEMINGER. No, Mr. Chairman.

Senator LEVIN. Mr. Reeves.

Mr. REEVES. No, Mr. Chairman.

Senator LEVIN. Mr. Routs.

Mr. ROUTS. No, Mr. Chairman.

Senator LEVIN. Thank you.

The second option presented to the BULs was to purchase capacity and to shut it down. I assume that that means to buy a refinery and shut it down. Have any of you ever engaged in that activity? Mr. Carter.

Mr. CARTER. No, Mr. Chairman.

Senator LEVIN. Mr. Heminger.

Mr. HEMINGER. No, Mr. Chairman.

Senator LEVIN. Mr. Pillari.

Mr. PILLARI. No, Mr. Chairman.

Senator LEVIN. Mr. Reeves.

Mr. REEVES. I'm sorry. I missed the question, Senator.

Senator LEVIN. Have any of your companies ever purchased capacity and then shut it down?

Mr. REEVES. No, sir.

Senator LEVIN. Mr. Routs.

Mr. ROUTS. To my knowledge, no, sir.

Senator LEVIN. OK. We are going to talk a little bit later about a Mobil memo from California when Mobil was considering what to do with the Powerine refinery. Is that the right pronunciation of "Powerine"?

Mr. CARTER. Mr. Chairman, I believe it's "Powerine."

Senator LEVIN. What to do with the Powerine refinery that was undercutting the price of gasoline by providing reformulated gas, or RFG, at a low price. The memo discussed buying all of Powerine's output as well as just shutting it down. We will come back to that memo.

The third option, back to BP's memo, lobby for the elimination of oxygenates/tax breaks for same, and the two oxygenates are MTBE and ethanol.

Now, the thinking here in presenting this option is that oxygenates as an additive reduces the amount of gasoline otherwise needed, so that by eliminating oxygenates, you replace the oxygenates with gasoline and thereby increase the demand for gasoline.

Now, as a matter of fact, is it not true, Mr. Pillari, that BP has lobbied for the elimination of MTBE?

Mr. PILLARI. Sir, we've done a number of things. First of all, we're the largest buyer of ethanol in the United States. We are concerned about some of the health issues around MTBE, and we have discussed openly with many constituencies our concern about that and how it could be alleviated.

Senator LEVIN. My question was a little different from that, not whether you have discussed with other entities or other people, but whether or not BP has lobbied for the elimination of MTBE and the oxygenate requirement.

Mr. PILLARI. I'm not aware of lobbying to eliminate MTBE. We still use MTBE. I am aware of the discussions around——

Senator LEVIN. If it were eliminated, you wouldn't be using it, though. My question is: Have you lobbied for the elimination of the requirement? Has your company lobbied? It is a very direct question.

Mr. PILLARI. I'm not aware of it, sir.

Senator LEVIN. OK. Let me ask the other companies: Do you agree with the assessment that the elimination of the oxygenate requirement will increase the demand for gasoline in the Midwest, thus tightening the available supply? First of all, do you agree with that? I am not asking you yet whether you lobbied for it, just whether you agree with the—that the elimination of that requirement would have that effect. Mr. Carter.

Mr. CARTER. I haven't looked at that specifically, but I'd be happy to answer the question about the lobbying.

Senator LEVIN. OK. Mr. Heminger.

Mr. HEMINGER. Mr. Chairman, taking MTBE out will reduce available supply; however, it would be replaced by ethanol.

Senator LEVIN. OK. Thank you. Would you agree with that?

Mr. PILLARI. Yes, I agree with that statement.

Senator LEVIN. Mr. Reeves.

Mr. REEVES. We don't market in the Midwest, so I'd rather not answer conditions there, but directionally, I agree with these gentlemen on that.

Senator LEVIN. OK. Mr. Routs.

Mr. ROUTS. Directionally, I agree. I believe, though, that there will be enough ethanol around to replace MTBE.

Senator LEVIN. I am talking about elimination of the oxygenate requirement period. Now the question is: Have you lobbied for the elimination of that requirement? Mr. Carter.

Mr. CARTER. We have been opposed to the oxygenate mandate because it, in fact, requires us to use MTBE, and we have been in favor of phasing down the use of MTBE in gasoline.

Senator LEVIN. OK. So is it fair to say you have lobbied for the elimination of that requirement?

Mr. CARTER. Yes.

Senator LEVIN. Thank you. Mr. Heminger.

Mr. HEMINGER. Yes, Mr. Chairman, we have lobbied to reduce MTBE.

Senator LEVIN. And to eliminate oxygenate requirement generally?

Mr. HEMINGER. I would say not to eliminate oxygenate requirements generally. We believe there should be no backsliding whatsoever in the Clean Air Act.

Senator LEVIN. In the what?

Mr. HEMINGER. In the Clean Air Act.

Senator LEVIN. So you have not lobbied for the elimination of the oxygenate requirement.

Mr. HEMINGER. Not to the best of my knowledge.[1]

Senator LEVIN. Thank you. And you don't know?

Mr. PILLARI. Well, your question was on MTBE. On oxygenates in general, we have said we prefer a results-based regulation such that we would have the option to use oxygenates, particularly ethanol, where it makes the most sense.

Senator LEVIN. Which, I think, in plain English means that you would therefore prefer the elimination of the requirement, leaving it optional.

Mr. PILLARI. Correct.

Senator LEVIN. Now, when I asked you before, did you lobby for the elimination of the oxygenates/tax breaks for same, you said not to the best of your knowledge.

Mr. PILLARI. I'm sorry, sir. I misunderstood the question. I thought you were asking me specifically about MTBE.

Senator LEVIN. No. I was very precise. It was oxygenates.

Mr. PILLARI. Well, then I misspoke. I heard the question incorrectly. We would prefer to have the option to use oxygenates rather than have it mandated.

Senator LEVIN. OK. Then is it fair to say that you have lobbied for the elimination of that requirement?

Mr. PILLARI. Yes.

Senator LEVIN. Therefore, you have, in fact, done one of the things, at least, that is in that document, because that document says that in order to reduce supply, No. 3, that you will lobby for the elimination of oxygenates/tax breaks for same, and you now acknowledge that you have done that. Previously you said you didn't

[1] See Exhibit No. 27, May 13, 2001 clarification letter from Marathon-Ashland which appears in the Appendix on page 281.

do any of these things, you didn't adopt any of these recommendations. Now you acknowledge you have, in fact, done one of the three things that were recommended.

Mr. PILLARI. What I would say, sir, is that the desire to have an option to use oxygenates so that we can use ethanol where it makes the most sense actually increases the gasoline pool, and that decision is about increasing the production of gasoline and the clean aspects of gasoline. It has nothing to do with this report.

Senator LEVIN. Let me just go back to this. I want to get this really clearly for the record. Have you lobbied for the elimination of oxygenates?

Mr. PILLARI. We have lobbied to make oxygenates optional for a results-based formula.

Senator LEVIN. So it is fair to say that you have lobbied to eliminate oxygenates as a mandate?

Mr. PILLARI. Correct.

Senator LEVIN. And you are saying that is different from what that recommends?

Mr. PILLARI. Yes, it is.

Senator LEVIN. OK. We also have a memo from Texaco—that is now part of Shell that we will discuss a little bit later—stating that the elimination of the oxygen mandate would be a good way to tighten supply in California. Is that accurate? Let me ask you that right now since we are on this subject.

Mr. ROUTS. Is that the memo that was produced in the *Aguilar* case, sir?

Senator LEVIN. Yes.

Mr. ROUTS. First of all, Shell was not involved in the situation 10 years ago.

Senator LEVIN. Let me ask Texaco then, if you don't know the answer to that. Did Texaco state that the elimination of the oxygen mandate would be a good way to tighten supply in California?

Mr. ROUTS. This is the first time I have seen this internal memo in Texaco the way you produced it. The reference to Shell in the memo is—I mean, I'm not aware of anything, and we haven't been able to trace anything in this short time period, sir.

Senator LEVIN. Let me then ask——

Mr. ROUTS. Let me put it this way: It's my belief in the situation that we're seeing today that importing into California—importing CARB gasoline into California wouldn't have been the cheaper option. I think they were dreaming in what they were doing at the time.

Senator LEVIN. OK. Well, we are going to come back to that document.

Now, the fourth option that was presented to the executives at BP was to eliminate exemptions for small refiners. Was that——

Mr. PILLARI. Well, that was rejected.

Senator LEVIN. Right. So you didn't take any steps in that. Now, increase product demand, this is product short (1) on page 281.[1] The first option, lower prices. I know you didn't implement that. The next way to increase product demand is to convince swing cit-

[1] See Permanent Subcommittee on Investigations' Majority Staff Report, *Gas Prices: How Are They Really Set,* which is reprinted in the Appendix on page 322.

ies on Gulf Coast supply to require reformulation that is not readily available from the Gulf Coast, in other words, to pull RFG from the Midwest to those other cities, even though they may not need it. So here you have the consideration by BP of promoting government regulation, promoting the use of RFG, which is a boutique fuel, to reduce supply in the Midwest.

Now, here is what EPA says about this. This is not just me. It is the EPA. In its report on boutique fuels, it says that, "Some refiners have promoted boutique fuels in order to create tight markets for those fuels." That is an EPA finding. Yet we have Lord Browne, who is the head of BP, saying that boutique fuels cause price spikes. So EPA has found that some refiners have actually promoted boutique fuels to create the tight markets for those fuels, and I think the head of your company—is he still the head of it—Lord Browne?

Mr. PILLARI. Yes, he is.

Senator LEVIN. Says that boutique fuels cause price spikes, or help cause price spikes. Now, I want to jump to product short (2), which is page 282,[1] and this is, again, options presented to your executives to reduce supply.

The first category on this page for reducing supply is to "export products from the Midwest."

Second, to "move product into southern Ontario." I presume by that you mean to just take product from the Midwest and export it to Canada to make supplies tight in the Midwest.

Third item, "use Xylene line or others to move product south or out of the area."

Next category is options called "fill import logistics" which would make it difficult to import products into the Midwest, and the first option in this category is to "ship crude substitutes and/or intermediates/blendstocks on product lines." That sounds like a plan to use products—to use the pipelines for products other than gasoline so that the pipelines won't be available to carry gasoline to the Midwest. Have you ever followed that strategy at BP?

Mr. PILLARI. All of these that you have just mentioned have been rejected and never implemented.

Senator LEVIN. The next option is "don't incent pipeline conversions to products," threat of swing or seasonal production to deter. That sounds complicated, but I think the option that was presented there to the BP executives is that BP would threaten to increase its own production and thereby depress prices if other companies seek to create more pipeline capacity into the Midwest. That threat you say was presented and then it was rejected.

The next strategy, to incent—"incentivize," I presume that means—"Koch not to ship into Chicago." Koch is a major supplier of reformulated gasoline in Chicago, and this strategy is to get Koch not to ship into Chicago.

You weren't at the meeting, but perhaps you can help us out with this. What kind of incentives could BP use had they adopted that strategy to get Koch not to ship into Chicago? Do you know?

Mr. PILLARI. I have no idea, sir.

---

[1] See Permanent Subcommittee on Investigations' Majority Staff Report, *Gas Prices: How Are They Really Set,* which is reprinted in the Appendix on page 322.

Senator LEVIN. OK. The next option is to lobby for elimination of drag-reducing agents for environmental reasons, and this is No. 8 on page 282.[1] Now, those are chemicals that are put into pipelines to make the product in the pipeline move more easily and more quickly, and by using DRAs, pipelines can ship gasoline faster and at less cost than if DRAs are not used.

This suggestion is that you should lobby to eliminate the use of DRAs, slowing the delivery of gasoline into the Midwest, and to use the argument that DRAs are not good environmentally.

Did you, in fact, lobby for the elimination of DRAs?

Mr. PILLARI. No, sir. To my knowledge, we did not since all of these options were rejected.

Senator LEVIN. Thank you. Did any of the companies here lobby for the elimination of DRAs, do you know? Mr. Carter.

Mr. CARTER. No, Mr. Chairman.

Senator LEVIN. Mr. Heminger.

Mr. HEMINGER. No, Mr. Chairman.

Mr. ROUTS. No, Mr. Chairman.

Mr. REEVES. No. We have increased the use.

Senator LEVIN. The next category on this chart is "change behavior of shippers to support niche uplift," which we assume means to raise prices in this area. These proposals were to increase the cost of transporting product to the Midwest, and one way would be to support market-based tariffs which would presumably lead to increased costs for transporting product to the Midwest, and the other way would be to simply raise tariffs.

Has BP supported higher tariffs on products going to the Midwest?

Mr. PILLARI. No, sir.

Senator LEVIN. Thank you.

And the last option is "reduce product inventory in the niche" or in the area. And you say that you did not act to do that?

Mr. PILLARI. No, all of this was rejected, sir.

Senator LEVIN. Thank you.

Now, on June 28, 2001, in a *Chicago Tribune* article, Sir John Browne, who is your CEO, talks about price volatility in the United States. This is Exhibit 14.[1] Mr. Browne is quoted as saying that the shortage of refining capacity is not causing the price spikes. Do you agree with that?

Mr. PILLARI. Sir, what he was referring to was a briefing that I had given him about the problems with the Explorer pipelines, the CITGO fire problems. So the context of this discussion would have been is it a basic refining problem or are there logistics interruptions.

Senator LEVIN. And, in his judgment, is there a shortage of refining capacity?

Mr. PILLARI. Well, I think what he was saying is we—and he means BP—does not need any more refineries in the United States.

Senator LEVIN. All right. He says that the problem is "that products can't flow easily to where shortages develop." It seems pretty clear that shortages—that short supplies are intended by companies—that you intend to have a tight supply. And we just went

[1] See Exhibit No. 14 which appears in the Appendix on page 266.

through a lengthy presentation of top officials about how to achieve that goal. We were told that those particular methods were not used. But the presumption here is that the people who made that presentation were aiming to achieve that goal of tightening supply for BP. I mean that, it seems to me, has got to be indisputable. They may at this meeting have rejected or not used those methods, although we have a difference over the one issue involving lobbying to eliminate the oxygenate requirement. Nonetheless, the goal of a tight supply in a market was the purpose of looking at all of those options. Is that correct, Mr. Pillari, that that was the purpose of considering those options?

Mr. PILLARI. Sir, I would be speculating on what they did since I wasn't there——

Senator LEVIN. Not what they did. What the purpose of the presentation was.

Mr. PILLARI. I would be speculating on the purpose of the presentation. The request that they were given was to take a look at the integration of all the facilities in this area and develop some scenarios so that management could then decide the way forward.

Senator LEVIN. All right. Would you agree with me that those suggestions are outrageous?

Mr. PILLARI. Yes, I would.

Senator LEVIN. If these are outrageous recommendations, didn't anyone call these folks on the carpet?

Mr. PILLARI. Yes. It's my understanding that the BULs did, which is why the business unit leaders would never have taken it forward. I mean, these were rejected immediately. The people were counseled on the inappropriateness of it, and it never went any farther than that.

Senator LEVIN. And did the senior person who was overseeing that presentation ever say to the people making the presentation this is wrong, it should not be presented to our executives?

Mr. PILLARI. I don't know exactly what they had said, but since it never came forward and since I know that they were counseled, I would assume that something like those words were said.

Senator LEVIN. OK. Let us know for the record, would you?

Mr. PILLARI. I will.[1]

Senator LEVIN. Find out.

Mr. Carter, the Majority staff report contains a document from February 1996, and that is on page 225.[2] It is a series of E-mails between Mobil officials discussing how to block the proposed start-up of the Powerine refinery or to at least prevent its output from reaching the market. Apparently, according to the E-mail, Mobil had successfully kept the Powerine product from reaching the market the previous year, and the way they did that was they bought all the Powerine product and then Mobil marketed it.

In one of these E-mails, one Mobil official said the following: "Needless to say"—and this is Exhibit 15,[3] by the way, now on page 228. "Needless to say, we would all like to see Powerine stay

[1] See Exhibit No. 29, letter from Ross J. Pillari, dated May 16, 2002, which appears in the Appendix on page 285.

[2] See Permanent Subcommittee on Investigations' Majority Staff Report, *Gas Prices: How Are They Really Set,* which is reprinted in the Appendix on page 322.

[3] See Exhibit No. 15 which appears in the Appendix on page 26700.

down. Full court press is warranted in this case and I know Brian and Chuck are working this hard."

What do you think is meant by "full court press" to keep Powerine down, to keep their production down?

Mr. CARTER. Mr. Chairman, Powerine was a refinery in California that had chosen not to make the investment required by California regulators to produce and sell gasoline that was in compliance with the regulations there, to clean up the air in California. And they had petitioned the California Air Resources Board, the regulatory authority, to be allowed to sell gasoline that was not in compliance with the regulations of California. And we opposed that.

We had made a unilateral decision to upgrade our own refinery. We had spent millions and millions of dollars to produce gasoline that was in compliance with the air regulations of California. Having another refinery be able to sell environmentally unfriendly gasoline and not make the investments to upgrade their refinery seemed to us to present a playing field that wasn't level, and we did, as we have a right to do, oppose their selling of this gasoline. And that's what I understand to be meant there.

Senator LEVIN. So you didn't buy their product. You bought the product before they in any way changed it or affected it?

Mr. CARTER. That's correct, sir.

Senator LEVIN. Powerine was selling RFG below the cost of MTBE, and you bought it and marketed it at a higher price. Is that what you understand that E-mail to be saying?

Mr. CARTER. I don't understand exactly what they did the year before. They did say they bought Powerine's output and marketed it through Mobil. I'm not sure what price they charged for it.

Senator LEVIN. You are not aware of the fact that they had bought that at a higher price, your company bought it at a higher price and then marketed it?

Mr. CARTER. I'm not sure I understand you, sir. We bought it at a higher price and then marketed it?

Senator LEVIN. That is correct, and you marketed it instead of allowing them to market it.

Mr. CARTER. I'm aware that we marketed it, yes. I'm not aware of what price we paid.

Senator LEVIN. So what you are saying is that you were trying to protect the environment? You weren't trying to protect your own company?

Mr. CARTER. In the case of Powerine producing gasoline that wasn't in compliance with the regulations of the California Air Resources Board, we thought it was unfair, that it was an unlevel playing field, and they should have to make the same investments that we made and comply with the regulations.

Senator LEVIN. And how would buying all their production achieve that?

Mr. CARTER. I believe that was in the prior year, sir, before——

Senator LEVIN. But you were proposing to do the same thing. It says, "might be worth buying out their production and marketing. . . . Last year when they were dumping RFG at below cost of MTBE, we purchased all their avails and marketed ourselves which I believe was a major reason that the RFG premium last

year went from [1 cent per gallon] in January to [3 to 5 cents per gallon] thru to their shutdown." In other words, the price of RFG went up 3 to 5 cents because you shut them down the year before. Isn't that what that E-mail says?

Mr. CARTER. I believe, if I can get the question right——

Senator LEVIN. Page 228.[1]

Mr. CARTER. If in the case they started the refinery up and produced non-compliant gasoline, was it an option for us to buy it and resell it, and that was the second option. The first option was to oppose that they produce non-compliant gasoline to protect our investment and to make the playing field as level as we thought we could. A second option was to buy the gasoline in that case. Again, I believe this was in the *Aguilar* case. This has been thoroughly investigated. It went to the California Supreme Court, and our company was not found to be in violation of any regulations or laws.

Senator LEVIN. That is not the question here whether or not you violated a law by doing this. The question is whether or not that was a way of maintaining the control over the supply of a product. That is what we are talking about here today. And the way you did that was that, according to this E-mail that is on page 228, it "might be worth buying out their production and marketing ourselves, especially if they start to market below our incremental cost of production."

It doesn't say anything here, by the way, about environment but, nonetheless, this is what the E-mail says. "Last year when they were dumping RFG at below cost of MTBE, we purchased all their avails and marketed ourselves which I believe was a major reason that the RFG premium last year went from [1 cent per gallon] to [3 to 5 cents per gallon] thru to their shutdown." So you benefited economically when there was 3- to 5-cent premium for RFG gas in California, and after you purchased all of their production so that they couldn't undercut your price, you benefited by having a higher price for all of your output. Isn't that what happened? Isn't that what that says, that E-mail?

Mr. CARTER. We were protecting our investment. We thought that was the best way to level the playing field.

Senator LEVIN. And then it says, ". . . if they do start up, I'd seriously consider this tactic." Did you?

Mr. CARTER. I don't believe they started up, sir.

Senator LEVIN. OK. Senator Collins.

Senator COLLINS. Thank you.

I want to follow up on an issue that the Chairman has raised about the industry's lobbying efforts on MTBE and the oxygenate requirement in general, because I think the record is confused right now as to motivation of the various industry representatives here today in lobbying on these issues.

In Maine, the MTBE additive has caused some serious groundwater contamination, and, thus, in our State the legislature, and the governor, supported by the entire congressional delegation, have called for a phase-out of MTBE. The implication, however, in the BP-Amoco exhibit that Senator Levin used is that the oil companies lobbied to remove the oxygenate requirement because it

[1] See Exhibit No. 15 which appears in the Appendix on page 267.

would reduce the supply of gasoline and presumably drive up prices.

All of you in response to Senator Levin's question have commented on your various lobbying efforts regarding the oxygenate requirement. So I want to ask you directly for the record: What was your motivation in lobbying for the removal of the requirement for MTBE in particular or the oxygenate requirement in general? And I realize, Mr. Heminger, that you gave a slightly different answer than your colleagues in this area.

Mr. Carter.

Mr. CARTER. Thank you, Senator. As I previously said, we thought that phasing out of MTBE or phasing down of MTBE was a good idea. We had used some MTBE prior to the Clean Air Act Amendments, but it was a very small amount. The Clean Air Amendments that require the oxygenate, in effect, because of the supply of oxygenates, basically dictated that we use MTBE and we thought it should be phased out. So for that reason, we thought that elimination of the oxygenate mandate was a good idea.

Senator COLLINS. But was your motivation to also try to tighten to supply and drive up prices?

Mr. CARTER. No, Senator.

Senator COLLINS. OK. Thank you. Mr. Heminger.

Mr. HEMINGER. Yes, Senator. When we looked at MTBE, we, too, understand the problems it has with groundwater, and we did not lobby to tighten the supply. In fact, we supported ethanol as a replacement for the MTBE. We have a very small manufacturing capacity of MTBE, but we did support the new proposal to increase the amount of ethanol.

Senator COLLINS. Mr. Pillari.

Mr. PILLARI. Yes, our position on oxygenates is not related to a supply decision. Our position on oxygenates is related to our desire to have clean fuels and to have them be results-based and to have the option to use oxygenates when it's the most efficient, economic way to make clean fuels.

Senator COLLINS. Mr. Reeves.

Mr. REEVES. Yes, Senator, we have actively proposed and supported the phase-out of MTBE, primarily because our customers and regulators around us prefer not to have it in the fuel. In 1990, when the oxygenate mandate became a part of the Clean Air Act, we actually did design in the use of MTBE as we expanded our refining capacity in California to meet the new requirements of California fuel.

We continue to support the Governor in California to remove MTBE, are somewhat disappointed that he extended that ban delay, delayed it an additional year, and we would continue to support it. It really is not targeted at a volumetric issue. It's because the customers and regulators prefer to have it out.

Senator COLLINS. Mr. Routs.

Mr. ROUTS. We have supported it because customers and regulators have asked us to remove MTBE. We have also very actively, through API, supported the growth of ethanol in the country to address just the issue that you're talking about, to make sure that the total volume sold is stable.

Senator COLLINS. Mr. Reeves, in your testimony you talked about the seasonal transition between summer and winter gasoline, and most of you identify the changeover to summer fuels as one of the reasons for causing an increase in prices. You also blame the start of the summer driving season.

I guess my reaction to that is you know that is going to happen each year. You know that consumers are going to drive more during summer months. You know that you are going to have to make this seasonal transition between winter fuels and summer fuels. So you also know from experience that there can be glitches such as refinery fires or a pipeline breakdown. So why don't you plan better? I mean, it seems to me that you could take steps to deal with this issue and, thus, remove one of the price spikes that are so harmful to our economy and so burdensome to consumers. Mr. Reeves.

Mr. REEVES. Thank you, Senator. Perhaps it is a good idea to get a mental picture of what's actually happening as inventories are drawn down and the transition between one grade to another occurs. I think as other people have mentioned, something like 97 or 98 percent of the fuel that is delivered out to the retail stations actually goes through terminals, not delivered directly from the refinery. And when you go to a terminal, there is a diesel tank and a jet fuel tank and probably three tanks for various grades of gasoline. And what happens is you have to draw those gasoline tanks down out at the terminal level and then replenish it with the new specification fuel for whatever seasons you're moving into. So there really is no capacity in the pipeline terminals out.

Now, you could argue that we could choose to invest, to expand put in more tanks and carry more inventory. I think generally in the concept of inventory, while I think it's true inventory can help dampen volatility, I happen to believe that if you have to invest and carry a lot of inventory, the average price would actually increase, and our incentives are to keep as low working capital as we possibly can. So I guess that would explain our motivation, Senator.

Senator COLLINS. Well, that does bring me to my next question. Every 10-cent increase in gasoline prices results in approximately $10 billion in revenues to oil companies over the course of a year. So if you have a spike of even short duration, it results in considerable profits to the oil companies. And yet I am hearing today that one of the reasons for price hikes and for price volatility is a lack of capacity, a lack of refining capacity, not enough pipelines.

Given those kinds of profits, why aren't investments being made? If I look, three of the companies that are here today were in the top 50 on the Fortune 500 list released in April. Clearly there are profits available that could solve some of these infrastructure problems that have been cited repeatedly as the causes of these glitches that produce these very onerous price spikes.

So why aren't additional investments being made to keep your refineries in better condition and to build additional storage tanks? Mr. Carter, we will start with you and go down the line.

Mr. CARTER. That's an excellent question, Senator, and, in fact, we have made considerable investments to upgrade our capacity and to be able to produce more of these boutique gasolines.

If we take the Midwest, for example, in the year 2000 we started up our investment to make RFG with ethanol at our Joliet refinery, and we never operated that unit before. It was brand new. And we had some difficulty when we first came out of turnaround. We learned to use it better, and the next year we made even more gasoline there that met the requirements there.

In addition to that, we learned to make components that can be blended to make RFG with ethanol at our Baton Rouge refinery, and we found new barges to ship that material up the Mississippi River to the Midwest. I think this was one of the advantages of the merger between Exxon and Mobil. That probably wouldn't have happened short of the merger.

So we've taken a lot of steps. That's just one example.

Senator COLLINS. Mr. Heminger.

Mr. HEMINGER. Thank you, Senator, and as Senator Bunning stated, for 4½ years now, we have attempted to build a new pipeline and invest in a pipeline that would take product from the Catlettsburg refinery in Kentucky up to Columbus.

In addition to that, I'll show a picture here of Creal Springs. This is the endpoint of the new Centennial pipeline which has the capacity to move 200,000 barrels a day into southern Illinois. This is just a picture which illustrates the 2.2-million-barrel tank farm that we have built, and that system is now operating and has the ability to bring that to the Midwest.

And, last, I stated our refinery in Garyville, Louisiana, invested $300 million to build a new coker which provides enough fuel for another 60,000 cars per day. So we have invested heavily.

Senator COLLINS. Mr. Pillari.

Mr. PILLARI. Yes, Senator. We've invested in our Toledo and Whiting refineries to be able to make more RFG product in the last 2 years, and we have maintained our terminaling system as it has been.

I would say in coming back to the fundamentals of this that one of the things that has to happen with investing in terminals or inventory is it has to be a good economic decision for the long run, not just for 3 or 4 days. And I think in our company's case, we are more of a buyer on the marketplace than maybe some others. We buy almost 40 percent of our product from other suppliers.

Senator COLLINS. Mr. Reeves.

Mr. REEVES. Thank you. I think it's fair to say that over the last decade or so, the vast majority of our investments in the refining and marketing business have been to do two things: Improve the reliability and meet the environmental standards on refining, and to grow our retail business. That's it essentially—and they're roughly equal.

I think you've heard a lot of testimony in the opening comments about the returns on the refining investment—the refining and marketing business in the United States which have historically been very low. The industry does not attract a lot of discretionary capital, and, therefore, we just have chosen to invest in the things that we need to do to run reliably and make sure that we get the value out of the assets that we already own.

And if I could just correct the record, Senator Levin asked me earlier on a question which we passed by quickly, did we ever buy

or sell—buy capacity and then shut it down. And I said no. During the Gulf merger in 1985, there were some refineries that came with that merger. One was in Philadelphia that ultimately did shut down. It was one of those that you heard of. So we didn't buy it to shut it down, but it was shut down. And then we have sold—we did sell our Port Arthur, Texas, refinery to Clark back in the early 1990's, just to correct the record.

Senator COLLINS. Mr. Reeves, I want to follow up on that point then. Why would you shut down a refinery when there is a shortage of refining capacity?

Mr. REEVES. Well, certainly at the time Philadelphia was shut down, that wasn't the case.[1] It was in the middle of the 1980's. There was plenty of surplus refining capacity, and it was uneconomic to run.

Senator COLLINS. Mr. Routs, my original question.

Mr. ROUTS. Senator, in the 1990's, we invested about a billion and a half in our refineries for clean fuels and CARB fuels. We are looking forward to investing over the next 5 to 7 years another billion dollars in low-sulfur gasoline, low-sulfur diesel, the consent decree that we have done with the EPA on the emission side of the business. We started up last year a $300 million coker in Deer Park in Houston that is delivering more product to the market. And we're investing a lot of money and human capital in getting the reliability of our refineries and systems up, because in the end, getting our refineries to run properly is going to create more volume for the market. We've had in the past some trouble doing that, and right now we're investing 200 man-years in order to train people properly to get the most out of those places, and that will help the consumer.

On the pipeline side, we've heavily supported the expansion of the Explorer pipeline that is now in the process of getting expanded by about 100,000 barrels. That will bring more volume into Chicago. And we're actually in construction of the Two Rivers pipeline which will bring more volume from the mid-continent into the Ohio region. So there is a fair bit of investment going on as we speak, and that should help the end consumer in the years to come.

Senator COLLINS. Mr. Chairman, since two—well, now one of our colleagues has not had a chance to question yet and the hour is late, I am just going to make one final comment in the hopes of letting Senator Bunning question before we break for lunch, and that is that consumers are not the cause of refinery glitches, whether it is a fire or—nor are they to blame for industry supply miscalculations, nor are they to blame for infrastructure shortcomings.

It concerns me that every year, as predictable as Memorial Day, are price spikes; we just know that is going to happen. And it seems to me that the industry could do more to try to even out the pricing and prevent those spikes. And I still don't feel like I have gotten a good answer to why these investments have not been made before now, why they are not being made more aggressively, and that is what leads people to conclude, perhaps completely un-

[1] See Exhibit No. 30, May 14, 2002 clarification letter from ChevronTexaco which appears in the Appendix on page 287.

fairly, that the industry is manipulating supplies or wants tight suppliers or wants shortages in order to drive up prices and, thus, profits.

So I think at the least that you need to give us a better understanding of what you are doing to learn from past experience and prevent these disruptions that are so burdensome to our economy and to the average consumer.

Thank you, Mr. Chairman.

Senator LEVIN. Thank you very much, Senator Collins. Senator Bunning.

Senator BUNNING. Let me start off by saying nothing lights up my phone more in my local office, in my Washington office, when we see a 10- or a 15- or, for that matter, a 20-cent-per-gallon increase today or tomorrow, and then over a period of time it gradually reduces down maybe about to where it was, and then all of a sudden we have another increase of 15 cents a gallon, like we did 2 weeks ago. Nothing more infuriates the consumer because they do not understand the complications that go into it.

The question I want to ask, can you explain how zone pricing works for each of your companies? The Subcommittee report points out that some retailers here in Washington, DC, felt that they were not able to compete with other stations just across the river in Virginia, for instance, because of the zone they were in. How do you respond to this? Is it the zoning price that causes the great big fluctuations or is it something else?

We will start with the ExxonMobil people.

Mr. CARTER. Thank you, Senator.

The way we establish zones is we go into the marketplace, and we look at competition. And where we have a group of dealers that face similar competition, we set up a price zone for them so we can price to them, at a level which allows them to compete with their local competition, and we do that all over the country. We have been doing it for at least 30 years, my entire career.

Senator BUNNING. Let me explain. I can go over in Virginia and buy gas 25 cents less for unleaded regular than if I buy it in Washington, DC. Is that taxes or what is it? What causes that?

Mr. CARTER. I'm not familiar with the taxes in Washington, DC. I would be happy to get back to you with that. I can tell you that it is extraordinarily difficult to build a service station in Washington, DC. We would love to build more stations here. The last time we tried to build a new-to-industry station here, we spent over a million dollars to buy a piece of property on the expectation we would be able to get a permit, that the community would welcome another service station. In fact, after a number of years, we could not get a permit, and we had to sell that piece of property at a significant loss.

So there are fewer stations in Washington, DC, because of permitting——

Senator BUNNING. I know that land costs are high, but——

Mr. CARTER [continuing]. And the land costs.

Senator BUNNING. Are they trying to recoup the land costs from the price of the gasoline, do you think?

Mr. CARTER. We, and our dealers, try to recoup our cost, and the dealer is ultimately—there are no company-operated stations in Washington——

Senator BUNNING. So it is dealer operated.

Mr. CARTER. Right, it's the dealer that does the pricing.

Mr. HEMINGER. Senator, Marathon Ashland Petroleum does not market here in Virginia or Washington, DC.

Senator BUNNING. OK, but you have a zone pricing.

Mr. HEMINGER. But for zone pricing, within our Marathon-brand stations, we have zone pricing, and each station is set up on its own price grid, and therefore a zone. And they are priced individually against the grid or against the competition on that zone. So I would say each one of those grids is competitive against its own other market competitors.

Senator BUNNING. No matter how much the cost of the product that you are sending into that zone?

Mr. HEMINGER. The cost of the product is a big part of how we decide to set the price on a daily basis.

Senator BUNNING. What we are getting at is the Midwest, obviously, because of the huge spikes in the prices that occurred in the Midwest in the past couple of years. That is what I want to know. I know you are located right in the middle of the Midwest, did the Midwest structure differ from where you sell out of the Midwest?

Mr. HEMINGER. Within the Midwest, I see the Midwest, as other parts of the country, but specifically the Midwest, as being one of the most fiercest, competitive areas in the marketplace. Every day we look at our prices. And we have a very small number of customers that are on zone pricing, the balance are through our Speedway stores, which are direct-operated stations. Every day we look at those, and our strategy has always been, as we shared with the staff, is to be the lowest price on the street. And every day as you——

Senator BUNNING. That is hard to do because there's independents who probably buy a product from you and someone else who will take a lesser of a margin on that same gallon of gasoline that drives the price down. I use convenience stores and other independents. I do not know where they are getting their product, but obviously the wholesale price of that gasoline that they are buying, they are getting a less markup on because they are underselling your Speedway stations in my area.

Mr. HEMINGER. Well, Senator, we attempt to match the lowest price on the street, and therein goes the volume that we sell on a daily basis. If we do not match the lowest price on the street, and we are a very big supplier to the balance of the independents in the marketplace, you are absolutely correct, but if we don't match the lowest price on the street, just a penny, therein goes our sales. So we watch that every day to ensure that we are competitive on the street.

Senator BUNNING. Let me ask you something different because it is really—BP has a station in Highland Heights, Kentucky. It is the lowest priced gasoline in my whole area, but BP also has a station right across from my office in Northern Kentucky that is one of the highest priced gasoline in my area—as much as 20 cents more a gallon. Now how do I explain that to somebody who calls

me and says, "What are you doing about the price of BP's gasoline over here in Fort Wright, Kentucky, when I can go over in Highland Heights, Kentucky, and buy it for 20 cents a gallon cheaper?"

Mr. PILLARI. Well, first of all, I'm pleased that you have noticed us. I hope you are a customer.

Senator BUNNING. I wouldn't know your two stations.

Mr. PILLARI. I have never been to those stations, but in that area we are basically jobber and dealer. So those locations in that area would buy product from us and then set their own retail price, and each dealer or jobber would determine how they want to set that price. Some of them prefer a low-volume, high-price strategy to get the cash they need to run their business. Others will prefer a lower price and try to get a higher volume to get the cash to meet their economic needs. And so you can see big swings within the market based on how each individual——

Senator BUNNING. Even in your own stations.

Mr. PILLARI. Yes.

Senator BUNNING. Even with your BP markets.

Mr. PILLARI. Yes, absolutely.

Senator BUNNING. Mr. Reeves.

Mr. REEVES. Thank you.

Of course, we don't operate in the Midwest, so I will give you a broader answer than just the Midwest.

Senator BUNNING. All right, zone pricing.

Mr. REEVES. Zone pricing. I'll go back to the original question, thanks.

I always think of zone pricing, and I was reminded actually this morning, when I paid my hotel bill, zone pricing sounds mysterious, but it's really meeting local, relevant competition, and that's why hotel bills are different in Washington, DC, or across the river in Virginia or in Kansas City or elsewhere. It's the dynamic of meeting competition, and that's our basic philosophy.

Zone pricing is just that. It is figuring out what's a relevant area of competition, and who do you want to compete against and why, and figuring out where to set your price relative to those, so that you can get the volume that you need and the balance between volume, and price, and margin is what generates the cash to run the business. And it sounds mysterious, and it sounds complicated, but it is actually as simple as meeting local competition.

Senator BUNNING. It is hard to explain to the average consumer——

Mr. REEVES. Very hard. I've been trying to do it for a lot of years.

Senator BUNNING. And that is who we are trying to explain it to every day, why there is a 15—today, we were buying gasoline at 94 cents for regular unleaded at one time just like 4 months ago, and now it is at $1.44 for regular unleaded in the same area. So that's a 50-cent-per-gallon increase, and boy that will bring the consumer right to your door.

Mr. ROUTS. Basically, the same story. It's all determined and set by the competition in the neighborhood. I must say cases like you mentioned of across the river and across the street we will look at because it is not a very healthy circumstance when one side of the road has one price and the other side of the road has another price. Then you start looking at things like is there a median in the

street, and are people going to take that detour to actually go to the lower price range? So all of that is being balanced in order to arrive at the right situation in the end.

Senator BUNNING. I know how the price of gasolines compare over the last 30 years, and even longer. We are getting a bargain, actually, here in the United States. If you travel anywhere, our prices per gallon are much cheaper than they are, for instance, in Europe and other places. But the Midwest seems to chronically be short of product. Please explain why that is.

Mr. HEMINGER. Senator Bunning, as I testified, the Midwest imports approximately a million barrels per day of gasoline and diesel fuel above and beyond what is manufactured in the Midwest, and when you go back and look at the amount of product that is coming in from the Gulf Coast, there were two major pipelines, an Explorer pipeline and TEPPCO pipeline, which had the ability to ship about 750,000 barrels a day into the Midwest at peak. We just started up, as I stated, the Centennial pipeline, which will have the ability to bring another 200,000 barrels a day.

Since the Midwest only refines approximately 75 percent of its demand, it's important, and the only way to really bring it, we bring a little bit from the East Coast, from the harbor market, but the majority of it comes from the Gulf Coast. The Gulf Coast is the flywheel supply to the United States. And we have attempted here to lay this new pipeline that is going to go from Catlettsburg, a 240,000-barrel-a-day refinery, into Ohio to take some of the pressure off of the Midwest. And as I stated earlier, we're still 4½ years into the project to try to get a permit.

Senator BUNNING. A regulatory quagmire, I understand that.

Mr. HEMINGER. Yes.

Senator BUNNING. We will try to get you out of that, but the point being that there is 75 percent only being produced in the Midwest that is being used. That is correct.

You talk about capacity and refineries. Are any of your companies thinking about building new refineries, since it has been well over 20-plus years that we have built new refineries in the United States, any of you?

Mr. REEVES. No.

Mr. ROUTS. We are not.

Mr. PILLARI. No, sir.

Mr. HEMINGER. No, sir.

Senator BUNNING. And the reason is that it is not environmentally possible, it is not economical? What is the reason?

Mr. ROUTS. I think it's been said before the refining business over the last 10 years has had returns of an average of about 5 percent.

Senator BUNNING. So it is cheaper to bring it in.

Mr. ROUTS. That's right.

Senator BUNNING. Just buy it and put our dependency on foreign crude and foreign gasoline at a higher—we are going to be over 60 percent very shortly.

Mr. ROUTS. If you will allow me, Senator, we had a refinery in Wood River in the mid-continent, and we decided to sell that to Tosco at the time because of the very low returns that refinery had.

So that's the kind of a view we had on the refining industry at the time.

Senator BUNNING. Thank you very much, Mr. Chairman.

Senator LEVIN. Thank you, Senator Bunning.

I think we are going to, if it is all right with our witnesses, I think what we will do is work right through the lunch hour. We may be able to finish by 1:30, depending on whether colleagues come back or not. Is that agreeable with all of you?

Mr. PILLARI. That is fine.

Senator LEVIN. I want to go back to the ExxonMobil E-mail that is on Page 228. It is Exhibit 15.[1] Mr. Carter, this is where—back to Powerine, where it says, "Needless to say, we would all like to see Powerine stay down. Full court press is warranted in this case and I know Brian and Chuck are working this hard."

Can you tell us what that "full court press" entailed?

Mr. CARTER. Yes, Senator. My understanding is that that meant that we were going to oppose their petition before the regulatory body in California to allow them to manufacture and sell in California gasoline that didn't meet the air requirements.

Senator LEVIN. Is that all that was done?

Mr. CARTER. To my knowledge, that's correct, sir.

Senator LEVIN. Mr. Pillari, on Page 219,[2] I want to refer you to a document from 1996. This document came from ARCO, which BP Amoco acquired in 2000. It is a presentation to senior ARCO managers, and it says the following:

"From time to time, APC," which is ARCO, "may need to endure brush fires to discipline the market, exchange and trade selectively to preserve market discipline."

Can you explain to us what you think ARCO meant by "disciplining the market" or "preserving market discipline."

Mr. PILLARI. Sir, I don't know what they meant. This was quite a long time ago before we were involved.

Senator LEVIN. Have you ever heard the term "preserve market discipline"? Have you ever used the term or heard it?

Mr. PILLARI. No, sir.

Senator LEVIN. This is another example where it is not just sort of market factors which are controlling, this is another example of companies taking very specific actions to impact that market—in this case, exchange and trade.

Now I want to talk to you about this memo on Page 273.[2] This is a document from the Marathon files, dated October 1, 1998, and it appears that Marathon was pleased that Hurricane George came through and knocked out a refinery. Here is what the document says:

"As OPEC and other exporters' efforts to rein in output began bearing fruit, nature stepped in to lend the oil producers a helping hand in the form of Hurricane George, which caused some major refinery closures, threatened off-shore oil production and imports, and generally leant some bullishness to the oil futures markets. However, this storm-induced optimism is likely to prove temporary,

[1] See Exhibit No. 15 which appears in the Appendix on page 267.

[2] See Permanent Subcommittee on Investigations' Majority Staff Report, *Gas Prices: How Are They Really Set,* which is reprinted in the Appendix on page 322.

leading to some pullback in prices prior to the heavier worldwide demands for crude in late fall and early winter."

Mr. Heminger, it is quite an amazing document, actually, that you would view the hurricane as nature providing oil producers a helping hand. What do you have to say about that memo?

Mr. HEMINGER. Mr. Chairman, first of all, I apologize for any inference whatsoever that is taken from this document or anything taken out of context in this document that states that my company would find pleasure in any natural disaster. That is totally an incorrect interpretation.

What that document is, is on a monthly basis we basically recite the EIA, OPIS, other industry magazines, other industry reports about what is going on in the crude oil market and what we expect the future price is going to be. This merely recites what was stated at that point in time for the cause of the increase in crude oil prices. But we have employees in the Gulf of Mexico working on a LOOP platform, we have employees at our parent company working on production platforms and a number of employees working in the marine business that would be off of the Gulf of Mexico. We certainly would never want anything to happen to anyone.

Senator LEVIN. Well, first of all, I think you will agree I read the whole paragraph. I did not take words out of context; is that not correct?

Mr. HEMINGER. That's correct, Mr. Chairman.

Senator LEVIN. And, second, I want to get to the heart of the matter, which is that reining in output, reducing supply helped oil producers; is that correct?

Mr. HEMINGER. What that document is discussing is crude oil prices only. And when it talks about they had to shut down platforms, in a hurricane disaster and safety procedures, you have to shut in the platforms, and many times we shut in pipelines that are bringing off-shore crude oil into the marketplace.

Senator LEVIN. How does that help producers? How does closing, major refinery closures, it says here, help oil producers?

Mr. HEMINGER. Closing a major refinery, Senator, never helps a producer.

Senator LEVIN. Let me read it to you again, putting aside the reference to Hurricane George for a minute.

"As OPEC and other exporters' efforts to rein in output," reduce output, "began bearing fruit, nature stepped in to lend the oil producers a helping hand, in the form of Hurricane George, which caused some major refinery closures."

Now, putting aside the fact that it was Hurricane George which did that, the closing of major refinery closures is referred to in that document as lending oil producers a helping hand.

Mr. HEMINGER. I cannot—I did not write the document, first of all, but closing a major refiner or refinery would never help a producer because that would take additional demand off of the marketplace.

And what that report back at that time was discussing was the global crude oil market. And as you are aware, OPEC's back-and-forth stance on whether they're going to produce more or produce less, that was specifically speaking to reports from the EIA and

from other industry reports talking about the global crude oil market.

Senator LEVIN. Do you know who wrote this document?

Mr. HEMINGER. I'm aware, yes, sir.

Senator LEVIN. Who is it?

Mr. HEMINGER. A gentleman in our Economics Department.

Senator LEVIN. Have you talked to the person and said, "My God, what are you saying here? You are saying exactly what Senator Levin is saying, which is that reducing supply can help us here. Controlling supply, having a tight supply is good for oil producers. That is what Senator Levin is saying, and my gosh you put it all there right in the first paragraph"?

Did you talk to this man about this?

Mr. HEMINGER. I have not spoken to this man yet, no.

Senator LEVIN. I am sure you will after this hearing.

Mr. HEMINGER. Yes, sir.

Senator LEVIN. Now let's go to the first few words. "As OPEC and other exporters' efforts to rein in output began bearing fruit." That is bitter fruit for most consumers. When OPEC reins in output, it is bitter fruit for the consumers of America. We fight that, and yet here is your economist saying that when OPEC and other exporters rein in output, it bears fruit.

How does he—explain those words.

Mr. HEMINGER. First of all, reining in production, from a producer's standpoint, has no benefit whatsoever to the downstream part of our business. So I never like to see increased crude oil prices.

Senator LEVIN. It says here it "lends oil producers a helping hand." "Nature stepped in."

Putting aside the reference, the crude reference out of Hurricane George, OK, put that aside, just the fact that OPEC is reining in output is bearing fruit, that is a positive reference. Bearing fruit means it is good. Your economist says that is good. You are saying it is not. Your document says it is. Why? It lends oil producers a helping hand, and it talks about closing major refineries. That is a plus.

It is evidence of exactly what the report's conclusion here is, it seems to me, but I want to just again give you a chance, just on the OPEC issue, reining in output is referred to as bearing fruit, and I just want to be sure you are saying, from your perspective, that is wrong.

Mr. HEMINGER. From my perspective, that is discussing about a crude oil producer, not a refiner and a marketer.

Senator LEVIN. Your company is a refiner and marketer, is it not?

Mr. HEMINGER. Yes, Mr. Chairman.

Senator LEVIN. "And this storm-induced optimism is likely to be temporary." The good news is like to be temporary; isn't that what this is saying?

Mr. HEMINGER. Any time there is a natural disaster and we have to take our employees out of the Gulf of Mexico or close down a refinery is generally very temporary, and it's never good.

Senator LEVIN. The staff report, now turning to California, found that "a number of refiners sought to limit the amount of supply in

order to get higher margins. And to reduce supply, the refiners sought to increase exports, limit imports, eliminate the oxygenate mandate and prevent additional refinery capacity from operating."

I just want to repeat it. This is what the staff report finds, and it has got the evidence set forth right there, bountifully.

"A number of refiners sought to limit the amount of supply in order to get higher margins." How do you reduce supplies? Refiners sought to increase exports from California, limit imports to California, eliminate the oxygenate mandate and prevent additional refinery capacity from operating.

I want to just look at a couple of memos here now on limiting imports into California. First, on Page 218, and it is Exhibit 18.[1] This is a Texaco memo, and the Texaco representative is reporting a conversation that he had with a representative from Shell regarding Texaco's plan for manufacturing gasoline under new standards that were brought about to take effect in the fear that Texaco would import gasoline. So that is the fear. This is 1992. Now the Texaco official reports that the Shell representative said the following:

"Shell and the other oil companies are extremely concerned about Texaco's silence—" Let me read that again.

"Shell and the other oil companies are extremely concerned about Texaco's silence and the lack of activity concerning our plans toward CARB Phase 2 compliance." The Shell representative called Texaco a "wild card" and said, "We are nervous about it." The Texaco official said that an ARCO plant manager expressed the same concerns at a refinery managers meeting in April.

I am going to address this to you, Mr. Routs, because you now speak for not just Shell, as I understand it, but for part of the old Texaco; is that correct?

Mr. ROUTS. Indeed. We went into a joint venture with Texaco in 1998 and bought them out in 2002.

Senator LEVIN. The document here, the memo, talks about Texaco's silence. What silence would that be referring to?

Mr. ROUTS. Not having been involved in these discussions, Senator Levin, I have no idea. I have to assume that the industry was announcing what they were going to do about this whole thing, in terms of capital investment, and that Texaco hadn't announced, but again that is a speculation, but that's what happens in other parts of the world.

Senator LEVIN. The memo refers to Texaco as a "wild card." Do you know what that means? Are the other companies known or——

Mr. ROUTS. It's not the kind of language that I would allow in my company today, Senator.

Senator LEVIN. OK. Is it standard practice within your company to ask other refiners about their plans for refining gasoline?

Mr. ROUTS. It is not.

Senator LEVIN. That would be borderline collusion, wouldn't it?

Mr. ROUTS. That would be absolutely forbidden, and our lawyers——

Senator LEVIN. Because it might be collusion.

---

[1] See Exhibit No. 18 which appears in the Appendix on page 271.

Mr. ROUTS. Our lawyers would take action. We think it's anticompetitive, yes.

Senator LEVIN. OK. Now the Shell representative here apparently said of Texaco imports, "Shell will seek a tax on the importation of RFG."

Do you know anything about that effort, Mr. Routs?

Mr. ROUTS. I don't know anything about the effort, Senator.

Senator LEVIN. It looks like a direct threat to Texaco. That would surely be an anticompetitive action, would it not?

Mr. ROUTS. Believe me that I find it incredible that if a conversation like this has taken place in the past, that it is absolutely not acceptable in our norms and ethics of today and at the time, for that matter.

Senator LEVIN. Let me just interrupt for one second. We decided, I hope, with everybody's consent, although you weren't here to give it to me, that we would work right through the lunch hour. And so you can, any time you are ready, if you have additional questions, I can just stop and pick up——

Senator VOINOVICH. You are going to continue?

Senator LEVIN. I am going to continue for some time.

Senator VOINOVICH. This is Governmental Affairs, and we are involved in looking at the entire operation of the government and how it operates. If I recall correctly, when I met with a representative from BP in my office, he indicated to me that they didn't need more refineries here in the United States, and also there was an indication that the boutique gasoline problem, our various RFG formulas, were not that big a problem.

I heard this morning that these various numbers of gasoline, over 91—you used to have 6 and now you have 90—is a problem, that looking at that situation and changing it would help ease the spikes that we are seeing.

The other thing that I am concerned about is that if we only have limited refinery capacity and if one of them goes down, again, we see prices spike. I would like to eliminate all of the causes that you have put on the table that cause spikes. Now we can't do much about the issue of crude oil, and that is a problem that we have had, and we are going to continue to have for a long time. I think it is going to get a whole lot worse before it gets better, but that is something that we are going to have to spend some time with.

But the issue of refineries, I would like to hear from all of you how do we get another refinery built here? I think we need more refineries. The first question is do we need more refineries? I want to hear from each one of you, do we need more refineries?

Mr. CARTER. Senator, my company doesn't need any more refineries. We have done a really excellent job of expanding the ones we have. They are large refineries. They are highly efficient. Under previous regulations, we have been able to expand those and have added considerably to our capacity over the years.

This incremental growth of refining capacity, however, is threatened by current New Source Review regulations. They are difficult to interpret. They are being interpreted retroactively. The DOE and EPA are studying those. We have submitted a report to them with our recommendations. I would be happy to get you a copy of

that report, but in our view, that is the largest threat out there to increasing refinery capacity.

Senator VOINOVICH. So, as far as your company is concerned, you have the facilities and, with clarification of New Source Review, you think you'd be OK in terms of your refinery; is that right?

Mr. CARTER. With that exception, and also in my testimony, I mentioned the new sulfur regulations, potential phase-out of MTBE, the need to coordinate these changes in gasoline regulations so that we have the time to make the investments, and they don't gang up on us. The NPC has done a study of that. They have raised some doubts whether the industry will be in position to meet all of the new software requirements, as well as MTBE phase-out. So I think those should be coordinated as well, sir.

Senator VOINOVICH. So we have to coordinate the MBTE phase-out, and you are going forward with the sulfur regulation, but you think you are going to have a problem in complying with it, as Congress has mandated; is that correct?

Mr. CARTER. The NPC found that. I, personally, have a lot of confidence in my company, but when the NPC looked at the entire industry, they raised some doubts about the industry's ability.

Senator VOINOVICH. How about the sulfur implementation?

Mr. CARTER. All of these together.

Senator VOINOVICH. Mr. Heminger.

Mr. HEMINGER. Yes, Senator, we have invested heavily in our refineries. In fact, I stated we just invested $300 million to upgrade our plant in Garyville, and we are going to have to invest between $600 and $700 million just to meet the low-sulfur regs for gasoline and diesel by 2006 to 2008 time frame. So we are going to continue to invest, but that is investment just to keep today's capacity where it is. If you take between $600 and $700 million of investment, with basically no return off of that investment because I look at that as "stay in business" capital, I would say it is going to hurt us to continue to invest in new refineries.

To go back to your other question, would we invest in a new refinery? We certainly would give strong consideration to that. I believe, though, it needs to be on the same pipeline or the same corridor of the pipeline and the infrastructures that we have available in the country today. But as I have also stated how difficult it has been to get a permit to do a very small pipeline, we find it many multiples more difficult to be able to try to increase refining output.

Senator VOINOVICH. Mr. Pillari.

Mr. PILLARI. Thank you, Senator.

We are investing heavily in our core refineries, those that we believe have the best long-term future. As you know, we have been selling refineries. All of them are still operating in the marketplace, but we have been selling them because we believe that the economics of the business support an alternate purchase rather than an investment in a new refinery.

Senator VOINOVICH. Is all of the crude oil that comes into this country refined here or is some of it refined when we bring it in? Is all of it refined in the United States? How much?

Mr. PILLARI. All of the crude oil that we bring into the country?

Senator VOINOVICH. Yes.

Mr. PILLARI. Everything we bring into the country is refined here.

Senator VOINOVICH. It is refined in the United States?

Mr. PILLARI. Yes.

Senator VOINOVICH. Why don't you bring in refined oil?

Mr. PILLARI. We also bring in refined oil products.

Senator VOINOVICH. So you have options. BP has options. You can either have somebody refine it here or you bring in oil that is refined.

Mr. PILLARI. Correct.

Senator VOINOVICH. Why doesn't that take care of the problem when a refinery breaks down, if you can just bring it in from someplace else?

Mr. PILLARI. Well, it takes a little while to get it here, and I think there are two things about it. First off, when something unusual happens, if it is significant, like the fire at the Citgo refinery last year, something that major that takes a lot of product out of the marketplace, it takes a little while, particularly in the Midwest, for the product to come in through the Gulf Coast or through New York or somewhere to get up there. So there are logistics issues for getting up there, and at the same time, you are also then dealing in the spot market, which is reacting to the marketplace.

Senator VOINOVICH. Does BP think we need more refineries in the United States?

Mr. PILLARI. We think we don't need more refineries.

Senator VOINOVICH. I know that because you got rid of one in Lima, and thank God a company picked it up and it is refining. I don't know what we would have done if they had shut that place down.

Mr. Reeves.

Mr. REEVES. Similar to earlier answers, Senator, the vast majority of our capital over the last certainly 6 or 8 years has gone into meeting environmental performance requirements, and very much of that driven in California. That is where the majority of our refining capacity lies.

Also, looking at California, I find it inconceivable that in California's climate today a new refinery could be built. We also have a large refinery in Mississippi, which is under construction right now to meet the new clean fuel standards. There will be some minor expansion of capacity there, but certainly nothing major.

The answer to the second question, which is do we need more refining capacity, ultimately, demand is going to outstrip the capacity of the refining industry in the United States over the next 20 years. The question is how do you meet that? Is it going to be imports? Is it going to be constructed? Generally, today there is adequate refining capacity in the world to import products to meet U.S. demand, and barring any unforeseen circumstances, I would guess that is how it is going to evolve.

Senator VOINOVICH. No new refineries. Mr. Routs.

Mr. ROUTS. No new refineries. Actually, we are going the other way. The refinery coverage is about 70 percent of our branded sales. We have sold over the last couple of years two refineries. They are still operating. But this is a business, as I said earlier, that has very low returns, and where we have to spend billions of

dollars in order to meet the requirements of clean fuels and the requirements of emissions. And don't take me wrong, I think those things are necessary to protect the environment, but in the end, it's not a business that makes a lot of money. So what we are looking at actually is to, through a global trading system, to bring more gasoline into the country.

Now you asked a question why doesn't it happen all of the time? Time requirements are one, but the other one also is arbitrage. Gasoline might just be more expensive in Europe, and prices have to come in this country, in terms—for gasoline to move from Europe to the United States.

So all of those things have to adjust and get balanced before a cargo gets sent this way.

Senator VOINOVICH. So, basically, all of you are saying that none of you are going to build any new refineries. In fact, many of you are selling them because the rate of return on them is not that good, those are environmental problems of going forward with them, and you've got a problem with the ones you have right now because you don't know where you stand on New Source Review; is that about it?

But what it basically says is, if a major refinery goes down in the United States, the people in the United States, depending on where it is, can experience what we did 2 years ago in the Midwest; is that right? And if we import it here, we are going to pay more for it because of where it is coming from. So that is a question that we ought to discuss, Mr. Chairman, as to what can we do to create an environment where companies are willing to build more refineries here in this country.

My last question adresses the problem of reformulated gas, the various degrees of reformulated gas that we have.

What is the answer? Is it a problem or isn't it a problem?

Mr. REEVES. Well, I'll take a shot at it, Senator.

It is a problem for the distribution system. To date, it has been a problem that can be overcome, but generally creates or at least is a contributing factor to some of the price volatility. I think it's important to remember that those boutique fuels were created as our legislative, and environmental, and regulatory communities, and the business communities tried to seek a balance. They weren't created with ill will, they were created to match local environmental conditions and then place requirements on the people that manufacture fuels that are sold there.

So I think the boutique fuel issue, looking ahead of us, is going to be very difficult to overcome because it almost either requires everybody to come up to the highest possible standard, which can place some costs on people that don't currently reflect those costs in their prices, or it asks people to lower their environmental performance expectations in certain markets, to lower them to the average, and I don't see that as a very easy thing to change.

Senator VOINOVICH. Is there anybody from the industry that is looking at these 90 different RFGs to find out if there is an easier way of skinning the cat, and getting the job done and respecting the environment? Are they?

Mr. HEMINGER. Senator, I know the National Petroleum Refining Association and the American Petroleum Institute have been working on that question.

Mr. ROUTS. As the chair of the Downstream Committee of the API, we have been pushing very strongly to get the number of gasolines reduced, and we have had a proposal in, and actually in the new energy bill some of those proposals are going to be worked. So we think there is a solution in sight. It is just a matter of arriving at the right balance between what we can put in our distribution system and what is acceptable to the environment.

Senator VOINOVICH. So your suggestion is that we ought to see if there is a way that we can smooth it out a bit and get rid of some of the jagged edges. But the public has to understand that if you are doing this kind of gasoline, that they are going to have to pay more for it at the pump.

I remember well, as governor of Ohio, we had the issue of our reformulated gas in Cincinnati, and the choice was we go RFG or we go to emissions testing. I opted for emissions testing because I knew that if we went to the reformulated gasoline, it would cost more money for our people, and we could comply with the law in a cheaper way by doing the emissions testing.

I think that one of the things that the public has to understand is that the environmental considerations have had a dramatic impact on your businesses and that, as you point out Mr. Reeves, in many instances they are proper requirements, but the fact of the matter is that you are going to have to pay for it.

There is a public perception that the oil companies are making money hand over fist. I would like to know from you, Mr. Heminger, what has happened to your stock price in the last several years. Are you making out like a bandit because of these spikes at the pump?

Mr. HEMINGER. Well, our stock price is really reflected in both parents, Marathon and Ashland, and I would say that, no, our stock price has been relatively flat over the last number of years.

Senator VOINOVICH. What do you mean by flat?

Mr. HEMINGER. We have not seen any sustainable increase in rates of return. Therefore, we have not seen any growth or any increased value in the market capitalization of our stocks.

Senator VOINOVICH. There was a brief period there where the stock prices went up, and then they came down again, correct?

Mr. Pillari, you are worldwide, BP?

Mr. PILLARI. Correct. Our share price has been almost as volatile as gasoline prices in the last 5 or 6 years. I think today we are probably sitting somewhere in the low fifties. We have dropped $3 or $4 just in the last month or so, and we have been as low as the forties. So we've seen quite a bit of volatility.

Senator VOINOVICH. Mr. Reeves.

Mr. REEVES. That would be the same for us. We're right now in the mid eighties, up as high as the mid to high nineties and to the low seventies over the course of the last 2½ years.

Mr. ROUTS. Royal Dutch shares, same thing happened in the mid sixties. We are right now trading around fifty.

Senator VOINOVICH. Mr. Carter.

Mr. CARTER. Same answer. Our stock today, I mean, it fluctuates as well, but if you look at it today versus 2 or 3 years ago, it is lower.

Senator VOINOVICH. Mr. Chairman, I have no other questions at this time.

Senator LEVIN. Thank you, Senator Voinovich.

Let me ask, first, Mr. Carter a question about a document on Page 214.[1] It is a document that discusses limiting imports into California, and it is a strategy discussion by officials from Exxon who were looking at the West Coast supply picture.

And then on the last page of that memo, which is Page 214, there are several general strategy considerations, and I want to just make reference to one of them. In the first bullet, there is a proposal that Exxon, "Should not do deals that support others importing barrels to the West Coast." What kind of deals would that bullet be referring to?

Mr. CARTER. Mr. Chairman, I am not absolutely familiar with the memo. I can tell you about our practices on the West Coast. Many times we have manufactured California-grade gasoline in our refinery at Baytown, Texas, and we have shipped it all the way around, up the West Coast, into California at considerable expense, and in many cases we have lost money on that gasoline.

As the report indicates, the California and West Coast marketplace is isolated. It's sometimes long of product, it's sometimes short of product. In short periods, we have often manufactured the gasoline on the West Coast, the East Coast or Gulf Coast and moved it all the way around.

I take this memo to refer to those times when the supply is long. That is the only thing I can assume that it's referring to.

Senator LEVIN. Now, there is also a ChevronTexaco memo, which is Exhibit 19,[2] and this——

Mr. REEVES. I'm sorry, Senator, what page would that be?

Senator LEVIN. This is Exhibit 19. That is on Page 202.

Mr. REEVES. Thank you.

Senator LEVIN. This is a study which says the following:

"Exports becoming a more important factor in balancing light product supply and demand."

So this memo starts or that reference highlights the use of exports of gasoline to keep supplies tight. And then it goes on to make another important statement. It says the following:

"Market is dominated by limited number of large, committed refiner/marketers whose individual actions can have significant market impact."

Now that is pretty much what our conclusion is in the report, so I am going to read it again.

"Market is dominated by limited number of large, committed refiner/marketers whose individual actions can have significant market impact."

That's what a highly concentrated market is all about. I'm just wondering whether or not, let's see, this would be you, Mr. Reeves, do you agree with that statement from your document?

---

[1] See Permanent Subcommittee on Investigations' Majority Staff Report, *Gas Prices: How Are They Really Set,* which is reprinted in the Appendix on page 322.

[2] See Exhibit No. 19 which appears in the Appendix on page 272.

Mr. REEVES. Well, actually I've been with the Chevron organization long enough that I was actually part of the study team that put this together.

Senator LEVIN. Better yet.

Mr. REEVES. So I can reply to it.

Senator LEVIN. Do you agree with what you wrote?

Mr. REEVES. I do, yes. I guess I'd parse it into two pieces; one is the large committed refiner/marketer, and it is true that is a reflection of the West Coast competitive structure, and probably the most important word there is "committed." Given the volatility of the West Coast refining and marketing business, it's my belief, when you look back over at history, that small companies who don't have the financial wherewithal to see it through the ups and the downs, have elected not to remain in that business, and so that is the reflection of the large and committed and why it is significant.

Individual actions, I think you've seen that actually play out. This is a document I think from 1993 or somewhere back then when we were actually long on product, but even then you could see that if there were significant incidents and disruptions in the marketplace, that there was a lot of volatility in the price. So, yes, I would certainly stand by what we wrote then.

Senator LEVIN. Is the market in California dominated by a few large refiners that can have a significant market impact?

Mr. REEVES. Well, the refining capacity has not really materially changed over the last, oh, 9 to 10 years. The ownership has been moving around quite a bit, mostly as a result of the mergers and the required FTC divestments. It is characterized by larger refiner marketers, large integrated oil companies, and now an emerging group, companies like Valero-UDS, who are now actually the largest refiners in the United States or close to it.

Senator LEVIN. Going back to the statement, is it true that the market is dominated still by a limited number of large, committed refiner/marketers, and these now are the key words "whose individual actions can have significant market impact"? Is that true?

Mr. REEVES. I think I've already agreed with that statement, Senator.

Senator LEVIN. You have? I didn't hear a clear agreement with it.

Mr. REEVES. It was, yes.

Senator LEVIN. Thank you. Now, relative to an ARCO presentation, this is Exhibit 17,[1] Page 223, and this advocates exporting gasoline in a number of places.

On Page 223, Exhibit 17b, if you look up at the upper right hand, under "Take Action," it says, "Export to keep the market tight."

So let me ask, is that still the policy of ARCO?

Mr. PILLARI. Well, since we have owned ARCO, we have not been exporting product. We are a net buyer of product in the market, and so we are quite short.

Senator LEVIN. And so ARCO did not follow that?

Mr. PILLARI. I don't know what ARCO did back then. I think this was, what, the mid-nineties or something?

Senator LEVIN. This document, I believe, is 1996.

---

[1] See Exhibit No. 17 which appears in the Appendix on page 269.

Anyway, you don't know whether that action was taken, whenever the date of the document is?

Mr. PILLARI. No, I don't, but today we are a net buyer.

Senator LEVIN. Now let me ask ExxonMobil, has ExxonMobil exported gasoline from California to maintain high refining markets?

Mr. CARTER. No, Mr. Chairman.

Senator LEVIN. I mean, high refining margins.

Mr. CARTER. The California-grade gasoline we manufacture is sold in California.

Senator LEVIN. All right. Let me ask Shell, has Shell exported gasoline from California to maintain high refining margins?

Mr. ROUTS. No, we have not, Senator.

Senator LEVIN. Thank you.

If you take a look at Exhibit 20,[1] this is a Texaco document from the *Aguilar* case. This is a 1996 memo, and it is on Page 238.

Texaco's "position is to fight the proposed specification changes because it will increase fuel costs and not deliver commensurate benefits to consumers." That sounds good.

Then the next paragraph says the following:

"Incremental improvements to refinery margins from reducing supplies can be achieved in a number of ways. One way—" I want to point out here this is what this report is all about is increasing refinery margins from reducing supplies. This memo says it can be achieved in a number of ways. "One way would be to promote the more restrictive mandated specification changes to reduce supply of product; another would be for refiners to voluntarily reduce refinery production, without incurring added costs or suffering attrition [admittedly unreasonably idealistic, but the best option.]"

Now the goal then, as stated in this memo, is to reduce the supply of gas in order to increase refining margins; is that correct?

Mr. ROUTS. I can't comment on it, Senator. I don't know what the goal was at the time that this memo was being put together.

Senator LEVIN. OK. Texaco has taken a position of opposing one particular plan for new specifications for fuel. This memo is contemplating changing that position in order to tighten supply; is that correct? That is what the memo was doing, saying maybe we ought to change our position about whether we support or oppose a particular plan for new specifications in order to tighten supply.

Am I reading it correctly, to begin with?

Mr. ROUTS. I agree with you that you can read that memo that way, Senator.

Senator LEVIN. Now, in the BP memo that we discussed earlier, BP seemed to be opposing oxygenate requirements or at least was considering it, in order to tighten supply, because without the oxygenate more gasoline is needed. So it appears as though, whether or not companies support or oppose fuel specifications could depend on whether or not those fuel specifications increase or decrease the supply of gasoline. That is what it appears from these memos.

Now another proposal in this memo, which is on Page 238, is to "voluntarily reduce refinery production." That just means shutting down a refinery in order to reduce supply; is that right? Did Texaco do that?

---

[1] See Exhibit No. 20 which appears in the Appendix on page 273.

Mr. ROUTS. I can't answer that question on behalf of Texaco, sir.

Senator LEVIN. Let me just ask Shell. Has Shell ever done that?

Mr. ROUTS. Could you repeat the question?

Senator LEVIN. Yes. I think you may have answered this before, this issue that is coming up now. Has Shell ever reduced refinery production or shut a refinery just to reduce supply?

Mr. ROUTS. As I said earlier, the main reason why we have sold or shut capacity is because it was no longer economic to run.

Senator LEVIN. All right. I want to go back to what Senator Voinovich was asking about also, which is whether or not the United States needs more refineries. And the answer, I believe, from each of our witnesses was that your company doesn't need more refineries. Is that correct?

Mr. ROUTS. That's right.

Senator LEVIN. With the one exception, I think, of someone——

Mr. HEMINGER. I said we would consider an investment in refining.

Senator LEVIN. You would consider. The other companies, I believe, said that you have adequate refinery capacity. Is that correct?

Mr. REEVES. That's right.

Mr. CARTER. We don't need another refinery. I did not say we would not add refining capacity, and I talked about the New Source Review requirements and things like that.

Senator LEVIN. OK. That is correct. You don't need another refinery. So the only company that is considering an additional refinery then would be Marathon. Is that correct?

Mr. HEMINGER. We would consider that, yes, sir.

Senator LEVIN. All right. Now let me ask you this question: Putting aside your own company's situation relative to the need for additional refineries, is the United States now short of refineries? Mr. Carter.

Mr. CARTER. Well, my company is not short. We run our refineries——

Senator LEVIN. In your judgment, is our country short?

Mr. CARTER. No, sir.

Senator LEVIN. In your judgment, is the United States short of refineries, Mr. Heminger?

Mr. HEMINGER. I would say we are short of refining capacity because we're importing refined products today.

Senator LEVIN. All right. So you believe our capacity right now is too low?

Mr. HEMINGER. Mr. Chairman, when you look at the rates that we're running all the refineries today, we are running them full out for the majority of the year. And if we're importing—in fact, the question came up a while back on Venezuela. We're importing a significant amount of refined product from South America and from Europe, so it's clear to our company that more capacity could be used in this country.

Senator LEVIN. OK. Mr. Pillari.

Mr. PILLARI. Given the imports coming in, I would say we are finely balanced, just a tad bit short.

Senator LEVIN. OK. Mr. Reeves.

Mr. REEVES. A similar answer. I think we clearly are importing products, and it is—at least, I think returns are telling us that is the most economic solution right now. If demand continues to grow—and that is an unknown—out over another couple of decades, I think the situation would have to be looked at differently.

Senator LEVIN. OK.

Mr. ROUTS. Imports will cover our needs. It's more economic for us at this point.

Senator LEVIN. I think from at least most of your answers, it is clear at least that there is not—in terms of trying to look at the cause for price spikes, you can't point to the shortage of refineries since most of you say there is no shortage of refineries. Most of you say there is no shortage of refining capacity. Sometimes that is given as the reason for price spikes. But I don't think we can use that excuse. I don't think that particular justification or rationale washes, given at least the bulk of your answers here.

I want to talk just a minute about concentration in Michigan. The Department of Energy's Energy Information——

Senator VOINOVICH. Mr. Chairman, excuse me just a minute.

Senator LEVIN. Please.

Senator VOINOVICH. It is my understanding that when we have had refinery fires and shutdowns, prices have been impacted.

Senator LEVIN. That is correct. There is a disruption in supply.

Senator VOINOVICH. There is a disruption in supply, and that refineries do have an impact on these spikes.

Senator LEVIN. On spikes where there has been a disruption in supply, but our recent spikes are not. The issue also is inventory, not just refining capacity. They maintain 3 days of excess inventory, which means they keep the supply very tight. The report says that gives, in a highly concentrated area, the ability of a few companies then to have an impact on price without fear of significant competition. That is the result of maintaining a very tight supply. That is the finding of the report.

Senator VOINOVICH. The issue is the competition.

Senator LEVIN. That is correct.

Senator VOINOVICH. And whether or not the competition is there in terms of the refineries, and is it cheaper to raise the price than to import refined oil in from some other place.

Senator LEVIN. The issue is lack of competition. That is what our focus has been in the highly concentrated areas, and the fact that there is inadequate competition and what effect that has on price.

Senator VOINOVICH. But the bottom line is that we have been told that the return on investment in building refineries is not that good, and that is why they are getting rid of them and they are selling them off. Also, they have a problem with regulations in terms of building them.

Senator LEVIN. They can argue the return on capital, that is something they may wish to argue, although if you look at all the other industries and businesses, it is somewhere in the middle. But, nonetheless, they can make the argument, but it can't be, under their testimony, that the lack of refineries causes price spikes, because they just said we do have enough refineries. And presumably they don't support price spikes. At least that is what we have been told this morning.

Senator VOINOVICH. Well, I would like them to respond to that.

Senator LEVIN. That would be fine. Are refineries—the shortage of refineries the cause of price spikes? Mr. Carter.

Mr. CARTER. That was not my testimony, Mr. Chairman.

Senator LEVIN. Thank you. Mr. Heminger.

Mr. HEMINGER. That was not my testimony.

Senator LEVIN. Mr. Pillari.

Mr. PILLARI. No, sir.

Senator LEVIN. Mr. Reeves.

Mr. REEVES. No, I believe it is the regional imbalance that causes the spikes, and then markets require some time to equilibrate. Ultimately they go down. So it is the time lag to resupply.

Senator LEVIN. OK. Mr. Routs.

Mr. ROUTS. I agree with Mr. Reeves. I think we have an ample refining capacity, though not necessarily in the right place.

Senator LEVIN. OK. And, of course, a separate issue here is inventory and the way that is kept very low with a 3-day supply, and when inventory goes down because of the disruption or whatever, at that point you have got a problem. But that is a decision to maintain a low inventory level, which the oil companies have maintained.

The EIA, the Energy Information Administration, says that in my State of Michigan four firms—Marathon, BP, ExxonMobil, and Shell—provide about two-thirds of the gasoline sold within Michigan. And it is my understanding that the EIA is measuring which companies are either manufacturing gasoline within the State or bringing it into the State from elsewhere. So we are not talking here retail sales. We are talking about those companies which are manufacturing in the State or bringing it into the State.

So the EIA says that this reflects a tight oligopoly in this market. That is not me. That is the Department of Energy which says there is a tight oligopoly in the Michigan market and in other States in the Midwest and California and other States.

Do you disagree with this characterization? First let me ask Exxon.

Mr. CARTER. Well, sir, as I testified, we looked at the Midwest, not at individual States. Individual States are not generally refining markets.

If you go back to January 1, 1997, prior to all the mergers that have been discussed here, there were 27 gasoline-producing refineries in the Midwest owned by 19 companies. If you come forward to today, there are still 25 refineries owned by 18 companies, so only one less company.

If you use the Herfindahl Index or whatever people use—my economists do that—the Midwest is by that classification "not concentrated" in 1997 and it retains that classification today.

Senator LEVIN. Not heavily concentrated?

Mr. CARTER. "Not concentrated," is the FTC wording.

Senator LEVIN. OK.

Mr. CARTER. That's in my written report, Mr. Chairman.

Senator LEVIN. OK. Thank you. Mr. Heminger.

Mr. HEMINGER. Mr. Chairman, we believe that the Midwest is one of the most fiercest competitive marketplaces, and I stated that in my testimony. And, in fact, when we look at the Midwest and

the State of Michigan, we supply 2 billion gallons more product, so we believe we have acted very responsibly in being able to supply the market.

Senator LEVIN. OK. Thank you. Mr. Pillari.

Mr. PILLARI. We only make about 60 percent of what we sell in the Midwest. We have refineries in Toledo and Chicago, and the rest we buy on the open market.

Mr. REEVES. I'm not qualified to comment on the Midwest.

Senator LEVIN. Thank you. Mr. Routs.

Mr. ROUTS. We have no refineries in the Midwest.

Senator LEVIN. Do you generally agree that high concentration leads to higher prices? Mr. Carter.

Mr. CARTER. I couldn't disagree with that, sir.

Senator LEVIN. Mr. Heminger.

Mr. HEMINGER. I disagree with that.

Senator LEVIN. OK. Mr. Pillari.

Mr. PILLARI. I don't think it's automatic.

Senator LEVIN. Mr. Reeves.

Mr. REEVES. I would disagree with that as per my testimony.

Senator LEVIN. Mr. Routs.

Mr. ROUTS. I don't think it's automatic either.

Senator LEVIN. Would you generally agree the more competition, the better, in terms of consumers?

Mr. CARTER. I think competition is good for consumers, yes.

Mr. HEMINGER. I agree.

Mr. PILLARI. Yes, sir.

Mr. REEVES. I would.

Mr. ROUTS. As a consumer, yes, sir.

Senator LEVIN. Let me give you the concentration numbers, that same HHI Index which was referred to, for the United States gasoline wholesale market in 1994. There was moderate concentration in 22 States. That went up to 28 in the year 2000, and there was high concentration in 1994 in 5 States, and that went up to 9 States.

So 37 States, according to that same index which you quote, the HHI Index, 37 of those States are either highly or moderately concentrated, and that is an increase from 27 States just 6 years before.

Now, those are the HHI numbers that we have in terms of concentration. The other index which is used shows a doubling of the States that are in high concentration areas. So by either index, there has been a significant increase in concentration between 1994 and the year 2000.

Let me just ask Marathon a question here. I want to talk to you about a practice that we witnessed in Michigan and Ohio, something that I call Speedway bumps—not speed bumps but Speedway bumps. And I call them that because it is quite apparent in Michigan and Ohio that Speedway takes the lead in bumping up the price of gasoline dramatically on Wednesdays or Thursdays by a dime or more, and then letting it slowly fall over the weekend. And then once Speedway does that, it is apparent that the other brands follow, some to a greater degree—Shell, for example—some to a lesser degree—Mobil, for example. And you can see that in those two figures.

This is the last price spike, by the way, that we are looking at. There, again, no relationship to the price of crude, but you can see the difference in rack and retail prices, wholesale and retail prices in Michigan from January to August 2001.[1] The other one shows Michigan retail prices by brand for the month of April 2001.[2] You can actually see those Speedway bumps on that right-hand chart and on the left-hand chart. We have enlarged it on the right-hand chart. Up for the weekend, then down; up for the weekend, then down; up for the weekend, then down, and so forth.

Mr. Heminger, let me ask you about that pricing policy. First of all, do you agree that you appear to be the price leader in Michigan, that other companies, other retailers follow your lead?

Mr. HEMINGER. Mr. Chairman, our pricing policy is every day, as I had in my testimony. We look at our cost, we look at our sales, and we look at how the competitors are pricing, and we elect, as I stated, to always match the lowest price on the street.

And then there comes a time when our costs have increased that we elect to raise our retail price to try to recover some of our costs.

Senator LEVIN. Would you agree with me, though, that when you look at the history of pricing and who is a price leader, who follows whom, that in Michigan you appear to be the price leader, that others follow your price? Would you agree with that?

Mr. HEMINGER. Mr. Chairman, every day we attempt to be—to match the lowest price on the street, and there are times—you stated it in your question Wednesday or Thursday. I hope that we are not that predictable. In fact, we look at our prices every day, and we make decisions based on the cost of that given day and time.

Senator LEVIN. Well, you can see Wednesdays or Thursdays on that chart. Those are peaks, little mountains. It doesn't get to Everest until a little later, but there are some peaks, valley, peak, valley, peak, valley, peak, valley, on Wednesday and Thursday. You are just saying that is a coincidence?

Mr. HEMINGER. No, sir. I said that every day we look at our price. There are times—in fact, many times, Wednesday or Thursday is when we will elect or we historically have elected, better said, to increase our price. It is not every week. And when you look at the charts and you really look over the period of time of the spring and summer of 2001, in comparing that back to the crude oil price, and as Senator Voinovich just stated, it wasn't a cause of refineries or it wasn't a cause of crude oil prices in that time frame. It was because of two big fires, one with the Tosco refinery, another one in Lamont, which is southern Chicago, and the prior year it was because of two pipeline failures, is what caused those spikes in the summer months.

Senator LEVIN. I want to talk to you about parallel pricing just for a minute. I want to put the Illinois chart up, if we can get it, for June 2001.[3] Now, this shows how companies maintain a price relationship to each other, and this is true in many areas. The same company typically will be at this level; the next company, a penny or a fraction of a penny above it; another company, a penny

[1] See Exhibit No. 11 which appears in the Appendix on page 260.
[2] See Exhibit No. 12 which appears in the Appendix on page 261.
[3] See Exhibit No. 9 which appears in the Appendix on page 258.

or a fraction above that, and so forth. So you've got like four or five fingers moving down, up or down together, rarely crossing each other. It is called parallel pricing. It is not illegal under current antitrust law. But it sure is no coincidence, either. It may not be illegal, but it is not a coincidence.

In a foot race, if all the competitors of equal speed came across the finish line in the same order race after race after race, some would think that something was fishy.

Now, when major brands in a market region change their prices at the same time, stay in the same relationship, moving in the same direction and by the same amount, do you not agree that the consumer out there is going to believe and, I will add, reasonably believe that there is a conscious decision to maintain a relationship price-wise between those brands? Would you not agree with that, Mr. Carter? What is a consumer to think when he sees that parallel pricing, that ribbon with the four companies in the same relationship to each other?

Mr. CARTER. Mr. Chairman, I notice my company is missing from the chart so I don't know from that what my relationship was. We look at our prices every day. We look at the individual zones where our dealers operate. And we try to provide them with a price that allows them to compete in their zone.

If you take Washington, DC, the gasoline we are supplying here today was put in a pipeline in the Gulf Coast 30 days ago. If our price is extraordinarily low, we are going to run out before the next amount of gasoline gets here. If our price is extraordinarily high, then we are not going to sell anything. And since this is the end of the Plantation pipeline, we won't know what to do with the gasoline when it gets here.

So it's a very careful balancing act to keep our supply in balance and to compete with our competitors. As several of the Senators said, it's a very visible marketplace; everybody can see our prices every day right out on the street without even getting out of their cars.

Senator LEVIN. OK. Do you want to comment on that, Mr. Heminger?

Mr. HEMINGER. Mr. Chairman, as this chart illustrates, Speedway is always the lowest price on the street on this chart, and that has been our strategy, and we hope that our customers look at us as being a value pricer at the street.

Senator LEVIN. OK.

Mr. PILLARI. Sir, if you take a look at this data, it shows that our company was trying to determine where the consumer would put us in their buying decision, and in some cases our price was up quite a bit higher. And if you look at the end of the period, you would see we were quite down in the middle of the pack. So it doesn't seem to be as consistent as a set approach.

Senator LEVIN. Is parallel pricing illegal?

Mr. PILLARI. Not to my knowledge, no, sir.

Senator LEVIN. Do you have any problem with making it a presumption that when companies go down or up together and stay in the same price relationship with each other, that that should be evidence that there is something at work which should not be at work? In other words, is there any problem with making that a

presumption of illegality that is rebuttable by the industry that you can see?

Mr. PILLARI. I'm not sure I understand the presumption you're asking me to——

Senator LEVIN. Parallel pricing, under the current law, which is what that is—where companies stay basically in the same relationship, going up and down together—is not illegal under current law. Would you have a problem with making it presumptively illegal subject to rebuttal?

Mr. PILLARI. I'll be honest, sir. I don't know what "presumptively illegal" means.

Senator LEVIN. OK. Thank you. Mr. Reeves.

Mr. REEVES. To answer your question, I would object, and I happen to think that the reflection of a reasonably stable relationship of prices is actually an indication that the market is working exactly as it should.

Senator LEVIN. Even when the companies stay in the same——

Mr. REEVES. Yes, sir.

Senator LEVIN [continuing]. Relationship to each other?

Mr. REEVES. And the reason I say that is our pricing is the cumulative effect and response of millions of consumers' decisions, and they choose which brand they care to shop at. They choose for what reasons they choose to shop at a particular company. And the fact that market prices are going up and going down and that individual companies are in relative position, not changing quite often, is, in fact, an indication to me that the market is working. So a presumption of guilt would be completely inappropriate in my view.

Senator LEVIN. Is there any reluctance on your part to say that your company engages in parallel pricing?

Mr. REEVES. I don't know the correct definition of parallel pricing. I only know as it's been described here, and I've just said that I think that's a perfectly good reflection of an active and healthy and competitive market.

Senator LEVIN. So you don't know what parallel pricing means?

Mr. REEVES. I don't know.

Senator LEVIN. Thank you. Mr. Routs.

Mr. ROUTS. This to me is an example of a highly competitive market where people react to each other or react to each of the pricings. We measure on a daily basis the volumes that go through our stations. If the price is high, we see that the volumes come down immediately. It's very competitive.

Senator LEVIN. And if companies stay in the same relationship to each other price-wise, up and down, does that trouble you?

Mr. ROUTS. No, it doesn't trouble me, sir.

Senator LEVIN. OK. Does it trouble you, Mr. Carter?

Mr. CARTER. Mr. Chairman, as I stated, I think this marketplace is highly competitive. I went through how we price and so forth. In my testimony I indicated that gasoline prices last year were about $1.50 a gallon, down significantly across time. I understand CNN reported this morning that gasoline prices today are $1.39. In 1999 dollars, I guess that's around $1.30, the lowest prices it's been in a month.

I checked into my hotel room last night, and I found this there. I had a bottle of water. A liter of water, about a quart, is $6. If

I convert that to per gallon, that's $24 a gallon for water, which comes out of the ground. They don't have to refine it. They don't have to meet all these regulations. And while the marketplace is volatile and I'm concerned about the volatility, I think the absolute price out there is pretty good for consumers.

Senator LEVIN. Well, first of all, I think I'd change hotels. But putting that aside—— [Laughter.]

I think if you saw the price of bottled water go up and down together every day, every week, with the same brands staying in the same relationship to each other, I think you would think that something is fishy, too. But my question is: Would it trouble you if brands stay in the same price relationship to each other up and down and up and down? Mr. Heminger.

Mr. HEMINGER. Mr. Chairman, as I say, our strategy is every day to give that value price. We're talking about a global commodity, and if we didn't have NYMEX and if we didn't have the Chicago Exchange, maybe all of those prices wouldn't be transparent. But they are, and all that is traded, and all that reflects costs every day. And we have to take into account how we price our gasoline, and if we want to be the value leader on the street, as this chart illustrates, we really have to pay attention to where our consumers are buying.

Senator LEVIN. OK. Thank you. Would it trouble you if four or five brands stayed in the same price relationship with each other up and down, Mr. Pillari?

Mr. PILLARI. Sir, I believe the consumers set the price relationship based on their view of the value of each brand, and so it will be where the consumers allow it to be. So, no, it doesn't trouble me.

Senator LEVIN. It doesn't trouble you at all. OK.

Mr. Reeves, I think you have answered the question already. Mr. Routs.

Mr. ROUTS. It doesn't trouble me in the sense that I think that is indeed what the market drives us to do.

Senator LEVIN. It drives you to engage in parallel pricing?

Mr. ROUTS. That's not what I said.

Senator LEVIN. What does the market drive you to do?

Mr. ROUTS. The market drives us to be very competitive and to stay close to our competitors in terms of pricing.

Senator LEVIN. OK. Let me ask about zone pricing. It is a very specific question. Are a large number of your zones single-dealer zones? Mr. Carter.

Mr. CARTER. No, Mr. Chairman.

Senator LEVIN. Do you know about what percentage of the zones are single-dealer? Would it be less than 10 percent?

Mr. CARTER. I don't know the exact number. I expect that it's less than 10 percent.

Senator LEVIN. OK. Mr. Heminger.

Mr. HEMINGER. Mr. Chairman, they are all single-dealer zones.

Senator LEVIN. Every zone has just one gas station?

Mr. HEMINGER. Yes, sir.[1]

Senator LEVIN. OK. Mr. Pillari.

---

[1] See Exhibit No. 27, May 13, 2001 clarification letter from Marathon-Ashland, which appears in the Appendix on page 281.

Mr. PILLARI. As far as I know, the only single-station zones we would have would be out in the rural areas, and that would be relatively small.

Senator LEVIN. OK. Mr. Reeves.

Mr. REEVES. It would be a very small percentage of ours.

Senator LEVIN. Mr. Routs.

Mr. ROUTS. Fifty-three percent, I am just informed, of our areas are single-dealer.

Senator LEVIN. OK. On the lessee dealers, is it generally correct that lessee dealers do not negotiate the price of the product that you provide to them, that it is set by the company and that they are obligated under the lease to pay whatever they are charged by the company? Is that generally true?

Mr. CARTER. Well, Mr. Chairman, there are two caveats to that. There are laws that prescribe how we price to our dealers, UCC, I believe. I'm not an attorney, but I get a lot of advice from them. And, second, our dealers feel very free to let us know when they think their price is not a price that allows them to compete. I don't agree that that's negotiation, but certainly they feel free to express their views and we take it into account.

Senator LEVIN. But by the lease, are they obligated to pay the price that you charge?

Mr. CARTER. That's correct, Mr. Chairman.

Senator LEVIN. Mr. Heminger.

Mr. HEMINGER. Yes, Mr. Chairman, by the lease they're obligated to pay the price, and we have very few lessee dealers.

Senator LEVIN. OK. Mr. Pillari.

Mr. PILLARI. We have very few also, but, yes, they're obligated to comply with the brand. They can only sell our brand through branded dispensers.

Senator LEVIN. Well, that wasn't my question, though. Are they obligated to pay the price that you charge?

Mr. PILLARI. Yes.

Senator LEVIN. Mr. Reeves.

Mr. REEVES. That would be the case for us as well.

Senator LEVIN. Mr. Routs.

Mr. ROUTS. As far as I'm aware, that's the case, sir.

Senator LEVIN. And do you recommend retail prices to your branded stations?

Mr. CARTER. We do not today, Mr. Chairman. There was a time when one of our predecessor companies would tell the dealers what the recommended price was. They would also in the same communication tell them that they were free to set it as they chose.[2]

Senator LEVIN. OK.

Mr. HEMINGER. Not to our branded stations, Mr. Chairman.

Senator LEVIN. Not to your lessees?

Mr. HEMINGER. We do not recommend the retail price to our lessees or lessee dealers.

Senator LEVIN. OK. Mr. Pillari.

Mr. PILLARI. It's against policy.

Senator LEVIN. It is? Thank you. Mr. Reeves.

---

[2] See Exhibit No. 28, May 17, 2002, clarification letter from ExxonMobil, which appears in the Appendix on page 282.

Mr. REEVES. We do not encourage that, no. We don't give them a recommended price.

Senator LEVIN. OK. Mr. Routs.

Mr. ROUTS. We don't tell our dealers what to charge.

Senator LEVIN. No, that is not my question, though. Do you give them a recommended price for their retail?

Mr. ROUTS. We have discussions with them about the pricing in the zone, but they can still make their own decisions after that.

Senator LEVIN. You discuss with them, but do you publish a recommended price to your dealers——

Mr. ROUTS. We don't.

Senator LEVIN [continuing]. Or do you give them in writing a recommended price?

Mr. ROUTS. We don't, sir.

Senator LEVIN. OK. So, orally, what you discuss with them you don't consider to be a recommendation?

Mr. ROUTS. No, we don't consider it a recommendation, and, again, they don't have to act upon the discussion.

Senator LEVIN. Senator Wyden.

Senator WYDEN. Thank you, Mr. Chairman.

First, Mr. Chairman, let me thank you for allowing me to participate. I think this is a superb report, and I would only say that I think you and I both know that this litany of anti-competitive practices that you found and that I found in my inquiry in Oregon—it really extended to the West Coast—these anti-competitive practices have been documented again and again. But the fact is that these problems are growing, and the reason that they are growing is that the law under which they could be stopped is full of loopholes. And what we have found is that unless people are engaged in some textbook case of collusion, which these companies are far too intelligent to do, it is very hard to bring a successful action to protect the consumer. And that is why I am especially interested, Mr. Chairman, in exploring this idea that you and I have talked about in the past, and that is, when there are anti-competitive practices that as of today are not per se illegal and you have a concentrated market, that you create a presumption that this is raising an anti-competitive issue unless information is proven to the contrary. And I am going to address that more fully on Thursday when I testify, but I appreciate the chance to work with you on it.

I think for purposes of this afternoon I want to start with you, Mr. Pillari. At an April 25, 2001, hearing before the Commerce Committee, Mr. Malone, who is your Western regional president, refused to make any commitment to stop exporting Alaskan oil to Asia. And as you know, we have seen E-mail that essentially says, hey, this is a no-brainer to export oil from Alaska to Asia at a discount because you can stick it to people on the West Coast of the United States, in Oregon, Washington, and California, in order to make up the difference.

Now, the company, of course, has said that this person didn't speak for the company, and I understand all of that.

What I would like to do this afternoon is get a sense about your current policy and commitments that you are willing to make to the public. My understanding is you are not exporting Alaskan oil outside the United States today, but I would like to ask you to com-

mit today that BP is not going to export Alaskan oil overseas, period. Can you make that commitment this afternoon?

Mr. PILLARI. Sir, let me respond by saying we're a net buyer of Alaskan crude oil. We have to buy a significant amount of our needs. So as a net buyer, exporting has not been an issue for us.

Senator WYDEN. But that is not my question. My question is, because we have obtained E-mail from your company, sir, saying it is a no-brainer. Now, again, these are not my words or the words of some consumer advocate. These are the words of people in your company, calling it a no-brainer to export oil from Alaska to Asia. So what I would like to know is whether you all are willing to make a commitment. Mr. Malone was not. Mr. Malone basically said, "We're going to export oil any time it's in our economic interest. We're not doing it today, but whenever it's in our economic interest, we are going to export oil overseas."

So what I would like to hear from you is not about your situation today with you as a buyer or this or that. I would like to hear categorically whether you will commit not to export oil from Alaska overseas.

Mr. PILLARI. As I said, we're a net buyer. What I would say about the future is it can't be predicted. I don't know what will happen in the future and I would not commit to limit my commercial flexibility.

Senator WYDEN. Well, that was my understanding. I appreciate your candor, and of course, that is, in my view, why this whole notion of making this country energy independent, something I strongly support, is directly undercut when an oil company executive says, "Look, I'm not going to commit to anything. If it's in our economic interest, of course we're going to export." And that is why so many people on the West Coast of the United States are unhappy about that particular policy. Frankly, I mean, we have a whole host of anti-competitive practices that we are facing. We have had juries handing out awards for redlining for millions of dollars, redlining our markets. I am going to talk about that on Thursday, but I will tell you it is very disappointing to my constituents and people all up and down the West Coast, that you will not commit, at a time when the oil companies are saying, "We've got to be energy independent, got to make this country strong and energy secure." You again have restated what I thought was the position, and that is that you will not commit to banning the exports of Alaskan oil.

Let me ask then the panel, if I might, about their views, and put it in the context of the situation with respect to the Arctic National Wildlife Refuge, ANWR. My sense is with the way your companies have been merging, ExxonMobil, BP Arco, ChevronTexaco, spinning off assets right and left in the past few years, any of your companies could end up with leases and drilling rights in the Arctic Refuge. So what I would like to do is just go down the row and see if each one of you would pledge this afternoon not to export any oil you get from the Arctic Refuge if it ends up being opened up to drilling?

Why don't we just go right down the row.

Mr. CARTER. Well, we are a major exploration company. We explore all over the world. We produce a lot of oil and gas. To my

knowledge, we haven't been spinning off assets since we merged except as required by the FTC. We do favor additional exploration. If I recall—I'm not an upstreamer, but if I recall correctly, we opposed the export of Alaskan crude, and as you know, the law required it to stay in the United States at one time. To the best of my knowledge, it does stay here. I have no authority to commit us on what would happen if ANWR—but I can tell you what our practices have been.[1]

Senator WYDEN. I would just like to get an answer because you all are the leaders in the field, to hear a pledge not to export any oil you get from the Arctic Refuge if it is opened to drilling. It is a simple question. I mean it is a chance for you to make a strong statement about energy independence, and if anything, the arctic issue makes it even more stark. I mean everything about this arctic debate has been about let's get that oil and make us energy independent. Now, if you all will not pledge to keep this oil here, if anything, it is going to make us more energy dependent because we will be drilling in Alaska, selling it to Asia at a discount, and sticking it to people on the West Coast of the United States.

So I am just going to go right down the row and the question is just that simple.

Mr. HEMINGER. Yes. Senator, my company, we're just refining, marketing and transportation. We have no equity production, so I can't comment.

Senator WYDEN. OK.

Mr. PILLARI. Sir, I would not change my earlier view.

Mr. REEVES. Senator, to my knowledge, we don't produce much if any crude oil out of Alaska. I would say the answer to your question was, I don't have the authority to make the decision, but if I did, I would say that it would be irresponsible for any company, certainly our company, to try to accurately predict what we would do in commercial circumstances, 5, 10, or 20 years out.

Mr. ROUTS. I cannot comment. I represent Shell's downstream, and have very little to do with the upstream at this point.

Senator LEVIN. Senator Wyden, we suggested that we would try to stop at 1:30, and they have been here a long time.

Senator WYDEN. Mr. Chairman, you have been kind to me, and I will look forward to Thursday.

Senator LEVIN. Thank you.

Let me close first of all by thanking our witnesses. It has been a long hearing, and you have been cooperative in your production of testimony and materials. We again appreciate that as a Subcommittee.

Just one word about our responsibility and yours. You represent large and successful corporations, and it is to be expected that you are going to act in ways to maximize your profits. That is what you are in business to do. The government has a responsibility, on the other hand, to the public as a whole. And government's job is to make sure that the markets stay competitive and that anti-competitive practices be prevented, and that the consumers of this country get a fair shake.

---

[1] See Exhibit No. 28, May 17, 2002, clarification letter from ExxonMobil, which appears in the Appendix on page 282.

Our analysis of the oil industry is that it is highly concentrated in a number of markets in the United States, and that in these highly-concentrated markets, major oil companies take actions that limit supply in order to keep prices higher, and because of insufficient competition in those highly-concentrated markets, they can succeed more readily in keeping prices up.

The number of mergers in the last few years is dramatic. When you have Chevron merging with Texaco and BP with Amoco, and whoever would have thought that Exxon would merge with Mobil, but it happened. And as the industry has gotten more concentrated, the lifeblood of this country, gasoline, is in the hands of fewer and fewer players, and that means that if those players can effectively control supply in order to have a significant impact on price, a healthy economy is in jeopardy, and that is not what the American public wants.

The question is what can we do about this, and I think there are at least a number of steps that we ought to take or consider taking. First, the Federal Trade Commission should be more cautious about approving mergers. The current situation is bad enough in terms of concentration in the oil industry. Any additional mergers should be subject to strict scrutiny, and the presumption should be that any merger that the oil industry is proposing should be not only scrutinized carefully, but the burden of proof, it seems to me, should clearly be on the people who are proposing those mergers and should be against the merger occurring. The presumption should be against any further mergers.

Moreover the Federal Trade Commission needs to make sure that when it requires assets to be divested as part of a merger approval, the divested assets are viable as a competitive factor. There is concern that while the FTC has ordered certain divestitures in approving mergers, those divestitures haven't been to a sufficiently viable entity, so that they end up being a competitive force over time. I would recommend that the FTC study the mergers in the oil industry over the last 5 years to determine what the results of the ordered divestitures have been, to find out, in other words, whether the FTC was successful in achieving the desired level of competition that they thought that they were going to achieve. Those are responsibilities of the FTC.

Second. I think we ought to at least consider changing the law with respect to the issue of parallel pricing. Right now parallel pricing is legal. To bring an antitrust case with respect to parallel pricing requires additional proof, proof that there was some agreement or collusion or conspiracy. But parallel pricing can be an anticompetitive act, and the courts have said that any plaintiff bringing an antitrust suit with respect to parallel pricing, cannot under current law get to a jury without some showing of agreement or collusion. It seems to me with respect to this issue that we should consider allowing parallel pricing cases to go to a jury if there is sufficient evidence of parallel pricing alone to make that rebuttable presumption, but nonetheless sufficient evidence to get to the jury.

Oil companies, through their legal counsel try to avert or try to avoid overt collusion. But the reality is that with exchange agreements, the use of common consultants, public postings of prices, and common statistical resources and analysts, the market can, in

the words of one oil company, "be disciplined." And it can be disciplined in areas of significant or heavy concentration without overt collusion.

Now, with all the evidence that the plaintiffs in the *Aguilar* case had assembled to demonstrate anti-competitive behavior in California, the courts threw out a case and granted a motion for summary judgment because of the absence of overt conspiracy. But I think that new circumstances ought to at least have us look at possible changes in current law so that again we would allow proof of the fact of parallel pricing to be enough to withstand a motion for summary judgment and to get a case to the jury.

Finally, I think Congress should consider the possibility of requiring the oil companies to maintain a certain level of inventory of gasoline in order to avoid price spikes and price fluctuations. Four countries in Europe have such a requirement: France, Switzerland, Germany, and the United Kingdom. And we ought to at least look at that possibility as an appropriate approach for the United States so that supply is not so tight as it is in these highly concentrated areas. The oil companies have reduced their inventory levels dramatically over the past few years, so that now we have only 3 days worth of emergency supply at the Nation's current consumption rate. The tight balance between supply and demand and the low inventories, when combined with market concentration, have contributed to the recent price spikes and gas price volatility. It may be time to require a cushion of gasoline supply.

On Thursday we will hear, in addition to Senator Wyden, from three State Attorneys General, who have been investigating the practices of oil companies for the last few years, as well as from a number of oil experts who can respond to the issues that were raised here today and in the Majority Staff's report.

The hearing will begin at 9:30 on Thursday. It will not be held in this room. It will be held in room 342 of the Dirksen Building, which is the Governmental Affairs Committee hearing room.

Again, I want to thank our witnesses for volunteering to come forward, for the cooperation of their companies, and for their testimony here today. It will be made part of the record in its entirety as drafted and presented to the Committee, and of course your oral comments here will be helpful to the Subcommittee.

We will stand adjourned.

[Whereupon, at 1:42 p.m., the Subcommittee was adjourned.]

GAS PRICES: HOW ARE THEY REALLY SET?

THURSDAY, MAY 2, 2002

U.S. SENATE,
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS,
OF THE COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The Subcommittee met, pursuant to notice, at 9:36 a.m., in room SD–342, Dirksen Senate Office Building, Hon. Carl Levin, Chairman of the Subcommittee, presiding.

Present: Senators Levin, Lieberman, and Collins.

Staff Present: Linda J. Gustitus, Chief of Staff for Senator Levin, Senator Levin; Mary D. Robertson, Chief Clerk; Laura Stuber, Counsel; Dan Berkovitz, Counsel; Edna Falk Curtin, Detailee/General Accounting Office; Cliff Tomaszewski, Detailee/Department of Energy; Kathleen Long (Senator Levin); Kim Corthell, Minority Staff Director; Eileen Fisher, Investigator to the Minority; David Mount, Detailee/Secret Service; Hilary Keilp (Intern); Joyce Rechtschaffen, Staff Director, Government Affairs Committee; Laurie Rubenstein and David Berick (Senator Lieberman).

OPENING STATEMENT OF SENATOR LEVIN

Senator LEVIN. Good morning, everybody. Today the Permanent Subcommittee on Investigations will hold its second of two hearings on the reasons for dramatic fluctuations and recent increases in the price of gasoline. On Monday of this week, the Subcommittee released the report of the Majority staff following a 10-month investigation. One of the basic conclusions of the report deals with the effects of increased concentration in the oil industry on the wholesale supply market.

Due to a series of refinery closures and mergers within the oil industry, the wholesale supply market is now more concentrated than ever. According to information provided by the Department of Energy's Energy Information Administration, the wholesale supply market is moderately to highly concentrated in a total of 37 States. By another accepted measure of concentration, 28 States are considered tight oligopolies.

In general, more competition means lower prices for consumers, and lack of competition leads to higher prices. The oil industry is no exception to these general rules.

In areas of high concentration, where a few refiners control most of the retail sales, by keeping supplies tight refiners can raise the price of gasoline without great fear of competition. One way to maintain a tight supply is by keeping only a minimal amount of gasoline in inventory. One effect of doing that is that any supply

disruption will cause a shortage of gasoline because there is no reserve capacity to bring to market.

This invariably leads to price increases, and because gasoline is such an essential commodity in our lives today, most Americans have no choice but to pay more and more when prices rise.

Keeping supplies tight and inventories low in highly concentrated areas makes it possible for companies to spike prices without great fear of competition. Since all the companies maintain minimal inventories, no company need fear a competitor will gain market share by keeping their prices low because they would quickly run out of gas.

James Carter, Regional Director, U.S., for ExxonMobil, testified to that on Tuesday. He said, "If our price is extraordinarily low, we are going to run out before the next amount of gasoline gets here." So the few companies in these areas raise and lower prices together and in the same price relationship to each other, a practice called "parallel pricing."

One of the key findings in the staff report is that in a number of highly concentrated markets, oil companies are not just passive actors who respond to whatever the supply and demand situation is at a given moment; but, rather, they are active players, seeking to shape and structure the market in such a way so as to make the refining business more profitable.

The investigation found a number of documents, which we discussed Tuesday, indicating that oil companies seek to tighten supply in highly concentrated markets to increase prices. While the oil company executives who testified on Tuesday said either that their companies didn't adopt the options set forth in their memo to limit supply, or that they didn't have any knowledge of the activities discussed in another memo, or that actions described in a third memo were against corporate policy, the evidence presented in the Majority staff report demonstrated many instances when refiners acted to limit supply to raise prices.

Most of the oil companies that testified on Tuesday do not believe we need additional refineries in the United States. These companies believe that a shortage of refineries has not been a cause of any of the recent price spikes.

Now, although the price of crude and government regulatory actions obviously have a large effect on wholesale and retail prices in this country, or in the case of regulatory actions, surely contribute to the cost of gasoline, the staff investigation looked at actions taken by the oil companies, within their control, downstream from the crude oil production process.

Today we will hear from a number of distinguished public officials and economists about this subject. First we will hear testimony from Senator Ron Wyden. Senator Wyden has been working on the issue of gasoline prices and industry concentration for many years.

Following Senator Wyden, we will hear from a panel of Attorneys General. Attorney General Jennifer Granholm is here today from my home State of Michigan. Attorney General Granholm has been very active on a number of consumer issues, including gasoline pricing in Michigan. She successfully forced gasoline stations that

gouged the public after the tragic events of September 11 of last year to return some of their ill-gotten gains.

Attorney General Richard Blumenthal from Connecticut is also on our panel today. Attorney General Blumenthal has been very active in gasoline pricing issues. Over a number of years, he has aggressively advocated for a competitive gasoline marketplace on behalf of Connecticut motorists.

I am also pleased that Thomas Greene, Assistant Attorney General from California, will be here to represent the California Attorney General's views. As our Majority staff report shows, the effects of high concentration and vertical integration in the refining and marketing industries are acutely seen and felt by consumers in the State of California.

A few years ago, the California Attorney General issued a report on gasoline pricing in that State. That report addressed many of the issues that we have been looking at. We are looking forward to Mr. Greene's testimony.

On the third panel today, we will hear from four economists. All four of these panelists have studied one aspect or another of the petroleum industry. We are grateful for their presence, and we look forward to hearing from them as well.

Senator Collins.

OPENING STATEMENT OF SENATOR COLLINS

Senator COLLINS. Thank you, Mr. Chairman.

First, let me commend you and your staff for your in-depth investigation into this very important issue of how gasoline prices are set and the causes of high gasoline prices and price spikes. Volatile prices are a major source of concern to Americans, particularly lower-income families and small businesses. Given how vital oil and gasoline are to every aspect of our economy, gasoline prices play an important role in our country's ability to recover from the recession.

On Tuesday, we heard testimony from executives of several of the Nation's largest oil companies who explained the industry's practices in distributing and establishing prices for gasoline. I was particularly interested to hear what the witnesses had to say about the impact on supply of the seasonal transition between winter and summer gasoline, a time of year when price spikes are common.

The perennial glitches that occur during this seasonal transition are contributing factors to price spikes in some areas of the country. The oil industry argues that the stringent transition calendar that the EPA has put in place is at fault. I must say, based on my review, I do not understand why, after years of experience in the oil business and several years of dealing with the various Federal and State environmental regulations on gasoline, the industry has not been able to plan more effectively for these transitions to avoid price spikes. After all, summer always is going to follow spring, and the summer driving season is going to begin every year around Memorial Day.

In addition, I remain concerned that the oil companies have not made the necessary investments in infrastructure and to maintain U.S. refineries. Refinery breakdowns were a major cause of gasoline price spikes in the Midwest, especially in the spring of 2000.

While the oil companies clearly are profitable, they testified that they had made investments in refineries of only a few million dollars, mainly so that they could stay in compliance with environmental regulations. With refineries operating at near 100 percent capacity, any glitches usually lead to limited supplies and higher costs to consumers—costs to the tune of $1 billion in revenue annually for the industry for every penny increase at the pump.

I also share Senator Levin's concern about the impact that industry mergers in recent years have had on competition. That has led to greatly increased concentration in the industry, and a basic rule of economics is more competition produces more choice for consumers and lower prices. We seem to be going in the opposite direction in the oil industry.

For that reason, I am particularly interested in hearing the testimonies from the three States' Attorneys General. They will discuss their investigations into competition within the gasoline industry in their home States.

I also look forward to hearing the statements from several economists and oil industry analysts who have studied the effects of mergers and the resulting increased concentration levels in the industry. This raises questions about the effectiveness of the FTC's review of mergers during the Clinton Administration.

I also look forward to hearing their opinion on the industry's contention that U.S. refinery capacity is sufficient for our needs. I just don't see how that can be with the refineries operating at nearly 100 percent capacity. It seems to me that leaves no room for error.

Consumers in Maine and across the Nation are justifiably confused and frustrated by the recent high gas prices and price fluctuations. I again want to thank Senator Levin for shining a spotlight on this important issue and for exploring what can be done to protect American consumers.

Senator LEVIN. Thank you again, Senator Collins, and thank you again for your support and the support and assistance of your staff in this matter.

Now the Chairman of our full Committee, Senator Lieberman.

OPENING STATEMENT OF SENATOR LIEBERMAN

Senator LIEBERMAN. Thank you, Senator Levin. I am glad to be here for this second hearing on gas prices, and once again I would like to, in my capacity as Chairman of the Senate Governmental Affairs Committee, thank you and Senator Collins and your staffs for the extraordinary work that you have all done that led to a very substantive and informative hearing a few days ago. And I am sure the same will be true today.

I want to thank our colleague, Senator Wyden, who has been a real leader on behalf of consumers in this and so many other areas over the years and to welcome particularly a couple of generals who are here today, I say as a former Attorney General, General Granholm of Michigan and my own Attorney General, Dick Blumenthal, from Connecticut, along with the senior Assistant Attorney General Greene from California. I know that they have very important testimony to offer.

This Permanent Subcommittee on Investigations report on gasoline pricing raises some very serious questions. Is the oil industry

as competitive as it ought to be? And is government doing everything it can, we can, to safeguard consumers?

I want to go back in history a bit. The government broke up Standard Oil 91 years ago, ending one of the most egregious distortions of free and fair markets in our history. There is a wonderful quote from a book by Thomas Lawson called "Frenzied Finance," which was published in 1905. I believe that it may have been given as a present to Senator Thurmond's parents on his birth.

Anyway, I quote from it: "Standard Oil has, from its birth to present writing, been responsible for more hell than any other trust or financial thing since the world began. Because of it, the people have sustained incalculable losses and have suffered untold miseries."

Well, obviously, the oil market is much more free and more fair today than it was back then. But today, as this Subcommittee's investigation has shown, we are still faced with mergers and marketing practices that may well be constraining the marketplace rather than lubricating the gears of competition.

The possibility of market manipulation in oil and gas is particularly troubling because, as we know, higher gas prices hit middle- and low-income workers and families the hardest. They are regressive. For the American who earns $30,000 per year, for instance, and has to drive 30 miles back and forth to work each day, the price at the pump can mean the difference between making ends meet and being unable to pay all the bills.

That is why we should be disturbed by the PSI investigation's finding that gas prices in America are so volatile not because of a responsive market, but because of a market that is unhealthy. And its illness can be seen through two sets of symptoms: Concentration in the wholesale markets on the one hand and restrictive practices in the retail markets, such as zone pricing and redlining, on the other.

In testimony to the House Judiciary Committee 2 years ago, Attorney General Blumenthal called zone pricing "invisible and insidious." In fact, there are big signs outside every station with the price of gas, but consumers are actually kept completely in the dark when it comes to the workings of zone-pricing schemes.

One major oil company operating in Connecticut, our geographically small State—we have just eight counties—had 46 different zones just in our State. That is astonishing. How can the market work as effectively as possible when wholesalers offer different distributors, who have no choice but to accept them, dozens of different prices for the very same product?

I did some work on this when I was Attorney General during the 1980's. General Blumenthal has done very strong and effective work. And I must say I agree with his assessment that zone pricing is both invisible and insidious.

Based on the Permanent Subcommittee's investigation, it does appear that oil companies could be charging more in some areas to squeeze as much as they possibly can out of retailers and consumers wherever and whenever they think they can get away with it. If gasoline dealers had more freedom to shop around, we would probably be seeing a much fairer and more fluid market in which

prices were kept down by the natural pressures of supply and demand and not artificially inflated.

To date, the Federal Government has not sent a clear signal on the legality of either zone pricing or redlining. Last year, the Federal Trade Commission closed an investigation into Western States' gasoline pricing after determining that there was insufficient evidence to show that any of the Western States refiners' practices caused higher wholesale or retail prices for gas. But in a concurring statement, Commissioner Mozelle Thompson expressed his concern about some of the redlining practices being employed, and he concluded, "The Commission has vigilantly protected the competitiveness of the Nation's energy sector for years through its enforcement actions. I, therefore, am confident that should the Commission find evidence in any future investigation that site-specific redlining results in anti-competitive effects without generating countervailing consumer benefits, it"—the Commission—"would challenge the practice."

With all respect, I am not confident that such effects could be discovered because of the lack of information revealed by big oil companies about their pricing policies. And government cannot challenge what it doesn't know. Fair and competitive markets are the foundation of a strong free economy, but the current level of information about how the oil industry really operates isn't enough for oversight agencies to ensure that these markets are fair and competitive. That needs to change, and quickly. And Attorney General Blumenthal has, I think, a very constructive proposal to bring that about.

So, Mr. Chairman, I thank you again. I look forward to hearing this morning's testimony, and I am eager to make sense of these practices, and maybe even to figure out how we can save consumers a few cents a gallon at the same time. Thank you very much.

Senator LEVIN. Thank you very much, Senator Lieberman.

With respect to your zone-pricing point, one of the witnesses on Tuesday said that every single gas station is a separate zone.

Senator LIEBERMAN. That is quite a statement.

Senator LEVIN. Quite a bit of testimony.

Let me now introduce our first witness this morning, our friend and colleague, the senior Senator from Oregon, Ron Wyden. Senator Wyden, as I mentioned, has worked for years on the issue of gas prices and their volatility in Oregon and on the West Coast. We are pleased to have you before our Subcommittee this morning for your views on the subject.

As you know, pursuant to Rule VI, all of the witnesses before this Subcommittee are required to be sworn, and so I would ask you to stand and be sworn in at this time. Do you swear that the testimony you will give before the Subcommittee will be the truth, the whole truth, and nothing but the truth, so help you, God?

Senator WYDEN. I do, Mr. Chairman.

Senator LEVIN. Thank you. Please proceed.

TESTIMONY OF HON. RON WYDEN,[1] A U.S. SENATOR FROM THE STATE OF OREGON

Senator WYDEN. Thank you, Mr. Chairman, and let me begin by saying, watching you, Mr. Chairman, and your colleagues question the oil company executives a couple of days ago was like watching a teach-in on how to do oversight right. And I just want to commend you and the staff for a superb job both with the report and with the hearing that was held several days ago.

Senator LEVIN. Thank you very much.

Senator WYDEN. As you know, I have been investigating the oil price issue for several years, and I have brought with me this morning just a portion of the pile of government reports, including my own, that have detailed oil company anti-competitive practices over the years. The findings of the Subcommittee closely track what each of those investigations have shown, and that is, anti-competitive practices are rampant in the gasoline markets.

Now, essentially in these reports is everything: That oil companies redlined; they sought to keep independent wholesalers from competing in markets by refusing to let independent dealers buy better-priced gas from the local jobber; they zone-priced; they charged different prices for the same gas at their own branded stores and adjacent neighborhoods, pricing it as high as the market would bear. They kept the market for themselves. They kept down refineries that could have increased supply and introduced competition. And they stuck it to the consumer on the export issue. The big oil companies, BP specifically in their internal E-mail, called it a no-brainer to export gas and oil to Asia at rock-bottom prices and just make up the difference by sticking it to people on the West Coast of the United States.

It seems to me that cumulatively these practices just strip the competitive gears out of the gasoline market and hammer the consumer. And what is especially ominous is when you look at these reports and study the controlling law in this area, there isn't a whole lot that can be done right now to turn this situation around.

So I wanted to come this morning and say I think there is really one question for the Congress at this point: Is it going to be business as usual with these reports just becoming an annual dust-collecting exercise? Or is the Congress going to move to rein in market manipulation and require meaningful consumer protection reforms?

And I think—and this is what I am going to outline this morning, Mr. Chairman—moving to these reforms is critical now.

I was in a small town in Oregon Saturday last, a small town on the Oregon coast called Brookings. The situation there is so bad that they are trying to form a nonprofit organization so that they can buy gas at a wholesale price because they are getting killed with retail prices. You have senior citizens, in my view, in Maine and Oregon and in small towns across this country basically trying to figure out how to do this kind of thing because the competition is being drained out of the gasoline markets.

So here is my sense of what would constitute real reform, Mr. Chairman. First, I think the controlling statute in this area needs

[1] The prepared statement of Senator Wyden appears in the Appendix on page 175.

to be changed and broadened. The current law states that there must be one of three kinds of outright collusion taking place to stop these anti-competitive practices. One, there has got to be a contract or an agreement between companies to fix prices. Two, there has got to be a combination or a formal alliance of companies fixing prices. Or, three, there has got to be a conspiracy, which is basically like a bunch of people getting together for dinner and saying, Well, Bob, what do you think the price of unleaded should be?

Now, we all know the old saw that the certainties in life are death and taxes. There is another one. You're not going to find smart oil companies holing up in a room colluding in that kind of way to set prices. They are just too savvy and the problem is subtle. Supplies are being manipulated and competition is being restricted in broad daylight.

For example, the FTC found that redlining was used to discourage competition and raise prices while providing no benefit to the consumer. But because the Commission found no evidence that the refiners met either of those three tests for collusion, redlining could just go forward unabated.

I believe it's time to make these anti-competitive practices illegal once and for all. So I would propose that, in addition to collusion, the statute be broadened to bar anti-competitive practices by a single company where the market is concentrated, where you have four or fewer players controlling a significant majority of the market. This would raise the bar to expect better business practices from the oil companies.

When a company tries to squeeze an independent jobber out of a market by telling branded stores what gas they can and can't buy, the law wouldn't have a loophole anymore. So I think that would be change No. 1, making a change in the controlling statute to broaden out beyond that three-part test with respect to collusion.

But I would propose changes in a second area, specifically changes to the law that authorizes the Federal Trade Commission and governs its oversight of markets. Under the FTC Act, I believe the Federal Government should consider establishing consumer watch zones in these concentrated markets. At Tuesday's hearing, ChevronTexaco's North American President David Reeves admitted that the West Coast gasoline market is dominated by a limited number of refinery marketers who, acting alone, can evade the laws of supply and demand. There's no need for oil company executives to get together in a smoke-filled room to collude on price when they've got the individual power to manipulate markets in that kind of fashion. And I believe that when you have a market that is highly concentrated, you ought to go beyond the question of whether there's collusion between competitors. And in these consumer watch zones, when oil companies employ anti-competitive practices like redlining or zone pricing, I believe the burden of proof should shift onto them to prove that those practices are not harming consumers. So that would be the second change that I would advocate, Mr. Chairman, as to the FTC statute in these concentrated markets, when you find practices like redlining and zone pricing, the burden of proof should shift to the companies to demonstrate that it is not harming the consumer.

My sense was, Mr. Chairman, you were suggesting almost the same sort of thing with respect to parallel pricing, and I support those kinds of efforts as well.

In the same way, the whole litany of anti-competitive practices should be considered an area that is substantively questionable until proven otherwise. That would include redlining, exporting at a discount, pressuring independents, all of the practices that manipulate supply or limit competition. The second set of changes I believe would go a long way towards helping American consumers.

I would also empower the Federal Trade Commission to take more immediate action when you have those problems in a concentrated market. Under the FTC Act, I would like to see the agency have the ability to issue cease and desist orders to companies that participate in the anti-competitive practices so as to provide the consumers protection. It seems to me the Federal Government should not be powerless to regulate anti-competitive practices that can raise gas prices for the consumer.

In addition, I would use this watch zone concept, this question of how you proceed in concentrated markets to serve as an early warning signal with respect to the antitrust statutes. If a proposed merger of oil companies would create a consumer watch zone, again, with four or fewer players controlling 70 percent of the market, I would say that kind of merger should require a closer level of scrutiny. A higher standard of evidence—of review would demand evidence before the merger would be allowed to proceed, again, to protect the consumer.

Americans shouldn't have to wait for what amounts to an oil oligopoly to start gouging the consumer to get some protection from high prices.

The Federal Trade Commission has already said that Americans shouldn't have to suffer because of bad decisions made by regulators years ago. The agency recently instituted a new policy of looking back at previously approved oil company mergers to see if there are any lingering anti-competitive problems. If the agency finds such problems, they're going back in to fix them. Why not make a change so as to do the appropriate amount of investigating on the front end before you let another anti-consumer merger kick in and, in my view, stop the anti-competitive practices before they start?

Let me be clear on this point, Mr. Chairman and colleagues. When I suggest changes to the laws that govern oil companies and oil markets, I want to propose that those changes only be made in the case of concentrated markets where a predisposition to consumer abuse has been documented. Legislation along those lines would ultimately take the country in a more constructive direction. I don't think the country would be taken in a more constructive direction by some of the proposals that we heard in the last few days, such as weakening the Clean Air Act. We even heard Tuesday that the Clean Air permitting process, known as New Source Review, needs to be streamlined; it's been a deterrent, according to the companies, to increase capacity in the country. But I think there is something wrong with that picture when Mr. Reeves from ChevronTexaco testifies they have made significant expansions at their Mississippi refinery. He also states it'll be one of the first re-

fineries in the Nation capable of producing both low-sulfur gas and highway diesel fuel outside of California. The project will be completed in advance of national deadlines for these requirements.

So it seems to me by their own words, the words that you heard Tuesday, Mr. Chairman, the oil industry's claim that the Clean Air Act requirements are deterring refineries from increasing their output doesn't exactly match up with what's happening in the real world at ChevronTexaco's refinery.

There's also something wrong with this picture when we hear repeatedly that no new refineries have been built in decades and that the Clean Air Act is at fault. Yet when asked whether the United States needs additional refineries, all of the executives at Tuesday's hearing said no. The real reason has more to do with return on investment, in my view, than anything to do with the Clean Air Act.

There isn't going to be any more competition under the industry's proposals to streamline the Clean Air permitting. What I tried to offer today was a proposal to open up the free enterprise system in the gasoline business, and I think that ought to be a base by which the Congress proceeds rather than an approach that would advocate dirtier air and reward the same oil companies who perpetuated the gasoline supply crunch in the first place. These are the companies that deliberately worked to keep down refineries. You and I have talked specifically about Powerine in California, but these are the kinds of examples that are in these reports, Mr. Chairman.

I want to commend you and your staff again on a very thorough report. It documents a litany of anti-competitive practices the oil companies use to manipulate supply and price in gasoline markets, and close by coming back to that question that I think is central to this debate.

Mr. Chairman, we could pile these reports over the next 10 years up to the ceiling, and yours is superb and the work that you've done and Senator Collins and Senator Lieberman is excellent. I think the question now is: Are we going to do more than stack up the reports? I think that it is time now to get beyond the statute today that makes it virtually impossible to protect the consumer. These companies are not going to go into a back room, have a big supper, and say, "Joe, what do you want the price of gas to be?" They're just not going to do it. But that's virtually what you have to prove in order to bring an action to protect the consumer.

I think we can do better on a bipartisan basis. In my State, Senator Smith shares many of the same views that I do. Senator Collins has a long record of consumer advocacy in this area. There is not going to be anything partisan about doing this job right, in my view, and I thank you and your staff, Mr. Chairman. You have given me a lot of time in recent months to work on an area I feel strongly about, and I'm very appreciative.

Senator LEVIN. Well, thank you, Senator Wyden, for your testimony and for your long, energetic, persistent effort to protect consumers in this area. As we have discussed, a number of reforms are needed in the law to tighten up the law. I would only add to that very general point that the Federal Trade Commission does have power under existing law which it has not exercised to try to prevent some of the mega-mergers which have occurred and some of

the lack of competition which has resulted. But I very much appreciate your very specific testimony. That is very helpful to this Subcommittee, and I would ask my colleagues if they have any questions. Senator Collins.

Senator COLLINS. No, thank you, Mr. Chairman.

Senator LEVIN. Senator Lieberman.

Senator LIEBERMAN. No, Mr. Chairman.

Senator LEVIN. Thank you again.

Senator WYDEN. Thank you.

Senator LEVIN. I would now like to introduce our second panel of witnesses. Welcome to this Subcommittee. Richard Blumenthal, Attorney General for the State of Connecticut; Jennifer Granholm, Attorney General from my home State of Michigan; and Tom Greene, the senior Assistant Attorney General for the State of California. This is a very distinguished, a very knowledgeable panel. We look forward to hearing your views on gasoline volatility and your experiences in your respective States and what we can do about it.

Pursuant to Rule VI, as I have indicated, all witnesses who testify before the Subcommittee are required to be sworn, and so I would ask each of you to stand at this time and raise your right hand. Do you swear that the testimony that you will give this morning before this Subcommittee will be the truth, the whole truth, and nothing but the truth, so help you, God?

Mr. BLUMENTHAL. I do.

Ms. GRANHOLM. I do.

Mr. GREENE. I do.

Senator LEVIN. Thank you. I think we will start with Attorney General Blumenthal.

TESTIMONY OF RICHARD BLUMENTHAL,[1] ATTORNEY GENERAL, STATE OF CONNECTICUT, HARTFORD, CONNECTICUT

Mr. BLUMENTHAL. Thank you, Mr. Chairman, and I would like to second a number of the remarks that have been made about the quality of the staff report that has been done. I know that very frequently we compliment the staff on the work they do, but this report really is extraordinarily insightful, penetrating, and revealing about the practices of this industry, and I think it will provide real ammunition for effective reform, and I want to thank you, Senator, and Senator Lieberman and Senator Collins for your excellent work in this area and for making sure that this report will be as useful and productive as I hope it will be.

Price spikes have become almost a national norm at this point in gasoline pricing, and, unfortunately, they affect very deeply not only American consumers, particularly those of low and moderate means, but also our economy. And as you have remarked, Mr. Chairman, they have probably stifled our recovery and perhaps precipitated the recession that we are now seeking to undo. So there are implications to these kinds of price abuses beyond the simple consumer protection issues. They affect all of us, and their effects are tremendously far-reaching and fundamental.

[1] The prepared statement of Mr. Blumenthal appears in the Appendix on page 179.

Market concentration has enabled the industry to manipulate prices, to take advantage of low supplies and even disruptions that may be the result of temperature, refinery fires, pipeline problems, and so forth. The industry has exploited those problems for its own benefit, and the Subcommittee report very dramatically documents that conduct. It also indicates that there has been conduct verging on the illegal, if not an outright violation of the antitrust laws. A number of the discussions and memos that are evidenced in the report show that there is a need for further investigation and enforcement. And one of the reasons that we have such high degrees of concentration is indeed the lack of effective enforcement. It has been a bipartisan failure on the part of the FTC, on the part of Federal enforcers, and the proposal that I am making today really is the result of that lack of effective enforcement that has brought us to such high degrees of market concentration.

I am proposing a moratorium on all major mergers and acquisitions within this industry, whether at the wholesale or retail or other levels, a moratorium that would enable the Congress to fashion more effective remedies, and not only to empower but also to require Federal enforcers to do a better job. And I believe that a moratorium of this kind may be regarded as a kind of last resort. It ought to be for at least 1 year. It would affect only major mergers and acquisitions and so provide an exception, for example, if there were failing companies or if their market share were less than a certain HHI degree or number. But I believe that the record now more than justifies that kind of halt to any further major mergers and acquisitions in this industry.

The second proposal that I believe is well merited would involve the kind of change that Senator Wyden and you have mentioned, Senator Levin, that would make admissible evidence of parallel pricing, the kind of conscious parallelism that in a market so highly concentrated as this one certainly ought to be regarded as evidence of an antitrust violation. I believe that the proposal that he has just made would also apply to concentrated markets that have a predilection or a predisposition toward abuse, those changes in the standard itself are worth consideration as well. But I think at a minimum there ought to be admissibility for common pricing patterns or conscious parallelism under our antitrust laws where there are highly concentrated markets, and that would certainly apply to this industry. And perhaps in some instances, with a sufficient threshold showing, it ought to be a per se violation. Obviously there are arguments pro and con to that kind of proposal, but I believe it's worthy of consideration.

And then to promote more effective enforcement at the State as well as Federal level, I think there needs to be better information. Quite simply, there should be under the Energy Information Administration a central data bank that is accessible and more complete in real time so that it is truly useful to Federal antitrust enforcers and to State enforcement officials, such as those before you today and our colleagues around the country who have our own antitrust and consumer protection responsibilities.

Right now, we have to spend tens and sometimes hundreds of thousands of dollars doing the kind of work that California did in its study, that Connecticut has sought to do over the last 10 years

while I have been Attorney General simply to make a case, wholly apart from the use of subpoenas and other investigatory tools. Basic information is simply not as available and accessible as it should be.

Finally, I propose again and urge very strongly a ban on zone pricing. I recognize that you have heard testimony from the industry that would seek to justify it on a competitive basis. In my view, zone pricing really is not a competitive measure. In fact, it is anticompetitive. And I have cited in my testimony pricing conduct that has been documented in our local media. The *Stamford Advocate,* for example, has reported price differentials in a very close proximity of 7 to 12 cents. It now happens that a truck can be delivering the same gasoline that is exactly the same product to the same city, indeed sometimes the same street, out of the same truck, and often to the same owner of two different stations located within blocks of each other; and simply because of these artificial, geographic, discriminatory means and distinctions, the prices will be different substantially to the consumer. The industry relies on computer programs and secret calculations as to how much profit the consumer will bear, not what competition will enable or provide.

And so I believe that the Robinson-Patman Act and the Petroleum Marketing Practices Act ought to be amended to specifically prohibit the single-source requirement, which is at the root of this abuse, or specifically, discrimination based on location of stations, discrimination in pricing, and close the loopholes that now exist in those two statutes.

I recognize, finally, that conservation has a role to play. All of the members of this panel have commented very eloquently on the importance of conservation, fuel efficiency, and mass transportation, other measures that can help us to save and conserve as well as to eliminate the abuses that artificial shortages and low inventories have created.

I again thank this Subcommittee for this opportunity to comment on an area that I think has come of age. It certainly is an issue whose time has come. These practices for the most part are invidious and insidious. They are often invisible to consumers, but their effects are real and dire. And I offer my continuing help in addressing them. Thank you.

Senator LEVIN. Thank you very much, Mr. Blumenthal. Attorney General Granholm.

TESTIMONY OF JENNIFER M. GRANHOLM,[1] ATTORNEY GENERAL, STATE OF MICHIGAN, LANSING, MICHIGAN

Ms. GRANHOLM. Thank you very much, Mr. Chairman. It's great to be invited here to talk about such an important subject. I very much appreciate the opportunity.

I'm the Attorney General of Michigan, and for nearly 3 years, my office has been involved in the review of gas pricing, as well as in independent actions from our office to curb excesses. We joined with the FTC in looking at their investigation following the spikes in the year 2000. In the wake of the terrorist attacks, of course,

[1] The prepared statement of Ms. Granholm appears in the Appendix on page 187.

many of us saw prices go through the roof, and in Michigan, it was between $2 and $5 per gallon, and our office filed notices of intended action against 46 gas stations who jacked up those prices and did get refunds. Thank you for mentioning that.

In my role as legal counsel for our Michigan Public Service Commission, which is the body that regulates utilities, my office intervened in a FERC matter regarding the Wolverine pipeline and its lack of competition with respect to access to the pipeline and with respect to rates, which was so well documented in your report.

So I would like to propose a couple of things. First of all, I think that General Blumenthal has made some excellent points. I agree on the issue of a moratorium—a moratorium particularly with respect to wholesale mergers. I was interested to hear Senator Wyden's comments about four suppliers controlling 70 percent of the market as being sort of a threshold. If you look at the HHI index, in Michigan we approached that almost tipping point. We are almost at 1,800 on that tipping point. And one more merger would push us over the top.

Now, if you use that index as a means sort of across the board of saying when do we apply a moratorium, when do we believe there's too much concentration—and that's, of course, the threshold that the FTC and the DOJ use, anyway—I think that is a great way to start, at least where we might be able to apply the existing criteria and know that we've got to take another look before there's any more concentration of a market. So I agree fully with the moratorium idea.

A couple of other things that I think are relevant, and I know that they were discussed before. First of all, I know Senator Collins was speaking particularly about the industry capacity levels being at almost 100 percent. And, of course, when that is the case, before, when they were much more fluid and you could shoot gas to an area where there was a disruption, there was an ability for the market to self-correct in a much more ready fashion. The inventory levels, the reformulated gas problems—and in Michigan, we don't have a reformulated gas requirement, but certainly the availability of supply from other States is more limited when other States have got different requirements. And when you combine that with this inventory level problem, that's, of course, exacerbating the spike problems. And in Michigan, we've had the Wolverine pipeline, which is our main pipeline, break down, huge gas spikes as a result of inability to access quick supplies.

Now, the notion about that, though, that the market could self-correct and that the industry can take advantage of the arbitrage possibilities that previously existed when the prices were high in one area, and the other area with lower prices could shoot gas over and see the sort of equilibrium arise, they are much more limited, of course, when there is a concentration of market power in one area. And so in Michigan, I just want to address this issue of—because we have seen amazing price differentials from one adjacent area to the next, where you would think that the ability to take advantage of the arbitrage capability would really create a much more level pricing scenario, and they have not.

We've seen as much of a 10-cent difference from the Chicago market to the West Michigan market, and the reason is—I mean,

even a 2-cent differential would cause gas to shoot from one place to another. But a 10-cent difference, you'd really have to say: What is going on here? Who's taking advantage of something? And it's because in West Michigan—because we have had a merger, first of all, of Marathon and Ashland Petroleum. That occurred in 1998. And then the two of them merged with Ultramar Diamond Shamrock.

Now, the resulting merger means that five companies in Michigan control 80 percent of the market, and in West Michigan, this concentration is particularly egregious because really the Marathon Wolverine pipeline—the Wolverine pipeline is owned by a number of these very same companies, and they control access to the tanks at the pipeline. So not only do you have a concentration of supply, but you have a concentration of the means of distribution and the tank—access to the tanks as well.

As a result, we have seen—and the reason for this big disparity that I mentioned between Chicago and West Michigan is because people have difficulty accessing the terminals when the terminals are owned by one entity, which in this case is Marathon Ashland Petroleum. They were not allowing others to have access, which is why our office intervened with FERC to allow an independent wholesaler to have access to the terminals. But the result of these mergers was to limit access, and that is another area that I think this Subcommittee can look at. So it's not just the concentration and the ability to control capacity, but it's also the ability to control distribution and access to these terminals that we have seen the increases—where the increases have been so disturbing.

Merger mania within the industry, in the last 5 years—I know you have documented this. This wave of mergers has obviously reduced competition enormously. But because Marathon Ashland Petroleum in our State alone has 28 percent of the terminal capacity market, and the next one down is British Petroleum Amoco, which merged, which has 14 percent, so the No. 1 person has more than twice what the next one has. And there's five who control the market. Exxon is the next one. Equilon and Citgo, and they have nearly 80 percent of the petroleum terminal capacity in Michigan.

So I know that when you've got that concentration and you have an inability of independent jobbers to access the terminals or to access the pipeline or to access capacity, you have these independents having an inability to compete, and often they are not just competing with the retail establishments like Speedway, which is owned by Marathon, but they are also competing because they are purchasing their supply from the owners of Speedway. So their supplier is competing with the other retailers. You've got no ability for greater independence in the market when the entity from whom the independents are buying from is the same entity that's supplying their competition, the retailers, the other retailers. It's all coming from one place and, therefore, the competition is just not there.

Consequently, in your report, which was very interesting, on the graph that you showed on page 361 and 362,[1] has, of course, all

[1] See Permanent Subcommittee on Investigations' Majority Staff Report, *Gas Prices: How Are They Really Set,* which is reprinted in the Appendix on page 322.

of these spike fluctuations in Michigan. But this one down here shows who leads the fluctuation. And in this case, it is Speedway stations that are always leading the price up or down, it's Speedway that is doing it. Speedway, of course, is the one that is owned and controlled by the largest capacity operator.

So the concern, of course, that one entity is being able to not just control the market but control the prices is of great significance, and the independent folks have to compete and often lose money when the big players are lowering their prices. I think you have Justine Hastings who's testifying later today, and she will tell you, I'm sure—because she's written this—that the independent station is the only type of station that can purchase gasoline from any refiner and independently set its retail markup and, thus, increase competition at the wholesale and retail level. But if you reduce their ability to compete, obviously, then you have much higher prices.

My suggestion, respectfully, to the Subcommittee in the wake of the great report that you have done, is to dovetail on General Blumenthal's request for a moratorium. Again, in Michigan, I would suggest that it would go to wholesale suppliers because there may be some very small retailers that are being acquired that may be independent gas stations, that may not affect the market as much, but wholesale, absolutely, terminal owners, etc.

I would like to see also that there be adequate resources for merger review at the FTC and the DOJ so that they can really focus in on this. I'm not sure that they've got the ability to assess in the way they ought every merger that is being proposed, and I'd like to see that occur as well. Not every merger, of course, is a bad thing, but with the resource constraints and the overwhelming number of mergers in the past few years, I think that there are a number of anti-competitive mergers slipping through the cracks.

And then I also believe that there should be a review of whether the transportation and the access to terminals' bottlenecks preclude normal market forces from responding to the higher prices as well. I dovetail, too, as well on what General Blumenthal said with respect to having access to information from the Energy Information Administration. It would be very good, particularly for States that don't have their fingers in the pie as much, to be able to have access to that information to know whether they can bring an action.

So, again, I want to thank you very much for the opportunity to testify and talk a little bit about what has happened in Michigan because of the concentration of market power. And I truly do hope you're able to achieve some great results, too.

Senator LEVIN. Thank you, General—"Jennifer," I almost said.

Ms. GRANHOLM. That's OK.

Senator LEVIN. General Granholm, thank you so much for the testimony. Mr. Greene.

TESTIMONY OF TOM GREENE,[1] SENIOR ASSISTANT ATTORNEY GENERAL FOR ANTITRUST, CALIFORNIA DEPARTMENT OF JUSTICE, SACRAMENTO, CALIFORNIA

Mr. GREENE. Thank you, Mr. Chairman and Members, and certainly thank you on behalf of Attorney General Bill Lockyer of California, who could not be here this morning.

I think that the panel has already spoken eloquently to the key problems here. Let me just tick off the major points from my perspective.

The first is that inventories, that key safety margin between enough supplies and shortage, have razor-thin margins. We are now at a point in which inventories are measured in days rather than weeks or months. The implication of that is that even a minor refinery outage, a minor fire, can throw markets into complete disarray. Our experience in 1999 in California, and more recently consumer experience in the Midwest, is that a 5- to 10-percent reduction in supply can kick the spot price up 50 to 100 percent. So this is a market in which volatility is increasingly a normal aspect of the marketplace.

I think this has a number of critical implications. The first from my perspective is the necessity for aggressive, affirmative antitrust enforcement. That's what I do on a day-to-day basis. I would certainly echo Attorney General Granholm's perspective that resources are critical to this process. I was personally involved in the ExxonMobil transaction in which, at least from a California perspective, a major refinery was spun off. So we did what we refer to in the business as a zero delta deal, which is—from the perspective of our markets, the competitive situation did not change.

But in that particular transaction, we received and analyzed over 10,000 boxes of material. When you deal with these kinds of transactions, you're talking about huge amounts of material that must be analyzed and reviewed. So I think both State resources and Federal resources must be adequate.

We are increasingly familiar with the importance of retail in the competitive picture for this industry. We think of the oil industry as going from Kuwait to Kansas to California. They are enormously large corporations, among the largest in the world. But one of the things that has happened, largely because of the existence of new computer technology, the ability to communicate by satellite link on a daily basis between individual retail stations to the home office and to a very small group of consultants, actually, that help set the retail price, what is increasingly happening is a process which is called "retail-back pricing"—that is, prices are set based on what's happening in the marketplace at the local corner. It's not a question of prices being set by the price of crude with a markup. It is what the market makes possible in a local situation.

That is affected in a very dramatic way by what's already been spoken to, and that is, zone pricing. In a situation in which we have retail-back pricing, the lack of independence in those zones means that prices will not fall. There will be much less competition than we would otherwise expect.

[1] The prepared statement of Mr. Greene appears in the Appendix on page 198.

One of the implications of that, at least one of the things that we believe we've observed in California markets, is what we refer to as "a rockets and feathers pricing pattern"—that is, when there is a refinery outage, prices rocket up, but they do not fall at a similar speed. They rocket up and then feather back down. We believe one of the reasons for that, indeed perhaps the major reason, is a limited amount of retail competition. There aren't effective competitive forces at retail at the local level to push those prices down as quickly as they rose.

As a professional prosecutor in this area, let me speak to what I think may be important limits to current antitrust jurisprudence in this arena, and this has been touched on earlier. Largely unbeknownst to the public at large, there has been a major sea change—starting with the Federal courts which is now working its way into the State courts as well—increasing substantially the burden of proof for prosecutors in showing that there has been an agreement within the meaning of the antitrust laws. A generation ago, actually, 10 years ago, approximately, the Ninth Circuit decided, *In Re Petroleum Products Antitrust Litigation,* that allowed us to use substantially circumstantial evidence to prove up the existence of a conspiracy.

Far more recently, actually, last year, the California Supreme Court in its *Aguilar* decision looked at facts that were very similar, frankly, when you really examined the two cases, and determined that there was insufficient evidence to determine the existence of a conspiracy.

When you are dealing with highly concentrated, oligopolized industries, communications of a very limited sort can have enormous implications in terms of providing and facilitating coordination between ever more concentrated players in this marketplace.

There may be some other implications which I would certainly like to surface for the Subcommittee. Because of California's insularity due to its physical location and its unique fuel blend, we are beginning to look seriously at the possibility of creating a State physical hedge, a strategic inventory of fuel which would allow us to begin to move fuels into the marketplace if there are small perturbations in the supplies from the refineries as a way of addressing these very volatile price spikes. Whether that makes sense on a national basis, we would certainly leave it to the Subcommittee and its expert consultants. However, I would certainly commend to the Subcommittee the consultant reports that I've supplied with my testimony.

There is another competitive issue which you need to be aware of. This affects us very directly in California, but insofar as reformulated gasoline becomes much more a part of the national picture, the existence of certain key patents, may become critical. Unocal sat in on the regulatory meetings, knew what was the arc of development of our fuel blend. At the end of the process, it was discovered both by the other major oil companies and by regulators, to the chagrin of all, that Unocal had patented the key blending technology. So our clean fuels are now possibly subject to patent challenge.

This has gone through a whole series of pieces of litigation, and the usual patent is itself being specifically re-examined by the U.S. Patent Office.

As gasoline becomes much more technical in terms of meeting specific clean air goals, patent policy may become very important here. In California, as I said, one of the reasons that we think people are more reluctant than not to come into our market is because of ambiguities created by the Unocal patent and whether people will be exposed to patent litigation, licensing litigation, in the event that they bring fuels into our market.

Let me mention two other supply points. There is in our market a key oxygenate, methyl tertiary butyl ether, MTBE. This constitutes roughly 11 percent of our supplies. We are in the process, because of clean water problems associated with MTBE, of removing MTBE from our gasoline blends while still meeting our clean air obligations. Indeed, as the Subcommittee is presumably aware, California sets the most stringent clean air requirements in the United States.

We believe that there is no fundamental chemical or environmental reason why we need to include oxygenates in our fuel. Governor Davis has written to President Bush seeking a waiver so that we can meet clean air requirements. We're willing to meet any of the air standards, but we would like to meet that without the necessity of oxygenates. This could very well give us more flexibility to create a blend which would both meet clean air standards and not result in an extraordinary reduction in supplies. In this regard, the 11 percent portion of our fuel stocks that MTBE represents would also be the equivalent of one major refinery in California. And, again, if we're in a situation in which a 5 or more percent perturbation in supplies could have a very outsized effect on price, this is a very big deal for us.

Finally, I would certainly echo the points made earlier about conservation. California consumers are among the thriftiest in the Nation. We rank 44th in per capita gasoline consumption. That said, we think there are still enormous opportunities for reducing the need for gasoline both by increased support for rapid transit, and we think, without re-arguing all the questions about fuel economy standards, that there are still enormous opportunities in the transportation sector itself.

And with those points made, I'd certainly be prepared to answer questions from the Subcommittee. Thank you.

Senator LEVIN. Thank you very much, Mr. Greene. Thank you all.

One of our key findings is that in areas of high concentration, where fewer refiners control most of the retail sales, by keeping supplies tight refiners can raise the price of gasoline without great fear of competition. And since all the companies maintain minimal inventories, no company need fear that a competitor would gain market share by keeping their prices low, because that competitor would quickly run out of gas.

We walked through with the industry representatives on Tuesday a number of documents that we believe demonstrated that effort to tighten supply. And I want to go through a few of those with you.

One of the most troubling was a 1999 memo from BP which went through a laundry list of truly outrageous methods for keeping supplies of gas tight in the Midwest. The witness agreed that the proposals were outrageous, said BP rejected them, and, "counseled" the persons who prepared them.

But that doesn't take away from a very key fact that the goal of the BP effort was to increase prices in the Midwest by 1 to 3 cents by restricting supply.

The top executives in BP were working to achieve that goal. Whether they rejected the particular methods or not is one issue but the goal they did not reject. Their goal was to increase prices by restricting supply, and they felt they could increase prices just by those means by 1 to 3 cents a gallon. And, again, 1 penny a gallon is $1 billion a year for the industry.

Another memo from Marathon talked about OPEC's efforts, and here reading the words in this memo, OPEC's efforts to rein in output as "bearing fruit." For our consumers in America, it is bitter fruit. But listen to what this Marathon memo says. "As OPEC and other exporters' efforts to rein in output began bearing fruit, nature stepped in to lend the oil producers a helping hand in the form of Hurricane Georges, which caused some major refinery closures, threatened offshore oil production and imports, and generally lent some bullishness to the oil futures market." And they acknowledge that was an incredibly awful way to describe a result of a hurricane. But that's the way it was viewed.

And then we had a memo from a Texaco official talking about how Shell had told him that everyone was nervous because Texaco wasn't saying what it was going to do about importing CARB into California. The memo says that Shell threatened Texaco that if they did import CARB fuel into California, then Shell would lobby for a tax on that import.

So now the Shell official—who now owns that portion of Texaco, by the way—disavowed that conduct, said it would not be tolerated in the company today. But that was the conduct: You do this, we're going to go and try to get a tax on your import.

A Chevron memo, one the oil company did not disavow, said the following: "Market is dominated by limited number of large committed refiner/marketers whose individual actions can have significant market impact." So this is just some of a lot of evidence of showing that they are aware of the fact that by limiting supply in a highly concentrated market, that they can basically succeed to raise prices.

Now, I have two questions. One, does that surprise you, what I just read? And, second, would you forward to this Subcommittee any material that is not in that report, if you have had a chance to read it, which also shows in your States the evidence of the oil companies' restricting supply because of the ability in that situation, particularly in concentrated markets, to have a direct impact on price? So let me start with you, if I could, General Blumenthal.

Mr. BLUMENTHAL. Thank you, Senator. To answer your second question first, I would be happy to forward any documents now in our possession or that we acquire in the future that show, as these very powerfully do, an intent or a desire to exploit tight supplies for purposes of raising prices and ultimately raising profits, and

prices, as Senator Collins and the report indicated, have a very direct and immediate impact on profits because every 10-cent increase in prices produces on an annual basis $10 billion in additional revenues.

Of course, all of these documents were merely for the purposes of brainstorming, I'm sure, as the industry has indicated. I am actually, to be very serious, not so sure that they were simply to consider illegal action and then reject them, as the industry has also said. I think they are very solid evidence that call for changes in the burden of proof, in evidentiary standards, that make these kinds of cases easier to detect, investigate, and prove.

There are two areas that need improvement: One, as Attorney General Granholm has very well said, more resources so that prosecutors have the wherewithal to prosecute these cases; and the other is the standards of proof and evidence that enable them to deal with the much more sophisticated, technologically advanced means of communication. We don't have the smoke-filled rooms. We don't have the handwritten notes. We often lack cooperating witnesses in these cases. But the kinds of evidence that should and would be admissible under the proposals made this morning I think would enable more effective prosecution.

And, finally, I would say that these documents show also that this industry as a whole needs to move in the direction of more independence, more independent owners and operators and refiners. It needs more unintegrated patterns of dealing, and it needs more unbranded products. Independence, unintegrated patterns of dealing, and unbranded products all will help to open this industry to more competition.

Senator LEVIN. Thank you, General Blumenthal. General Granholm.

Ms. GRANHOLM. Yes, the euphemism of "bearing fruit" you were lucky to find in a document, but I think this speaks exactly why we do have to change the burden of proof. This is basic economics. It's supply and demand—wink, wink. You know, we tighten the supply, the price goes up. I don't even know you need a document to tell you that. Anybody who's in this industry knows that.

It was just interesting that you were able to find smoking guns that revealed their knowledge of what they were doing. But we've got cases that have been tossed out because—on this notion of tacit collusion, where you've had a lot more—you've had joint price communications between firms, including meetings. You've had price verification calls, price changes between competitors, and the Eighth Circuit threw that out. So it wasn't enough.

Some courts are requiring too many factors to be able to determine that this kind of collusion is going on. But, the reality is I don't even think you need to have evidence of—it's almost a basic textbook on economics that would demonstrate that they know very well when you turn off the spigot, the price is going to go up.

So, yes, if we have any documents that would reflect this, I would be thrilled to forward them on to you. But I think that this does call for a shifting of the burden of proof or of the standards that courts might look at in order to determine whether collusion has occurred.

Senator LEVIN. Thank you. Mr. Greene.

Mr. GREENE. Senator, I would certainly agree. The documents that relate to CARB certainly are part of the Aguilar litigation, which was the case that I was referring to earlier that was decided against the plaintiffs because they had insufficient evidence. I think these documents are really quite remarkable.

But currently, with the Federal courts leading the way, the burden of proof has gone up quite dramatically. They also illustrate, I think, really a key point of your hearing today as well. In a fully competitive market, if this were a grain market or this were some other more ordinary market, if somebody were to withhold supply from the marketplace, they would be unable to sustain that and sustain an increase in price because other marketers would come into that gap and fill it.

We are in a situation now in which concentration has reached the point where it's both in the interest of an individual company to withhold supplies from the marketplace and others will not step in. Now, that may be a consequence of oligopolistic coordination. It's sort of the classic sort of perspective here, but we have reached the point where that certainly is theoretically possible, and we now have direct evidence that 's exactly what's going on.

Senator LEVIN. Let me ask you about exchange agreements. I know you have had experience in California with that, and I don't know if other States have or not. But we have several oil company documents. Here is one from BP-ARCO. It reads: "Exchange in trade selectively to preserve market discipline." That is a direction from a BP-ARCO executive. Then it says at another point in that document, "From time to time, ARCO may need to endure brush fires to discipline the market."

The particular witness did not know what was meant by that. He said it occurred before his time, so that was his answer.

One way to discipline the market, I guess, would be to buy up a competitor's product—in the case of a product that was being sold in California—that is selling at a price lower than yours, and then reselling it at a higher price. Mobil apparently did that in California with respect to the Powerine refinery. There is an internal memo from Mobil, which you probably have, or you may have had, that is talking about the Powerine refinery and the threat that it poses to Mobil, and here is what it suggests: "One other thought. If they do start up"—that is, if Powerine does start up—"depending on circumstances, might be worth buying out their production and marketing it ourselves, especially if they start to market below our incremental cost of production." And then it goes on to say that Mobil already did that. "Last year," it said, "they were dumping RFG at below cost of MTBE, we purchased all their avails, marketed it ourselves, which I believe was a major reason that the RFG premium last year went from 1 cent per gallon in January to 3 to 5 cents per gallon through to their shutdown."

In other words, Mobil accomplished—at least the year before what it wanted to—by buying out the Powerine product, selling it at a higher price, and then increased the premium for all of the RFG several cents a gallon by doing that.

Is that a document which you are familiar with, by the way?

Mr. GREENE. Yes, certainly.

Senator LEVIN. OK. Now, apparently—was that one of the issues that was debated or litigated?

Mr. GREENE. These documents came to public light through the discovery process in the Aguilar case. We were actually amicus curiae, the Attorney General was amicus curiae in that case. But just from the analytics from an antitrust perspective, if an individual company does things on its own, that is, buys fuel and then resells it, that's an individual activity.

Senator LEVIN. Sure.

Mr. GREENE. So we don't have that key agreement or conspiracy that Senator Wyden was speaking to. And it is also the case that doctrinally the monopolization statutes typically now require a very large market share, for example, 75-plus percent of a relevant market. But it may be the case that we need to look back at actual market power.

One of the real implications of these documents is that everybody in these marketplaces has market power. They all have the ability to increase the price in the marketplace based on the individual steps that they take.

Senator LEVIN. Right. Well, I want to get to that point, though. When you say we should look at it, a problem is that even though this is the activity that they engaged in and were able to raise prices 3 to 5 cents, acting on their own, without collusion, as it is currently defined, that may not be or apparently isn't illegal under the current definition in the statute of collusion.

The question I would like to ask you, and perhaps the others, if they want, is: Shouldn't that be illegal? You said "considered." I mean, it is pretty glaring here what went on, to be able to say I am going to buy up my competitor's product, and as a result raise the price 3 to 5 cents. If you have that kind of market power, if it is that kind of concentrated oligopoly that you have got in that market, should we not say, as Senator Wyden was suggesting, in terms of change the definition of collusion or broaden it, shouldn't that be one area where we ought to look seriously at broadening the definition of an anti-competitive practice? General Granholm.

Ms. GRANHOLM. To me, this goes to the question of using an objective standard rather than having to rely on documents like this. If you could make this judgment based upon the HHI index as sort of just a pure objective factor, then you could determine whether or not that is legal or not. Do you stop a merger when somebody arrives at a tipping point in the industry based upon objective factors? Because, otherwise, if you are relying on the subjective stuff, what is very sophisticated language—I mean, this is a little more obvious than what we would normally find. But, they wouldn't put it in writing. They would have it in a verbal meeting or something. Everybody knows what's going on. To have to rely on that is a little more difficult proof-wise, which is why I think an objective standard would be easier.

Senator LEVIN. What you are then saying is that we should make it a presumption that——

Ms. GRANHOLM. Yes.

Senator LEVIN [continuing]. You will not approve mergers in markets that are highly concentrated by some objective measures, and I guess there are objective measures——

Ms. GRANHOLM. The Herfindahl—what is it?

Senator LEVIN. The HHI measure, right.

Ms. GRANHOLM. The Herfindahl-Hirschman Index would——

Senator LEVIN. We call it "HHI" around here because we can't pronounce it.

Ms. GRANHOLM. HHI is much easier, yes.

That 1,800 threshold I think is a very basic and fair way of looking at it.

Senator LEVIN. OK.

Mr. BLUMENTHAL. I would add on the issue of merger approval, not only suggesting a moratorium but also that consumer benefit ought to be an essential ingredient or element of showing to justify a merger to the FTC or to the Department of Justice as a part of the standard for approval.

I think this kind of practice, and from what I know about it, clearly an anti-competitive practice, a practice with an anti-competitive effect, ought to be at the very least admissible as evidence of an antitrust violation. And that goes to the suggestion that you and Senator Wyden have made as to what kind of facts and documents and practices ought to be admissible, especially in a highly concentrated market, and in a highly concentrated market ought to be perhaps regarded as proof of an antitrust violation if otherwise substantiated.

But I would add that part of the perspective in the courtroom and in the court of public opinion ought to be what the effects as well as the purposes are, because the effects of many of these industry practices have been simply to maintain market share, not to compete, not even to gain market share. The Subcommittee report is very pointed and persuasive on this point, that this industry is very unusual insofar as a lot of its motive is to maintain market share, which perhaps is typical of an oligopoly, but especially so in this one—and, again, also maintaining shortages of supply. Ordinarily, higher sales produce more revenue and more profits. In this industry, the goal is to keep supplies tight and squeeze inventory so as to retain control and increase profit.

So I think that this kind of document and this kind of practice are very pertinent to the laws that exist now, but ought to be made part of proof in court.

Senator LEVIN. I want to talk about parallel pricing because it really fits in exactly with what we have been talking about and what you just testified to. In Michigan, we have a phenomenon that I think exists in a few other States, and it is what I call "Speedway bumps." Not speed bumps but Speedway bumps. And as you can see from the chart[1] and as has been referred to already, prices spike up on Wednesday or Thursday. You can see those spikes in greater detail on the chart on the right, and in smaller bumps going up on the chart on the left. The smaller peaks going up to the big spike on the left are what I refer to as "Speedway bumps."

They drift back down at the end of the weekend, and when you look at it more closely, 1 month at a time, Speedway is running up the price and then it is followed by other brands. And then the next

[1] See Exhibit No. 11 and 12 which appear in the Appendix on pages 260 and 261.

Wednesday and Thursday, the same thing happens. So Speedway is the price leader in Michigan. It has this pattern of weekly mini-spikes. And I am just wondering here—General Granholm, let me ask you about that. We asked Marathon about this, and here is what their reaction was a couple days ago: "Our pricing policy is every day. We look at our costs. We look at our sales. We look at how competitors are pricing, and we elect to always match the lowest price on the street. And then there comes a time when our costs have increased that we elect to raise"—"when our costs increase"—like every Wednesday and Thursday, I guess, our costs increase—"we elect to raise the retail price to try to recover some of our costs. Every day"—and he repeats the "every day" part. "I hope it's not predictable," he says, "because we look at our prices every day."

What is your reaction to that?

Ms. GRANHOLM. I tell you, you ask any person in Michigan and you know very well what happens. Everywhere I go, people say, how about that? Everybody fills up on Wednesday because you know on Thursday the price is going up. They hold off on filling up until Monday so that they can get a better deal. It is like clockwork. I cannot believe he would say, I hope it is not predictable, because it certainly is.

They are the leader because they are the ones that have the most market share and they are the ones from whom the independents are buying the gas. So they can lead the rise of the gas to perhaps a place where they are comfortably able to make a profit, and then on Monday, they shoot it right back down and the independents have difficulty even meeting that because sometimes they are below even the price that they would be charging the independents. So the independents are finding it very difficult to compete because they have to compete with their main competitor on the wholesale level buying from them. That is the difficulty of this vertical integration.

Senator LEVIN. Now a question for each of you. There is another pricing practice that is discussed in our report where lessee branded dealers enter the long-term contracts with oil companies, and under those contracts, the oil companies set what is called a dealer tank wagon price, or DTW price, and there is not much that the lessee dealer can do about it. As a matter of fact, I think under those leases, they are required to pay the price that is set by the oil company.

Under the antitrust law, the oil company, though, cannot set the retail price that dealer can charge. Several oil companies, however, acknowledged when we talked to them that they do provide lessee dealers with a recommended price for the retail price. What they charge the dealer is unilateral. They do not admit that, but there is a lot of evidence that even the leases themselves say you must pay the price, if you are a lessee, the price that we charge you. But when it comes to what you, the dealer, charge, we recommend a price to you, but by law, you have the right to set that price.

We have heard now from several dealers the following. They believe the oil companies enforce recommended prices through their dealer tank wagon prices. They do that, these dealers say, as follows. If the dealer charges a price that is higher than the rec-

ommended price, the oil company will capture that increase with a commensurate increase in the next dealer tank wagon price.

Have any of you heard those kind of allegations from dealers, that, yes, in theory, I set the price, but because I have to pay that wholesale price by my lease—I have no option on that—heck, if I change the price, raise it, for instance, 2 cents, the company will capture that 2 cents in the next DTW price that they charge me? Is that something familiar to you? General Blumenthal.

Mr. BLUMENTHAL. Yes, it is, Senator. That practice is one of a slew of practices that the big oil companies use, in effect, to control and manipulate the prices and markets in the zones they establish. It complements the zone pricing practices that are imposed in States across the country. Those practices are documented in this report and so are the motives for them in the MPSI study that is referenced.

But one problem here is, and I will be very blunt to you, Senator, what we find, at least what I find is that many of the owners, the franchisees, that is, are very reluctant to come forward because they are very fearful of retaliation, again, another reason for making these cases easier to prove. The degree of fear, that is, the fear factor simply cannot be overemphasized, and so, no doubt, your staff and you have heard about many of these kinds of abuses, but proving them in court through witnesses who are willing and sufficiently courageous and brave to help us is another challenge.

Senator LEVIN. Do either of the two of you have a comment on that?

Mr. GREENE. I think you are describing, Senator, a very common practice in the industry. One of the sad realities, I think, for lessee dealers is they are increasingly in a form of indentured servitude. It is a problem that they are squeezed by their leases, they are squeezed by the DTW. Much of their historic independence has been lost. This DTW-lease combination is the way the zone pricing system is actually enforced and works. It is through these DTW price sets that you get differences between down the block, down the street. So these are absolutely key mechanisms for controlling price at the retail level. That is certainly true.

Senator LEVIN. Thank you. I have just a couple more questions for you. One has to do with parallel pricing, which we have talked about, where companies stay in the same fixed price relationship with each other, going up and down. Currently, that is not a violation of the antitrust laws unless you can prove that there is an agreement or conspiracy, some kind of explicit collusion between the two.

This is one example. Where prices are in a fixed relationship with each other and go up and down these peaks together, the question is whether or not we should amend the antitrust laws to make that at least either presumptively anti-competitive or, at a minimum, evidence of an anti-competitive practice, which can go to the jury. Now, I believe that one of you has testified already on that, and I think it was you, General Blumenthal.

Mr. BLUMENTHAL. Yes, sir.

Senator LEVIN. That you have already said that should be enough evidence to get you to a jury.

Mr. BLUMENTHAL. In a highly concentrated market, certainly, it should go to a jury and it should enable the case to go to a jury.

Senator LEVIN. And I think that is a very important point that I should restate, that we are talking about in the highly concentrated markets when we talk about changing the antitrust laws or making mergers presumptively not going to be approved by the FTC in highly concentrated markets.

General Granholm, do you have a comment on the parallel pricing question?

Ms. GRANHOLM. Just so that we are very clear about what the court has done, as we currently speak, the quote from the most recent court who decided this said tacit collusion, sometimes called oligopolistic price coordination or conscious parallelism, describes the process, not in itself unlawful, by which firms in a concentrated market might, in effect, share monopoly power, setting their prices at profit maximizing supra-competitive levels by recognizing their shared economic interests and their interdependence with respect to price and output decisions. It is well established that where a market is dominated by a few major players, parallel pricing is not uncommon and is generally insufficient to prove an antitrust conspiracy. So that mindset has got to be changed.

Senator LEVIN. OK, thank you. Did you want to add anything, Mr. Greene?

Mr. GREENE. I think you do need to look at this very closely. If you were to take a look at the *In Re Petroleum Products Litigation* decision in the Ninth Circuit of 1990, one of the key points there was the existence of a sawtooth pattern, much like the first one you saw with the retail station. That was a key piece of evidence.

Under current law, that might not even survive summary judgment.

So I think, at the end of the day, I personally would feel more comfortable with evidence of parallel pricing plus, but at this point, that combination is probably not enough to get you to a jury and I think that is a wholly appropriate result, and insofar as the Subcommittee could suggest legislation that would get us there, that would be very helpful.

Senator LEVIN. And the position that you favor would be that evidence of parallel pricing would be either enough to get to the jury, get you past summary judgment, or precisely what is your position?

Mr. GREENE. I think that it should be parallel pricing plus.

Senator LEVIN. Plus what?

Mr. GREENE. Plus communication patterns. There is a whole body of law that existed circa 1990, 1989, in which, basically, parallel pricing plus not a whole lot more would get you to the jury. I think that is, at the very least, where we should be in this concentrated industry.

Senator LEVIN. But short of the explicit concerted agreement? When you say plus——

Mr. GREENE. It is a way of inferring the existence of an agreement.

Senator LEVIN. I have got you.

Ms. GRANHOLM. The only problem with having an agreement is you do not need one. It is out there on the corner. I mean, who

needs to talk to anybody when the price is up posted per gallon on every street corner? So the plus part of it is what is hard to get at when it is open and notorious.

Mr. BLUMENTHAL. And I would simply add that a jury should be permitted to infer an agreement, in this case an illegal agreement, from those factors, including conscious parallelism and parallel pricing, and these kinds of patterns are so dramatic, to use the old expression, a picture is worth a thousand words, this kind of picture should go to a jury and evidence of signaling or the opportunity to communicate and other kinds of implicit or tacit communication should be part of that case, as well.

Senator LEVIN. I am just trying to get the exhibit number there so we can put in the record what the picture is that you are referring to. That is Exhibit 10.[1]

This is the response of the representative who was here from ChevronTexaco when the parallel pricing issue was put to him. "I happen to think that the reflection of a reasonably stable relationship of prices is actually an indication that the market is working exactly as it should." He was shown the same picture. "The fact that market prices are going up and going down and that individual companies are in relative position not changing quite often, is, in fact, an indication to me that the market is working." Do you have any comment on that comment? Let me start with you, perhaps, Mr. Greene.

Mr. GREENE. Generally, the economics of this are that if it was an unconcentrated market, again, think of a grain market, prices will converge on a particular price. But it is not the case, typically, that each of the players stays in an individual position vis-a-vis the other players. I think that is a pattern much more closely associated with a concentrated market, which is what you are dealing with here.

Senator LEVIN. Thank you.

Ms. GRANHOLM. I think, in general, players do see what the others are doing and they respond accordingly. That is the market. But I do think this issue of concentration is really the best place to start to prevent that, because I think that is really much easier to get at than this issue of parallel pricing, because that is a symptom.

Mr. BLUMENTHAL. I agree, to emphasize the importance here of market concentration in this industry, and also to, just as a footnote, to say that zone pricing, as the Subcommittee report shows, actually produces disparities, in my view, artificial disparities, in very closely located areas with no competitive or economic rationale.

Senator LEVIN. I just have one more question, but on this particular subject, let me just say this, that where you already have a concentrated market, it seems to me the question of parallel pricing becomes more than a symptom. It becomes something which may be one of the problems that you can get at if you make it presumptively an anti-competitive act, because you already have the concentration. Your alternatives, then, are, I guess, either to break

[1] See Exhibit No. 10 which appears in the Appendix on page 259.

up the concentration, which is mighty complicated, or to go at some of those symptoms and to try to address the symptoms.

I happen to agree with you. It is better to try to avoid the problem by preventing the mergers and the concentrated market, or that would create a concentrated market to begin with, but that is not the situation that we have now in half our States. We are already there, so we have to deal, I am afraid, with symptoms, and one of the issues we will face as to whether or not the parallel pricing symptom should be one that is addressed, even though it does not get to the underlying problem.

One other symptom, and then we are going to let you go, and you have addressed this, I believe, Mr. Greene, and that is the question of whether we should mandate or let States mandate increased inventories. I believe you said that you are considering in California mandating a higher inventory level, which really is a critical part of this problem. If I heard you correctly—is that right, that you are thinking about doing that?

Mr. GREENE. That is certainly correct. The Attorney General recommended that we look, that the legislature and our expert energy agencies look very closely at this as a possibility. Our inventories are now so low that, literally, if a refinery coughs, we are in a price spike situation.

So in my prepared materials, there is a very substantial report from one of our consultants explaining how that might work. Now, we are, as I mentioned, a very isolated market, so this may or may not be something that the Nation as a whole may want to look at. I would note, though, that our European partners, all of whom have these kinds of structures to deal with pricing problems.

So I think it is something that may not be right for the Nation, but we are certainly looking at it in our market in California.

Senator LEVIN. General Granholm, do you have any comment on that?

Ms. GRANHOLM. I think it is something worth looking at.

Senator LEVIN. OK. Thank you.

Mr. BLUMENTHAL. I think it is worth considering, Senator. It has potential disadvantages in costs and difficulty to manage. That is, a regional or, in California's case, a State reserve might be very expensive and very problematic as a management challenge.

But I do think at the Federal level, there should be much stronger oversight and perhaps inventories that are mandated, and I think there are other ways, even at the State level, to intervene in these situations. We had just a week ago the announcement from one of our major companies, Motiva, that it is closing a 200,000 barrel terminal facility, and it is not closing it and selling it, it is mothballing it. So that storage capacity is removed from our State inventory and, presumably, from the supply available to consumers at a time when, obviously, in the summer months, demand is going to increase. I think providing the legal means for some kind of intervention in that situation would be very welcome in a lot of States, but I do think that inventories perhaps are a Federal task.

Senator LEVIN. Thank you. You have been a terrific panel. We thank you all and appreciate your testimony.

Ms. GRANHOLM. Thank you very much.

Mr. BLUMENTHAL. Thank you, Mr. Chairman.

Mr. GREENE. Thank you.

Senator LEVIN. Let me now introduce our third panel of witnesses. First, Peter Ashton, who is President of Innovation and Information Consultants; next, Dr. Justine Hastings, Assistant Professor of Economics at Dartmouth; Dr. R. Preston McAfee, who is the Murray Johnson Professor of Economics at the University of Texas; and then Dr. Philip Verleger, President of PK Verleger, LLC.

Let me first swear you all in, as is required by our rules. I would ask you just to stand and raise your right hands.

Do you swear that the testimony that you will give before this Subcommittee this morning will be the truth, the whole truth, and nothing but the truth, so help you, God?

Mr. ASHTON. I do.

Ms. HASTINGS. I do.

Mr. MCAFEE. I do.

Mr. VERLEGER. I do.

Senator LEVIN. We have a panel of academics, experts this morning to discuss price volatility, to discuss mergers approved by the FTC, and a number of other topics that we have discussed both Tuesday and this morning. We would ask you, given the hour, if you could keep your oral remarks to 10 minutes or less and we will make sure your printed testimony is entirely in the record.

Let me just go alphabetically here. Mr. Ashton.

TESTIMONY OF PETER K. ASHTON,[1] PRESIDENT, INNOVATION AND INFORMATION CONSULTANTS, CONCORD, MASSACHUSETTS

Mr. ASHTON. Good morning, Mr. Chairman, and thank you. It is certainly a pleasure to be here to discuss issues related to gasoline pricing.

As you indicated, my name is Peter Ashton. I am the President of Innovation and Information Consultants, an economic and financial consulting firm, and over the last 20 years, I have had the opportunity to act as a consultant to various States, the Federal Government, and also different firms in the industry with regard to gasoline and oil pricing issues.

My comments, very briefly this morning, will relate to four issues. First, I will talk about trends in market concentration due to mergers in the refining and marketing industry. Second, I will address recent episodes of price spikes, particularly in the Midwestern region of the country. Third, I have a couple of brief comments to make about your staff's excellent report. I guess I am telegraphing what I am going to say. And fourth, I have a few suggestions and a couple of additional thoughts based on what I have heard this morning in terms of potential policy recommendations.

Let me first start by talking about recent trends in terms of merger activity. As you are aware, in the last 5 years, the domestic refining and marketing industry has witnessed a wave of mergers not unlike what was observed during the early 1980's. During that time frame, several larger mergers in the industry were approved

[1] The prepared statement of Mr. Ashton with attachments appear in the Appendix on page 204.

by the Federal Trade Commission, and in a report it issued in 1989, the Federal Trade Commission commented at that time that those mergers had led only to modest increases in concentration and that such increases stemmed as much from closure of independent, inefficient refineries as it had from the mergers themselves. The recent wave of mergers, however, has led to, I think, a fairly different conclusion in terms of having a much more significant impact on market concentration.

I do not need to go into and belabor what an HHI is. You have certainly used that term and understand it. I have looked at HHIs for both refining capacity as a whole and also just for gasoline manufacturing capacity and there have been fairly significant increases, really throughout the country, but particularly in certain markets, such as the East Coast, what I have termed and what the FTC has defined as a relevant market as the Upper Midwest, which includes Indiana, Illinois, Kentucky, Ohio, and Michigan. There, for example, the HHI in both refining capacity and particularly gasoline manufacturing capacity is now over 1,800, which signifies a highly concentrated market.

And in California, which I have also spent time looking at, due in part to its unique gasoline specifications and its location, is a relatively isolated market. Here, the HHI for gasoline production has risen from about 1,300 5 years ago now to close to 1,800.

Concentration has also increased at the wholesale level. This level of the market, in my opinion, is critical to understanding pricing and supply, as it is the link between refinery production and the consumer. In my experience, this is often the point at which the greatest control over supply may be exerted, where significant interdependence exists, and also often where regulatory authorities fail to adequately examine competitive impacts.

Finally, at the retail level, today, over 65 percent of all retail sales now occur through branded stations, whereas only 5 years ago, that number was less than 45 percent, according to DOE statistics. In some areas of the country, such as California, independent marketers have virtually disappeared. I would note that considerable research over the years, including by my colleague next to me, has demonstrated the competitive importance of maintaining a viable independent segment of the retail market.

Let me turn now to the reasons that I see for the increased gas price volatility over the last 2 years, particularly in the Midwest. One naturally thinks of the cost of crude oil as having a significant impact when the price at the pump goes up. Indeed, crude oil represents about 75 percent of the cost of making a barrel of gasoline. However, in my opinion, crude oil price increases were not the cause of the price spikes in the late spring of 2000 or during the spring and summer of 2001, and that is shown in two of the figures that I have presented as part of my testimony, Figures 1 and 2.[1]

Other possible explanations for the increase in gasoline prices could include supply curtailments, either caused by a reduction in inventories or production, or surges in demand. Data on consumption reveal no unexpected surges in demand that could explain ei-

[1] Figures 1 and 2 which is attached to Mr. Ashton's prepared statement appears in the Appendix on page 213.

ther of the first two price increases. However, demand did increase fairly significantly in the summer months preceding the so-called Labor Day price spike of 2001 and may have been partially responsible for the price increase.

Production did not decline in any meaningful way in the periods leading up to and including the first two price spikes. Supply disruptions due to refinery outages do not appear to be a plausible explanation for the magnitude of the price spikes that we observed. During the third price spike, there was a nationwide decline in production, although not in the Midwest, but this does appear to have had some impact on prices.

Inventories, however, present a more interesting picture. First, it is important to understand that the absolute level of gasoline inventories relative to consumption has fallen significantly in recent years. Refining and marketing companies made a conscious decision in the mid-1990's to carry lower inventories of refined products, including gasoline. Such just-in-time inventories were rationalized as a cost cutting measure, but they appear to have led to greater price volatility, as well. The reduction in inventory levels is illustrated in Figure 3[2] to my written testimony, where the average carrying level has now been reduced from about 30 days' supply to less than 24 days' supply.

As a result, the difference between the average level of inventories maintained and the minimum operating inventory level has shrunk, so that now even brief supply disruptions can cause major problems. This reduction in inventories means that small changes in gasoline supply can result in very large changes in prices, and is in my opinion the most likely reason for the increase in price volatility in recent years.

Examination, for example, of inventories immediately preceding the first two price spikes in the Midwest indicates lower than normal levels, although not necessarily of the magnitude to cause such a huge spike in prices. And it is important to note that in each case, inventories return to relatively normal seasonal levels within about 2 weeks after the start of the price spike, and this is shown in Figure 4[1] to my written testimony.

During the June 2000 price spike, for example, the surge in wholesale and retail prices began the last week in May, when inventories were at abnormally low levels. Within 2 weeks, however, inventory levels were back to normal, yet gasoline prices continued to rise for the next 2 to 3 weeks, on the order of 15 cents per gallon in the Midwest.

With each of the two succeeding price spikes in the Midwest in the spring of 2000 and late summer 2001, much of the same story played out. The August 2000 price increase, as I already alluded to, is somewhat more puzzling as there appears to have been not the reduction in inventory as much as a nationwide increase in demand, as well as reduction in production. This does not, however, explain the fact that Midwest prices appeared to rise considerably more than in other parts of the country.

---

[1] Figure 3 which is attached to Mr. Ashton's prepared statement appears in the Appendix on page 214.

[2] Figure 4 which is attached to Mr. Ashton's prepared statement appears in the Appendix on page 214.

I have also done some statistical analysis of the relationship between changes in gasoline prices over the years and various other economic factors that could explain those prices, such as changes in crude oil prices, inventory levels, production, capacity utilization, and the like. I have found that in normal, relatively stable times, crude oil price changes, along with changes in inventory and production levels, do explain a significant portion of the change in gasoline prices.

But changes in crude oil prices and these other factors do not explain the price spikes observed in the Midwest, and also to a large extent on the West Coast, in the last 2 years, even accounting for possible lags. I have also found in my statistical analysis that beginning in approximately 1998, a measure of market concentration has become a more significant statistically explanatory variable for those changes in gasoline prices, not necessarily a large magnitude of the change, but it has become a statistically significant factor.

Let me turn briefly to comments on the staff's report. I have had the opportunity to review the Majority staff's report and I share many of the same conclusions as contained in that report. It is a highly professional piece of analysis and points quite correctly, I believe, to the tightening of the supply-demand balance, as well as increases in concentration, as ways in which supply can be affected and which, given inelastic product demand, has allowed gas prices to rise significantly at certain times.

Staff's conclusions, importantly, are based on a 10-month investigation that included interviews with industry officials, trade associations, and others, as well as review of internal company documents. It is, in my experience, rare when one is able to catch a glimpse of the workings of an industry in this way, and staff's analysis is more compelling to me as a result.

In light of these findings, let me talk just briefly about possible measures to deter future price volatility. First, I do believe that the FTC must be more vigilant in its merger review, focusing more closely on competitive impacts, particularly at the wholesale level, and encouraging, where possible, the competitiveness of independent marketers and refiners.

Second, due to the fact that many markets are already highly or moderately concentrated, the FTC, as well as other regulatory authorities, including FERC, should take a tougher stand on various practices and behavior that might be conducive to price fixing or price signaling.

Third, and I think we heard this recommendation earlier, I think resources should be added to the enforcement agencies, particularly the FTC in terms of its merger oversight, and it should tend to view these mergers not in isolation but together with other changes going on in various markets.

Fourth, I would recommend investigation of measures to encourage greater supply flexibility. This would include, among other things, increasing the role of unbranded competition, greater consistency in regulatory policies, especially as it relates to gasoline specifications, and other ways to increase the general absolute levels of product inventories.

And in that vein, and I heard the suggestion from Mr. Greene of California, I am intrigued and would at least suggest that a

study of some kind of maintenance of minimum inventory levels, or perhaps even a reserve. I think that might be a very interesting option.

Finally, I have also heard this morning, I think, some interesting suggestions about changes to both the antitrust laws as well as potentially enforcement. A couple of those cases that I have heard mentioned in the discussion earlier this morning were ones that I was involved with and I certainly think that some of those moves should be considered.

That concludes my remarks, Mr. Chairman. I certainly appreciate being here and I would be happy to try to answer any questions.

Senator LEVIN. Thank you very much, Mr. Ashton. Dr. Hastings.

TESTIMONY OF JUSTINE S. HASTINGS,[1] ASSISTANT PROFESSOR OF ECONOMICS, DARTMOUTH COLLEGE, HANOVER, NEW HAMPSHIRE

Ms. HASTINGS. Thank you. Mr. Chairman, my name is Justine Hastings and I am an Assistant Professor of Economics at Dartmouth. I received my Ph.D. in economics from UC-Berkeley.

My research focuses on the effects of vertical relationships between refiners and retailers on retail and wholesale gasoline prices. I have analyzed extensive data on gasoline market structure for a diverse group of U.S. metropolitan areas covering the 1990's. I have used this data to conduct independent academic research into the relationships between vertical market structure and competition in gasoline refining and marketing. My independent research and my acquired knowledge of the industry form the basis of my testimony before the Subcommittee today.

I will now summarize the results of two of my research papers and discuss their possible implications for government policy. Both analyses use changes in vertical integration generated by mergers to identify their main results.

The first study, entitled "Vertical Relationships and Competition in Retail Gasoline Markets," finds that independent retailers are uniquely important for retail price competition. This paper uses detailed station-level data for Southern California, coupled with the 1997 purchase of the independent retail chain Thrifty by ARCO to show that the loss of independence contributes to higher retail prices.

Specifically, the analysis concludes that retail prices in markets affected by the acquisition increased, on average, 5 cents a gallon relative to unaffected markets. When independents exit and are replaced by integrated branded competitors, competition in the market is softened and prices increase. What matters for competition is whether there are independent, unbranded retailers, not what types of contracts integrated refiners have with their stations.

The second paper is entitled, "Vertical Integration in Gasoline Supply: An Empirical Test of Raising Rivals' Costs." This work is done with Dr. Richard Gilbert. This paper asked the following question: Does vertical integration affect wholesale gasoline prices?

[1] The prepared statement of Ms. Hastings appears in the Appendix on page 215.

Using Tosco Corporation's acquisition of Unocal's West Coast refining and marketing assets, we find that integrated refiners raise wholesale prices to independent retailers. This allows them to increase prices at their own retail stations, thus increasing their own retail profits. These results are consistent with the strategic incentive to raise competitors' input costs and show that the extent of a wholesaler's vertical integration into downstream markets can have a significant impact on wholesale competition and prices.

We then look at a broad panel of 26 metropolitan areas over the 1990's, including ones in the West Coast, Rocky Mountain, and Gulf Coast States. We find a positive correlation between the extent of vertical integration and unbranded wholesale price, consistent with the effect we identified in the Tosco-Unocal event study. Our main result concludes that vertically integrated refiners have an incentive to increase wholesale prices to independent marketers in order to increase retail profits. This implies that it is very important to consider such interactions between vertical integration and competition in antitrust and merger policy.

The main conclusions from my research are that independent refiners and independent retailers are important contributors to competition in retail and wholesale gasoline markets. Independent retailers are uniquely important for competition because they are incredibly price competitive and increase competition at the retail level. In addition, they are the only type of station that can purchase from the lowest price wholesaler, thus introducing and forcing competition at the wholesale level. Furthermore, they allow outside entry of other refiners into concentrated markets when prices in those markets are excessively high.

Independent refiners are also uniquely important for competition, and this is because independent refiners do not have the incentive to raise rivals' costs that integrated refiners have. Independent refiners compete intensely on wholesale price, unlike branded wholesalers, and because of these two factors, unintegrated refiners are important to ensure sufficient wholesale gasoline supply at competitive prices. This is necessary for the entry and survival of independent retailers, including new chains such as RaceTrac, Wawa, Costco, or Wal-Mart.

What are the positive policy implications of my research? First is that antitrust and merger policy should more carefully consider the impacts of vertical integration on competition, both in merger analysis and in divestiture requirements. Mergers that result in a significant increase in the degree of vertical concentration should be scrutinized more carefully.

In addition, competition may best be served by designing divestiture requirements to increase the retail market share of independent retailers and decrease the degree of vertical concentration in the market. For example, divestitures required from recent mergers consistently require the divestiture of a refinery and retail stations to a single new integrated competitor.

Take, for example, the divestiture requirements for ExxonMobil merger on the West Coast and the Ultramar Diamond Shamrock-Valero merger on the West Coast. In both cases, the refinery and stations were divested to a single integrated competitor. Why not divest the retail stations and the refinery to separate companies?

The results from my research imply that divesting the refinery and station separately would do more to increase competition in California's gasoline markets.

I encourage the current efforts of the Federal Trade Commission to incorporate vertical integration issues into merger and antitrust regulation. For example, in Michigan, mergers between Marathon and Ashland and Ultramar Diamond Shamrock's, or UDS's, total assets resulted in a significant decrease in the number of competitors supplying unbranded gasoline at wholesale racks. A traditional measure of HHI would not have picked this up. It seems to me that we should adapt the HHI to include specifically components of vertical integration when looking at mergers. My colleague, Dr. McAfee, has proposed such an alternative to the HHI.

Furthermore, the Environmental Protection Agency needs to incorporate secondary impacts on market structure and competition when designing environmental regulations. The current system of boutique fuels further segments markets and leads to market power for local refiners. It creates barriers to entry and, thus, increases price levels and volatility. In addition, price volatility caused by market segmentation drives out independent retailers in the long run, further lessening competition. The EPA should attempt to minimize the number of fuels required while still protecting the environment in order to minimize segregation of gasoline markets and increase price volatility.

I would now like to comment on a couple of legislative ideas that have been proposed and are aimed at increasing competition in gasoline markets. The first of these falls under wholesale price regulation and this legislation has the following title. It comes under fair wholesale pricing, branded open supply, or zone price elimination legislation. These types of legislation are most likely regressive policies that will lead to price increases in low-income neighborhoods. Furthermore, they may lead to further vertical concentration, lessening competition in the long run.

What would zone price elimination do? Currently, as has been noted here, refiners price discriminate, charging higher wholesale prices in less price sensitive markets and lower prices in highly competitive markets. Zone price elimination would require refiners to charge one wholesale price. In order for this policy to lead to lower retail prices, two things have to happen. First, zone price elimination must lead to lower wholesale prices. Second, that lower wholesale price must be passed on to the pump by the dealers who set the retail price.

If refiners are forced to charge one wholesale price, it actually could be the case that average wholesale prices would rise. In addition, they would certainly rise in low-income neighborhoods, currently the most price sensitive neighborhoods. Zone price elimination could be a very regressive policy.

In addition, if zone price elimination leads to higher average wholesale prices, this may lead to the closure of independent marketing stations. Independent dealer-owned stations may go out of business in the long run, further increasing vertical concentration and lessening competition.

I would also like to point out one more fact. Branded open dealers pay one rack price and it is not the case that we see less price

discrimination at those stations than we do at lessee dealer stations where the oil companies price discriminate.

I would like to sum up my comments by stating that members of your staff have worked incredibly hard to produce an extensive and excellent report, and I am certain that, by now, they are deeply aware of the following two facts. First, there is a pressing need for more independent academic research into the factors that affect petroleum pricing at all levels of production. Second, it is incredibly difficult to acquire data to conduct such research.

I would like to propose creating a program at the Energy Information Administration modeled after the excellent program that the U.S. Census Bureau has to disseminate and make available to highly screened researchers proprietary data that would allow for excellent studies needed to inform public policy debates.

This concludes my comments, and I look forward to answering your questions.

Senator LEVIN. Thank you so much, Doctor. Dr. McAfee.

TESTIMONY OF R. PRESTON McAFEE,[1] MURRAY S. JOHNSON PROFESSOR OF ECONOMICS, UNIVERSITY OF TEXAS, AUSTIN, TEXAS

Mr. MCAFEE. Mr. Chairman and Members of the Subcommittee, my name is Preston McAfee. I am a professor at the University of Texas and I have worked extensively with the Federal Trade Commission in evaluating mergers. This includes the ExxonMobil, BP-ARCO mergers, and others. I also assisted the Commission with the summer 2000 Midwest gas price spike investigation.

As part of my studies of these mergers, I have had access to and studied a substantial amount of information, including the documents that the FTC had gathered in the course of its investigation. Much of this information is confidential. In the case of ExxonMobil, it is more than 100 million pages of documents.

I am pleased to be here today to discuss the economic issues I have researched as they pertain to your examination of gasoline prices in the United States. I will concentrate on volatility and antitrust.

Let me start by saying I appreciate the effort and thought that went into the Subcommittee's report. I want to compliment the Chairman, the Subcommittee, and the staff on this report and I am going to highlight a few issues considered in the report and disagree with a few.

First, on volatility, a basic fact of the gasoline market is that the combination of inelastic demand and inelastic supply magnifies the effects of supply disruptions. Short-run price changes can easily be three to five times the quantity changes. So a 10 percent change in quantity can result in 30 to 50 percent price increases. This is a feature of consumer values and production costs that cannot be changed by policy. That is, unless you can change the way consumers value gasoline, you cannot change this demand response.

Consequently, there is only a limited role for government in reducing price volatility. Some level of fluctuations in price is un-

[1] The prepared statement of Mr. McAfee appears in the Appendix on page 227.

avoidable and are caused by large-scale phenomena like demand increases and short-term phenomena like pipeline breaks.

I want to emphasize that price controls are not a fix for volatility. We have lived through the gasoline lines of the 1970's, which were created by price controls, and I hope never to see these again. Preventing the establishment of market prices through price controls does not change underlying conditions, but instead creates severe shortages and eliminates investment.

Price volatility is increased by the proliferation of boutique fuels, which certainly contributed to the Midwest price spikes. As a Nation, we should be aware that every time an area is assigned its own fuel specifications, the rest of us lose a little bit of insurance. We should attempt to reduce the total number of distinct types of gasoline in use. Currently, there appear to be 19 different regular unleaded specifications, and that means you need 19 distinct storage units for those fuels.

The greater the extent to which the Nation is interconnected, the less will be the overall volatility of gasoline prices. Easing the construction of pipelines may reduce volatility by linking geographic areas more tightly. This is certainly relevant to Michigan.

Price volatility is not unambiguously bad. Gasoline prices are volatile because the value of gasoline varies over time. Stabilizing prices at a high level, which is essentially the Canadian policy, is much worse than allowing fluctuation where sometimes we get the benefit of low prices.

The tendency to reduce taxes when supply is temporarily disrupted is a very bad policy. This was used by Illinois. The price must rise to ration demand to the available supply. Removing the taxes does not change this fact. It does not change the fact that consumers must pay a higher price to reduce their demands. A tax holiday during a price spike does not decrease the prices but, in fact, creates a windfall gain to the oil companies by transferring the taxes from the government to the oil companies.

In terms of the response to price spikes, long-distance transportation typically takes about 4 weeks. Refining adds another 4 weeks. So a 2-month response to an unexpected shortage is a normal competitive response.

In the case of the Midwest price spike, the possibility of EPA waivers actually contributed to the problem. There were several companies that expected EPA waivers that never came. Because they were expecting waivers to the reformulated gasoline specifications, they waited, hoping to be able to supply regular unleaded. It would be very useful for the EPA to clearly delineate the criteria under which waivers are issued.

In the case of the Midwest, the need to clean storage tanks between summer and winter creates a window of severe vulnerability to supply disruptions. Essentially, all companies have their storage units empty at the same time, and that contributed to the Midwest gas price spike. This problem is easily cured by staggering the imposition of fuel requirements across the companies. And so just a matter of a few weeks' difference would actually ease this burden and reduce our vulnerability.

Let me now turn to antitrust. Parallel pricing is a feature of both perfect competition and collusion. That is, firms that are aggres-

sively competing will display parallel pricing. Firms with similar costs engage in parallel pricing. It is not possible to conclude from parallel pricing alone anything about collusion. As a result, parallel pricing should not be made illegal, in my opinion. It is equally evidence of competition as it is evidence of collusion. Something else is needed.

As the report noted, the West Coast gasoline market is controlled by an oligopoly of seven firms, ChevronTexaco, Shell, BP, Tosco, Valero, ExxonMobil, and probably Tesoro, depending on a spin-off. It is hard to keep up with this without a scorecard. I want to note that is actually still seven firms, just as it was before the ExxonMobil merger. That is, the wave of mergers has not resulted in a significantly more concentrated market in this very inter-dependent market.

I agree with the Subcommittee's finding that these firms are inter-dependent and aware of each other's behavior and that significantly reduces the likelihood of competitive behavior. As Dr. Hastings emphasizes, vertical integration exacerbates the risk of noncompetitive behavior.

The Federal Trade Commission is quite aware of the threat created by increasing vertical integration and the interdependence of the firms and it actively blocks it by requiring divestitures. Unfortunately, while we would like to actually improve the situation, the law dictates that you can prevent a lessening of competition, so we cannot force the firms to increase the competition. So we cannot break up the vertical integration when divestitures are required. I am sure the FTC would greatly appreciate more resources for its investigations.

My bottom line is that the FTC does a thorough job investigating large oil company mergers and that extensive divestitures to preserve competition have been required.

Elimination of zone pricing by statute will not tend to reduce average gasoline prices. Instead, as Dr. Hastings emphasized, it will tend to increase prices in the most competitive and also the poorest areas. Zone pricing is essentially the same phenomenon as the senior citizen discount at the movie theater. That is, the companies give a lower price to the more price sensitive consumers, like students and senior citizens. My 84-year-old mother very much appreciates the senior citizen discount at the movie theater and would not like to see it made illegal.

Finally, let me turn to conclusions. Industry executives are justifiably pessimistic about the ability of this Nation to produce new refineries, especially on the West Coast. Even in their private documents, they say there will never be a new West Coast refinery built.

There is a role for the government to moderate the "not in my backyard" mentality that makes it more difficult for us to build adequate refineries, adequate electric power generation facilities, pipelines, electric transmission lines, and even cellular phone towers.

And finally, for the big picture, over the past 30 years, this country has deregulated or partially deregulated trucking, airlines, rail, gasoline, oil, natural gas, and long-distance telephony. We are in the process of deregulating electricity and local telephony. Overall,

economic studies indicate that the deregulation of the U.S. economy has produced enormous gains for the American consumer.

We should not let a few problems, and price spikes are a problem and also the California electricity crisis is a problem, but we should not let a few problems deflect us from our market economy or send us back to the miserable regulated environment of the 1970's. In almost all instances, competitive industries deliver more, higher quality goods to consumers than regulated industries do. Gasoline lines, which are the archetypal outcome of regulation, are worse in the long run than volatile prices.

Finally, on the presumption of guilt, let me end with this. My understanding of the American system is innocent until proven guilty. We should not be presuming guilt for what could be competitive behavior. Thank you very much.

Senator LEVIN. Thank you very much, Dr. McAfee. Dr. Verleger.

TESTIMONY OF PHILIP K. VERLEGER, JR.,[1] PRESIDENT, PK VERLEGER, LLC, NEWPORT BEACH, CALIFORNIA

Mr. VERLEGER. Thank you very much, Senator Levin. It is a pleasure to be here.

Let me start by saying I am the BP Senior Fellow in International Economics at the Council of Foreign Relations and I also have my own consulting firm. What I am saying here today are my own opinions and not those of the council.

I have studied energy now for more than 30 years. I have written extensively on commodity markets and on the linkage between commodity prices and stocks. I am a member of the National Petroleum Council. I was a member of Attorney General Lockyer's task force to look at California gasoline, testified in the Aguilar matter, testified to the Senate Monopolies Committee on the announcement of the BP-Amoco merger at the request of the Chairman, consulted on ExxonMobil, BP-Amoco, and on the Shell-Texaco joint venture. I also testified and consulted extensively on the Unocal patent. I am an energy person much more than an antitrust person.

Let me break the order of my testimony and start, by saying that something has gone unmentioned here, that is the role of the new competitors. Wawa, Sheetz, and most importantly, Wal-Mart have entered the gasoline marketing business in many parts of the country. Where local regulations permit them and where State regulations do not prevent them from charging low prices, they are bringing to the consumer the same benefit that they have brought the consumer of every other commodity. That is, they achieve economies of scope and scale and we see much lower prices.

I think your Subcommittee report noted this. It is a little hard to get information on this, but the Federal Trade Commission has just recently issued a letter to Virginia essentially trying to stop legislation which would impose minimum cost selling prices. This entry is an important change and it will progress. In Europe, it has brought much lower prices. The officials at DG–9, which is the antitrust group at the European Community, say that in France and in England, where these competitors have been permitted to enter, consumer prices have dropped sharply—I do not have a per-

[1] The prepared statement of Mr. Verleger appears in the Appendix on page 239.

centage number—as compared to Spain and Portugal and other countries where they are not permitted to market.

The second point is we have a fundamental inconsistency in our national energy policy and our competition policy. In the debate on the energy bill, the Senate and the House both decided that nothing would be done, really, to limit CAFE standards. This means that gasoline demand will probably increase by around 2 percent per year for the next several years. Unfortunately, supply will not. Unless imports are available, that means each summer, we have to expect to see higher prices than the summer before to balance supply and demand. The very large sports utility vehicles that are being sold create a demand for gasoline that we just cannot meet.

My third point is that refinery capacity in this country has increased. The Federal Trade Commission will hold hearings next week asking what has changed between 1985 and 2000, and in preparation for this, I examined the refineries that were in existence in 1985 and the refineries that exist today. What we find is the number of refineries has declined, but total refining capacity has increased by about 10 percent, to 16 million barrels a day. That is, the average refinery that remained in operation increased in size roughly by 40,000 barrels a day.

One of the ways this occurred was by merging inefficient older units with newer units. One of the major constraints on building a refinery, I am told, is land. That is, if you do not have enough land, you cannot expand capacity due to the problems associated with fire and explosion. I regret that at least in the case of two mergers, one in the case of Shell and Texaco, there was an opportunity to achieve some real gains in the State of Washington, where two refineries that were next door to each other could have been combined. Unfortunately, the FTC interpretation—correct interpretation—of antitrust laws made that impossible.

The fourth point is that the sisters are diminishing in importance. Senator Hart from Michigan held an excellent hearing on the role of the seven sisters in the oil industry years ago. Today, you are dealing with four sisters. The Gulf has vanished, Texaco has vanished, Mobil has vanished.

Between 1985 and 2000, the four sisters disposed of 26 percent of their U.S. refining capacity. That is, they sold over two million barrels a day of refining capacity, and they have gone from firms that had surplus gasoline supplies to be essentially short, and what we see is a set of firms that really want to supply their own needs, their own branded dealers, and leave the other unbranded dealers to the mercy of other firms. There is nothing wrong with this. There is no parallel decisionmaking in this. This is just something where we see them moving back. It also seems to be the case, although I have studied it less, in the case of Marathon, Ashland, and others.

Fifth, the big firms have been replaced by smaller firms, fringe suppliers, that now provide 35 percent of the refining capacity in the United States. I have been afraid for years that these firms, one, cannot afford to make the upgrades needed to produce the very clean gasoline that EPA is demanding, and two, would face problems holding sufficient inventories. I note that in the last 48 hours, we have seen one of those firms, Valero, cut its capital budg-

et by 25 percent and another of those firms, Tesoro, announce that it may not be able to proceed with the purchase of a refinery in San Francisco due to financial constraints.

The question, then, is what to do. What can be done? I applaud the hearings and I applaud the report.

First, one of the reasons the gasoline market does not work very well is there are no forward buyers. This is an arcane subject that comes out of commodity markets, but the jet fuel markets and the heating markets and the natural gas markets work very well because buyers are willing to make purchases 6 months, a year ahead of time. I work with one major airline which regularly will cover half to two-thirds of its supply ahead of time to control its costs, and it actually reported a profit in the fourth quarter of 2001 because of its fuel management procedures offset some of their losses. Home heating consumers in New England regularly buy their winter heating oil by the end of October.

It is not possible to do this in gasoline for the average consumer because any program you put together would conflict with the Petroleum Marketing Practices Act. It is possible, however, for State Governments and the Federal Government to enter into forward contracted fixed prices to essentially create that forward market. That is, the State of California could buy its gasoline in the future.

Such purchases, we know, would cause inventories to be increased. We teach it when we teach commodity market economics. You see it in grain markets. If there is a forward market, the buying causes inventories to rise and you get a net gain in inventories.

So that one of the elements is to convince State Governments, county governments, city governments, to enter contracts to buy in the forward market. Now, many bureaucrats will not do this for fear of what we call adverse publicity. That is, they buy forward, prices go down, and everybody looks at them and says, that was a stupid decision. We are going to find somebody else to manage the job. So there needs to be some sort of suggestion that, perhaps even a requirement, that governments buy forward at fixed prices. One of the largest buyers could be DFSC, the Defense Fuel Supply Agency.

A corollary to this rule is that attempts to require stockpiles or to build strategic stockpiles by government are a mistake. We know from extensive studies of commodity markets that when the Federal Government or the government builds inventories, private inventories go down. In my conversations last week in Brussels, I find that there are many problems associated with the Europeans.

The third point is to echo the comments made by the Attorney General from Michigan that one needs to focus very closely on bottlenecks such as pipelines. The Wolverine Pipeline example in your report is excellent. In California, I think we have a problem with the SFPP Pipeline, particularly in the way they establish tariffs at their terminal facilities, which are not regulated. These tarriffs could raise the cost of entry for smaller independent firms.

Fourth, going to what Professor McAfee was saying on regulations on fuel, Professor Bornstein of Berkeley has proposed that instead of prohibitions, environmental agencies impose fees. That is, require a supplier that wants to sell unleaded gasoline in an area that requires reformulated gasoline to pay a fee to the government

agency and introduce that gasoline into the market. Set a fee of 5 cents or 7 cents a gallon, for example. That would allow conventional gasoline into the market and would cap the price spikes. It is a very clever solution. It goes back to what we have learned over the last 30 years, that prohibitions and controls are a much inferior method to some sort of fee-based system or taxation.

Finally, I will note that gasoline prices are affected by winter weather. The reason gasoline prices rose in the spring of 2000 was that January 2000 was very cold and the price spike associated with heating oil forced refiners to make heating oil for a longer period of time, preventing the normal conversion to producing gasoline. Thank you very much, sir.

Senator LEVIN. Thank you, Dr. Verleger, very much for your testimony.

Your reference to strategic purchasing by government raises a question which I would like any of you who feel qualified to address to comment on. It is my understanding that some companies are using crude oil that is produced in the North Sea called Brent to help fill up our Strategic Petroleum Reserve in Louisiana, to replace oil which had been removed from it. So they are using that particular kind of crude oil to fill the reserve in response to the Department of Energy's program to now replenish that reserve.

The problem apparently is this, and it is sort of raised in an interesting way, Dr. Verleger, by your testimony. Brent is in short supply, as I understand it. That particular kind of crude is in short supply. What we have been told is that some companies that produce or trade in Brent, not exclusively, but who produce and trade in Brent, are putting Brent into the reserve in order to create, or at least with the effect of creating a shortage of Brent, which then drives up the worldwide price of Brent.

Now, many other crude oils produced in Europe and Africa are priced in relation to Brent, so that as the price of Brent increases, the price of these other crude oils increase, also. Approximately 20 percent of our imported crude oil is from Europe and Africa, so we may be paying more for crude oil in this country as a result of companies putting Brent oil into the Strategic Petroleum Reserve, even though other oil would be acceptable to replenish that reserve.

It is kind of triggered by your testimony about buying strategically, but this is a little different question and I am wondering whether this resonates with any of you. Dr. Verleger.

Mr. VERLEGER. We could spend all day talking about Brent. Brent is the benchmark of the world crude market. It is produced in the North Sea by several companies. There are something like 25 to 30—I think, I may be wrong—500,000-barrel cargoes a month. Over the years, the Brent system has been expanded to include certain other crudes, similar characteristics, as that production has gone down. But it is really the reference to the world market.

Brent has been subject to a large number of manipulations over the years. About a year and a half ago, a firm named Arcadia, which is owned by a Japanese firm, managed to buy in the paper market associated with this control of all the cargoes, which they then took to South Africa or other places, and they made, evidently, a very large profit because of purchases of other crudes that

were linked to this, and they took the position secretly. Tosco Corporation sued under the antitrust laws and it was a unique antitrust suit. It was settled in 3 weeks. There was no discovery. There was nothing else, and evidently, a large sum of money was paid.

I do not know about the existing rules. I have had any number of problems with the Strategic Petroleum Reserve management people. Two years ago September, I wrote an article on the op-ed page of the *New York Times* calling for use of the Strategic Petroleum Reserve when crude prices were $35, forward crude was at $22, that the government should lease it out, that is, ask firms to take 100 barrels today and get back 105 barrels in a year. The commodity rate of interest was a high commodity rate of interest. The government finally did it, but if you will recall, the Department of Energy managed to bollux the auction up so that, in one case, about a third of the oil they auctioned was purchased by somebody who had an apartment in Harlem. It was not purchased by any major oil company.

I have a question of why we are putting light oil into the Strategic Petroleum Reserve. If we ever need to use the Strategic Petroleum Reserve, presumably, refinery operating rates will be reduced because we will be in a shortage situation on the world market and there will be some surplus refining capacity and most good refining capacity can take heavier crude oils. This may be a request of some of the smaller independent refiners that have not made the investment to upgrade it.

There are many ways that DOE could write the specifications so that Brent would not be the crude but, say, a Bonnie light out of Nigeria, which is the same. I just do not know the facts on this one. I have read in the petroleum trade press that cargoes are being purchased.

I will say that if the government imposes a requirement, say, to deliver 10 million barrels of oil of a consistent specification, there are very few places other than the Salom Voe terminal in Scotland where you can go to arrange that. The companies that happen to be equity producers have the crude, so the government may have given them an opportunity.

Senator LEVIN. OK. Does anybody else have a comment on that? Dr. Hastings.

Ms. HASTINGS. Sure. I understood your comment to be analogous to what could happen in gasoline markets were the government to engage in storage and long-term purchasing on the market and reselling on the market in order to smooth supply disruptions.

I would like to point out one thing. Reformulated fuel has a much shorter shelf life than does crude oil, so if you are putting out this one case where we once in a while have to dip into the Strategic Reserve and then repurchase oil or produce oil and bring it back in to replenish it, actually, for gasoline, in order for it to meet EPA specs, this would have to happen on a very frequent basis, i.e., the government would have to go into the business of purchasing gasoline and reselling it as quickly as that fuel goes off spec.

Now, it is an open debate as to how quickly the fuel goes off spec. It depends on what additive and stabilizers you might put in,

something about mixing the gasoline. I am not an expert on this, but I know that it is some time between about 3 and 6 months.

So if you are worried that firms could actually use this to manipulate prices, i.e., get the government to be purchasing up gasoline and further creating a shortage, that problem is going to be exacerbated by the short shelf life of reformulated gasoline.

The second question is, how do you sell the gasoline? If there is a shortage, do you sell it to the major refiners? Well, if they have an incentive, as was brought out in many of the documents that your staff put together, if they have an incentive to create shortages, what is to say that they have an incentive, then, to purchase the gasoline from the government and supply it through if they benefit from the shortage of the gasoline or from restricting supply?

One of the documents said that Marathon-Ashland, for example—correct me if I am wrong—actually had reformulated gasoline. I know there was some debate about this between the executive for Marathon-Ashland and the Subcommittee on Tuesday, but they had supply available during one of the price spikes and they did not release it onto the market because they would make more money, right? So why would they buy gasoline from the government and then release it onto the market? So there is this second factor to take into account.

I think what really needs to be done is that we need to encourage the integration between markets by decreasing boutique fuels. We also need to de-bottleneck systems, specifically in relationship to vertical integration. So we need to make sure that independent wholesalers, such as Quality Oil in Michigan, have access to pipelines and to tankage, that those barriers of entry have not been erected through vertical integration, that would enable tight oligopolies to prevent outside entry when there is a large price increase. We need to facilitate arbitrage.

The only ones, obviously, from this case study in Michigan that have the incentive to arbitrage are independents, like Quality Oil. So it is not clear to me how the government reserve would actually facilitate that or not. Second, you have this problem that the gasoline goes off spec at a fairly rapid rate.

Senator LEVIN. Thank you.

Ms. HASTINGS. Thank you.

Senator LEVIN. Did you have a comment on my question, Dr. McAfee?

Mr. MCAFEE. I did. I have two comments. One is the purpose of the Strategic Oil Reserve itself is, I think, subject to a lot of confusion. If the purpose is military, then we probably should not be buying Brent because for preparedness for a war, if we have actually run out of imported oil or imported oil is being blocked, as Dr. Verleger said, we have excess refinery capacity and we can probably crack heavier oils. So we should, in fact, be using the cheapest oil we can put in there.

If, instead, the purpose is economic, that is, we are going to try to stabilize world oil prices, for one thing, I think we need a much larger team of people figuring out, trying to out think the commodities market than we are, in fact, employing. In fact, my impression is we are employing none. The ability of government analysts to beat the commodities market at their game strikes me as unlikely.

But that would actually dictate a very different thinking than is currently being used about the Strategic Oil Reserve.

The second point I wanted to make was the ability to manipulate world oil prices is limited by the fact that there is a pretty large pool of oil out there and there is pretty inexpensive transportation. Now, transportation across the Pacific runs 75 cents per barrel, maybe $1 per barrel. Transportation from the Middle East to California runs about $1.50 a barrel at tops. So your ability to manipulate oil prices is relatively limited. A barrel has 42 gallons, and so even at the extreme of Middle East to California, we are looking at on the order of 2.5 cents per gallon, which is roughly one-for-one for gasoline.

So while this could be important and something that should be studied, it is not an explanation for high gasoline prices.

Senator LEVIN. Thank you. Mr. Ashton.

Mr. ASHTON. Senator, I have two comments which have, I think, a common theme. First, with regard to the Strategic Petroleum Reserve, unfortunately or fortunately, a lot of the decisions that are made that come out of SPRO are politically motivated or politically driven as opposed to economically driven, and I have seen that over a number of years, and to the extent to which perhaps purchasing a light sweet crude like Brent is being done in a market which we know has been manipulated in the past, it is probably not a very good decision but may, in fact, be driven by something other than economic motives.

The other part of your question, which I thought you were also getting at, which is also where the political motivation comes in, is this whole idea of trying to foster and encourage large buyers to buy forward, such as State and local governments and those types of entities. I have had some experience trying to convince those types of entities to do exactly that, and I will tell you that because of their incredible risk averseness, which is in part driven, I think, by their short-term political position, they are not likely to do that type of activity or engage in that activity, although it might well make some sense.

Senator LEVIN. I see that a roll call has begun in the Senate, so I am just going to be able to ask a few additional questions, but I do want to get to the role of regulation and boutique fuels in terms of whether they are one of the major causes of price spikes. A couple of you have commented about the importance of trying to reduce the amount of regulation, the number of different fuels that are required, but my question relates to the role of boutique fuels in the price spike, the large, sudden increases in prices.

Mr. Ashton, in your testimony, you said that none of the factors which some people sometimes point to, which is the fluctuation in crude prices or inventories, provide a rationale for these price spikes.

Mr. ASHTON. That is correct, Senator, yes.

Senator LEVIN. What about the role of boutique fuels?

Mr. ASHTON. The role of boutique fuels, again, unfortunately, the type of data that we would like to look at with regard to inventories simply does not exist to be able to extract out for each individual type of fuel exactly what was going on in the period prior to and during the price spikes.

But looking just more generally at, for example, RFG inventories, in the price spike in the spring of 2000, for example, the RFG inventory hit its bottom actually in late April, before the price spike even started, and started to build again.

Now, to the extent to which boutique fuels and specific types of formulas or specifications are required in specific areas, such as Chicago or elsewhere, that does cause some market dislocation and does, to some extent, exacerbate the problem in terms of creating sort of mini-markets that cannot be served by all producers. There is no question about that.

But you have to remember that the price spike that we observed generally, although it was different in different areas, certainly transcended throughout most of the Midwest during this period of time. So it is being driven, certainly, by factors other than just boutique fuels.

Senator LEVIN. Does anyone want to comment further on that? Yes, Dr. McAfee?

Mr. MCAFEE. Where the prices were highest was Chicago and Milwaukee, which shared a unique blend of ethanol-based RFG–2, and those are the only places that we are using that fuel. So the effect of the break in the Explorer Pipeline, which affected the entire Upper Midwest, was that it would hit hardest in the places that had the unique fuels because they could not, in essence, share with St. Louis and other places.

Senator LEVIN. Yes?

Mr. VERLEGER. I think it should be added that one of the problems that Wisconsin and Chicago had was that the EPA rules prohibited commingling of RFG–2 that has MTBE in it with RFG with the ethanol in the tanks, and so there was just a—the product was around the corner, but it could not be used.

Senator LEVIN. When you say the worst price spikes occurred in those areas, however, price spikes occurred in other areas, as well, but not just to the same degree. Would you agree with that?

Mr. MCAFEE. Yes, absolutely.

Senator LEVIN. OK. Just on inventory issues, this has been referenced by a number of you, about the effects of inventory changes in the market on these price spike situations that really triggered this investigation. A number of our witnesses have talked about the importance of trying to have greater inventories, that would help in terms of prices. I am wondering whether or not you believe that increased gasoline storage in these areas of high concentration, at least, would lessen the severity and the occasion of the price spikes. Would greater storage have that effect, Mr. Ashland?

Mr. ASHTON. Yes, Senator. I would certainly believe that greater storage, investment in that type of infrastructure, pipelines as well as storage capacity, would certainly help.

Senator LEVIN. OK. Do you have a comment on that? I think you perhaps have already, but let me call on you anyway, Dr. Hastings.

Ms. HASTINGS. Sure. I have two comments. Greater storage would alleviate price spikes, but as I pointed out, it is not clear that if there is gasoline, it would actually be released onto the market during a price spike.

And second, I also think that—I forget what I was going to say second, so——

Senator LEVIN. OK. We will come back to you. Dr. McAfee.

Mr. MCAFEE. Let me emphasize that it is greater total storage that reduces volatility and agree with a comment made earlier that government's own storage will tend to crowd out private storage, and so that you may not get much, if any, net benefit.

Ms. HASTINGS. That was my second point. Thanks. [Laughter.]

Senator LEVIN. Thank you. Dr. Verleger.

Mr. VERLEGER. I have made a career, and many economists have in the agricultural economic business, inventories are the whole story. If inventory levels are higher, the prices will be lower and you do not get the price spikes. The question is, how do you get the inventory to be higher?

Senator LEVIN. And I take it that you would not be particularly supportive of mandates, but you would be supportive of either incentives or perhaps advance purchases as the way to do that, is that an accurate summation?

Mr. VERLEGER. I have made a career of testifying before the Senate on Strategic Petroleum Reserves when that was an issue 10 years ago. Mandates do not work. One way or another, what will happen is if you mandate it, we have seen the majors leave. They will sell more refining capacity and we will be left with more firms that do not have the capital and they will come and they will ask for exemptions and the system will just become more volatile. I think that is not the solution.

Senator LEVIN. But additional storage is a solution?

Mr. VERLEGER. That is——

Senator LEVIN. You agree with that, it is just how you get there.

Dr. McAfee, do you have any comment about the importance of additional—you have already commented on the importance of additional storage—as to how you get there? Would it be worth doing even if you had to have some kind of a mandate coming out of the Department of Energy?

Mr. MCAFEE. I think mandates are hard to make workable. It is too easy to have storage that does not actually have any practical use but satisfies the requirements, or lobby for exemptions, so that mandates are generally not such a great idea because they are hard to enforce. Plus, you create this problem that Dr. Hastings referred to of you store it and it goes bad, and then you cannot actually sell it, and then what do you do with it? It is just sitting there being a fire hazard.

So how do you get there? Well, there are things like tax incentives. The thing that I would most emphasize is where the "not in my backyard" mentality is preventing the building of new facilities, those companies would like to but they are just being blocked, the permits are too great, any ease of that regulation may facilitate storage increases. The more concentrated is the market, the less effective that is going to be.

Senator LEVIN. Thank you. Did you want to comment on how we get to the increased storage capacity any further, Dr. Hastings?

Ms. HASTINGS. No.

Senator LEVIN. Thank you so much. Mr. Ashton, we are going to wind up with you. If we needed mandates to get there, is it worth considering?

Mr. ASHTON. I think it is worth considering, although I think the crowding out effect is potentially a problem. I think you also have to evaluate sort of the trade-off of the costs and benefits of doing that versus potentially other measures that might increase supply or increase inventories.

Senator LEVIN. You heard the five buzzers go off, which means you are going to see me run a little faster than usual, so we will end right there, but let me just summarize as follows.

This testimony today has been very helpful in a lot of ways, and I want to thank this panel, as I have our earlier panels, for your coming today to join us and to share with us your experiences, your testimony, your studies, and to help us take a look at some possible solutions, particularly in areas of high concentration because that is what we are really focusing on, where there are very few companies that have a large market share in a particular area.

One of the possible solutions or options would be to have a moratorium on mergers, or at least a presumption against mergers in those areas of high concentration. We have heard pros and cons about that. We have heard about the possibility of beefing up the FTC staff in order to have a better understanding of the effects of the mergers. We have not really had a good FTC study about the impacts of previous mergers.

We have had some suggestions about modifying antitrust laws to allow anti-competitive cases to get to a jury based on less evidence than is currently required, in other words, less than explicit evidence of agreement, cooperation, or collusion, but something more circumstantial than that in areas in highly concentrated markets.

While I surely believe in the presumption of innocence and could never change that, as an American who believes in the Constitution, I do believe, also, that there are presumptions that are used all the time in court. That does not lead to criminal convictions, but they do apply in civil cases. It will at least allow you to change a burden of proof or to get to a jury based on evidence, but it does not require a particular conclusion.

We also talked about inventory, increasing inventories as something which is important and how that might be achieved. We need to have greater access to important industry data in order to understand what is going on in industry. The reference to eliminating logistical bottlenecks was referred to both by Attorney General Granholm and by a number of other witnesses, including two of you, I believe, on this panel, so that we can move supplies more readily from market to market.

We do have a serious concentration problem in the oil industry in many States and it clearly is hurting consumers where it exists. Competition will lower prices. We know that, and we should take appropriate steps, and I emphasize the word "appropriate," but I also emphasize the word "take," to reinvigorate competition in highly concentrated areas. More aggressive antitrust enforcement, I believe, is part of that, but a number of the other solutions, I believe should also be considered.

We would welcome additional comments from this panel or others as we develop a response to what we learned in this investigation, and let me conclude just by saying this. There is not agreement among all of you as to each of the issues that we discussed,

but there was common agreement on something which is very clear to me, which is that this staff report is extraordinary, and each of you were kind enough to point that out.

I want to just simply conclude by saying I have been around here a long time and I have seen a lot of staff reports. I have never seen one that was taking on a more complex issue and doing a better job of dealing with it than this staff report of mine is and I am very proud of them. I thank them. I think the Nation is better off because we have this kind of an effort to look at facts, see what might be appropriate to deal with those facts, and if that happens as a result of this report, we will all be better off, and I am going to do everything that I can to make sure that it does, indeed, happen that way.

Thank you again for coming, and we stand adjourned.

[Whereupon, at 12:34 p.m., the Subcommittee was adjourned.]

APPENDIX

OPENING PREPARED STATEMENT OF SENATOR BUNNING

MAY 2, 2002

Thank you, Mr. Chairman.

This is the second hearing this Subcommittee has held on gas pricing, and I appreciate the time our witnesses have taken today to testify.

I think that we can all agree that pricing gas is a complex undertaking. It is not only affected by the price of crude oil on the world market, but by a careful balance between supply and demand, the amount of gas we have stockpiled, and our ability to transport the fuel to certain areas of the country.

Every American notices when gas prices spike, and it always seems that prices never fall as fast as they rise.

Like all companies, the gas industry has a responsibility to consumers, and any acts of gouging or collusion should be investigated thoroughly.

The solutions to fixing this problem are not easy, and I think that the last thing anyone would want is for the Federal Government to get into the game of pricing gas. However, every summer it seems that consumers end up paying more at the pump as prices fluctuate widely.

I hope the gasoline industry can take steps to help alleviate some of the causes to this problem.

Also, if we are serious about helping stabilize prices, State, local and Federal leaders have to recognize that the sheer number of special formulated fuels on the market can isolate communities or even whole States for that matter.

We also need to make sure that our regulations and red tape for getting infrastructure built—like a new pipeline or some new storage tanks—doesn't discourage companies from making these types of investments.

Thank you.

Statement

J. S. Carter

Regional Director, United States

ExxonMobil Fuels Marketing Company

Mr. Chairman, ExxonMobil appreciates the opportunity to appear before the Senate Permanent Subcommittee on Investigations today to discuss the causes of price volatility in the gasoline marketplace and our recommendations to help reduce future fluctuations. ExxonMobil has previously provided a considerable number of documents for the Subcommittee's review and has worked closely and cooperatively with the Subcommittee staff over the past nine months to provide information to enhance understanding of the gasoline marketplace.

ExxonMobil markets fuel products in 47 states and the District of Columbia. Our goal is to provide reliable supplies of products to our customers at competitive prices while respecting the environment and protecting the safety of the communities we serve. We understand the public's sensitivity to price swings and the impact of fluctuating prices on consumers' budgets. The gasoline market is the only market where consumers can see prices daily while driving to and from work. In addition to the corner gasoline station, these prices increasingly appear just outside the entrances to huge retailers who use low gas prices to attract customers into their parking lots. Gasoline prices are reported daily through surveys conducted by independent companies, and are frequently broadcast on the evening news. Oil markets reflect the latest unrest in the world even before the ink in the morning's headlines is dry. As a result, our customers readily know when prices are rising or falling.

As the Subcommittee is aware, the FTC conducted a detailed investigation into the causes of price increases in Midwest markets in the spring and summer of 2000, and concluded that a combination of the EPA fuel quality requirements and unforeseen market circumstances was

responsible for the price spike. The investigation found no evidence of collusion or anti-competitive behavior in the oil industry. To the contrary, Commissioner Swindle stated that the industry acted quickly in response to the price spike, which was intense but relatively short-lived because of the effective workings of the market.

My testimony will address the Subcommittee's questions regarding retail pricing, marketing and distribution infrastructure, and industry consolidation. In addition, it will present recommendations to help mitigate the price volatility in the retail market. Mr. Chairman, I hope my testimony today will leave you with the following messages:

- Gasoline price volatility is a reflection of a highly competitive market operating with high transparency and a tight supply / demand balance;
- The gasoline market is very efficient at setting prices that reflect supply and demand; and
- The free market should be allowed to set prices to the benefit of consumers.

Pricing Practices

The Subcommittee asked a number of questions about how ExxonMobil sets prices. Over 90 percent of our branded retail outlets are operated by dealers or distributors. These independent business operators establish the retail prices they charge to their customers. Regarding pricing to dealers, to whom we deliver product, our practices include competitive zone pricing. This practice has been used by ExxonMobil throughout the United States for more than 30 years. Zone pricing allows us to take into account localized competitive conditions in setting the wholesale prices we charge to our dealers. Through careful analysis of local market

conditions, we establish "price zones," which group together a number of dealers who face similar competition. All dealers within a zone are charged the same price, one that is appropriate to local competitive conditions.

Zone pricing provides the most reliable method of assessing and responding to local competition faced by dealers operating in a competitive environment, with high transparency and a tight balance between supply and demand. Because zone pricing reflects supply and demand conditions at the local level, it is a reflection, rather than a cause, of price volatility.*

Pricing to distributors, who pick up product at our terminals, is commonly called "rack pricing". In establishing rack prices, ExxonMobil examines spot market prices and published prices of key competitors, and determines a proper competitive rack pricing relationship between ExxonMobil and these key competitors. As prices in the spot market fluctuate with supply and demand conditions, ExxonMobil adjusts rack prices accordingly, within the context of the previously defined competitive relationship to other suppliers in the market. All distributors purchasing the same product at a given ExxonMobil terminal pay the same rack price.

Market is Increasingly Competitive

The refining and marketing business in the United States operates in an intensely and increasingly competitive environment. Retail gasoline marketing has evolved over the past 30 to 40 years, from its historic focus on the petroleum products and services such as automotive repair, to the current emphasis on customer service, convenience, and driver needs.

* The FTC thoroughly investigated zone pricing in its multi-year Western States Investigation and found no evidence that zone pricing was inappropriate or illegal in any way.

One factor contributing to this evolution is improved gasoline quality. The Clean Air Act Amendments of 1990 and subsequent federal and state actions have increased minimum gasoline quality standards. For example, all gasoline today must contain a detergent additive. Although our branded gasoline still possesses unique properties, consumers have concluded that most gasoline, regardless of brand, is adequate to meet their needs assuming the correct octane level is used. One result is that a market once served in large part by the so-called "major" brands today includes significant new entrants, such as convenience store chains, supermarkets, and discount retailers. For instance, over 200 different retail "brands" are available in the greater Boston market. There are over 300 in the greater Houston market. Thus, today more than ever, the consumer has many choices.

The historic financial returns generated by the domestic refining and marketing industry reflect the intense competition. Domestic refining and marketing companies combined generated an average return on capital of just under five percent per year from 1981 through 1998. By contrast, during the same period, the average return on equity of the companies in the S&P 500 Index was approximately 13 percent.[1] These relatively low industry returns tend to motivate companies to seek out economies of scale to increase efficiency.

More recent entrants to the gasoline market, especially "hypermarkets", large grocery, discount, or membership club retailers, can typically establish a significant market presence in a relatively short time. They tend to use very competitive gasoline pricing to build traffic on their

---

1 U.S. Petroleum Refining: Assuring the Adequacy and Affordability of Cleaner Fuels; National Petroleum Council; June, 2000.

site. The increased traffic, in turn, generates incremental store sales with margins much higher than those on gasoline. These sales synergies are fueling a high growth rate for the hypermarkets. Some experts say hypermarket share of the retail gasoline market could rise from 4% today, to almost 16% over the next three to five years,[2] which is higher than ExxonMobil's current market share. The traditional "major" suppliers combined today hold approximately 45% of the retail gasoline market.[3]

As with any business, petroleum refining and marketing must earn a reasonable return on the capital invested in the business in order to remain viable. The trend among traditional gasoline retailers has been to close smaller retail outlets, and enhance revenue from remaining stores by adding convenience stores and car washes.

Increased competition has clearly benefited the consumer in two ways. First, gasoline marketing margins have generally declined over time. Second, although it may not be readily evident, gasoline prices have also declined. Over the past 80 years, inflation-adjusted retail gasoline prices have exhibited a general downward trend, with some interim fluctuation due to changes in crude oil prices and other short-term factors. Measured in 1999 dollars, prices have declined from around $2.50 in 1920 to just above $1.50 in 2000, even while taxes have increased. Today, taxes make up about 30 percent of the retail price.[4]

In refining, the trend has been toward larger, more efficient refineries. As refinery investment costs become more difficult to recover, smaller refineries become uneconomic. Highly

---

2 U.S. Hypermart Petroleum Market Study; Energy Analysts International, Inc. ("EAI"); May, 2001.
3 Share of Market Database; Lundberg Survey; December 2001.
4 Gasoline and the American People; Cambridge Energy Research Associates (CERA); 2001

efficient refineries can expand production incrementally, while less-efficient spare capacity becomes unaffordable.

Reasons for Price Volatility

The causes of price volatility can be best explained by looking at three factors which impact the petroleum retailing market - market transparency, crude oil prices, and the proliferation of fuel specifications in the U.S.

Market Transparency

Although futures markets have always been responsive to news events, in recent years some trends have increased market transparency. News is available more quickly with the advent of 24-hour cable news and Internet communications, and trading volume in the futures market has increased. When new information appears, market participants immediately assess its impact and take actions based on their interpretations of the likely outcomes. Participants in the NYMEX and other futures markets include not only some oil companies, but also a large number of traders and investors. Rather than purchasing or selling physical barrels of oil, market participants trade contracts for these barrels. The value of the contracts represents the value of the oil at a specified time in the future. But most market participants (over 99 percent) never actually receive or deliver the oil.[5] Instead, they buy the contracts, then sell again before expiration, or vice versa. Essentially, they are trading financial instruments in an open market.

5 NYMEX Delivery Statistics; New York Mercantile Exchange; April, 2002

ExxonMobil uses oil-related derivatives on a limited basis in conjunction with physical barrel transactions. We do not trade derivatives or engage in speculative trading in the futures markets.

Most crude oil and gasoline transactions are linked to published spot market prices, or to commodity futures prices determined in markets such as the NYMEX. Given that these prices reflect the available information about supply and demand, the resulting retail gasoline prices are also reflective of market conditions. Importantly for consumers, this transparency supports an efficient free market that helps to balance supply and demand and provide the lowest possible price at any point in time.

Cost of Crude Oil

At current price levels, the cost of crude oil comprises approximately 40 percent of the retail price of gasoline. Every one dollar change in the price of a 42-gallon barrel of crude oil results in a two to three cent per gallon increase in the cost to produce a gallon of gasoline. During the past three years, crude oil prices have ranged from a low of around $10 per barrel to a high of over $30 per barrel. Exclusive of other related factors, this $20 range in crude prices would account for gasoline price variation of between 40 and 60 cents per gallon.

Increases in crude prices since late January have been a major factor in the recent rise in gasoline prices. During this period, crude prices have increased by over $7 per barrel, accounting for 15 to 20 cents of the overall 30 cent per gallon increase in average retail gasoline prices.

Proliferation of Fuel Specifications

Fuel specifications developed in recent years to address air quality requirements, especially in the summer months, have placed significant demands on the petroleum industry. Because of efforts by states to comply with the Clean Air Act Amendments of 1990, gasoline specifications have become more numerous and complex since 1995. As a result, the number of unique grades has increased from six in 1980, to over 25 today. (See Attachment "US Gasoline Requirements") Some specifications apply to fairly small geographic regions, such as a metropolitan area comprising a few counties. These more localized "boutique" fuels and the differences between summer and winter product blends present challenges for both the refining and distribution systems.

Summer grades are generally more difficult and expensive to refine than winter grades because they require additional processing to meet more stringent environmental standards. Summer grades generally must have lower volatility, or less tendency to evaporate during warmer months. For the sake of clarity, the term "volatility" here refers to the volatility of gasoline itself, not volatility of prices. Reducing gasoline volatility requires removing some of the lightest, most volatile components that make up finished gasoline. To meet other aspects of the specifications, some of the heaviest components must also be removed. Removal of these components effectively reduces the total volume of summer gasoline production capacity of a typical refinery versus its winter capacity.

Thus, in summer, supply is tighter when demand is typically highest. Under normal conditions, adequate refining capacity exists, complemented by some imported gasoline, to meet

peak demand. But the entire system is closely balanced, and this balance is more sensitive to changes in summer than in winter. A refinery or pipeline disruption can quickly upset the balance in one or more regions of the country, leading to price increases, which attract incremental supply. In winter, demand is lower and producibility is higher, so a similar disruption has less overall impact, and a smaller price increase is required to attract additional supply.

One of the most difficult grades to refine is Phase 2 Reformulated Gasoline (RFG 2) with ethanol, which has been used to supply the Chicago and Milwaukee areas since the spring of 2000. Because adding ethanol raises gasoline volatility, even more of the light components must be removed from this grade than from others to allow the finished blend to meet specifications. Initial difficulties in refining RFG 2 with ethanol contributed to the supply shortfalls and resultant price spikes in the Midwest in 2000. This was noted in the final FTC report on its investigation into Midwest gasoline prices.[6] The FTC also noted as a factor the disputed Unocal patent on the most efficient production method for the unique gasoline blendstock needed for ethanol reformulation. This fuel is known as Reformulated Blendstock for Oxygenate Blending (RBOB). Because refiners were forced to either pay Unocal high royalties or use a less efficient method of producing RBOB, manufacturing costs went up and production went down. The FTC noted that two Midwest refiners reported reduced RBOB production capability as a result of the Unocal patents. In testimony to Congress, another refiner reported a significant drop in RBOB production. Furthermore, at least one previous gasoline supplier to the Midwest reportedly avoided that market in 2000 due to Unocal patent concerns.

6 Final Report: Midwest Gasoline Price Investigation; Federal Trade Commission; April 29, 2001

Since 2000, ExxonMobil has taken specific steps to increase our capacity to produce summer grades of fuel at a number of our refineries, and we ship gasoline components from our Baton Rouge, Louisiana refinery for finished blending at our Joliet, Illinois refinery, which serves the challenging Midwest market. In addition, the EPA's 2001 relaxation of the volatility specifications for RFG 2 with ethanol has increased our production capacity for this grade.

To produce the many required grades of cleaner-burning gasoline and meet other environmental requirements, the domestic refining and marketing industry invested over $20 billion during the 1990's. The cost and complexity of these upgrades undoubtedly contributed to the closure of over 50 smaller and less efficient refineries. Even so, overall refining capacity has continued to increase, by a total of about one million barrels per day, as larger refineries with greater economies of scale have expanded capacity. The net result is that imports of finished products were essentially unchanged during the 1990's, even as demand continued to grow.[7]

This prior expansion of refining capacity is being challenged, and further expansion is being impeded, by retroactive and erroneous reinterpretation of New Source Review (NSR) guidelines and regulations. This retroactive reinterpretation has increased the number of projects requiring time-consuming and costly review, creating a backlog and bottleneck, thereby delaying even minor changes, including routine maintenance and modifications intended to improve refining capacity, energy efficiency, and environmental performance. NSR reforms are needed to address the difficult and uncertain environment the current interpretation creates for refiners.

The effects on the domestic refining industry of various regulatory driven product

7 NPC Study; June, 2000

specification changes including reducing sulfur in gasoline and diesel fuel, and removing MTBE from the gasoline pool, were assessed as part of the 2000 report by the National Petroleum Council (NPC) entitled *"U.S. Petroleum Refining: Assuring the Adequacy and Availability of Cleaner Fuels."* In this report, NPC concluded that these changes will be very expensive to refiners, and difficult if not impossible to complete in the proposed time frame. In addition, they will lead to less supply flexibility, and present an increased likelihood of localized supply disruptions and the associated increase in price volatility.[8]

Boutique gasoline specifications also present distribution challenges. Gasoline is distributed by a complex system of pipelines, ships, barges, storage terminals, and delivery trucks. In large part, the system was designed and constructed many years ago, to handle a small number of different products, not the complex array of fuels with differing specifications that exists today. This added complexity has limited the flexibility of the system and, in many cases, reduced the number of alternate supply points available in the event of a disruption. Even so, the system works efficiently under normal circumstances.

The key role of the distribution system becomes evident upon examining the configuration of industry refining capacity. The Texas and Louisiana Gulf Coast region is home to approximately 44 percent of US refining capacity. But demand in this region is only 16 percent of the US total. The rest of the demand is elsewhere, requiring product distribution from this region to others, primarily by pipeline shipment. The Northeast contains about 12 percent of refining capacity, but comprises 37 percent of US demand. Similarly, the Midwest has 24 percent of the

8 Ibid.

refining capacity, but 30 percent of demand.[9] As a result, the major consumption centers in the Northeast and Midwest rely heavily on product distribution by pipeline to meet the balance of their needs not provided by local refining capacity.

At the local distribution level, numerous supply terminals are typically located within reasonable distances of each other, especially near major metropolitan centers. If one terminal experiences a product shortage, other terminals in the area can often supply sufficient product to meet the immediate need. For example, a terminal may be temporarily unable to supply gasoline for any of a number of reasons. If regulations result in nearby terminals supplying gasoline of a different specification, those terminals may be unable to assist in covering the shortfall. If this occurs, obtaining additional supplies will be more costly, difficult, and time consuming.

The problem is best illustrated by example. The metropolitan Detroit, Michigan area requires a specific grade in the summer, known as "7.8 RVP conventional" gasoline, which is more stringent than that required in neighboring areas. When the Wolverine Pipeline experienced a disruption in early 2000, the ability to ship product to the Detroit area was significantly reduced during the repair period. Since only a few local terminals supplied this grade, the nearest major alternate source of 7.8 RVP gasoline was Pittsburgh, Pennsylvania. Many tank trucks were dispatched to nearby terminals, and some to Pittsburgh, to pick up gasoline. But this did not fill the gap in supply to Detroit, for two reasons. First, at some terminals near Detroit, trucks typically waited in line for five or six hours to get gasoline, significantly reducing total delivery capacity of the fleet. Second, insufficient excess trucking capacity was available to haul enough

9 2000 Petroleum Supply Annual; Energy Information Agency (EIA)

product from Pittsburgh due to the long distance involved.

Due to these factors, our cost of truck transportation to Detroit stations nearly tripled, from a normal level of about 1.7 cents per gallon to approximately 4.5 cents per gallon. The Detroit situation also had an impact on the Pittsburgh market. In the Detroit area, prices rose because demand exceeded available supply. The incremental demand from Detroit created a potential supply shortfall in Pittsburgh, raising prices there as well. As this example illustrates, the lack of substitutable grades created by localize boutique specifications can contribute to local or regional price volatility and significantly reduced distribution capacity.

ExxonMobil has taken a number of steps to address distribution issues. As mentioned in the FTC report on the Midwest prices, market participants tend to respond quickly to any disruption and take appropriate actions to restore balance between supply and demand.

To help mitigate the effects of boutique fuels in the long term, ExxonMobil proposes that the number of unique gasoline specifications be reduced, increasing the flexibility of both refining and distribution and facilitating interchangeability of supplies across geographies. The EPA Staff White Paper, issued in October, 2001[10], examined the boutique fuels issue and reached similar conclusions about the impact of the current specifications. The paper also proposed several options for reducing the number of unique specifications while maintaining or improving emissions performance of each area currently covered by Federal, State, or local fuel programs.

10 Staff White Paper: Study of Unique Gasoline Fuel Blends, Effects on Fuel Supply and Distribution, and Potential Improvements, US Environmental Protection Agency (EPA); October, 2001

Factors Not Contributing to Price Volatility

The number of recent petroleum industry mergers has become the focus of much discussion. However, examination reveals Midwest and West Coast refining and marketing profiles have not changed significantly as a result of industry consolidation.

With respect to refining, as of January 1, 1997, before most of the industry consolidation occurred, the West Coast (from Washington to California) included 22 gasoline-producing refineries, owned by 14 companies. Five years later, those same 22 refineries were owned by 12 companies. Applying the measure used by both the Federal Trade Commission (FTC) and the Department of Justice in their merger review process, West Coast gasoline refining reflects the same "moderate" degree of concentration now as before these mergers occurred. A similar picture emerges in the Midwest. As of January 1, 1997, the Midwest included 27 gasoline-producing refineries, owned by 19 companies. After five years, there were 25 refineries owned by 18 companies. Using the same measure, refining in the Midwest was classified as "not concentrated" in 1997 and retains that classification today.[11]

Regarding consolidation in gasoline marketing, the entry of the hypermarkets and other new competitors indicates increasing competition. Forecasts predict further increases in market share for these new participants at the expense of the so-called major brands. Thus, significant competition will continue in these markets.

---

11 Oil & Gas Journal

Recommendations

ExxonMobil believes a number of steps can be taken to minimize the effects of market disruptions and increase industry capacity. We recommend the following:

- Reduce the number of boutique fuels, which will increase flexibility of refining and distribution, thereby mitigating some price volatility effects without adversely impacting the environment. The API five-fuel proposal, put forth last summer, is a good starting point.
- Coordinate the timing of future specification changes regarding ultra low-sulfur diesel fuel and removal of MTBE from the gasoline pool. In particular, appropriate sequencing of these changes with the current requirement to reduce sulfur in gasoline, will minimize overlap and facilitate the necessary investments.
- Appropriately interpret and enforce the New Source Review rules, which will enhance the industry's ability to invest in the necessary upgrades to operate efficiently and achieve incremental capacity increases while achieving the program's original environmental objectives.

Mr. Chairman, thank you for the opportunity to comment. I would be happy to address any questions the Subcommittee may wish to ask.

U.S. Gasoline Requirements

- RFG - North
- RFG - South
- Oxygenated Fuels
- CA CBG
- RFG/CA CBG
- AZ CBG
- Oxy Fuels/7.8 RVP
- Oxy Fuels/7.0 RVP
- Oxy Fuels/8.5 RVP
- RFG w/Ethanol
- NV CBG
- 7.2 RVP
- 7.0 RVP
- 7.8 RVP, MTBE-No Increase
- 7.8 RVP
- 7.0 RVP, 150 ppm S
- 300 ppm S
- 800 ppm S

ExxonMobil
As of April, 2002

This map is not intended to provide legal advice or to be used as guidance for state and/or federal fuel requirements, including but not limited to oxy fuel or RFG compliance requirements. ExxonMobil makes no representations or warranties, express or otherwise, as to the accuracy or completeness of this map.

K.W. Gardner
G006066

RVP requirements are applicable in the Summer.

Testimony of Gary Heminger,
President, Marathon Ashland Petroleum
On the Subject of Gasoline Prices
Before the Permanent Subcommittee on Investigations of the
Senate Committee on Governmental Affairs
April 30, 2002

Mr. Chairman and members of the Subcommittee, thank you for allowing me the opportunity to meet with you today.

I am Gary Heminger, President of Marathon Ashland Petroleum. We are a Midwest company, headquartered in Findlay, Ohio.

I welcome the opportunity to address this committee on behalf of our nearly 25,000 men and women – employees whose effort and initiative have delivered real supply solutions for our Midwest customers.

Marathon Ashland is an independent refiner. We buy only about five percent of our crude oil needs from a parent company and the remaining 95 percent on the world market – in contrast to companies that refine significant percentages of crude oil they produce.

Unlike many refiners, we regularly supply all segments of the gasoline market: spot, wholesale, brand and retail. Approximately 45 percent of our sales are made to the wholesale market. This segment consists of independent distributors and retailers, and represents our largest single customer base. We are one of the largest suppliers of independent retail marketers.

Your committee is right to focus on issues of gasoline production, delivery and price volatility. These are issues that affect all Americans. They are part of the everyday business context in which Marathon Ashland must operate.

How We Price Gasoline

Our company prices gasoline at the terminal loading rack taking into account our current prices and margins, inventory position, production estimates, delivery schedules, current sales, sales projections, NYMEX price, current competitive prices to the extent they are known, and any other factors that we believe may impact supply or demand. From all of this data, we attempt to synthesize a posting that will enable us to meet our sales projections for a given product and location. If the price we establish is too high in relation to the market, then we sell less volume than we projected. If we do this too often, then we risk running out of storage space as more product is delivered. This can slow down or stop pipeline deliveries, potentially disrupting deliveries over a wider area. If our price is too low in relation to the market, we sell more than we projected. If we do

this too often, we risk running out of product before the next delivery. This can leave our customers without needed product and result in a breach of our contract obligations. We typically post rack prices effective from midnight of every business day until midnight of the next business day.

As stated above, Marathon Ashland sells gasoline to every segment of the market. Most of the gasoline we sell is sold to independent companies or businesses that establish their own wholesale or retail prices for the product. We operate approximately 2,000 retail outlets in 14 states through a wholly-owned subsidiary, Speedway SuperAmerica LLC (SSA). SSA prices gasoline taking into account its current prices and margins, current sales, sales projections, resupply cost, competitor prices, and any other factors we believe may impact sales in a given market or at a given location. By far the most important of these factors is competitor prices. If our prices are higher than a retail competitor's by even a penny, we risk losing sales to that competitor. Retail prices change less often than rack prices, which can build a certain amount of compression or expansion into retail prices over time until retail prices adjust. If this happens, it may result in rather abrupt increases or decreases in retail prices. At retail this process is played out before the consumer in 20-inch high numerals on price signs at every retail location.

All of this may seem extraordinarily simple at the level of one store or one terminal, but the process is made complex because we must make price decisions every day at every retail store we operate and every business day at every terminal where we offer product, and back up those decisions with the production, logistics and commercial decisions required to keep everything moving 365 days a year. The complexity is increased by the fact that we face extraordinary competition at every step in the process, from purchasing crude oil, to refining production, to pipeline and barge transportation, to the wholesale and retail marketplaces. By way of example, Exhibit I shows refineries, terminals and wholesale supply competitors in or immediately adjacent to the State of Michigan.

Increased Gasoline Price Volatility

Midwest consumers need more gasoline and other transportation fuels than local refineries are able to produce. Because it lies hundreds of miles inland from additional sources of supply on the Gulf Coast, the Midwest is sensitive to a variety of supply risks. These range from OPEC actions or regulatory decisions, to refinery outages or disruptions anywhere along the 800-mile pipeline and barge link from the Gulf Coast. Each of these factors has the potential to induce price volatility, either alone or in combination with other events or circumstances. To the extent price volatility has increased in the past two or three years, increased demand, large swings in crude oil prices, regulatory requirements and the limitations of the delivery system seem to be the principle contributing factors.

For example, the most recent increase in gasoline prices appears to have been triggered by a rise in crude oil costs. OPEC production cuts, the Iraqi embargo, conflict in the Mid-East and Venezuela, the prospect of new operations in the war against international

terrorism – all seem to have played a role in a rise of about 55 percent in crude prices from January 17, 2002 ($17.92) to April 2 ($27.73).

Keep in mind that there was no companion rise in profits in the refining and marketing segment of the business during that time period. Retail gasoline margins – price minus acquisition and transportation cost were greatly depressed -- in some cases even negative -- during the first quarter of 2002. Refining and marketing companies and the downstream components of integrated companies are reporting hundreds of millions of dollars in losses for that quarter, despite the dramatic rise in gasoline prices later in the quarter.

We understand that the ups and downs of retail price frustrate gasoline consumers. Price movement occurs as a result of market forces and unforeseen events drive markets. Over time, the real price of gasoline has trended down as a result of these same market dynamics, as shown on Exhibit II. Adjusted for inflation, gasoline now sells at close to an all-time low. This is true for very few other products. But then, few markets are as uniquely competitive as the one that brings America's motorists to approximately 180,000 retail gasoline outlets, a market that is growing even more competitive with the emergence of "hypermarketers," such as Wal-Mart, as gasoline retailers.

Crude oil is the essential raw material for gasoline production and the primary, non-tax cost component of gasoline. I say "non-tax" because taxes represent a significant part of what the consumer pays for gasoline -- as much as 45.7 cents a gallon in Wisconsin or 59.3 cents a gallon in Chicago. As Exhibit II shows, the spot gasoline price in Chicago, which is a key market barometer for gasoline price in the Midwest, tends to track crude oil costs closely, except when events or circumstances lead to a supply demand imbalance. When that happens, gasoline prices may increase well above the historical norms. These are the so-called "price spikes." Some notable events or circumstances, along with the corresponding change in the Chicago spot price, are noted on Exhibit II.

Price spikes are, by definition, short-lived increases due to short-term supply/demand imbalances. Such imbalances can have many causes, and often have multiple causes, as was the case with the price spike that occurred in the spring and early summer of 2000. In all such cases, prices retreat rapidly when the balance of supply and demand is restored.

I am proud of how the people of Marathon Ashland responded during periods of supply/demand imbalance in 2000 and 2001. During those years, we increased our refining throughput - testing the design limits of plants already running at the high-end of historic norms. We sold more product than we produced. In 2000, for example, we sold approximately 2 billion gallons more gasoline than we produced. When a major pipeline failure made product movement difficult, we ran transport trucks 24 hours a day, 7 days a week to supply our customers as best we could. We flew in additional drivers to fill the greatly-expanded route schedules and driving times. We also took the highly unusual step of importing a cargo of Canadian gasoline from Newfoundland through the Great

Lakes to supply Michigan and other parts of the Midwest. We acted responsibly and, in fact, took extraordinary steps to keep our customers supplied.

Inadequacy of Domestic Industrial Infrastructure

One reason the supply disruptions of 2000 and 2001 produced such dramatic price effects is that the nation's refining and delivery systems are severely constrained, particularly during periods of peak demand. Understanding this context is important to appreciating why prices may spike when a refinery goes down or a pipeline connection to the Gulf Coast is interrupted.

No new grass-roots refinery has been built in this country since our own Garyville, Louisiana Refinery started up more than 25 years ago. During the same period, the total number of operating refineries has dropped by roughly 100. This puts a huge burden on our ability to move fuel from where it is now made to where it is needed. And yet our delivery system was originally designed for the America of the 1950's.

In the Midwest, fuel demand has increased for a number of reasons, including population growth, economic growth, and our location at the heart of coast-to-coast and border-to-border freight traffic. At the same time, as Exhibit III shows, approximately 25 refineries have closed in the last 20 years in just a seven-state region of the Midwest. It should be no surprise, then, that fuel production in this seven-state region is not adequate to meet demand. It is estimated that Petroleum Allocation for Defense District (PADD) II, which encompasses the Midwest, faces a refined product shortage of approximately 42 million gallons a day.

The shortfall between Midwest demand and Midwest production must be transported to the region, usually from the Gulf Coast, by a marginally adequate delivery system. During periods of peak demand, this system operates at or near capacity. If there is an outage for any reason, then there is very little if any make-up capacity. This can lead to supply/demand imbalances.

MAP's Efforts to Address the Issues

At MAP, we're trying to address these issues. On the production side, we have added a new coker at our Garyville Refinery at a cost of approximately $280 million. This project produces enough additional gasoline for about 60,000 cars per day, with no additional crude oil input. We also have a major capital improvement project underway at our Catlettsburg, Kentucky refinery in addition to numerous smaller projects completed or underway at other refineries. We are constantly looking for cost-effective ways to improve our refineries to increase production, reduce emissions and improve efficiency.

But we are also working to address the delivery issue. Earlier this month, a joint venture in which MAP is a one-third owner began operation of Centennial Pipeline, America's newest major refined products pipeline. (See Exhibit IV). Built in part from an existing natural gas line, Centennial connects the product-short Midwest with the nation's major refining center on the Gulf Coast. Such a connection is vital, because one out of every two barrels refined in this country is processed on the Gulf, and it is the only region of the nation with sustainable export capacity.

We also plan to build a common carrier pipeline to link one of the Midwest's fastest growing markets - Columbus, Ohio - with a major avenue of supply, the Ohio River, including our Catlettsburg, Kentucky, refinery. (Also shown on Exhibit IV.) We have secured right-of-way for that line, submitted our permit applications and complied with all known regulatory requirements. These types of projects take not only large amounts of capital, but also an extraordinary amount of time. This project is now in its fourth year, and we are still waiting to learn the disposition of our permit request.

Marathon Ashland - from its inception in 1998 - has invested a total of more than $2.25 billion in Refining, Marketing and Transportation assets to both improve existing assets and add new ones to supply our markets. We are proud of that record, but we are not finished. We plan to continue to invest heavily to meet both the demands of regulation for cleaner fuels and lower emissions and the growing needs of our customers.

Increasing Concentration in the Petroleum Industry

Refining and marketing is a highly competitive business with low average rates of return. It would appear that consolidation in our industry has occurred for the same reasons that it has occurred in other industries: cost efficiency and economies of scale. Three of Marathon Ashland's Midwest refineries (St. Paul Park, Minnesota; Canton, Ohio; and Detroit, Michigan) are small refineries, lacking the inherent efficiencies of larger facilities or the locational advantages of Gulf Coast refineries. Operating these smaller refineries as part of a larger system improves their efficiency. Were it not for the combination efficiencies realized from the creation of Marathon Ashland from the downstream assets of Marathon Oil Company and Ashland Inc., it is questionable whether either company would be able to survive as an independent refining and marketing company. These efficiencies have allowed Marathon Ashland to sustain our presence and invest the capital necessary to remain a viable competitor in the Midwest.

From our viewpoint, consolidation has not lessened the level of competition in our industry. If anything, competition is growing even more intense.

Constructive Steps for the Future

Why have so many refineries closed? Why has no new refinery been built in the United States for more than 20 years? Why has development of needed pipeline systems not

occurred? Other industries under pressure are able to re-tool, re-allocate capital, and grow. For example, according to our research, nine auto plants closed in the Midwest between 1979 and 1996. But in the same period, in the same region, 13 new plants were opened. In approximately the same time period, 25 Midwest refineries were idled – and no new plant was built in our market – or, indeed, anywhere in the United States.

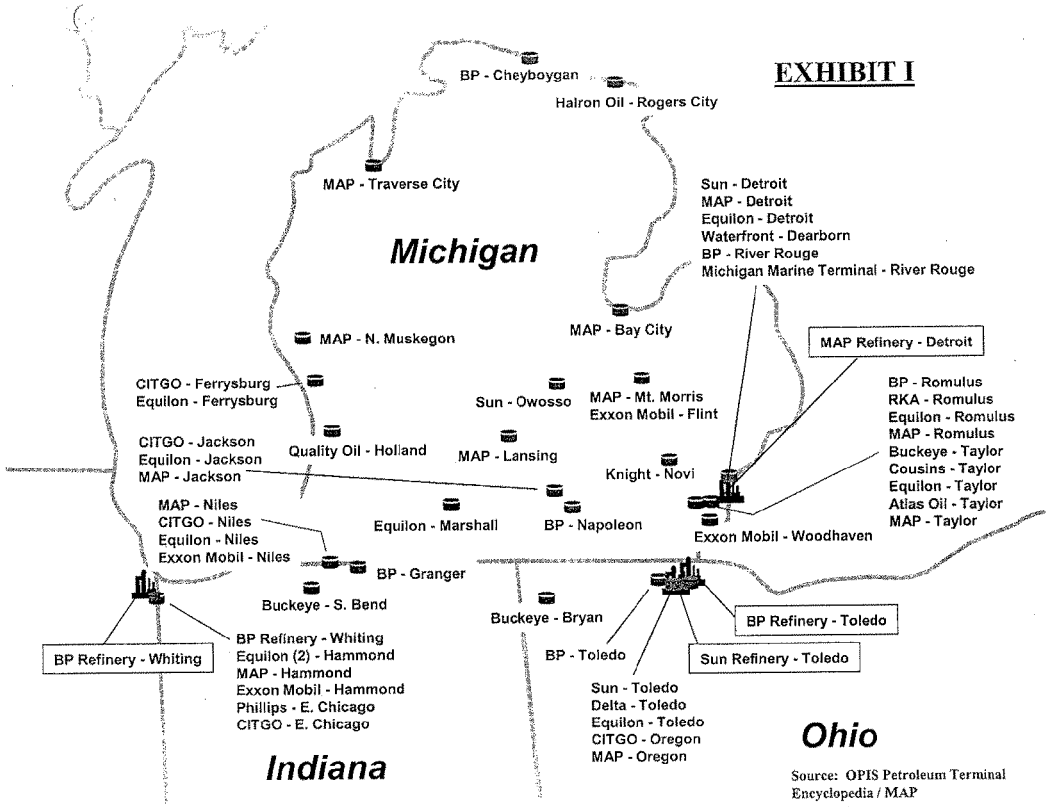
Investment payback is hampered by project delays and additional regulatory compliance expense. Marathon Ashland will, for example, spend more than $600 million over the next six years just to comply with new clean-fuels mandates. That huge investment may earn no market return, but it is the table stakes required in refining today. Those stakes are so high that several smaller and less efficient refineries may go out of business.

This is a critical issue that goes beyond recession and recovery to the fundamental return on investment of the industry. Money devoted to refining, delivery and marketing has earned some of the lowest returns in business – an average of about five and a half percent per year over the last 20 years. (See Exhibit V.) With these rates of return and an increasing level of regulation, it is little wonder that so many plants have closed and no new ones have been built, or that investment in our delivery system has not occurred.

Marathon Ashland and its employees are preparing to help meet the Midwest's growing need for transportation fuels. The following government measures would help in this effort: increased regulatory certainty; appropriate rule phase-in; policies that encourage investment in the industry, particularly in the delivery infrastructure of this country; and more expeditious permitting. Much of the "energy policy" debate in this country has focused on our dependency on foreign crude oil. But regardless of where the crude oil comes from, it must still be refined and delivered. For this reason, we need clear, consistent and positive advocacy from our government for the refining and delivery sectors.

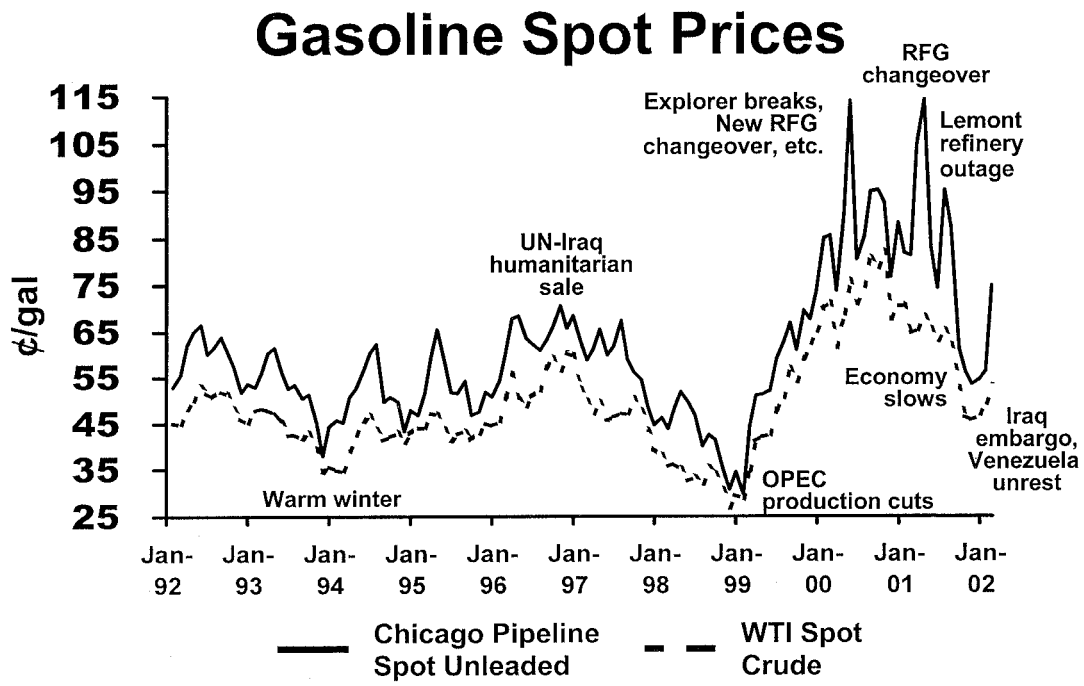
The Department of Energy indicates petroleum hydrocarbons are likely to be the predominant transportation fuel in America for at least the next 20 years. Government and industry need to work together to help assure reliability and affordability of supply for America's transportation fuels consumers. I look forward to making that effort productive and long-lasting, and I appreciate the opportunity to appear before this committee.

EXHIBIT I



Source: OPIS Petroleum Terminal Encyclopedia / MAP

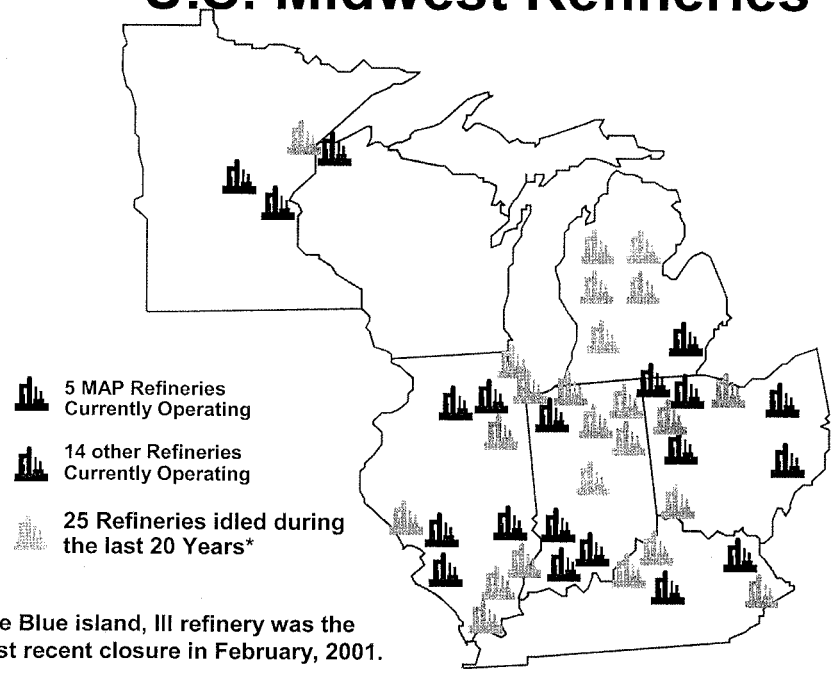
EXHIBIT II



Source: Platt's Oilgram Price Report

EXHIBIT III

U.S. Midwest Refineries



*The Blue island, Ill refinery was the most recent closure in February, 2001.

Source: American Petroleum Institute

EXHIBIT IV

New Pipeline Projects

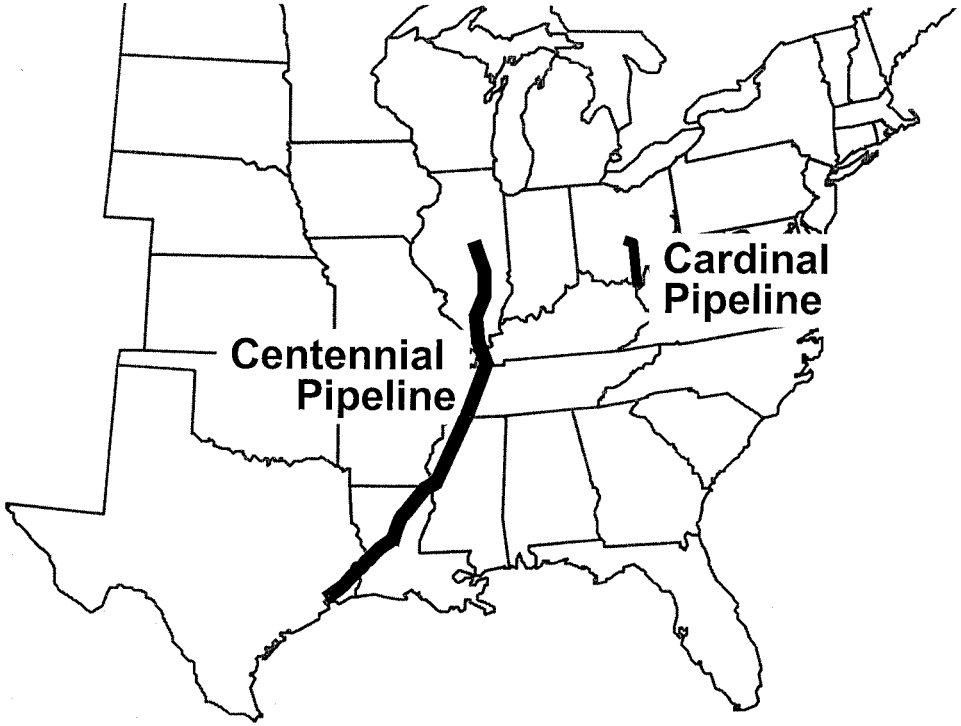
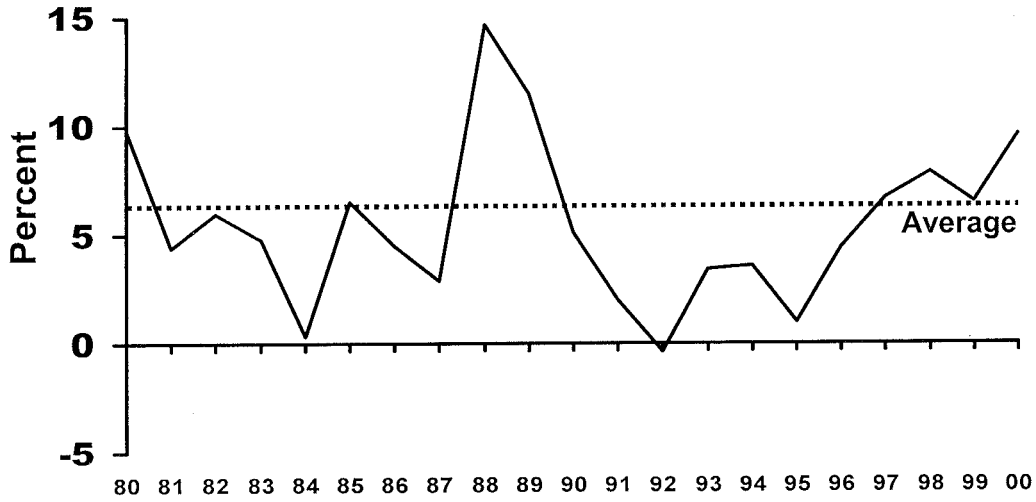


EXHIBIT V

Return on Investment in Refining/Marketing



Source: Energy Information Administration, 9/12/2001

Prepared Statement of Ross J. Pillari

Group Vice President, U.S. Marketing for BP

The United States Senate Governmental Affairs Committee

Permanent Subcommittee on Investigations

April 30, 2002

Good morning. My name is Ross Pillari and I am Group Vice President of Marketing for BP. BP is a supplier of fuels for transport and power in the United States under the BP, Amoco and ARCO brands. We are also a supplier of lubricants to both the automotive and industrial markets under the BP and Castrol brands. We are a global energy company, and our 50,000 plus U.S. employees are proud of our position as the largest producer of oil and gas in the United States, the largest producer of solar power, and a leading marketer and refiner in this country.

I am pleased to appear here this morning to speak on behalf of my company and address the issue of gasoline price volatility. It is a subject that attracts the attention of many interested parties, but most importantly is on the minds of our customers as they make their buying decisions. The price of gasoline is also, a business issue for the thousands of gasoline dealers, distributors, refiners and energy companies who invest their personal and corporate funds in this volatile and intensely competitive business.

As each of these businesses works to manage within this complex market volatility, they are faced with trying to explain increasing gasoline prices such as we have seen in the last 60 days. However, when gasoline prices are low as they were in January of this year there are generally few questions and little understanding that this effect is also a function of volatility.

Yet, it is important to note that in this period and in similar periods of volatility, this country has, on average, maintained the most reliable supply and the most efficient distribution system, at the lowest prices in the world. This is an important fact because it demonstrates our ability to dampen at least some of the effects of volatility.

In the long run, gasoline prices are directly related to crude oil prices—over 90% of the change in gasoline prices is directly related to changes in the price of crude. In just the past 24 months crude prices have bounced from lows of around $12 per barrel to highs above $28 per barrel, and gasoline prices have moved in tandem. The increased gasoline price volatility over the last 18 months is consistent with the volatility in the price of crude oil.

Crude oil prices react to world events: Gulf wars, South American coup attempts, Mid-East turmoil, and wars on Terrorism. Crude prices react to world economic demand. As the economy improves in the United States, Europe, and Asia, oil demand will increase. The market will naturally adapt to the ebbs and flows of this demand resulting in normal market-based volatility.

As crude demand increases, crude supply has historically increased to meet it. We have seen additional resources brought on line in the Gulf of Mexico, in the Caspian Sea, in the Mid-East, in Russia, and other locations. In just one of these areas, the Gulf of Mexico, my company is spending billions of dollars to find these new resources. These investments for additional supply are based on an assumed long-term price for crude oil. But this is not likely to be a static price. It is more likely to be a volatile price based on the many factors I have already mentioned. This same volatility will naturally flow through and have an effect on the gasoline product markets.

The cost of crude oil is just one of the factors that influences gasoline price volatility. As we have seen in the past, supply disruptions from unexpected and catastrophic refinery problems, pipeline outages, and import patterns will also cause volatility in our gasoline markets. While we have the most efficient and the lowest cost gasoline market in the world, we must recognize that this efficiency comes from highly efficient retailing, logistics, and refining, and from the competitive pressures to operate at the best economic levels possible. As in other industries, the latest techniques for ensuring that we maintain adequate stock levels in our delivery and working capital management are critical to delivering products to U.S. consumers at some of the lowest prices in the world.

But this is not done in isolation from the market. We must also find ways to establish an economically viable business and still meet our customers demand for high reliability and security of supply.

Volatility tends to rectify itself quickly with the natural actions of the market place. Changes in gasoline price affect supply so that the market reaches the equilibrium price where supply and demand is in balance. During this balancing process, the market experiences price volatility, and initiates the market-based actions that will attract the very supply that will dampen this effect.

Nowhere was this more evident than in the actions taken by our company to supply gasoline to the Midwest and West Coast during supply disruptions of the past two summers. BP reacted to these market conditions by taking several actions including:

- Blending chemical feed-stocks, normally used by our chemicals operations, into the gasoline pool to maximize volumes;
- Moving barrels from the Toledo refinery into Detroit to free up Chicago based refinery barrels for sale or supply;

- Transporting gasoline from our European refineries to the Midwest;
- Moving gasoline components from Kwinana, Australia to the West Coast, and
- Delivering additional volumes into Chicago via Explorer Pipeline.

As a result of these efforts, BP was able to make more of its gasoline available to the Midwest and West Coast, and to also dampen the price effect of the disruptions, but not without temporary price volatility as the market corrected itself.

At the street level, the U.S. gasoline market has gone through dramatic change over the last ten years—driven primarily by consumer demands for quick service, convenience products and low prices. The sale of gasoline has changed from predominantly full service stations to self-service; from repair facilities to convenience stores; from corner gasoline outlets to large hypermarkets, with multiple pumps, and often associated with food stores and wholesale outlets.

These changes continue and the driver of these changes is the consumer. The consumer is demanding better, and more progressive retail options for purchasing gasoline. These new outlets, whether investments by a jobber, an integrated oil company, or a grocery store chain, are complex and multi-faceted businesses. They require multi-million dollar investment, which must be remunerated in order to attract and encourage investment and new offer development. It is critical that the marketplace be given the space to work without artificial boundaries that would inhibit the normal economic tradeoffs. There is no slack in the economic drivers of this system that would allow for increasing costs or inventory to dampen or absorb price volatility

But we must look at the facts and analyze the impact of these market factors over the last few months. While we have seen volatility in gasoline prices due to world crude oil market volatility, we have actually experienced lower retail prices over the first part of this year.

According to DOE statistics the price of gasoline during the 1st quarter of this year has averaged about $1.20 per gallon compared with a $1.48 during the same period last year.

We have seen the price move from a low in January to their recent highs, which are still nearly 15-20 cents below the highs of last year. But as the price of crude oil has begun to stabilize, so have retail gasoline prices. At the same time, (according to the April 12th API statistics) gasoline production in the USA has increased by 3.6% over last year and nationwide inventories, including both RFG, as well as conventional gasoline are at or above their prior year levels. Consequently our customers are seeing lower prices than last year and higher supply reliability.

And this is a critical factor when considering how to react to volatility. It is not based on any one factor or influence. It is a function of the combined influences of the global marketplace, including crude oil and finished products, as well as the efficiency and reliability of our own refining and logistics systems. All of these factors contribute to both the increase in volatility and in eventually modifying its effect. No single factor is the cause; it is the totality of them that makes the market work so effectively in achieving each period of equilibrium.

Consumers in the U.S. continue to benefit from the intensely competitive U.S. refining and marketing industry. More sophisticated and cost efficient business models are constantly evolving in the marketplace at an ever-quickening pace. In the last few years, the market has seen the entry and growth of large format independent convenience store chains, the addition of gasoline at hypermarket and grocery store chains and the accompanying growth in their market share. The consumer has more offers and better offers to choose from.

At the same time the need to realize economies of scale, reduce costs, access new markets and better manage risks while continuing to deliver value to shareholders has resulted in a number of mergers, acquisitions, and consolidations. The net result is that cost reductions and efficiencies from mergers have resulted in greater value for the consumer, as evidenced by prices the same or lower than in previous years.

Therefore, as we think about the coming months and years, the outlook for crude oil prices is uncertain. The supply system in the United States is finely tuned, and catastrophic disruptions and outages can lead to temporary product shortages, resulting in tight supplies and short-term price volatility in the marketplace as it seeks to balance supply and demand. Our customers demand that we act quickly to minimize the effects of any temporary disruption. They are loyal but expect that loyalty to be rewarded with prudent and competitive behavior. To this end we continue to operate our refineries at high levels of production, maintain our inventories at levels required to meet their needs, and establish our role as a preferred supplier

The intensely competitive U.S. refining and marketing environment provides U.S. consumers with the lowest cost of fuel in the world. The marketplace works, and while it is working it will reflect the realities of the actions required to balance supply and demand. Artificial interventions are likely to result in unexpected consequences and unpredictable results.

As we have throughout this discussion, BP is prepared to continue to work with you and to be as helpful to you as possible. I would be pleased to take any questions.

Testimony of

David C. Reeves
President, North America Products
ChevronTexaco Corporation

To the
Permanent Subcommittee on Investigations
of the United States Senate

April 30, 2002

Thank you Mr. Chairman and Senators. It is my pleasure to be here today to testify before the Subcommittee. My name is Dave Reeves, and I am President of North America Products, a division of Chevron U.S.A. Inc., which is a wholly owned subsidiary of ChevronTexaco Corporation. In that capacity, I am responsible for all facets of refining, distribution, and marketing for Chevron in the United States (herein after "Chevron").

In the United States, we refine and market gasoline only under the Chevron brand. Although Chevron and Texaco merged last year, no Texaco refineries or retail service stations in the United States were ever intended to be a part of the merger. As a condition of approving the merger, the Federal Trade Commission (FTC) required the disposition of those refining and marketing assets by Texaco. They were sold to Shell in February of this year.

The staff of the Subcommittee has asked that we address certain issues in this written testimony, so let me turn to those issues. I will be pleased to answer any questions Subcommittee members may have on our gasoline operations and activities.

I. Gasoline Production and Delivery

Background – Chevron's Operations

Chevron is the sixth largest refiner in the United States [1]. We market gasoline, diesel fuel, jet fuel, aviation fuel, and other petroleum products, on the West Coast, throughout the South, Hawaii, Alaska, and in portions of the Rocky Mountains. In addition, Chevron is a smaller marketer in the Mid-Atlantic region through jobber-served stations. We do not have refining or marketing assets in either the Midwest or Northeast.

Chevron operates six petroleum refineries with a total refining capacity of roughly 900,000 barrels per day. Our largest refineries have crude runs exceeding 200,000 barrels per day. They are located in Pascagoula, Mississippi, and El Segundo and Richmond, California. We have one medium-sized refinery, with a capacity of approximately 90,000 barrels per day, in El Paso, Texas, and two small refineries with a capacity of about 50,000 barrels per day in Honolulu, Hawaii and Salt Lake City, Utah.

Chevron's share of the gasoline market in the United States is roughly 6.6% [2]. We sell gasoline in 28 states and the District of Columbia, through 8,200 Chevron-branded retail

service stations, of three types – (1) stations owned and operated by Chevron (9% of the total), (2) independent dealers (20% of the total), and (3) stations owned and operated by jobbers or supplied by jobbers (71% of the total). The dealers and jobbers who sell our branded gasoline are independent business people who manage and run their own operations and who establish their own retail gasoline prices.

Changing Fuel Requirements – Federal & State

Over the last three decades, new environmental regulations and fuel requirements have significantly changed the refining and marketing of motor fuels. Nationally, those changes have included the phase-out of leaded gasoline beginning in 1973, vapor pressure (Reid Vapor Pressure or RVP) restrictions on conventional gasoline in 1989, the wintertime oxygenated fuels program beginning in 1992, and the federal reformulated gasoline program (Phase 1 in 1995, and Phase 2 in 2000).

In California, where we are the largest refiner [1] and a major marketer of gasoline, the state has instituted its own more stringent fuels measures, including California Air Resources Board (CARB) Phase 1 gasoline in 1992 and California Cleaner Burning Gasoline (CBG2) in 1996. These changes have caused refiners to make major modifications to their refineries to make these new fuels. In Chevron's case, we invested over $1 billion in our El Segundo and Richmond refineries in order to manufacture CBG2 gasoline. Due to the state's unique CBG requirements, the demand for gasoline is supplied almost entirely from West Coast refineries that have the ability to make the state's gasoline. In addition, several other states where we market have also instituted their own localized fuels controls.

New Fuel Requirements

Over the next decade, there will be new national requirements to produce new low sulfur conventional gasoline (average 30 ppm, beginning in 2004) and on-highway diesel fuel (maximum 15 ppm, beginning in 2006). The National Petroleum Council (NPC), a public-private partnership, estimated the domestic investment for these two requirements alone at more than $12 billion for the industry [3]. Additionally, new boutique fuel specifications will be required in several areas where we market, such as Atlanta, Georgia, and Birmingham, Alabama. Finally, many states, including California, are phasing out MTBE, requiring refiners to make further refinery modifications and to look for new fuels formulations.

As a major marketer in California, we have supported the mandate of Governor Davis to remove MTBE from gasoline. Our customers want it out, and so do we. However, this will require us to modify our refining and marketing operations again, to produce new California CBG Phase 3 (CBG3), and to blend ethanol once MTBE is removed. The extent of ethanol use, and its effect on consumers, will not be fully known until Congress concludes its consideration of the pending energy bill. The size of a Congressionally-imposed ethanol mandate – whether newly enacted as part of the pending energy bill, or as a de facto result of the existing oxygen mandate when MTBE is removed – will impact fuel formulations, require design of new refinery and marketing facility modifications, and present new logistics, transportation, and distribution challenges.

Supply and Distribution Issues

The NPC recently undertook a study of United States product deliverability and refinery viability, focusing on a 2005 time frame [3]. The NPC concluded:

> "that the refining and distribution industry will be significantly challenged to meet the increasing domestic light petroleum product demand with the substantial changes in fuel quality specifications recently promulgated and currently being considered. The timing and size of the necessary refinery and distribution investments to reduce sulfur in gasoline and diesel, eliminate MTBE, and make other product specification changes such as reducing toxic emissions from vehicles are unprecedented in the petroleum industry. Large investments will be required at essentially all domestic refineries and many product terminals. It is imperative that the fuel specification changes and resulting required investment be appropriately sequenced with minimum overlap to mitigate the potential for major disruptions in supply and resulting significant price variations. Furthermore, regulatory agencies must streamline the environmental permitting process or significant implementation delays will result. With timely permits, proper sequencing of fuel quality changes with minimum overlap, and sufficient lead time to respond to each major specification change, the NPC believes that the domestic refining industry can be expected to satisfy product demand under the more stringent product specification requirements studied." (Pg. 2)

The NPC study mirrors our own experience related to supply and distribution of petroleum products, and the increasing complexity we are experiencing. For example, our Pascagoula, MS refinery has already begun work on its new Clean Fuels Project. When completed next year, it will be one of the first refineries in the nation capable of producing both low sulfur gasoline and on-highway diesel fuel outside of California. The project will be completed in advance of national deadlines for these requirements. However, the project must be completed in time to meet local fuel requirements in Birmingham, Alabama, and Atlanta, Georgia - key marketing locations for this refinery. Localized fuels measures for air quality needs, in addition to upcoming national requirements, have made refinery planning more complex. But it has also significantly impacted the pipelining, supply, and distribution of finished products, as refiners move to produce and transport more grades and different formulations.

II. Mergers and Acquisitions in the Petroleum Industry

Similar to other business sectors of the economy, the petroleum industry in the United States has had to become more efficient by seeking ways to lower costs.

Chevron and Texaco completed their merger in October 2001, bringing together two United States-based companies to create a global exploration and production company with enhanced oil and natural gas reserves and production capabilities. The merger has strengthened our ability to compete worldwide with other petroleum companies.

As noted earlier, the merger had no impact on our U.S.-based refining and marketing operations. In 1998, Texaco, Shell and Saudi Refining, Inc. had formed domestic joint ventures for their refining and marketing operations. As part of our merger, Texaco's

financial interest in those joint ventures was transferred to Shell and Saudi Refining, Inc. Because the facilities were already being operated by non-Chevron entities, there was no change in the competitive market as a result of the merger and no impact on gasoline supplies.

More generally, our view is that other mergers in the petroleum industry, whether focused on upstream or downstream, or domestic or international operations, have been driven by the same need for greater efficiencies and lower costs. As a result, the mergers have created stronger competitors. We see no connection between mergers and fluctuations in gasoline pricing.

III. Gasoline Pricing and Fluctuations

Pricing Practices

As indicated earlier, virtually all our gasoline is sold-through service stations we own and operate ourselves, through branded dealers, and through jobbers. It is both our philosophy and our practice to price our products competitively at all three levels of distribution – jobber, dealer, and retail. Whether it is the wholesale prices we set to our dealers and jobbers, or the retail price we charge at our own stations, we price our products so we and our independent dealers and jobbers can be competitive with the station down the street. If we price our products too high, our sales volume will drop. Conversely, if we set our prices too low, we may not be able to supply all the gasoline that our customers want to buy.

One issue apparently of interest to the Subcommittee is zone pricing. Zone pricing refers simply to the practice of pricing competitively in localized markets. It means identifying an area where we believe there are competitors to Chevron-branded stations and pricing our gasoline to allow our stations to compete for the business in that area. This permits Chevron to respond to competition in these localized areas and we are confident that it results in lower, not higher, prices for consumers.

I certainly understand the strain that prices for any important consumer product like gasoline can put on family budgets. In reality, however, the price of gasoline in the United States over the last 20 years (1982-1984=100) has increased less than the average price increase for all goods and services in the Bureau of Labor Statistics Consumer Price Index (CPI-U) "market basket" of those things purchased by the average American family. As of March 2002 [4], while the CPI has increased 78.8%, the average price of a gallon of gasoline has increased by only 7.1%, or about one-tenth of the average for all other items. The attached table compares increases over the last 20 years of various categories of items that make up the CPI.

Table 1 – Consumer Price Index: March 2002 (1982-1984=100)

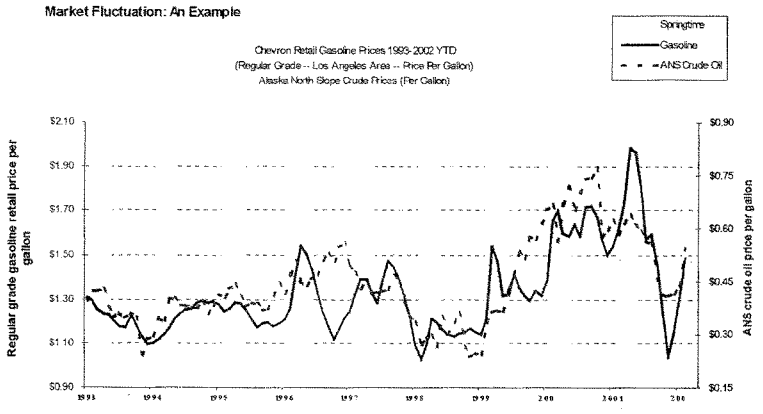
Category	Unadjusted Index %
Medical Care	282.0
Housing	179.1
Food and Beverage	176.6
Transportation (overall)	150.5
Apparel	128.2
Gasoline	**107.1**
Overall	**178.8**

Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, by expenditure category and commodity and service group

Price Fluctuations

Gasoline prices tend to fluctuate up and down more than many other products, sometimes quite rapidly. It is perhaps understandable that price increases tend to attract considerable attention from the public while price decreases almost go unnoticed.

As the following chart shows, much of the movement in gasoline prices, both up and down, tracks changes in the price of crude oil, which is the raw material for refining gasoline. The chart shows the average regular unleaded price of Chevron gasoline in Los Angeles compared to the average monthly price of Alaska North Slope crude from 1993 to the present time.



Note: Prices in then current dollars not adjusted for inflation. Gasoline prices include 32.1 cpg federal and state excise taxes and 8.25% sales tax in 1993 -36.4 cpg federal and state excise taxes and 8.25% sales tax in 2002

Typical gasoline yields from a barrel of crude oil range from 40%-65%, depending upon refinery configuration.

It is useful to identify several of the factors affecting petroleum markets that have led in recent years to price fluctuations with which this Subcommittee is concerned:

- Rapidly changing crude oil prices. Crude oil prices have increased by more than $6/barrel (or ~$.15/gallon) since November of last year. While not always the case (since prices are also affected by markets for fuels), gasoline prices are influenced by the price of crude, all other things being equal. Uncertainty in the reliability of supply caused by tensions in the Middle East and Venezuela has also contributed to increased crude oil prices.
- Demand for gasoline continues to rise at an annualized rate of 2-3% in recent months. Higher demand puts upward pressure on prices.
- Refinery investments over several years have largely gone for environmental controls and modifications to meet new fuel specifications, rather than to increased capacity. This in turn has resulted in a constraint on any effort to add domestic supply capability.
- Changeover from winter-grade gasoline to summer-grade gasoline tends to result in decreased supply, as inventories in the distribution system are drawn down during this changeover period. As we move into the summer months, demand for gasoline increases, as people tend to drive more. United States refineries run at near capacity most of the year, and this increase in demand, when coupled with the pressure that places on refineries already running near capacity, can put upward pressure on gasoline prices and lead to price fluctuations.

Gasoline prices today, although rebounding from 30 month lows in the 4th quarter of 2001, are still lower than they were a year ago at this time [5].

Government Investigations and Decisions

Energy in general, and gasoline in particular, plays a vital role in the United States economy. Because of that, there have been numerous government investigations of gasoline pricing and fluctuations in the last several years, including the work of this Subcommittee. We have participated in those investigations where we have been asked to provide input. Below are outcomes of several of those investigations and decisions in places where we market.

After a gasoline price spike in California in early 1996 followed the introduction of CBG2, the FTC initiated an investigation [6] into gasoline pricing in the Western States. We cooperated fully with the FTC in that investigation. In May 2001, after an almost three-year investigation, the FTC concluded its investigation, finding there was no evidence of price-fixing by Chevron or the other refiners, and no evidence of any other federal antitrust violations.

The Government Accounting Office (GAO) also recently looked at gasoline prices in California. In its report, "Motor Fuels California Gasoline Price Behavior" (April 2000) [7], the GAO reported:

> "Many federal, state and oil industry officials told us that the higher price spikes in California were caused primarily by unplanned refinery outages that disrupted the state's tight balance between gasoline supply and demand. Because California's

> refiners produce at almost full capacity, supply disruptions caused by refinery outages must be made up from other sources, such as out-of-state providers. However, obtaining gasoline from such providers is slow and costly because only a few out-of-state refineries can produce gasoline that meets the state's stringent emission-reducing standards and the gasoline must be shipped by tanker from far-away locations." (Pg. 4).

When prices fluctuate in response to changes in supply and demand, it shows that the market is responding in a normal manner. When supplies are tight, rising prices serve to dampen demand and attract additional supplies. That was the conclusion of the GAO [7], and the California Energy Commission [8] with regard to the price spikes in California in 1996 and 1999.

> "On April 1, 1996, an explosion at the Shell refinery in northern California virtually shut down the refinery's production, which amounted to about 100,000 barrels of gasoline a day. Before the Shell refinery was fully repaired, explosions and mechanical problems disrupted operations at several other refineries. According to the Energy Information Administration (EIA), these disruptions affected about 12 percent of the state's production for several months. Our analysis showed that California gasoline prices spiked about 39 cents per gallon that spring. The spike was primarily due to the refinery disruptions, according to CARB and oil industry officials. Gasoline was brought into California from as far away as Finland to make up for lost production." (Pg. 12) [7]

> "The price increases of the spring of 1996 resulted from a combination of factors:
> - A rise in crude oil prices globally;
> - Seasonal demand increases for gasoline and diesel which are typically accompanied by price increases at the retail level;
> - Lower inventories;
> - An unusual combination of west coast refinery problems which significantly reduced the region's production;
> - The increased cost to produce California reformulation gasoline (CaRFG); and
> - The effect of increased sales tax on a higher retail gasoline price." (page 4) [8]

"The rapid price increase experienced during the spring of 1996 evoked a normal response by the motor vehicle fuels market to correct the temporary imbalance. Refiners and other marketers reacted to the unplanned outages in the spring by quickly drawing from available inventories, increasing output of complying fuels and importing additional supplies to California. The market responded to achieve equilibrium, although with a certain amount of initial lag time inherent with a market that uses a unique set of clean fuel specifications." (Pg. 11) [8] (same for 1999 price spike, Pg. 12-13) [7]

A class action lawsuit alleging antitrust violations, called Aguilar v. Atlantic Richfield Co. (ARCO), 25 Cal.4th 826, 107 Cal.Rptr.2d 841 (2001) [9], was also filed as a result of the same 1996 gasoline price spike. In June 2001, the California Supreme Court unanimously rejected the claims in the lawsuit. As the Court described:

> "[T]he petroleum companies' evidence showed independence rather than collusion as to their most fundamental strategies with respect to CARB gasoline. For example, at one end of the range, there was Chevron's altogether active plan, which was to "gain an advantage over its competitors by becoming the largest producer of CARB gasoline in the world." At the other end, there was Union Oil's relatively passive stance, which would put it at a disadvantage vis-à-vis its competitors in this regard, and would lead it to exit the market completely." (Pg. 39)

The Court also found no evidence of impropriety with regard to supply contracts. It said the evidence did not:

> "even imply collusive, rather than independent, action." (Pg. 41)

The Court referred to the lower court's 38-page recounting of the evidence showing competition rather than conspiracy. Aguilar v. Atlantic Richfield Company, 92 Cal. Rptr. 2d 351 (2000) [10]. As the Court summarized:

> "Billions of dollars were invested overall with widely disparate capital expenditures to convert refineries to produce the new gas. . . . The industry experienced profound change. No one disputes that gasoline supply was tight and prices rose dramatically . . . . .[T]he only logical inference . . . . is Defendants' actions were a pro-competitive response to a regulatory requirement which forced members of an oligopoly to restructure their product mix and incur substantial additional capital expenditures." (Page 46)

IV. What Can Be Done

This Subcommittee has asked us what we can do on the issue of gasoline price fluctuations. One factor that has caused price fluctuations has been supply disruptions from unplanned refinery outages. To address this, Chevron has set a goal to achieve industry-leading performance in "Operational Excellence", and a lot of our effort today focuses on this goal. Operational excellence means having safe, reliable, efficient, and environmentally sound operations. With an underlying tenet of "Incident Free Operation", operational excellence has the added benefit of helping us to be reliable suppliers of gasoline, thereby decreasing this potential cause of price fluctuations.

Another important step we take is to be fully ready to meet new government requirements for fuels. We have a formal "management for change" process that involves rigorous planning by multi-functional teams to ensure that when significant changes are made to our operations, they will happen smoothly and without incident. We are implementing "management for change" throughout our refining, marketing, and supply and distribution systems, to meet the many new requirements we see before us. Where we can, we are making wise and prudent investment decisions to combine refinery and marketing modifications and sequence changes in the most efficient way we can. However, I don't want to underestimate the challenges before us, as companies have to make difficult choices of where and when to invest limited capital for projects.

But government can also take steps to ensure reliable supplies of gasoline and other fuels are available for the American consumer. It is most important that government allow the free market to work as efficiently and effectively as possible. Government can set performance-based standards while taking steps to limit, minimize, and eliminate unneeded mandates and subsidies. Congress is currently considering a very important example of that in its debate of a renewable fuels standard in the Senate energy bill. While we are willing to accept a reasonable – and reasonably phased-in - ethanol mandate as part of a comprehensive solution to address the MTBE issue, we have supported Senator Feinstein's efforts to make sure the size and timing of a new renewables standard in the early years of the program does not adversely impact California, as the state moves forward to phase out MTBE use. Unfortunately, her amendment was not included in the energy bill approved by the Senate last week.

Government should also streamline permitting wherever possible while maintaining environmental protections. With all the new requirements we have before us, it is important that we are able to get the permits we need, make the refinery and marketing facility modifications necessary, and make new fuels on time so that the environmental benefits are achieved and the motoring public is reliably served. Congress should also address the unintended consequences created by the proliferation of boutique fuels that has occurred over the last 10 years. Moving toward regional or more uniform fuel specifications will help reduce constraints on the supply and distribution of petroleum products which has become much more complex in recent years.

Thank you again, Mr. Chairman and Senators, for the opportunity to testify before your Subcommittee today. I would be happy to answer any questions you or other members of the Subcommittee might have.

V. References

(1) Energy Information Administration, "Petroleum Supply Annual 2000", Volume 1, pages 105-108. Note: reference (1) updated to reflect refinery dispositions resulting from FTC approved mergers involving Chevron-Texaco, Phillips-Tosco, and Valero-Ultramar Diamond Shamrock to determine that Chevron is the sixth largest refiner in the U.S.

(2) Lundberg Survey Inc., "Preliminary National Share of Market Report – August, 2001", February 19, 2002.

(3) National Petroleum Council, "U.S. Petroleum Refining", June 2000.

(4) United States Department of Labor, Bureau of Labor Statistics, Consumer Price Index: March 2002.

(5) Lundberg Letter, March 13, 2002.

(6) Federal Trade Commission 5/7/2001 Press Release, "FTC Closes Western States Gasoline Investigation".

(7) United States General Accounting Office, "Report to the Honorable Dianne Feinstein, U.S. Senate, Motor Fuels, California Gasoline Price Behavior", April 2000.

(8) California Energy Commission and California Air Resources Board, "Joint Report to the Legislature, Motor Vehicle Fuel Price Increases", January 1997.

(9) Aguilar v. Atlantic Richfield, California Supreme Court decision.

(10) Aguilar v. Atlantic Richfield, Appellate Court decision.

Prepared Statement of

Rob Routs

President and CEO

Shell Oil Products US

Mr. Chairman, members of the committee. For the record, my name is Rob Routs and I am the President and CEO of Shell Oil Products US.

Shell Oil Products US is a marketer of fuels, lubricants, services and solutions to consumer and business-to-business customers in automotive, commercial and industrial sectors. Shell Oil Products US operates refineries, a lubricants business and a pipeline and terminal system. Together with its affiliate Motiva Enterprises LLC, Shell Oil Products US supplies nearly 22,000 branded service stations.

I have been asked to share with the committee our thoughts on the United States' motor fuels market and the factors that contribute to the volatility of the price our customers pay at the pump.

America's growth has been fueled in large part by the stable supply of reasonably priced energy. In fact, the price of gasoline has remained fairly constant when adjusted for inflation.

A recent analysis by the American Petroleum Institute stated: "In inflation-adjusted 2002-dollar terms, today's price is low compared to the historical 84-year record of recorded pump prices. In fact, motor gasoline prices are 45 percent lower than the 1981 record high of $2.64 per gallon. Between then and now, the real cost of motor gasoline to consumers fell by $1.19 per gallon. This decline can be attributed largely to lower crude costs, but manufacturing, distribution, and marketing costs are lower as well."

Shell remains committed to ensuring that we meet the needs of our customers by providing them with a reliable supply of quality fuels at a competitive price.

Still, there are a number of factors that have contributed to the volatility of the recent past. These factors still exist today and will continue to influence the price of gasoline in

the future.

One of the greatest challenges we face as an industry is supplying an ever-increasing number of "boutique" fuels to an ever-expanding number of niche markets. Prior to 1990 there were 6 kinds of gasoline sold in the United States. Today, requirements imposed by federal, state and local governments have contributed to the creation of an ever-expanding number of motor fuels and other petroleum products. Again, according to the American Petroleum Institute "One pipeline company, Atlanta based Colonial, delivers 90 different products for 85 shippers to 270 terminals and more than 1,000 storage tanks. In any given month, Colonial may ship 30 different grades of gasoline."

When a region, state or city requires a unique fuel it becomes a "fuel island," unable to utilize nearby supply should the delivery of their special blend be interrupted. The smaller the market, the more isolated they become, and the more difficult it is for us to move product into that area on short notice.

Not only are we being asked to supply a greater number of fuels, but the specifications of these fuels often change with the seasons. These seasonal fuel variations require us to draw down inventories as we switch from one fuel to another. We conduct this fuel switch in April and May and September and October. When we switch fuels in the spring, we must draw down inventories to ensure that our fuel remains compliant. During this time markets are particularly exposed to volatility should a supply disruption occur.

In an effort to address the proliferation of the fuels in America, we have been working with Congress on the establishment of a study to look at the issue. This study is included in the Senate's energy bill. We look forward to participating in the development of policies and programs intended to reduce the number of fuels used in this country without compromising environmental quality.

At the same time, the infrastructure for producing and distributing fuels has been running at very high utilization rates. America's refineries, for example, were running at 94% utilization last summer. At these high rates there is little reserve capacity that can be turned on when demand peaks or another source of supply shuts down. Likewise, pipelines, particularly those that bring product to inland markets, are also operating at or near capacity.

In recent years oil has been as low as $10 per barrel and as high as $30. Today that same barrel costs $25.

The factors influencing the cost of crude are global in nature. Crude oil is a commodity that is traded on various exchanges around the world. As with most commodities, supply and demand – real and perceived – determine what participants in the market are willing to pay for a barrel of oil. As a result, factors that range from regional conflict to the shut in of platforms in the Gulf of Mexico can all influence the price of crude oil. These types of events can often contribute to short term price volatility.

Finally, the business of refining and marketing fuel is itself changing as merchant refiners and non-integrated marketers have grown. They rely on the spot market for selling and acquiring product and it is often the gasoline spot market that leads prices higher during disruptions in the supply and distribution system.

Together: boutique fuels; high utilization rates; seasonal fuel requirements; fluctuating crude prices and the growth of merchant refiners, have all contributed to the volatility in the price of gasoline that has become common over the past few years.

Given that the price of a gallon of gasoline is determined by a marketplace that is influenced by a variety of factors, many of which are not within the control of those who refine, market and distribute fuel -- is there anything that can be done to help ease this volatility?

- First, we must stem the proliferation of boutique fuels so that product can be shifted from one market to another when supply disruptions occur or demand peaks. As I said earlier, we support the establishment of a study to look at this issue and provide recommendations.
- We must look for ways to streamline the permitting and construction of new and expanded facilities used in the production, transportation and distribution of fuels.
- Most importantly we must let the free market work and avoid the development of schemes intended to control or influence the price of gasoline.

In the years ahead I expect that we will continue to see mergers, acquisitions and divestments in the oil industry. Like any business, we continually search for opportunities that will make us more competitive relative to our peers. The efficiencies and synergies we often recognize through these types of transactions allow us to continue to provide our customers with a competitively priced product.

In some instances, the consolidation in the industry (particularly refining) is being driven by the huge capital investments needed to meet ever more demanding regulatory requirements. Many smaller companies simply cannot justify the investment in plants and facilities needed to produce today's cleaner burning fuels.

Finally, the committee has expressed an interest in how we price our product. Let me first say that the members of our industry never discuss among ourselves how we price our product. Not only would that be illegal under federal antitrust statutes, but it would also disadvantage our ability to stay competitive in the marketplace. I can tell you that we price our product relative to the market and that we are constantly striving to provide our customers quality motor fuels at a price that is competitive. Of course, the cost of crude oil is the single greatest cost in a gallon of gasoline. Many other elements contribute to the price of a gallon of gasoline. According the Energy Information Agency:

- **"Federal, State, and local taxes are a large component of the retail price of gasoline.** Taxes (not including county and local taxes) account for approximately 28 percent of the cost of a gallon of gasoline. Within this national average, Federal excise taxes are 18.4 cents per gallon and State excise taxes average about 20 cents per gallon. Also, some States levy additional State sales taxes, some of which are applied to the Federal and State excise taxes. Additional local county and city taxes can have a significant impact on the price of gasoline.

- **"Refining costs and profits comprise about 14% of the retail price of gasoline.** This component varies from region to region due to the different formulations required in different parts of the country.

- **"Distribution, marketing and retail station costs and profits combined make up 12% of the cost of a gallon of gasoline.** From the refinery, most gasoline is shipped first by pipeline to terminals near consuming areas, then loaded into trucks for delivery to individual stations. Some retail outlets are owned and operated by refiners, while others are independent businesses which purchase gasoline for resale to the public. The price on the pump reflects both the retailer's purchase cost for the product and the other costs of operating the service station. It also reflects local market conditions and factors, such as the desirability of the location and the marketing strategy of the owner."

Remember, the final price for a gallon of gas is determined by the retailer. And that price, which is included in the last 12% from above, is set after he or she adds their costs or profits to the price they pay for the product.

I hope that I have helped you to understand the many factors that influence the price of a gallon of gasoline and why that price can sometimes be volatile. I hope you can also appreciate the substantial capital investments and long range planning that is required for the oil industry to quench the thirst our country has for the fuels that keep us mobile.

Yet despite all of the challenges I have outlined, and many more I have not, I believe a gallon of gasoline remains a great bargain in constant dollars. I look forward to answering any questions you might have.

Statement by Senator Ron Wyden
Hearing on Gas Prices: How They Are Really Set
May 2, 2002

Mr. Chairman, I appreciate the chance to work with you on an issue I've been investigating for the better part of three years.

I've brought with me a portion of the pile of government reports filed in recent years detailing oil companies' anti-competitive practices. My own investigations have found anti-competitive and anti-consumer practices by the oil industry. That sparked studies by the Federal Trade Commission on West Coast Gas Prices last year. They studied Midwest Gas Prices the year before. The findings of the Subcommittee closely track what those investigations have uncovered: that anti-competitive practices are rampant in gasoline markets.

It's all here. Oil companies redlined: Companies sought to keep independent wholesalers from competing in markets by refusing to let independent dealers buy better-priced gasoline from those local jobbers.

Oil companies zone priced: Companies charged different prices for the same gas at their own branded stores in adjacent neighborhoods, pricing it as high as the market will bear. They also charged independent dealers higher wholesale prices than they charge the company stores. The end result: independent dealers can't compete.

Oil companies kept the market for themselves: Big oil companies kept down refineries that could have increased supply and introduced new competition.

Oil companies stuck it to West Coast consumers: Big oil companies called it a "no-brainer" to export gas and oil to Asia at rock-bottom prices, and make up the difference on the backs of my constituents.

Cumulatively, these practices are **stripping the competitive gears** in our gasoline markets and hosing consumers at the pump. And this big stack of reports concludes that these practices cannot be prosecuted under the antitrust laws on the books today.

I would submit that there's just one question for Congress to ask now: Will it be business as usual, with these reports becoming an annual dust-collecting exercise, or will Congress finally rein in market manipulation and require meaningful consumer protection reforms?

Gas prices are now so bad on the West Coast that just this past weekend, Oregonians in the small coastal town of Brookings told me they're actually trying to form a nonprofit organization in the town so they can buy gas at wholesale prices instead of the killer retail prices they face at the pump. If that sounds like an extreme response to high prices, you have to understand that the West Coast faces an extreme situation, and it has been that way for years. American consumers need action to follow these reports.

Here's what I think would constitute real reform:

First, changing the controlling antitrust law in this area is key. Current law states that there has to be one of three kinds of outright collusion going on for a company to be in violation: one, a contract, or agreement, between companies to fix prices; two, a combination or formally allied group of companies fixing prices; or three, a conspiracy – five guys getting dinner in a back room saying, "Hey, Bob, what should the price of unleaded be this week?"

Your mother will tell you that the only certainties in life are death and taxes. I will tell you there's a third. You are never going to find smart oil companies holed up in a room colluding to set prices. They're much more savvy than that and the problem is much more subtle. Supplies are being manipulated and competition is being restricted in broad daylight.

For example, the FTC found that redlining was used to discourage competition and raise prices while providing no benefit to consumers. But because the Commission found no evidence that the refiners colluded to restrict competition, redlining could not be prosecuted under antitrust laws. It's time to make these anti-competitive practices illegal once and for all.

I propose a change to the controlling law currently in place. In addition to collusion, the law should prohibit anti-competitive practices by a single company wherever the market is concentrated – that's where four or fewer players control a significant majority of the market. That will raise the bar to expect better business from big oil. When a company tries to squeeze independent jobbers out of a market by telling branded stores what gas they can and can't buy – the law won't have a loophole anymore.

But changing the current antitrust law is not enough. I would propose several changes in a second area, specifically, changes to the law that authorizes the Federal Trade Commission and governs its oversight of markets, including the oil industry.

Under the FTC Act, the Federal government should establish "consumer watch zones" wherever you have those concentrated markets – again, where four or fewer players control 70 percent of the gas flow. Why? Because when the market is highly concentrated, it's not enough to look just at whether there is collusion between competitors and stop there.

At Tuesday's hearing, Chevron/Texaco's North American President David Reeves admitted that the West Coast gasoline market is dominated by a limited number of refinery/marketers <u>who, acting alone, can evade the laws of supply and demand and manipulate the market.</u> There is no need for oil company executives to get together in a smoke-filled room to collude on price when individual companies have the power to manipulate the market on their own.

I would propose another change to the FTC Act. In these consumer watch zones, when oil companies employ anti-competitive practices like redlining or zone pricing, the burden of proof shifts to **them** to show they're not hurting consumers.

Mr. Chairman, at Tuesday's hearing, I believe you were suggesting a similar approach for

parallel pricing. In areas where supposedly competing oil companies' prices are shown to move in lockstep up and down at the same times and by the same amounts, those pricing practices should be considered presumptively illegal unless the companies can show good cause why the practice should be allowed.

In the same way, the whole litany of anti-competitive practices should be considered presumptively illegal until proven otherwise. That includes redlining, exporting at a discount, pressuring independents, all of the practices that manipulate supply or limit competition. I think this type of approach would go a long way toward helping American consumers.

Designating watch zones could also empower the Federal Trade Commission to take more immediate action when necessary. Again, under the FTC Act, the agency would have the ability to issue "cease and desist" orders to companies participating in these anti-competitive practices, forcing them to stop gouging consumers. The Federal government should not be powerless to regulate anti-competitive practices that can raise gasoline prices for consumers.

Third, the watch zone concept could serve as an early warning signal for consumer protection in antitrust law. If a proposed merger of oil companies would create a consumer watch zone, again with four or fewer players controlling 70 percent of the market, that merger would require closer scrutiny. A higher standard of review would demand evidence, before the merger would be allowed to proceed, that consumers would not be harmed. Americans shouldn't have to wait for an oil-ogopoly to start gouging consumers to get some protection from high prices.

The FTC has already said that Americans shouldn't have to suffer because of bad decisions made by regulators years ago. The agency recently instituted a new policy of looking back at previously approved oil company mergers, to see if there are any lingering anti-competitive problems. If the agency finds such problems, they're going back in to fix them. Why not do the appropriate amount of investigating on the front end, and stop anti-competitive practices before they start?

Let me be clear: when I suggest changes to the laws that govern oil companies and oil markets, I only believe those changes should be made in the case of concentrated markets, where a predisposition to consumer abuses has already been documented. Legislation along these lines would ultimately take the country in a more constructive direction by helping ensure competition in gasoline markets.

The country will not be taken in a more constructive direction by the industry's proposals to increase the nation's gasoline supply; they would do so by weakening Clean Air protections.

We have heard repeatedly from many in the oil industry -- including testimony given at Tuesday's hearing -- that the Clean Air permitting process (known as New Source Review) needs to be streamlined and that it has been a deterrent to increased capacity in the U.S.

There's something wrong with this picture, however, when Mr. Reeves from Chevron Texaco testifies that they have made and are making significant expansions at their Pascagoula,

Mississippi refinery. He also states that "it will be one of the first refineries in the nation capable of producing both low sulfur gasoline and on-highway diesel fuel outside of California. The project will be completed in advance of national deadlines for these requirements." So oil industry's claims that Clean Air requirements are deterring refineries from increasing their output doesn't quite match up with what is actually happening at Chevron Texaco's refinery.

There's also something wrong with this picture when we hear repeatedly that no new refineries have been built in decades, and the Clean Air Act is blamed. Yet, when asked whether the U.S. needs additional refineries, all five executives testifying at Tuesday's hearing said no. The real reason has to do more with return on investment than anything to do with Clean Air requirements.

There would not be any more competition under the industry's proposals to streamline Clean Air permitting. What you would get is dirtier air and rewards for the same oil companies who perpetuated the gasoline supply crunch in the first place. These are the companies that deliberately worked to keep down refineries, like Powerine in California, to reduce supply.

These companies, already enjoying record profits because of their actions, would reap even higher profits by recognizing the cost savings of relaxed environmental standards. As a result, oil and gas profits continue to rise, consumers remain unprotected from high gas prices, and the public gets saddled with the costs of dirtier air. Let's not do that. Instead, let's make the companies accountable for their actions.

I want to again commend you and your staff on your very thorough report documenting how through a variety of anti-competitive practices oil companies are able to manipulate supply and prices in gasoline markets.

Thank you for this opportunity to present my views, Mr. Chairman. I would be happy to answer any questions at this time.

TESTIMONY OF
ATTORNEY GENERAL RICHARD BLUMENTHAL
BEFORE THE PERMANENT SUBCOMMITTEE ON INVESTIGATIONS OF THE
SENATE GOVERNMENTAL AFFAIRS COMMITTEE
MAY 2, 2002

I appreciate the opportunity to speak on the issue of gasoline price volatility.

Gas price volatility is a spreading epidemic, as price spikes become an appalling national norm. The coast to coast consequences are devastating to consumers, the economy and political stability.

Price spikes hit hardest people of low and moderate means, since fuel use is an inelastic necessity that cannot be readily reduced. They inhibit and stunt economic growth and prosperity, in individual states and in our nation as a whole. Alarmingly, price spikes are enabled, even encouraged, by governmental tolerance of anti-competitive practices which undermine the credibility and trust of government itself.

Dangerous, damaging price spikes reflect unprecedented price volatility. In 1996, the difference between the highest monthly average gasoline price and the lowest was 23%. In 2001, the difference was 94%. Within twelve months, gasoline prices in Connecticut have bounced from $1.84 to $1.17 to $1.45. During a two-week period in March, the Lundberg Survey of 8,000 gasoline dealers recorded the sharpest rise in its 50 years of surveying gasoline prices.

The recently released report of this Subcommittee, Gas Prices: How Are They Really Set? (The Subcommittee Report), powerfully documents the key cause -- concentration of market power that enables a handful of companies to manipulate supplies and markets, and reap $10 billion in annual revenue for each 10 cent increase in prices.

Gasoline demand has increased slowly and steadily during the past several years -- in Connecticut around 4% annually. But domestic refining capacity has declined. Hence, the cause of the price spikes can be attributed clearly to an oil industry that has been allowed to relentlessly and purposefully consolidate more market power in fewer companies. With this increased market power, companies reduce inventories, manipulate supply and orchestrate prices at the gas pump, all at a huge cost to consumers.

Today, I reiterate and reinforce with increasing urgency my plea that Congress: (1) stop and abate concentration of market power within the refining, distribution and retail markets; (2) develop better gasoline market information for federal and state energy policy; (3) require minimum levels of inventory; (4) prohibit zone pricing and other tactics that prevent gasoline retailers from obtaining gasoline at competitive prices and (5) diminish our dependency on gasoline through conservation efforts and alternative fuels.

I. Reduce concentration of market power in oil industry

Since 1995, rampant mergers and acquisitions have caused significant concentration of market power. Today, six companies control 55% of the 175,000 gasoline stations in the nation, compared to 30% in 1991. The Subcommittee Report found that refining and supply are highly concentrated in 9 states and moderately concentrated in 28 states. Competition is clearly withering in the face of these mega-mergers.

The Federal Trade Commission has failed to scrutinize adequately or stop the anti-competitive effects of these mergers. In one example affecting Connecticut, the Mobil-Exxon merger, prior to divestiture, resulted in the top four gasoline companies controlling 73% of the retail market in half the metropolitan areas in the Northeast-MidAtlantic region. Divestiture somewhat reduced this number, but I still opposed this merger -- and urged the FTC to do so.

In the retail area, the merger trend has enhanced the ability of industry players to use zone pricing. The FTC describes this practice as 'oligopolisitic'. This term could easily apply to the entire industry.

So too, oil company decisions to close 50 refineries and to merge with competitors have led to significant market concentration in the refinery and production segments of the oil industry. The Wall Street Journal recently reported that the six largest refiners control 59% of the refining market, representing a 50% increase in the concentration level of that market in 12 years. The FTC has approved these refiner mergers with conditions and divestments designed to reduce the impact of the proposed merger. Again, these conditions and divestments have failed to slow, let alone stop, the concentration of market power, undermining competition. When the most recent proposed mergers were submitted to the FTC, that agency had the opportunity to apply measures to correct the errors of previous merger approvals. The FTC again missed the opportunity to impose stringent requirements on the proposed mergers that would open to competition markets that now have become closed to new, independent competitors.

In its review of the California market, the Subcommittee Report found that the federal government allowed the refining market to become an oligopoly with the top 4 refiners owning nearly 80% of the market. Six refiners also own 85% of the retail outlets, selling 90% of the gasoline in the state.

The Subcommittee Report also found that 2/3 of the gasoline supplied to Michigan comes

from 4 large refiners. Three of those four refiners combine to own 2/3 of the Wolverine Pipeline, one of the key sources for transporting gasoline into the state. The refiners also have substantial interests in terminals. Vertical integration allows a small number of firms to control the refiner sector of the oil industry and to maintain critical market power in the supply and retail segments.

In the refining and production area, the FTC has allowed refiners to merge with other refiners, buy pipeline shares and terminals, and acquire major retailers. This merger trend has resulted in refiners controlling distribution and retail markets, making it impossible for innovative, independent-minded companies to enter the business and buck the industry trend. Thus, refiners and producers can uniformly reduce refining and production levels -- causing widespread supply shortages and higher prices -- confident that no company will enter their market and drive down prices.

The Subcommittee Report found that refiners have sought to maintain a status quo, being as adverse to gaining market share through aggressive pricing as they are to losing market share. The companies' pricing tactics are designed to simply maintain market niche and market share.

The FTC report on the Midwestern price spike of 2000 found that the three refiners of summer-grade reformulated gasoline all decided (not jointly according to the FTC) to limit the upgrade of their refineries to comply with stricter EPA standards so as to only produce enough gasoline to supply their branded gas stations and other existing contractual obligations. Even if such decisions were made independently, each clearly recognized that the others would not be risk-takers and increase their production of summer grade gasoline to raise market share. There is clearly a problem with this market, it is a problem that is replicated throughout the country.

Increased market concentration has caused domestic refining capacity to diminish, even as demand has increased steadily. The predictable result has been extraordinarily tight supplies, barely meeting demand, leading to very volatile prices at the pump. Inadequate inventories, disruption in delivery systems and other factors make the market even more vulnerable.

History shows that oil company profits soar during gasoline shortages. In fact, one company deliberately withheld some of its gasoline inventory from the market during the Midwestern price spike of 2000 in order to keep prices and profits artificially high. Specific internal discussions among oil company executives recounted by the Subcommittee Report plainly relate to potential illegal activity -- action that the companies now say was rejected. The Subcommittee Report is replete with examples of industry efforts to keep gasoline inventory low so that prices would remain artificially high. The report recounts Shell's threat to retaliate, by asking the California legislature to enact a tax on imported gasoline, if Texaco implemented its plan to import California CARB gasoline and relieve a shortfall in refinery output in that state. The story is a stunning example of major oil company efforts to squeeze supplies and raise prices.

It is worth repeating: Every ten cent increase in gasoline prices produces a $10 billion windfall in annual revenue to the oil industry.

In short, when fuel is in short supply, the industry wins, the consumer and our economy lose.

Competition is key. I urge Congress to enact a moratorium of at least one year on any merger or acquisition of any major oil refiner, supplier or retailer, including cross-sector mergers and acquisitions, while Congress, the FTC and the states work together to fashion a longer term remedy that helps restore competitive forces and tempers the market dominance wielded by the few industry giants.

A moratorium is one means to send a message that mergers and acquisitions will face strict scrutiny. The FTC should take a tough approach to both horizontal as well as vertical integration mergers, recognizing that some mergers may tighten market control downstream. Mergers should also be stopped when the merged company poses significant barriers to entry by independent oil companies. The FTC and Congress should promulgate new rules or interpret the current rules to create a presumption that any merger in the oil industry will be rejected unless the oil companies can prove with clear and convincing evidence that consumers will benefit from the merger or acquisition and that tangible, specific steps will be taken to assure that consumers see lower prices and better services. The new rules or new interpretations of these rules should require the FTC to specifically impose divestiture conditions that will spur competition by opening closed markets to new independent entrants.

Finally, the committee should consider legislation to specify that common price patterns or conscious parallelism when combined with a moderately or highly concentrated market should be considered potential evidence of an antitrust violation and the need for specific governmental action to reduce market concentration and encourage new competitors.

II. Develop better gasoline market information for federal and state energy policy

During each price spike, the public clamors for explanations. The causes are hard to determine because specific, detailed market information is lacking. The gasoline markets are complex and opaque. Transparency is vital. A central repository of market information would greatly help the Federal Trade Commission, Congress and the states to take proactive, well-reasoned steps to achieve competitive pricing and adequate inventories.

The Energy Information Administration currently compiles a significant amount of statistics on gasoline production, sales and prices, but fails to collect and produce sufficient data on this very complex set of markets. In fact, in each market there are a number of interrelated submarkets. For example, the California gasoline market may require different state-specific policies. And, within the state of California, there are more sub-markets. Even in the geographically small state of Connecticut, Mobil recognizes more than 40 specific retail markets. The Subcommittee report provided an excellent overview of the broader California and Michigan markets. Yet, the Subcommittee had to rely on a number of different sources of information in developing a clear understanding of each market and the power of the oil companies. Public

policy makers need better information in order to determine the best policies to create affordable, reliable energy sources.

Connecticut desperately needed more information last week, when Motiva announced that it is closing its 200,000 barrel storage facility in East Hartford. It also indicated that it may mothball the facility rather than sell it. What impact will this closing have on the heating oil and gasoline markets in the Greater Hartford area? Will consumers pay more for their heating oil and gasoline as a result of this closing? Can Connecticut afford to lose another 200,000 barrels in reserve capacity? Should Motiva be required to sell the facility to preserve working reserve capacity? What steps should Connecticut take to ensure adequate supplies of critical heating oil and gasoline?

The Energy Information Administration should be charged with compiling detailed state market and state submarket energy information, and allowing that information to be accessed by state officials and researchers on a secure basis so that officials can quickly respond to a significant step such as Motiva's and to implement proactive policies to ensure adequate supply of gasoline and heating oil.

Finally, such information would also assist the Federal Trade Commission in its analysis of proposed mergers of oil companies.

III. Refiner and distributor control of retail prices such as zone pricing should be prohibited

A merger moratorium and heightened scrutiny of oil industry combinations will take time to benefit consumers through increased competition, but some immediate steps may be available. One such immediate, necessary step is to ban the practice of zone pricing -- and refiner and distributor control of gasoline supplies to retailers.

As the Subcommittee Report documents, zone pricing is applied in almost every state. By artificially creating geographic areas, the companies charge different prices to dealers within different zones based on computer programs and secret calculations as to how much profit can be reaped, not how their competitive market position will be affected. They care only about how much consumers will bear, not how prices will affect market share. Their artificial methodologies and geographic zones are highly guarded secrets. Mobil established 46 zones in a small state like Connecticut so as to keep prices high in selected areas, not reduce them for others.

A March, 2002 survey by the Stamford Advocate found that gasoline prices in a single city ranged from $1.25 per gallon to $1.39 per gallon. The survey also found a 12 cents difference in the same brand of gasoline. In December, 2001, the Stamford Advocate found that gasoline prices averaged 7 cents higher in Stamford than in neighboring Norwalk. A gasoline

dealer who owns stations in both cities indicated that zone pricing is the main reason for the price differential, citing his own gasoline purchases that were 5 cents higher for his Stamford stations than his Norwalk stations.

The power of the major oil companies to impose zone pricing and to charge inflated, excessive, arbitrary prices results from gasoline dealer franchise agreements dictating that the gasoline dealers are required to purchase products from a single supplier. As a result of such sole source provisions, gasoline dealers are powerless to seek or shop for a cheaper supply of gasoline.

Zone pricing is invisible and insidious. It distorts the free market. It is possible only because of restrictive contracts that include sole source provisions. It benefits only the oil industry, to the detriment of consumers. Perhaps the industry's own consultant, MPSI, states it best in its promotional brochures quoted in the Subcommittee Report: "To **maximize profits**, you need to establish a large number of price zones.....**You will be able to charge more** in areas that can support higher prices..."

I urge this committee to support legislation specifically prohibiting the practice of zone pricing either as a separate law, an amendment to the antitrust price discrimination statute (Robinson-Patman Act) or an amendment to the Petroleum Marketing Practices Act. The committee should consider the following language:

"No person engaged in the business of furnishing gasoline to retail distributors of gasoline may use a pricing system under which the wholesale price paid for gasoline by any such retail distributor is determined based on the location of the retail distributor in any geographic zone."

Congress should also consider an amendment to the Petroleum Marketing Practices Act (PMPA), 15 U.S.C. 2801, et seq. prohibiting major oil companies from dictating the source of supply of the brand name gasoline.

The PMPA was enacted in 1978 to provide national standards for gasoline franchise agreements regarding the termination and nonrenewal of such franchise agreements. Unfortunately, while Congress recognized the disparity in bargaining strength between dealers and major oil companies, the PMPA does not provide specific protection against unfairly burdensome franchise provisions.

The power to impose zone pricing is based squarely on the power of the major oil companies to control purchases by the gasoline dealers. If the wholesale supply of gasoline were truly competitive, and a Mobil gasoline dealer could purchase Mobil gasoline from any Mobil gasoline wholesaler, the major oil companies could not dictate the price of wholesale gasoline based on location. The dealer could simply choose another vendor of the same brand of gasoline at a more competitive price.

Thus, the PMPA could be amended to prohibit the anti-competitive provisions in gasoline

dealer franchise agreements that dictate the wholesale source of gasoline. Hence, the committee should consider a provision stating: "No franchise, as defined in subdivision (1) of 15 USC 2801, shall limit the source of acquisition of gasoline by a retail distributor except that the franchisor may require that such gasoline is the same brand as the franchisor."

IV. Inventory reductions/expand refinery capacity

Recent dramatic spikes in gasoline and heating oil have been due in large part to lower supplies and decision-making that has reduced available inventory. OPEC is not solely or even predominantly to blame. The industry must be held accountable. Tight supplies are aggravated by unanticipated events such as sudden drops in temperatures or refinery fires.

The Energy Information Administration has recognized the clear connection between price volatility and refiner inventory practices, finding that wholesale gasoline prices are bid up by more than underlying cost increases when inventories are low. The Subcommittee Report also provides powerfully persuasive examples of how the industry profits from tight supplies and inventories.

Present inventory practices increase profits while subjecting consumers to wide swings in gasoline prices and preventing quick industry adjustments to unexpected supply shortages or increased demand.

In the 1980's, refiner capacity averaged 77.6%, which allowed for easy increases in production to address shortages. In the 1990's, as the industry closed refineries and adopted just-in-time inventory practices, refinery capacity rose to 91.4%, leaving little room for expansion to cover supply shortfalls.

While consumers suffered, refiner profits soared during the 1990's. During the 1980's, refiner margins averaged approximately 19 cents per gallon. In the 1990's the average refiner margin rose 23% to 23.4 cents per gallon. Hence, mergers, refinery shut-downs and inventory practices resulted in increased bottom lines for oil companies, and price volatility and uncertain supplies for consumers.

I urge Congress to carefully review these inventory practices and refinery closings and take steps that will encourage or mandate increased inventory and refinery capacity. Although returning competition to these markets would result in additional inventory and less price volatility, the current market requires some form of proactive governmental oversight. Congress should consider incentives encouraging competitors to expand into the refinery and distribution markets, lowering barriers to entry.

V. Conservation

In addition to making the oil industry more competitive and pro-consumer, Congress should aggressively pursue policies designed to lessen American consumer susceptibility to decisions made by members of OPEC and other foreign sources of oil as well as domestic industry concentrations..

We are becoming more, not less, dependent on oil. Many solutions to this dependence will also give us cleaner air, so we should pursue these goals with more vigor than ever.

First, mass transportation should be encouraged. Safe, clean and convenient mass transportation would be used by many citizens.

Second, cars need to be more fuel-efficient. Congress needs to continue to pressure automobile manufacturers to increase the average miles per gallon for their fleet of cars. Back in the 1970's, automobile manufacturers complained that they couldn't make their 12 miles per gallon vehicles more efficient. Today, cars average 27 miles per gallon. Increasing that average to 45 miles per gallon would save 237 billion gallons of gasoline over a 5 year period.

Finally, we must increase our commitment of resources to development of alternative fuels and energy efficient technologies such as fuel cells.

VI. Conclusion

The Subcommittee report shows very disturbing internal discussions among oil company executives of potentially illegal action -- including intentional action to create shortages of product or price increases. The companies say now that such "options were presented and rejected". Further investigation may say more about what they did, and whether it was legal.

But one certain truth should drive fundamental, necessary reform. Too much market power concentrated in too few hands, causing prices too high for the good of consumers and our economy. Parallel pricing in concentrated markets ought to trigger a meaningful antitrust investigation and be made evidence of anti-competitive practices. Steps should be taken to stop further concentration -- mergers and acquisitions that contribute to refinery closings and supply shortages. Federal oversight must assure adequate inventories. More and better information should be made available, and conservation should be supported.

The Subcommittee has made a compelling case for real and effective action now.

TESTIMONY OF MICHIGAN ATTORNEY GENERAL JENNIFER M. GRANHOLM

INTRODUCTION.

Good morning. My name is Jennifer Granholm and I am the Attorney General of the State of Michigan. Thank you for extending me the opportunity to testify today on a matter that has generated significant concern for the citizens of Michigan: the volatility of gasoline prices.

For nearly three years, my office has reviewed the market conditions associated with gasoline marketing and pricing both independently and in conjunction with federal officials. In the summer of 2000, we participated with officials from the Federal Trade Commission in an investigation of price spikes that saw the Michigan retail price of gasoline exceed two dollars per gallon in June of that year. Last year, within days of the terrorist attacks on the United States that occurred on September 11, our office issued notices of intended action under the Michigan Consumer Protection Act against 46 separate gasoline retailers who charged anywhere from $2.50 to $5.00 per gallon for the economy grade of unleaded gasoline. And in my role as legal counsel for the Michigan Public Service Commission, my office intervened in a Federal Energy Regulatory Commission matter involving Wolverine Pipeline Company that dealt with some gasoline pipeline transportation bottlenecks that had impeded the ability of independent wholesalers and marketers of gasoline to obtain supplies on competitive conditions.

In the course of my performance of these investigations, and in my Office's continuing review of market conditions in the petroleum industry, it has become clear to me that the causes of gasoline pricing volatility are complex and defy easy explanations. And there are some market factors that are clearly beyond the control of federal

policymakers. World crude oil price fluctuations, for example, are difficult to control.

I would like to focus my testimony, however, on factors that *are* within federal policymakers spheres of influence. In particular, there are two issues that I would like to address:

- First, several changes in the way the petroleum industry operates have made it more difficult for firms to readily respond with additional supplies in the face of an unanticipated shortage in a specific geographic market; and
- Secondly, increased concentration in the refining and distribution segment of the industry has contributed to the exercise of market power by dominant industry actors to the detriment of consumers.

INDUSTRY CHANGES MAKE IT MORE DIFFICULT TO RESPOND TO UNANTICIPATED SUPPLY SHORTFALLS.

There was a time when the petroleum industry could count on significant inventories and idle refining capacity for purposes of meeting demand and enabling the industry to respond to sudden and unanticipated supply dislocations. If a refinery that supplied the Upper Midwest had a fire and was down for a month, or if a pipeline burst and disrupted the assumed method of transportation, petroleum firms could count on "making up" for the unanticipated shortfall at other refineries or by drawing down inventories at nearby supply locations.

The petroleum industry today is much more limited in its ability to respond to supply disruptions. One of the findings of the Federal Trade Commission in their review

of the Summer 2000 gasoline price spikes was that excess refinery capacity and excess inventories no longer provided the "cushion" to address supply dislocations. First, refinery capacity utilization levels have increased significantly over the last decade.[1] Secondly, the industry has implemented "just-in-time" inventory techniques that reduce the available inventories that could be drawn upon in times of shortages.[2]

The impact of the trends toward increased capacity utilization and revised inventory planning is that petroleum firms are not as capable of quickly responding to supply shortages as they once were. And when unanticipated shortages occur, bottlenecks in distribution of gasoline supplies can result in significant price spikes.

Typically, when a shortage of gasoline inventories occurs in a particular market, prices increase. And the price increase has the effect of attracting supplies from adjacent markets where supplies are more plentiful. The resulting arbitrage has the effect of reallocating supplies from markets where gas is abundant to markets where it is not. And ultimately, prices in both markets will reach an equilibrium level in response to the supply dislocation. This normal operation of market forces can be counted upon to "self-correct" any supply dislocations in the industry and assure that consumers suffering from abnormally high prices do not experience the high prices for long.

But in the last few years, two factors have inhibited the petroleum market's ability to respond in the face of abnormally high prices: first, differences in the types of fuel

[1] The FTC found that "(i)ndustry-wide crude oil refining capacity utilization in the United States in the month of May was 85 percent in 1990, 89 percent in 1992, 93 percent in 1994 and 1996, 94 percent in 1998, and 96 percent in 2000. The average monthly capacity utilization rate in 2000 was 94 percent. This limits further the ability of refiners to increase refinery production significantly in the short run." *Final Report of the Federal Trade Commission Midwest Gasoline Price Investigation.* March 29, 2001. http://www.ftc.gov/opa/2001/03/midwest.htm (Hereinafter, the "*FTC Report*").

[2] See the *FTC Report*, p. 17.

marketed may prevent firms from freely interchanging inventories from one market to another in the face of a shortage. Secondly, if a particular firm has market power to enjoy high prices by holding product off of the market, the firm may elect to do so. Both of these factors were evident during Michigan's price spikes in the summer of 2000. For example, when gasoline prices in Detroit hit $2.10 or higher, it would have been logical for adjacent regions to immediately supply additional product to the Detroit market. If adjacent regions sold the same type of gasoline, Detroit gas prices may have declined more quickly as gasoline inventories from Ohio, Indiana and Illinois moved into Michigan. But the differences in gas formulation in these different markets prevented some types of gas from immediately transferring into Detroit from other markets.

Our office became aware of similar tendencies in reviewing arbitrage opportunities between the Chicago spot market and a nearby Michigan marketing distribution point at Niles. Typically, economics would suggest that a price difference of two cents would attract supplies from Chicago to these Michigan markets to meet demand in West Michigan.

But in 2000, there were occasions where the price of gas on the Chicago spot market was up to ten cents lower than the prices for product at these West Michigan locations and supplies did not flow from one market to the other to exploit this price difference at the volume which one would predict. In reviewing this situation, we learned that inadequate supplies were flowing from the Wolverine Pipeline (a joint venture owned in part by Marathon Ashland, Mobil, Equilon, and Citgo) to a distribution point at Niles, Michigan. In order to obtain supplies at Niles, marketers would need to obtain

access to tank farms that stored the supplies being taken off the pipeline. But access was not readily given. Ultimately, our office intervened in a Federal Energy Regulatory Commission case which was resolved by the construction of additional tankage at Niles to more freely transport product from Chicago in response to market demand in Michigan.[3]

It is also possible that, if one firm has a strategic or dominant position in the industry, then it can control the amount of supply that is delivered to a particular market and enjoy higher prices and profits at the expense of consumers. In the Federal Trade Commission's review of the Summer 2000 price spike, evidence revealed that one firm held reformulated gasoline inventory off of the market to keep prices higher than would have otherwise been the case. Subsequent media reports identified that Marathon Ashland Petroleum was the firm referenced in the FTC's Report of this incident.[4]

MERGERS AND INCREASED CONCENTRATION IN THE PETROLEUM INDUSTRY RESULT IN HIGHER PRICES FOR CONSUMERS.

The preceding discussion regarding Marathon Ashland Petroleum and its actions in the Summer of 2000 relates to the second factor which I wanted to discuss as a cause of higher gasoline prices: growing concentration and "merger mania" within the industry. In the last five years, the petroleum industry has witnessed a wave of some of the largest corporate mergers in United States history. Exxon/Mobil, BP/Amoco, Shell/Texaco and

[3] *In Re: Wolverine Pipeline Company.* Federal Energy Regulatory Commission Docket # OR99-15-000.

[4] See *Marathon Ashland Withheld Gasoline.* Wall Street Journal, June 11, 2001, p. 4A.

other mergers have reduced the number of competitors at the refining level, as well as the downstream transportation, distribution and retail segments of the industry.

Although not as large as the mergers referenced above on a national scale, the most significant transactions in Michigan petroleum markets involved the merger of Marathon and Ashland Petroleum, and then later, Marathon Ashland Petroleum's acquisition of all Ultramar Diamond Shamrock assets in the State. The latter transaction in Michigan's petroleum markets really had two components: first, Ultramar Diamond Shamrock (or "UDS") closed its refinery in Alma, Michigan --- leaving Marathon as the only company with a refinery presence in the State. Secondly, Marathon purchased all UDS petroleum supply terminals and retail stations in the State.

The impact of the Marathon acquisition has been to further consolidate industry assets that serve Michigan at the refining, supply and retail segments of the industry. After the merger, Marathon owned the only oil refinery in the State, possessed more terminal storage capacity than any other firm in Michigan and held roughly twice the storage capacity of the second largest supply firm in the State.[5] More significantly, Marathon has emerged as the leading, and in some markets the *only*, supplier of unbranded gasoline to independent jobbers and retailers. By some estimates, Marathon

[5] Five companies now control nearly 80% of the petroleum terminal capacity in Michigan. The companies, and their respective terminal capacity market shares, are:

1) Marathon Ashland Petroleum	28.3%
2) British Petroleum/Amoco	14.4%
3) Exxon/Mobil	14.0%
4) Equilon	13.1%
5) CITGO	9.3%

Market share estimates are based upon capacity figures set forth in the *Petroleum Terminal Encyclopedia (1999)*. The market share estimates are likely underestimated because they do not include the breakout tankage for MAP at the Freedom Junction terminal on the Wolverine Pipeline.

Ashland Petroleum supplies nearly 70% of the unbranded gasoline marketed in the non-metropolitan Detroit portions of the State[6]. It is typical in many Michigan markets that *all* unbranded independent retailers are supplied by Marathon.

Preserving competition in the supply of gasoline to independent marketers and retailers is essential to maintaining rigorous price competition on a fair and level playing field in the industry. Economist Justine Hastings, who I believe you will be hearing testimony from later this morning has written that "the independent station is the only type of station that can purchase gasoline from any refiner and independently set its retail markup, thus increasing competition at the wholesale and retail levels."[7]

But the consolidation in supply sources jeopardizes the ability of independents to compete. It is also foreboding that, in most instances, the independent retailer finds that one of their primary sources of retail competition-Marathon and Speedway retail stations-are owned or affiliated with their supplier. This certainly has implications for retail price competition. I would note to the committee that we receive frequent anecdotal complaints in Michigan that the retail pricing of gasoline is driven in large part by the price movements of Marathon's affiliated Speedway stations. Michigan consumers frequently observe a weekly price spike pattern where prices of gasoline on the street go down during the early portions of the week only to be driven up through weekly "price restorations" that are initiated on Thursdays. It is possible that the accumulated market power which Marathon possesses in Michigan has led to Speedway becoming the

[6] At several Michigan petroleum terminal locations, Oil Price Information Reports or "OPIS" rack price reports do not even list wholesale prices for more than one or two suppliers.
[7] Hastings, Justine. *Vertical Relationships and Competition in Retail Gasoline Markets.* Abstract.

dominant price leader that other firms will follow. And if Speedway leads a fifteen or twenty-cent price increase in retail prices each week, other firms may follow.

Indeed, other firms may have no choice but to follow Speedway's upward price movements. Over the last two years, we have received an increasing number of complaints from independent retailers who feel "squeezed" by their inability to compete with the street prices charged at Speedway locations. It is occasionally the case where the retail price charged by Marathon-owned Speedway stations is below the wholesale cost of unbranded gasoline paid by independent retailers. This price squeeze renders it virtually impossible for the independent retailer to effectively compete.

We will continue to review the economics of the Michigan gasoline industry to determine whether any of the dynamics that I've described are legally actionable. But what I have described primarily involves unilateral pricing practices and the responses of other industry participants.

I think that the primary opportunity to address the types of problems that I've described occurs in the context of merger review and determining whether a particular merger will have the potential to reduce the effective competition that is exerted by independent retailers and marketers.

The University of California Berkeley economists Hayley Chouinard and Jeffrey Perloff have found that anticompetitive mergers could explain up to a 10.3 cents per gallon difference in cross-state gasoline prices and that producer mergers could add another difference of 8.9 cents per gallon.[8] In Michigan, each one-cent increase in the

[8]Chouinard, Hayley and Perloff, Jeffrey. *Gasoline Price Differences: Taxes, Pollution Regulations, Mergers, Market Power, and Market Conditions.* Abstract. October 2000.

price of gasoline sustained over a year results in a payment by consumers of approximately $48.9 million.[9] It doesn't take a sophisticated economist to quickly do the math as to the impact that a ten-cent price differential associated with a merger will have on Michigan consumers.

We are evaluating in Michigan whether the Marathon acquisition of UDS assets has had an effect similar to what has been observed in the economics literature in other states where anticompetitive mergers affect prices. And we have made no conclusions on this point. But I think that there are important actions that the federal government could take to assure that gasoline prices remain low for the consumer:

1) **ASSURE ADEQUATE RESOURCES FOR MERGER REVIEW.** First, Congress must assure that federal agencies, and in particular the Federal Trade Commission and the Department of Justice Antitrust Division, have the necessary resources to thoroughly review petroleum mergers and stop anticompetitive mergers from being consummated. Not every merger is a bad thing. But I fear that with the resource constraints federal antitrust enforcers face, coupled with the overwhelming number of mergers that have taken place in the last few years, there are anticompetitive mergers slipping through the cracks. In particular, federal antitrust authorities should review the impact such acquisitions may have upon the ability of independent marketers and retailers to effectively compete on a level playing field.

[9] See Michigan gasoline tax collection summary at http://www.crcmich.org/TaxOutline/Transportation/gas.html.

The preservation of vigorous competition in the supply of unbranded gasoline is especially crucial. Antitrust enforcers should focus upon assuring that multiple sources of unbranded gasoline at the wholesale level exist to assure stable, competitively priced supplies for independent retailers, who play an important role in preserving low prices at the pump.

3) **REVIEW WHETHER TRASPORTATION BOTTLENECKS PRECLUDE NORMAL MARKET FORCES FROM RESPONDING TO HIGH PRICES.**

When sizable enough price differences exist between adjacent markets, *competitive* markets should operate to transfer supplies from one market to the other until the price disparities are reduced. If this is not happening, as we saw in certain instances with the Wolverine Pipeline in the Spring of 2000, it suggests that market actors are impeding supplies from flowing freely---which can artificially maintain prices at higher levels than would otherwise be the case. Federal regulators, and in particular Federal Energy Regulatory Commission staff, should be diligent in reviewing these issues to determine whether pipeline services are being offered at fair, reasonable and nondiscriminatory rates with appropriate access to pipeline customers.

In conclusion, I am concerned about the effect that high gas prices in Michigan have on the consumer, the State's tourism industry and the overall health of the State economy. I

believe that the key to protecting consumers in Michigan and nationally is the promotion of healthy, vigorous competition among as many different petroleum refiners, marketers and retailers as possible. Consumers will stand to benefit the most if effective competitors have the capability to keep prices down and have an incentive to respond quickly in the event of supply dislocations. We owe it to them to assure that competition in the petroleum industry remains strong.

Testimony of
Tom Greene, Senior Assistant Attorney General,
California Department of Justice,
Before the Senate Permanent Subcommittee on Investigations
May 2, 2002
Concerning "Gasoline Prices: How Are They Really Set?"

Good morning, Mr. Chairman and members. My name is Tom Greene and I am the Senior Assistant Attorney General for Antitrust for the California Department of Justice. I appear this morning on behalf of Attorney General Bill Lockyer who could not attend because of other duties in California. While I am currently in Washington, D.C. to coordinate the efforts of the jurisdictions still litigating the *Microsoft* case, I have extensive experience with energy and fuels issues. Most recently, I directed our investigation of the dramatic electricity price hikes experienced in California after deregulation. Prior to that, I chaired the Attorney General's Gasoline Pricing Task Force, which examined the causes and consequences of spiking gasoline prices in our state.[1] (A copy of this report is attached) I have also supervised our antitrust efforts with respect to a series of mergers in the petroleum industry, notably the Exxon/ Mobil, BP/ARCO and Equilon/GATX transactions.

At the outset, let me compliment your staff on its report entitled "Gas Prices: How Are They Really Set?". I found the report both thoughtful and insightful. It sheds important new light on an extremely complex industry, but one that is important to all of us. I applaud specifically the focus of the report on the nearly non-existent safety margins between supply and demand, as well as the significance of increasing concentration in this industry.

As your report sets out in some detail, the immediate, precipitating cause of price spikes is the knife-edge margins between adequate supplies and shortage. Largely unknown to the broader public, inventory levels in the petroleum industry have declined dramatically over the last decade. While part of an overall trend toward "just in time" inventory management, this has left the system vulnerable to even minor interruptions in supplies. With cushions of product measured in days rather than weeks or months, a refinery fire or other outage can send prices spiraling upward as companies re-price their products to take into account sudden scarcity.

Under these conditions, prices can--and have--risen dramatically. A recent study examining price spikes in California in 1999 and more recent price spikes in the mid-

---

[1] Bill Lockyer, *Report on Gasoline Pricing in California* (Office of the California Attorney General, May, 2000) (available at http://caag.state.ca.us/antitrust/publications/gasstudy/index2.htm)

west have found that a 5 -10% reduction in supplies can double spot prices in a few days[2] For California consumers who experienced a series of price spikes in 1999, costs were some $1.3 billion. Consumers in the Chicago and Milwaukee areas experienced one long, expensive price spike in the spring of 2000 when refining and blending problems cut into supplies, sending prices in that region up dramatically.[3]

The combination of inelastic demand and virtually non-existent inventory cushions means that price spikes are likely to be more frequent, and more frequently very expensive. These realities have a number of policy implications. Specifically, state and federal officials need to:

1. Aggressively enforce federal and state competition laws.

One of the hallmarks of the petroleum industry in recent years is increased concentration. In California, we have seen a dramatic increase in concentration in recent years, with only six (6) refiners controlling 92% of the market.[4] Economists and antitrust lawyers frequently assess markets in terms of market power, based on a long series of studies done by industrial organization economists. This work is reflected in the Herfindahl-Hirshman index numbers contained in your report.[5] However, while these calculations indicate that the petroleum industry is at least moderately concentrated, there is reason to believe that these measures do not fully indicate the power of firms in this industry. Because of minimal inventories and inelastic demand, virtually any single company has the power to increase prices—potentially dramatically--by withholding product from the market, or simply not investing in adequate capacity to make fuel. This direct power to control prices is usually associated with industries with far higher concentration numbers.

---

[2] Stillwater Associates, *California Strategic Fuels Reserve* (California Energy Commission. March 10, 2002) 24-25 (available at http://www.energy.ca.gov/reports/2002-03-11_600-02-004CR.PDF).

[3] Joanne Shore, Supply of Chicago/Milwaukee Gasoline, Spring 2000, EIA Staff Report (available at www.eia.doe.gov/pub/oil_gas/petroleum/presentations/2000/supply_of_chicago_milwaukee_gasoline_spring_2000/cmsupply2000.htm)

[4] Attorney General Bill Lockyer, *Report on Gasoline Pricing in California*, Chart 14 (Office of the California Attorney General, May, 2000) (available at http://caag.state.ca.us/antitrust/publications/gasstudy/chart14.pdf)

[5] Majority Staff of the Permanent Subcommittee on Investigations, *Gas Prices: How Are They Really Set?* 103-104 (U.S. Senate, April 29, 2002).

To address these problems in California, Attorney General Lockyer has demanded that any mergers not result in any overall increase in concentration in petroleum markets. He has also asked for commitments from firms purchasing spun-off assets, particularly refineries, to add to their ability to produce clean fuels. For example, as a consequence of the Exxon/Mobil transaction, Exxon's Benicia refinery was spun off to Valero, a new entrant in the California market. That firm has begun an aggressive expansion program at the plant, which should pay off for consumers in terms of greater supplies and lower prices. While it is still too soon to be sure, this spin-off is closely associated with a dramatic reduction in the historic disparities between the San Francisco and Los Angeles markets.

Working with the states of Washington and Oregon and the Federal Trade Commission, we challenged the BP/ARCO transaction in federal district court in San Francisco. That challenge was ultimately resolved when BP agreed to spin-off all of ARCO's Alaska assets to Phillips Petroleum.

While the spin-off of a refinery or major producing assets are highly visible signs of antitrust enforcement at the macro level, it may be equally important to preserve and, if possible, augment competition in local neighborhoods. As a recent study of ARCO's take-over of Thrifty, a significant, independent gasoline retailer, in the mid-1990's found, the loss of independent discounters can have a direct effect on prices.[6] Indeed, retail competition may be even more important today. Major companies are increasingly setting prices on a "retail back" basis, that is, prices are set based on prices at retail, rather than mark-ups on the costs of crude oil or refining. As a consequence, without competition from cost-cutters in a particular price zone, prices will stay high even if costs of production have fallen. This may explain what some call the "rockets and feathers" pricing pattern in the industry. With such pricing, consumers see prices rocket up during shortages but feather down slowly as production costs decline.

Competition at retail appears to be constrained by so-called zone pricing. Under this system, the companies create zones based on neighborhood demographics and local competition within the zone. Companies are able to establish and maintain these competitive micro-climates through the use of sophisticated computer models which rely on, among other things, daily reports on prices at selected competing stations and gallonage actually sold. Thus, as a consumer, if there isn't a price-cutter in your zone, you will find that your prices will be higher, and generally stay higher longer, during a price spike.

---

[6] R. Gilbert & J. Hastings, *Vertical Integration in Gasoline Supply: An Empirical Test of Raising Rivals' Costs* (Institute of Business and Economic Research, University of California at Berkeley, June 1, 2001) (available at http://repositories.cdlib.org/iber/cpc/CPC01-21/).

More competition at retail is the most direct policy prescription for this problem. However, more direct action may make sense, too. At the completion of his work on the Gasoline Pricing Task Force, Attorney General Lockyer recommended that the California Legislature consider giving retailers the freedom to seek fuels from wholesale racks or through jobbers who used those racks as a way to side-step the pricing constraints imposed by refiners, which are at the heart of the zone pricing system. This "open competition" proposal is discussed in greater detail in the final Task Force report.[7]

It is also important for enforcers to focus on the less visible potential bottlenecks in the industry. With the Federal Trade Commission, our office investigated the proposed purchase of the GATX ocean terminal in Los Angeles by Equilon, a joint venture of Shell and Texaco. Our concern was that this last independent port facility was a strategic asset that could be used by independents to bring fuels into California. As such, it was a potentially critical asset. Our investigation concluded when the proposed merger was called off by the parties.

Before closing this section, it is important to note that there may be important limits on antitrust as a policy tool. Outside of the merger context, the most important antitrust laws are section 1 of the Sherman Act[8] and its state law equivalents, like California's Cartwright Act[9]. However, these statutes require proof of a "combination" or "agreement" before action can be taken. Lead by the federal courts, the evidentiary standards for proof of agreement in such cases has been ratcheted up over the last few years. While these issues may appear to represent "inside baseball" for most consumers and policy makers, the reality is that these standards make it increasingly difficult to prove that companies in concentrated industries, like petroleum, can be subject to antitrust scrutiny. For example, in our state, the case of *Aguilar v. Atlantic Richfield*[10], was dismissed by our supreme court because of a failure of proof of agreement. An earlier generation of cases might well have reached another result.[11]

2. Consider Physical Hedges to Cushion Price Spikes

---

[7] Bill Lockyer, *Report on Gasoline Pricing in California* (Office of the California Attorney General, May, 2000) 61-62 (available at http://caag.state.ca.us/antitrust/publications/gasstudy/index2.htm)

[8] 15 U.S.C. section 1.

[9] Cal. Bus. & Prof. Code section 16720 et seq.

[10] *Aguilar v. Atlantic Richfield Corp.*, 25 Cal.4th 826 (2001).

[11] See, e.g., *In re Coordinated Pretrial Proceedings Petroleum Products Antitrust Litigation*, 906 F.2d 432 (9th Cir. 1990).

Attorney General Lockyer's Gasoline Pricing report recommended that our legislature fund a study to determine the feasibility and impact of a fuels reserve to cushion price spikes. The idea is that when prices begin spiking, a reserve of gasoline could be drawn down to cushion the price shock until additional supplies could come into California. The consultants for this study just reported that such a reserve does make sense, and could have saved Californians somewhere between $0.5 to $1.0 billion in 1999 alone.[12] It also appears that the physical storage facilities that such a reserve would require could facilitate the creation of forward, physical gasoline markets which would allow market forces to more efficiently address price spikes.

3. Carefully Oversee the Issuance of Patents for Clean Fuels

When the specifications for the first generation of CARB fuel were established, Unocal was a substantial contributor. Unbeknownst to government officials or the other industry participants, Unocal had applied for a patent for the key blending technology which was at the heart of the final clean fuel standard. This put this company in the position of being able to demand a license fee for every gallon of clean fuel being sold. The validity of this patent has been challenged, with Attorney General Lockyer leading a multi-state *amicus* effort against the circumstances surrounding the issuance of this patent. As we speak, the Patent Office is conducting a review of this patent. In the meantime, it appears that the existence of this patent, and potential litigation arising from its enforcement, is a factor in keeping suppliers from meeting our needs during price spikes.[13] Another patent reportedly awarded to Snamprogetti of Italy may have a similar effect on the next generation of clean fuels in California.[14]

We understand that these kinds of issues are beginning to affect other parts of the country, as reformulated gasoline (RFG) is more broadly used. One key dimension to focus on is the extent to which blenders, which have been particularly important in supplying U.S. east coast markets, may be reducing their participation in RFG markets because of patent concerns. While we believe that properly issued patents are critical to protect innovation, it is also the case that the Patent Office is in the business of granting monopolies, and that all of the standards of patent law should be met before such monopolies are created.

3. Carefully Manage the Phase-Out of MTBE

---

[12] Stillwater Associates, *California Strategic Fuels Reserve* (California Energy Commission. March 10, 2002) 103 (available at http://www.energy.ca.gov/reports/2002-03-11_600-02-004CR.PDF).

[13] Id. at 108.

[14] Id.

Governor Davis of California lead the nation in calling for the phase-out of methyl tertiary butyl ether (MTBE), an oxygenate in gasoline that also threatened drinking water supplies.[15] The fact is that this additive represents some 11% of the volume of gasoline in California. If simply removed, and not replaced, this could have dramatic effects on supply, and prices, in California.[16] For this reason, the governor has put a moratorium on the phase-out of this additive. In addition, he has asked the U.S. Environmental Protection Agency and President Bush for a waiver of the oxygenate requirement currently imposed on California and the rest of the nation. As detailed in his letter to the president, oxygenates are not required to meet even California's stringent air quality standards and flexibility on this point will allow for the use of alternatives which will have far less impact on prices.[17]

In an era in which supply and demand are increasingly balanced on a knife-edge, if there are ways to meet necessary clean air and water goals with less impact on petroleum supplies and prices, we need to address them.

4. Embrace Conservation as a Key Element in Dealing with Price Spikes.

California drivers rank 44th in the nation in per capita gasoline consumption. Thus, although our fleet ranges from Miatas to monster trucks, California drivers are among the most thrifty in the nation. That said, we believe that conservation should still be a key part of retaining a balance between supply and demand. If a few percentage points either way can make the difference between high and reasonable prices, it behooves us all to take advantage of the opportunities presented by conservation. As a representative of the Union of Concerned Scientists observed in the Attorney General's Gasoline Pricing Task Force, California consumers could save as much as $3.3 billion per year if light trucks (the vehicle category that includes SUVs) were as fuel efficient as passenger cars. Without reigniting the controversy over federal fuel economy standards here, it is important to focus on the critical difference reasonable conservation measures from improved fuel economy to better rapid transit can have on the overall price of gasoline.

Conclusion

On behalf of Attorney General Bill Lockyer of California, I want to thank the committee for the opportunity to share the views of our office on these important issues. I would be pleased to answer any questions that you may have.

♦

[15] Cal. Governor's Executive Order D-5-99 (1999).

[16] Stillwater Associates, *MTBE Phase Out in California* (California Energy Commission, March 14, 2002) (available at http://www.energy.ca.gov/reports/2002-03-14_600-02-008CR.PDF)

[17] Letter from Governor Grey Davis to President Bush, May 22, 2001 (available at http://www.energy.ca.gov/releases/2001_releases/2001-05-22_governor_mtbe.html).

Testimony of Peter K. Ashton
President, Innovation & Information Consultants, Inc.
Concord, MA

Before the
Permanent Subcommittee on Investigations
Governmental Affairs Committee
U.S. Senate

May 2, 2002

Good morning, Mr. Chairman. It is my pleasure to appear before you to discuss gasoline pricing including recent volatility in gasoline prices in certain areas of the country. My name is Peter Ashton and I am the president of Innovation & Information Consultants, Inc., an economic and financial consulting firm specializing in the economics of the petroleum industry. I have worked on issues related to gasoline pricing for over 20 years as a consultant to various states, the federal government, and to various firms in the industry. Specifically, I have worked on investigations of gasoline pricing in over ten states including, among others, California, Oregon, Washington, Nevada, West Virginia, Massachusetts, Pennsylvania, Maine and Connecticut.

My testimony will focus on four issues. First, I will discuss recent trends in market concentration due to mergers in refining and marketing, and the implications of such on gasoline pricing. In particular, my testimony will focus on the Midwest, although I have examined trends in both the East and West Coast market areas as well. Second, I will address recent episodes of gasoline price volatility at the wholesale and retail levels in the Midwest and on the West Coast. I will evaluate possible explanations for such increased volatility including increases in market concentration, control of product supply, demand shifts, crude price increases, reduction in inventory levels, and refinery production issues. Third, I will comment on the Staff report, and fourth, offer my thoughts on measures that could be taken to reduce price volatility in the future.

Recent Merger Activity and Trends in Market Concentration

During the last five years, the domestic refining and marketing industry has witnessed a wave of mergers not unlike what was observed during the early to mid 1980s. As many of you may recall, during that time frame a number of large mergers (Chevron-Gulf, Texaco-Getty, Occidental-Cities Service, Mobil-Superior) took place and

were approved by regulatory authorities including the Federal Trade Commission (FTC). The FTC issued two reports on the "merger-wave" in the petroleum industry. In its 1989 report, the FTC concluded that these mergers had led to "modest" increases only in concentration in refining and marketing, and maintained that such increases stemmed as much from closure of inefficient refineries as from the various mergers.[1]

Despite attempts by the FTC to require divestitures, the current merger wave has had a much more significant impact on market concentration at the refining and marketing level. Since 1990, refining and marketing concentration has risen precipitously in many areas of the country. The Justice Department and the FTC utilize a measure of market concentration in evaluating mergers known as the Herfindahl-Hirschman Index or HHI,[2] which is the measure I have used in my analysis. On the East Coast, the HHI for refining capacity has doubled since 1990, and risen from 1,800 in 1996 to over 2,100 by the year 2000. Gasoline manufacturing capacity has experienced a similar increase in concentration and the HHI also exceeds 2,000.[3] Similar trends exist in the Midwest, and in particular the upper Midwest (Illinois, Indiana, Kentucky, Ohio and Michigan).[4] In the upper Midwest, the HHI for refining capacity is now near 1,800 and exceeds 1,800 for gasoline capacity, an increase of over 600 points since 1995, and a movement from a relatively unconcentrated market to a "highly concentrated" market as defined by the Justice Department and the FTC. Finally, in California, which, due to its unique gasoline product specifications, is a relatively isolated market, concentration has also increased – the HHI for gasoline production has risen from about 1,280 in 1995 to over 1,800 in 2000, again another highly significant increase.

---

[1] Jay Creswell, Scott Harvey, and Louis Silva, *Mergers in the U.S. Petroleum Industry 1971-1984: An Updated Comparative Analysis,* Bureau of Economics, Federal Trade Commission, Washington, D.C., May 1989.

[2] The HHI is computed by summing the squares of the individual market shares of all the market participants, and as such reflects both the distribution of the market shares of the largest firms in the market as well as the composition of the entire market. Justice and the FTC view markets with HHI's below 1,000 as unconcentrated, markets with HHIs between 1,000 and 1,800 as moderately concentrated, and markets with an HHI in excess of 1,800 as highly concentrated. Markets that display greater concentration are more susceptible to collusion and interdependent behavior.

[3] A mitigating factor on the East Coast is the existence of gasoline imports; however, imports play a small role in the Midwest.

[4] This is a separate relevant geographic market as defined by the FTC.

There can be little doubt that these increases in concentration have resulted from the recent wave of mergers. Few, small independent refineries still exist as most exited the business during the 1980s and early 1990s. Notwithstanding attempts by the FTC,[5] the increase in concentration has resulted from the recent wave of mergers. As the table below indicates, the recent merger wave has produced a tier of mega-giants in the refining and marketing industry, closely followed by a second tier of majors, and the disappearance of an independent refining and marketing sector. Indeed in 1998, as a result of the creation of this second tier of majors, the U.S. Department of Energy added *eleven* new companies to its list of "major" refining and marketing companies for financial reporting purposes.[6]

Recent Merger Activity in Refining & Marketing

Companies	Year	Value of Merger	Total U.S. Refining Capacity
Ultramar-Diamond Shamrock	1996	$ 2.3 billion	0.5 million b/d
Tosco-Unocal	1997	$ 1.4 billion	1.0 million b/d
Marathon-Ashland	1998	$ 2.7 billion	0.9 million b/d
BP-Amoco	1998	$ 53 billion	1.4 million b/d
BP/Amoco – Arco	1999	$ 27 billion	2.1 million b/d
Exxon-Mobil	1999	$ 81 billion	2.0 million b/d
Chevron-Texaco	2000	$ 35 billion	1.6 million b/d
Valero-Ultramar/DS	2001	$ 4 billion	1.3 million b/d
Valero-Huntway	2001	$ 0.1 billion	0.6 million b/d
Tosco-Phillips	2001	$ 7.5 billion	1.8 million b/d
Shell-Pennzoil/Quaker	2001	$ 3 billion	1.1 million b/d

Source: Oil & Gas Journal; Energy Information Administration

One observes this trend of increasing concentration throughout the chain of distribution. At the wholesale level, control of distribution facilities such as terminals and pipelines has also become increasingly concentrated. The wholesale level is critical to understanding pricing and supply as it is the bridge between refining (production) and

[5] Several of the divestitures mandated by the FTC have given rise ultimately to greater concentration with the advent of several large, second tier majors such as Tosco and Valero, and the consequent disappearance of true "independent" refiners.

the consumer (retail marketing). In my experience, this is often the point at which the greatest control over supply may be exerted, where significant interdependence exists, and also often where regulatory authorities fail to adequately examine competitive impacts. Part of this problem results from the fact that data on ownership of terminals and other distribution outlets are not as readily available as information on other aspects of the industry. Also, it is not a segment of the industry that is well understood, and requires closer study and scrutiny to determine effects on competition, particularly in terms of availability of supply to independents.

At the retail level, concentration has been increasing, and more importantly, the most significant competitive influence, independent marketers, has dwindled in size and importance. According to U.S. Department of Energy data,[7] over 65 percent of all retail sales now occur through branded stations, whereas only five years ago that number was less than 45 percent. In some areas of the country such as California, the independent marketer has all but disappeared. This increase in vertical integration and consequent impacts on retail pricing cannot be overlooked. Considerable economic research over the years has demonstrated the competitive importance of maintaining a viable, strong independent, unbranded segment of the market, yet it is rapidly disappearing and may be one reason for increased price volatility and lack of price discipline in retail markets.

In addition, the total number of retail outlets in the United States has diminished over the last ten years even though population and the demand for gasoline have been increasing. Between 1990 and 2000, there was a 16 percent reduction in the number of retail outlets – a 23 percent reduction on a per capita basis. Although some might point to this as an "efficient" outcome, much of the reduction has come at the expense of the unbranded retailers who provide price competition and discipline at the retail level.[8]

Reasons for Increased Gasoline Price Volatility

In the late spring/early summer of 2000 and then again in spring 2001 and late summer 2001, gasoline prices rose precipitously, especially in the Midwest and on the

---

[6] U.S. Department of Energy, Energy Information Administration, *Performance Profiles of Major Energy Producers, 1998,* Washington, D.C. January 2000.
[7] U.S. Department of Energy, Energy Information Administration, "Restructuring: The Changing Face of Motor Gasoline Marketing," 2001.

West Coast. The Subcommittee requested that I comment on possible explanations for these so-called "price spikes."

The cost of crude oil represents about 75 percent of the cost of making gasoline, so that when gasoline prices increase significantly, typically one expects the cause to be crude oil price hikes. Crude oil price increases, however, were ***not*** the cause of the price spikes in the late spring of 2000 or during spring and summer of 2001.[9] As Figures 1 and 2 show, crude oil prices and both wholesale and retail gasoline prices moved together during the latter half of 1999, but the gasoline price spikes observed in 2000 and 2001 were unrelated to any increases in crude oil prices.[10]

Other possible causes of the increase in gasoline prices could include supply curtailments caused either by a significant reduction in inventories or output (production) or by unforeseen demand increases. Data on consumption reveal no unexpected surges in demand other than what would have been expected on a seasonal basis during the first two price spikes. The first two of the three price spikes in the Midwest occurred as we were entering the summer driving season (in May-June), but increases in demand were less than observed for this time period in other years. Demand in July-August 2001, the period leading up to the third price spike, did increase 2.5 percent compared to the same period in 2000, and may have been partially responsible for the price increase.

Production did not decline in any meaningful way in the periods leading up to and including the first two price spikes. Looking at production on a seasonally-adjusted basis, gasoline production in PAD II was up over 3 percent in 2000 for the period directly preceding the price spike; production was up another 2 percent in the spring of 2001, and about level later in the summer of 2001 compared with 2000 and 1999. Thus supply disruptions due to refinery outages do not appear to be a plausible explanation for these two price spikes. During the third price spike there appears to have been a nationwide

[8]Several examples include Ultramar-Diamond Shamrock's acquisition of Stop-N-Go, Tosco's acquisition of Circle K, and Arco's acquisition of Thrifty, all independent marketers.
[9] Even accounting for possible lag effects, there is little relationship between changes in crude costs and changes in gasoline prices during these time frames.
[10] Representatives from the Department of Energy have argued that over broad time periods, crude price changes explain gasoline price changes, however, they acknowledge that this reasoning fails for the price spikes in 2000 and 2001.

decline in production (not in PAD II) which also appears to have had some impact on the price increase.[11]

Inventories, however, present an even more interesting picture, and appear to have had the strongest causal influence on the price spikes. First, one must recognize that the absolute level of gasoline inventories relative to consumption of gasoline has fallen significantly in recent years. Refining and marketing companies made a conscious decision in the mid-1990s to carry lower inventory levels of refined products including gasoline. Such "just-in-time" approaches to inventories were rationalized by the oil companies as a cost cutting measure, but it appears to have also benefited them by leading to greater price volatility. Figure 3 shows that the average level of inventories carried was reduced by over 20 percent between 1992 and the present from about 30 days of supply to about 24 days. As a result, the difference between the "average" level of inventories and the minimum operating inventory level has shrunk so that now even brief supply disruptions can cause major supply problems. This reduction in inventory levels means that small changes in gasoline supply can result in very large changes in prices, and is the most likely reason for the increase in price volatility that we observe in 2000 and 2001.

Examination of inventory levels immediately preceding the three price spikes in the Midwest indicates lower than normal levels, although not of the magnitude to cause such a huge run-up in prices, and in each case, inventories returned to normal seasonal levels within two weeks after the start of the price spike. Figure 4 shows the relationship between gasoline inventories and wholesale and retail gasoline prices in the Midwest. For example, during the June 2000 price spike, the surge in wholesale and retail gasoline prices began the last week in May when inventories were at abnormally low levels. However, within two weeks inventory levels were back to normal, yet gasoline prices (retail and wholesale) continued to rise for the next two weeks, increasing by another $0.15 per gallon. In face of not only adequate, but building inventories, ample refinery production, and stable crude oil prices, there appears to have been no justification for these continued gasoline price increases.

[11] It is interesting to note that although the majority of the production decline occurred in East Coast refineries, wholesale and retail gasoline prices increased between $0.15 and $0.40 per

With each of the two succeeding price spikes in the Midwest in May 2001 and August-September 2001, much the same story played out, although the period of time before price restoration (reduction) occurred, especially at the retail level, lengthened. In spring 2001, inventory levels were restored to normal by early May, yet wholesale prices continued to increase another week, and retail prices increased and then leveled off during the next five weeks, through mid-June, before beginning to drop. The August 2001 price increase is more puzzling as inventory levels showed no precipitous decline, and in fact were increasing in mid-August as gasoline prices began to increase. Here it appears that a surge in demand coupled with a reduction in U.S. gasoline production provided the impetus for the price hikes. Strangely, however, Midwest prices appeared to rise considerably more than in other parts of the country. Retail prices during late August and September increased significantly more than wholesale prices and remained above normal retail-wholesale levels into December.

In the first two episodes, it appears that the price increase was triggered by inventories reaching a critical minimum level (about 23 days' supply). Given the reduction in normal inventory levels the companies now carry (on average about 24-25 days as Figure 3 shows), one can see that it does not require much of a destabilizing influence on supply to trigger a significant price response. If average inventory levels were kept at higher levels, relatively small supply reductions might not trigger such price responses. Furthermore, with the increases in market concentration and the loss of a vibrant competitive influence, these price spikes appear to have been prolonged beyond any reasonable time period to the detriment of consumers.

To further explore the reasons for the increased price volatility, I have employed statistical analysis of these price spikes in the Midwest and California, as well as the general level of gasoline price changes over the last eight years. My analysis has examined several possible causal factors for observed changes in both wholesale and retail gasoline prices. These factors include changes in crude oil prices, gasoline production, gasoline inventories, and demand.

From these analyses, I have concluded that in normal, relatively stable times, crude oil price changes do explain a significant proportion of the change in gasoline

---

gallon more in the Midwest than on the East Coast between July and September 2001.

prices, but changes in crude prices do not explain the gasoline price spikes observed in the Midwest and on the West Coast in 2000 and 2001.[12] During the period 1994-2000, changes in inventory levels and changes in the level of gasoline production also explain a portion of the change in gasoline prices. However, it is important to note that none of these causal factors explain in any statistically significant way the extraordinary gasoline price increases observed in 2000 and 2001. As the discussion above suggests and my statistical analysis confirms, none of these possible factors provides a statistically significant explanation for the extraordinary increase in wholesale and retail gasoline prices during these time periods, and certainly none provides a rationale for the duration of the price increases.

Finally, I also tested whether changes in market structure as captured by market concentration measures had any significant effect on gasoline prices. Beginning in 1998, market concentration becomes a statistically significant explanatory factor for changes in gasoline prices in the Midwest and West Coast markets. This is particularly interesting as it suggests that market power in the form of increased concentration now plays a more important role in how gasoline prices are set than was true in years prior to the latest merger wave.

Comments on Majority Staff's Report

I have had an opportunity to review the Majority Staff's report on gasoline prices, and I share many of the same conclusions as contained in the report. The report is a highly professional piece of analysis and points, quite correctly I believe, to increasing market concentration and the companies' ability to control supply and pricing decisions as the reasons for the recent increase in gasoline price volatility.

Perhaps more importantly, Staff's conclusions are based on a ten-month investigation that has included interviews with industry officials, trade associations, and others as well as review of internal company documents. It is rare when one is able to catch a glimpse into the workings of an industry through that industry's own eyes, ears and voices, but Staff has been able to accomplish this with its investigation, and its analysis is even more compelling as a result.

[12] This conclusion holds true no matter how one applies a lag structure to the relationship between crude and gasoline price changes.

I agree with Staff that the supply/demand balance for gasoline has tightened considerably in recent years, and that the increase in concentration has facilitated the ability to control supply and, given inelastic product demand, to allow prices to rise significantly. In particular, Staff's findings that highly concentrated markets provide refiners with greater ability to control supply and price, together with the fact that highly concentrated retail markets have higher retail prices should cause concern among policymakers. Further it should lead to more intensive scrutiny of pricing and supply practices in the industry by various regulatory authorities as well as close review of any further attempts to consolidate in the industry.

Measures to Deter Price Volatility

If driven purely by market forces such as crude oil price changes, demand shifts or supply disruptions, price volatility might not necessarily cause alarm. However, my research and experience as well as the conclusions of Staff suggest that the price volatility has been caused by the disappearance of a vigorous independent segment of the marketplace that offers price discipline, combined with industry's decision to reduce average inventory levels and the rise in market concentration. Action can and should be taken to ameliorate these effects so consumers are not constantly faced with harmful price spikes that appear to benefit a few. I would recommend the following steps be taken to try to reduce such volatility:

1. Increased concentration resulting from recent merger activity appears to have had an effect on gasoline pricing and the observed price spikes. As a result, the FTC must be more vigilant in its merger review, focusing more closely on competitive impacts at the wholesale distribution level (such as terminals), and encouraging and enhancing, where possible, the competitiveness of independent marketers and refiners, especially unbranded marketers that provide price discipline.

2. Due to the fact that many markets are already highly or moderately concentrated, the FTC (and other regulatory authorities such as FERC) should take a tougher stand on various practices and behavior that might be conducive to price fixing or price signaling. For example, statements attributed to one company's CEO last December regarding supply and profit margins as found in the Staff report, demonstrate the type of "signaling" that may be considered anticompetitive in this type of marketplace.

3. In addition, the FTC should evaluate each future merger or acquisition in the petroleum industry in relation to other pending mergers and other possible changes in markets rather than in isolation.

4. I would also recommend investigation of measures to encourage greater supply flexibility. This would include among other things increasing the role of unbranded competition, greater consistency in regulatory policies, especially as it relates to gasoline (and other fuels) specifications, and ways to increase the general absolute levels of product inventories.

Figure 1
Comparison of WTI Spot Price with Midwest Retail and Spot Gasoline Prices
July 1999-December 2001

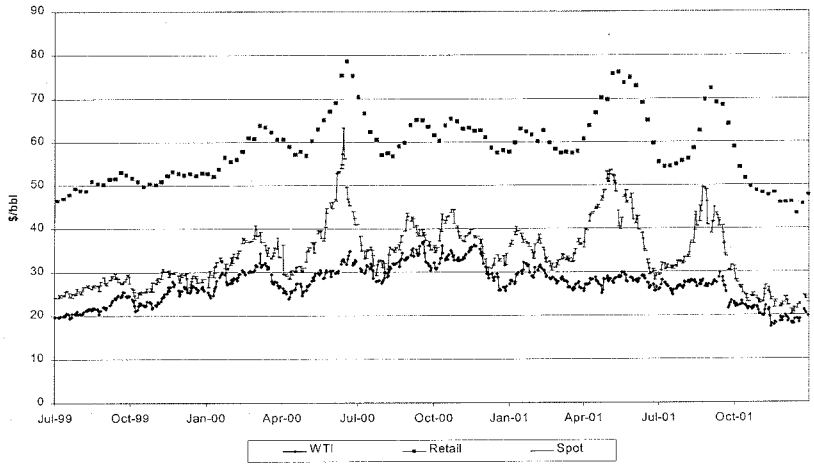


Figure 2
Comparison of WTI Spot Price with West Coast Retail and Spot Gasoline Prices
July 1999 - December 2001

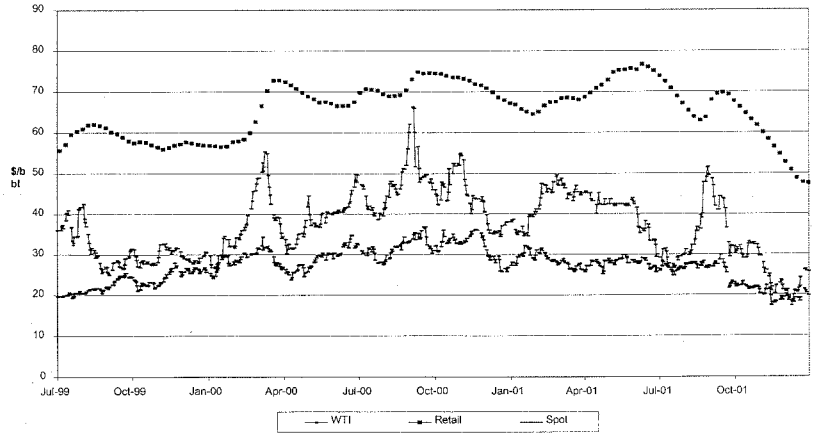


Figure 3
Gasoline Inventory Levels
1992-2001

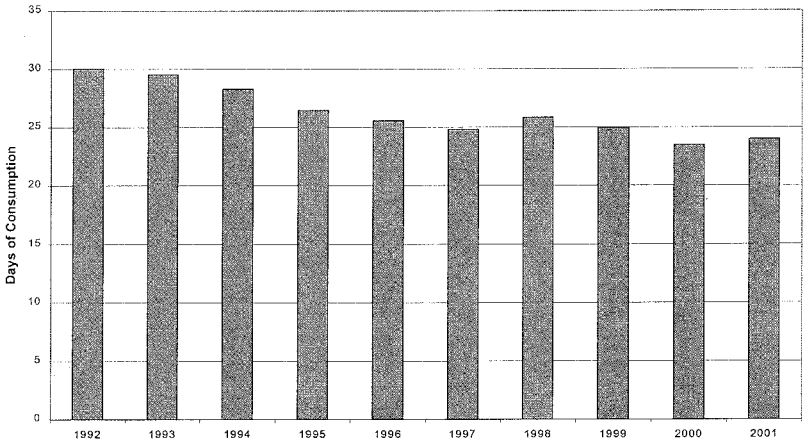
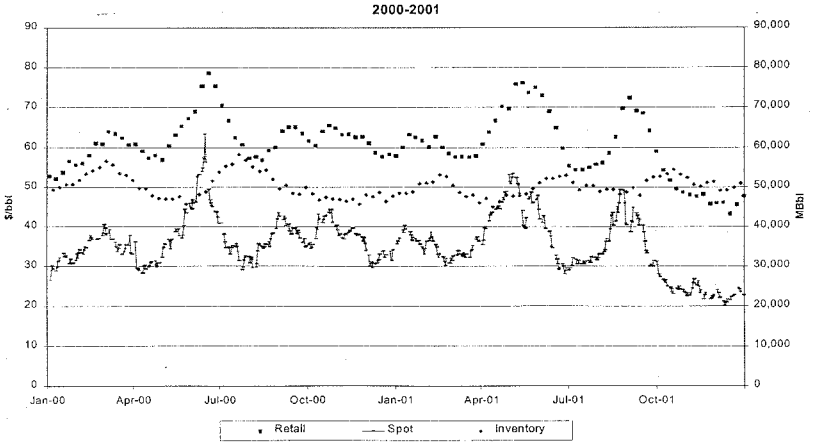


Figure 4
Comparison of Midwest Spot and Retail Gasoline Prices and Weekly Gasoline Inventories
2000-2001



Prepared Statement

of

Justine S. Hastings

Introduction

Mr. Chairman and members of the committee, my name is Justine Hastings. I am an Assistant Professor of Economics at Dartmouth. I have a Ph.D. in Economics from the University of California at Berkeley. My research focuses on the effects of vertical relationships between refiners and retailers on retail and wholesale gasoline prices. I have analyzed extensive data on retail and wholesale gasoline market structure and prices for a diverse group of US metropolitan areas covering the 1990's. I have used this data to conduct independent, academic research into the relationships between vertical market structure and competition in gasoline refining and marketing. Through this research, I have gained a wealth of knowledge about industry structure and its relationship to competition. My independent research and my acquired knowledge of the gasoline industry form the basis of my testimony before this committee.

Today I will summarize the results of two academic studies and discuss their implications for government policy. The first study focuses on the impact of various vertical contracts between refiners and retailers on retail gasoline prices and competition. The second study identifies the relationship between the extent of refiner's vertical integration into retail markets and wholesale gasoline prices. Both analyses use changes in vertical integration generated by mergers to identify the main results. After summarizing my research, I will make policy recommendations, and comment on the validity of several pieces of legislation that attempt to increase competition by regulating vertical contracts between refiners and retailers.

Summary of Research

Summary of *Vertical Relationships and Competition in Retail Markets: Empirical Evidence from Contract Changes in Southern California* [1]

Main Result: Independent retailers increase retail competition, significantly lowering local retail prices.

- ***This paper estimates the effects of (i) fully vertically integrated (company-operated) gasoline stations and (ii) fully independent (unbranded) gasoline stations on retail prices.***

Since the mid-1990's, West Coast cities have experienced substantially higher gasoline prices than other regions of the country. In addition, there has been a significant divergence in average retail prices between West Coast metropolitan areas. For instance, residents in San Diego have paid a consistent five to fifteen cents more per gallon, on average, than Los Angeles residents. These recent price phenomena have sparked intense political debate over the causes of these 'non-competitive' price patterns. Much of this debate has focused on the impact of vertical contracts between refiners and retailers on

[1] This section summarizes the results of "Vertical Relationships and Competition in Retail Gasoline Markets Empirical Evidence from Contract Changes in Southern California", by Justine S. Hastings, University of California Energy Institute Working Paper #75.

retail prices. More recently other regions of the country, such as the Midwest and the North East, have experienced similar price phenomena, moving this debate to the national arena.

- ***Proponents of Divorcement legislation claim increases in fully vertically integrated stations cause a decrease in market competition and an increase in retail gasoline prices. However, sharp decreases in the market share of independent retailers offer a competing explanation for increasing retail prices.***

On the West Coast, industry trade organizations, politicians, and consumer groups have noted corresponding increases in the number of fully vertically integrated (company-operated) gasoline stations in cities experiencing higher citywide average prices. Because of this correlation, some form of divorcement legislation or ordinance has been proposed in most West Coast states. Divorcement legislation prohibits or restricts the number of stations that a refiner can own and operate directly. Proponents of divorcement argue that a larger market share of company-operated stations lessens competition between refiners and increases their market power since the refiner directly sets the retail price at this type of station.[2] Divorcement would require the refiner to convert these stations to lessee-dealer stations or open-dealer stations, where a dealer sets the retail price but is required to pay the refiner's wholesale price, under the assumption that this would result in a lower, more "competitive" retail price.

Another argument that has received much less attention claims that recent decreases in the number of independent, unbranded retailers have decreased retail competition, since these stations typically compete on price with little non-price product differentiation. Independent stations are completely independent from the refiner in that the gasoline dealer owns the station, and sells "unbranded" gasoline. The fact that the gasoline is unbranded allows the dealer to purchase the lowest price wholesale gasoline available. They are not under contract to sell any particular brand of gasoline or purchase from any given refiner, but cannot post a refiner's brand name on their station. The unbranded station therefore competes with other stations by offering the lowest price gasoline. When these stations are replaced by branded stations (or exit the market), price competition in the market is softened, resulting in higher prices.

- ***This research paper determines if either decreases in the market share of independent stations or increases in the market share of company-operated stations cause higher retail prices.***

In order to identify the price effects of (i) company-operated stations and (ii) independent stations this analysis uses an event that caused sharp changes in the market shares of independents and company-operated stations to determine their effects on local retail

[2] Hawaii, Connecticut, Delaware, Maryland, Nevada, Virginia, and District of Columbia have all have divorcement legislation. The legislation in Nevada was passed in 1984 in response to high sustained retail prices following an expansion in the market of company-op gasoline stations. Legislation in East Coast States was passed in the 1970's in response to the Oil Crisis. The goal was to ensure that refiners allocated scarce gasoline to their dealers, instead of selling it only through their company-operated stores. The legislation ranges from prohibiting company-ops to capping their market share, to simply requiring a minimum distance between a company-op and a dealer-run station.

prices. The "long-term lease" of approximately 260 independent Thrifty gasoline stations by Atlantic Richfield Company (ARCO) provides an opportunity to test both the effects of company operated stations and the effect of independent retailers on local prices.[3]

The independent Thrifty stations were converted to ARCO stations with various vertical contracts. Some Thrifty stations became company-operated ARCO stations, and some became dealer-run ARCO stations. The Thrifty stations were distributed across Southern California. Hence, some local markets experienced a decrease in the market share of independent competitors, while other local markets did not. In addition, some markets experienced an increase in the market share of company-operated stations, while others experienced an increase in dealer-run stations instead.

These discrete and differential changes in the market share of company-ops and independents allow for a pre-post comparison between affected and unaffected markets. It is important to note that, because of these discrete and differential changes in the market shares of company-ops and independents, this analysis identifies the price effects of independent marketers and company-ops separately from many other factors that affect price, such as local demand patterns, rental rates, and time variation in wholesale gasoline costs.

- ***Summary of Results:***
  - ***Independent retailers increase price competition, lowering local prices by 5 cents per gallon, on average.***
  - ***An increase in the number of company-operated stations does not have a significant impact on local retail price. There is no difference in price changes between markets with increases in company operated stations and markets with increases in dealer-run stations.***

This finding is consistent with economic theory. Independents compete heavily on price because they have no brand-loyal customer base. Independents are also the only retailers that can purchase gasoline from the lowest price wholesaler, and they are also the only stations that can completely determine their retail price independently of the upstream refiner. Even though lessee dealers and branded dealers can set the retail price, because the branded refiner can set the wholesale price (specific to the station in the case of the lessee dealer, or open dealers that are company supplied) they effectively set the lowest retail price that the station can charge. In the case of the lessee dealer, the refiner can set the lease rate, a volume discount, and the station-specific dealer tank-wagon price. These may be sufficient tools for retail price setting. In other words, the contracts between the refiners and the lessee-dealers are just as effective at setting retail price (indirectly) as the direct retail price setting at the company-operated station.

---

[3] Nearly all of the increase in company-op stations in the West Coast over the past five years came from the purchase of two independent chains by integrated refiners: 1) Thrifty by ARCO, which affected Southern California, and 2) Circle K by Tosco, which mainly affected Phoenix and Tucson.[3] Therefore, at the citywide level of aggregation, the increase in company-ops and the decrease in independents are perfectly correlated. It is therefore unclear which, if either, of these two factors has had a positive impact on retail prices.

Summary of *Vertical Integration in Gasoline Supply: An Empirical Test of Raising Rivals' Costs* [4]

Main Result: Vertically integrated refiners have an incentive to increase wholesale prices to independent marketers in order to increase retail prices and profits. It is important to consider such interactions between vertical integration and competition in antitrust merger policy.

There are large and persistent differences in retail and wholesale (branded and unbranded) gasoline prices across US metropolitan areas. Causes for wholesale price disparities across markets are most commonly attributed to two factors: environmental regulations, and wholesale market concentration. First, meeting EPA emissions standards may increase the cost of gasoline prices in non-attainment areas, leading to higher prices in those markets. However there are large and persistent price differences across metropolitan areas within non-attainment markets.[5]

The second factor that contributes to wholesale price variation is wholesale market concentration. Differences in number of wholesale competitors could certainly lead to large and persistent price differences across markets. More competitors means less market power and competitive prices. For this reason, antitrust and merger policy focus primarily on mergers that would significantly decrease the number of competitors in a market.

Vertical integration is a third factor affecting competition that has not been carefully considered. Vertical integration can act as a barrier to entry: when refiners own most of the stations in a market, it becomes very difficult for outside refiners to enter the market and sell wholesale gasoline when prices in that market are excessively high. In addition, vertically integrated refiners have an incentive to increase wholesale prices to independent retailers. Why? If an integrated refiner raises the price of wholesale gasoline, they raise the input costs of independent retailers. These independent retailers must then raise their retail price to cover their higher input costs. The integrated refiner can then, in turn, raise the price at its retail stations, and therefore increase total profits. *Unintegrated refiners do not have this incentive to raise input costs to independent retailers.*

- ***Integrated refiners may have an incentive to raise the input cost of wholesale gasoline to rival independent retailers. Independent refiners do not have this incentive to raise rival's costs.***

---

[4] This section summarizes the results of "Vertical Integration in Gasoline Supply: An Empirical Test of Raising Rivals' Costs." By Justine Hastings and Richard Gilbert, University of California Energy Institute Working Paper #84 (2001).

[5] For example, in California, where California Air Resources Board (CARB) reformulated gasoline is required in all markets, the wholesale prices may differ substantially. For the first week of September, 1999, the average wholesale price of unbranded gasoline was 91 cents per gallon in Bakersfield, and 72.65 cents in San Diego. Both metropolitan areas are supplied via pipeline by refineries in Los Angeles. Transportation costs via pipeline are not more than a couple of cents per gallon. Source: Oil Price Information Service.

Both mergers between a refiner and a retail chain (vertical merger) and mergers between two refiners (horizontal merger) can lead to an increase in unbranded wholesale prices through the incentive to raise rival's costs. Horizontal mergers that generate increases in the downstream market share of one of the merging firms will increase the strategic incentive to raise wholesale prices.

- ***This analysis tests if integrated refiners act to increase their retail profits by raising unbranded wholesale gasoline prices to independent retailers. Results from the Event Study: An integrated refiner's unbranded wholesale price increases when it competes in the retail market with independent stations. Vertical integration increases wholesale prices through the strategic incentive to raise rivals' costs.***

The primary analysis uses Tosco Corporation's acquisition of Unocal's West Coast refining and marketing assets to identify the effects of vertical integration on unbranded wholesale prices.[6] This event generated discrete and differential changes in Tosco's integration into thirteen West Coast metropolitan areas. Tosco sold unbranded wholesale gasoline in every market. When Tosco purchased Unocal's refining and marketing assets, it acquired many integrated Unocal stations. Post-merger, Tosco will incorporate the effect of its unbranded wholesale prices on its newly acquired Unocal stations. We find that Tosco's unbranded wholesale price increased after the merger, and that it increased in proportion to the increase in retail competition with independents resulting from the merger. These results are consistent with the strategic incentive to raise rival's cost.

- ***Results from US Metropolitan Markets: There is a positive correlation between the extent of vertical integration into retail markets and the average price of unbranded gasoline. This pattern is consistent with the price effects of vertical integration identified in the event study.***

After identifying the impact of the degree of vertical integration on wholesale prices in the Tosco/Unocal case study, we estimate the potential contribution of vertical integration to wholesale price variation across the United States. We look at a broad panel of US metropolitan markets from 1993-1997 to examine if the degree of vertical integration is correlated with higher wholesale prices, and if this price correlation is consistent with the price effect identified in the Tosco-Unocal event study. These markets were all affected by various horizontal and vertical mergers that occurred during this time period. These mergers affected the vertical and horizontal market structure in various markets.[7]

---

[6] It is important to note that the only reason that this study focused on the Tosco-Unocal merger is because certain aspects of the merger and the markets it affected facilitated empirical research and the identification of the main result. Other mergers did not affect enough markets, or had other complicating characteristics that might inhibit a clean empirical identification of the incentive to raise rival's costs. Neither Tosco nor Unocal did anything illegal. Tosco's increase in price is simply profit-maximizing behavior – which is necessary for efficient markets. It is the job of economists and regulators to appropriately identify these profit maximizing incentives and question mergers that may lead a significant and non-transitory increase in price.

[7] PADDs (Petroleum Administration Defense District) 3-5 cover the West Coast, Rocky Mountain, and Gulf Coast States. Data sources are available in the paper.

The results show that prices vary positively with the extent of wholesaler's integration into retail markets, even after controlling for measures of horizontal market structure. The analysis also implies that the degree of vertical integration into downstream markets can have as large an impact on wholesale price as upstream concentration. This positive correlation between the degree of vertical integration and unbranded wholesale price is consistent with the incentive to raise rival's costs identified in the Tosco/Unocal event study.

Main Conclusions from Research Analysis:

Independent refiners and independent retailers are important contributors to competition in retail and wholesale gasoline markets.

- ***Independent retailers are uniquely important for competition:***
  - ***The increase competition at retail level.***
  - ***They allow entry into concentrated wholesale markets.***

In markets with concentrated refining capacity, producers can increase prices above competitive levels only if there are barriers to entry. Market power at refinery level depends on the number of refiners – but it also depends on the ability of outside wholesalers to enter market when prices rise. Outside gasoline producers can only enter a market if they have access to transportation, terminal and storage facilities, and a significant number of non-captive, independent retail stations through which to sell their product. It is important to note that large volume independent chains, such as RaceTrac, amplify the ability for outside entry into wholesale markets. Because they purchase to supply many stations (instead of a single station), they increase the ability for outside refiners to enter the market and supply their stations.

- ***Independent refiners are uniquely important for competition:***
  - ***Independent refiners do not have an incentive to raise rival's input cost to increase retail profits.***
  - ***Independent wholesalers compete intensely on price, unlike branded wholesalers.***
  - ***Because of these two factors, unbranded refiners are necessary to ensure sufficient unbranded gasoline supply at competitive prices – this is necessary for the entry and survival of independent retailers, including new chains such as KMart, Walmart, Costco, and RaceTrac.***

Unbranded wholesale markets are truly competitive. They are the only market where gasoline is gasoline, and retailers are free to purchase from lowest price supplier. Unintegrated refiners compete on price, and unlike integrated refiners, have no integrated retail component that might benefit from increases in unbranded wholesale prices. In addition, lower unbranded wholesale prices lead to lower branded wholesale prices in markets with many dealer-owned stations. Branded retailers who own their own stations can choose to switch to the unbranded market (and drop their retail brand) if their branded refiner's wholesale price is excessively higher than the unbranded wholesale

price. In this way, dealer-owned stations link competition in unbranded markets to competition in branded markets. Vertically integrated stations (whether lessee-dealer or company-operated) do not provide this competitive link.

Positive Policy Implications:

- ***Antitrust and Merger Policy should more carefully consider the impacts of vertical integration on wholesale gasoline prices, both in merger analysis and divestiture requirements.***

Antitrust and merger policy should more carefully evaluate changes in vertical integration when considering a merger. Vertical market structure can have as great of an impact on gasoline prices as horizontal market structure does. Horizontal mergers that result in a significant increase in the degree of vertical integration of one of the merging parties should be scrutinized more carefully. My research results also imply that competition may best be served by designing divestiture requirements to increase the retail market share of independent retailers, and decrease the average downstream market share of integrated refiners. Divestiture requirements for recent mergers have consistently required the divestiture of refineries and retail outlets to a single company – creating a new integrated competitor. For example, the Exxon Mobil merger required the divestiture of a few hundred stations and a refinery in California. They were divested to a single integrated firm. Why not divest the retail stations to an independent retail chain (or chains), like RaceTrac, and the refinery to an independent refiner, like Valero?[8] The results from this research imply that divesting the refinery to an independent refiner, and the retail stations to an independent retail chain (or chains) would do more to increase competition in California's wholesale and retail gasoline markets.

- ***The EPA needs to incorporate secondary impacts on market structure and competition when designing environmental regulations.***
  - ***Boutique fuels further segment markets leading to fewer suppliers, preventing outside entry, and thus increasing price levels and price volatility.***
  - ***Extensive expenditures and capital investments needed to comply with environmental regulations have increased market concentration***

The EPA does not sufficiently consider secondary impact of environmental regulation on market structure. Incorporating analysis of market structure will lead to more efficient regulation that minimizes the dead-weight loss to consumers of decreased competition.

To the extent that refinery upgrades to produce reformulated gasoline and underground storage tank requirements for retailers disproportionately harm low-margin independent refiners and retailers who may not have easy access to internal capital to fund expensive compliance investments, regulations may have contributed to the increase in vertical and

[8] Valero has now merged with an integrated refiner, UDS, and is no longer an independent refiner.

horizontal concentration, through the closure or sale of independent retail outlets and independent refiners.

In addition, boutique fuels segment markets and increase refiner concentration in two ways. If there is a supply disruption, supply cannot be imported from other regions of the country to meet demand if other refiners in other regions of the country do not produce fuel that meets local emissions requirements. In addition, if large integrated refiners choose to upgrade to supply reformulated gasoline markets, but smaller unintegrated refiners choose not to upgrade but supply only conventional gasoline markets, the reformulated wholesale market will become more vertically integrated. It will have a few, large integrated suppliers, and few to no unintegrated suppliers. This may lead to less wholesale market competition and higher wholesale prices for independent retailers.

Comments on Various Legislation Aimed at Increasing Competition

- ***Wholesale price regulations such as "Fair Wholesale Pricing", "Branded-Open-Supply", and "Zone Price Elimination" will not increase competition.***
  - ***They are most likely regressive policies that will lead to price increases in minority and low-income neighborhoods.***
  - ***They may lead to higher average wholesale and retail prices as well.***
  - ***They also may lead to further vertical concentration, lessening competition in the long run.***

There are several proposals that require refiners to charge the same wholesale price to their Lessee-Dealer stations. Common names of these proposals are "Fair Wholesale Pricing", "Branded Open Supply" or "Zone Price Elimination." I will refer to these legislations as "Fair Wholesale Pricing" (FWP). FWP legislation would effectively force integrated refiners to charge the same wholesale price to all of their stations. Currently refiners charge different wholesale prices to different franchised station.

Why are policy makers seriously considering wholesale price regulation? Industry trade organizations, politicians, and consumer groups have noted large differences in the station-specific wholesale prices that a refiner charges its franchise stations. For example, in Phoenix, Arizona, Mobil's wholesale price can vary by ten cents a gallon from station to station.[9] Because of these wholesale price disparities, FWP laws have been proposed in all West Coast states as well as in Maryland and Connecticut.[10] Proponents of this legislation claim, correctly, that refiners use wholesale prices to price discriminate between markets - charging higher prices in markets that will bear them, and lower prices in more price-sensitive markets. They claim that Fair Wholesale Pricing will *decrease* gasoline prices by preventing such price discrimination, and requiring refiners to charge one "fair" wholesale price to all of their stations.

[9] Source: Oil Price Information Service Dealer Tankwagon prices to stations in Phoenix, AZ for 1999.
[10] Fair Wholesale Pricing, or Branded Open Supply, was suggested as a potential solution to large price disparities in California gasoline markets in the State Attorney General's Gasoline Task Force Report.

Lessee-Dealer Trade Groups are the main supporters of FWP. They claim FWP will lower prices because 1) refiners will lower the wholesale price to all stations, and 2) Lessee-dealers will pass this price decrease on to consumers, since they do not price discriminate like refiners do. There is strong theoretical and statistical evidence against both of these claims.

First, economic theory predicts that wholesale prices could actually *increase* if refiners are forced to charge one wholesale price. The profit maximizing single price to all stations may actually be *higher* than the average of the wholesale prices under price discrimination. FWP may actually raise gasoline prices - making consumers worse off than they were before. In addition, consumers who currently purchase gasoline at lower prices, such as those in low income areas, would experience the largest increase in prices under FWP. FWP may act to redistribute the share of refiner profits taken from high income workers to low income workers.

The second claim is not supported by empirical data: Lessee-dealer retail price patterns do not differ from those of Branded-dealer-owned stations. Dealer-owned stations *do* pay one wholesale price – the branded rack price. If it is the case that dealers would price discriminate less than refiners, we would expect to see that branded-dealer-owned stations have much lower price dispersion across markets than lessee-dealers do. Retail prices provide evidence to the contrary. The average price of branded gasoline is the same across lessee-dealers and branded-dealer-owned stations.[11] In addition, prices increase with local income levels and the percent of the local population that is white at the same rate across the two station types – branded dealers do not show evidence that they price discriminate less than refiners do. FWP will harm consumers – particularly those in disadvantaged socio-economic groups.

In addition, FWP may have a negative secondary impact on dealer-owned stations. If FWP induces refiners to set a higher wholesale price, this will necessarily increase the rack price. This may lead dealer-owned stations to exit the market, by closing their stations or selling them to refiners. As mentioned earlier, these stations are important for competition because they can switch between refiners or to an unbranded supplier, unlike lessee-dealers. If FWP causes these stations to sell to refiners, FWP could actually lead to more vertical integration in the long run, further harming any competition that still exists.[12]

- ***Divorcement will not lead to lower prices, and may increase inefficiency.***

The summary of the results of research presented earlier indicate that divorcement will not lead to lower prices. Divorcement does not decrease entry barriers into wholesale markets, and it does not increase competition in retail markets. Stations owned by a

[11] This result is taken from station level price data for 1998 in Los Angeles and Seattle.

[12] It is important to note that many independent dealer organizations, such as California Independent Oil Marketers Association, believe that FWP may raise unbranded and branded rack prices, causing independent dealer owners to exit the market. These groups generally do not support this legislation like the lessee-dealer trade groups do.

refiner are still integrated – regardless of whether a refiner or a lessee-dealer sets the retail price. In addition, if refiners have chosen company-operation at certain stations in order to minimize costs, forcing them to convert these stations to lessee dealers may lead to higher, less efficient, operating costs. In general, to maximize the benefit to consumers, we want to encourage firms to lower costs and lower prices – divorcement will accomplish neither of these goals.

- ***Minimum Mark-up laws do not increase competition in the short-run or the long-run. Minimum mark-up laws increase the price of retail gasoline without increasing competition. They may also lead to inefficiencies in gasoline retailing – they encourage an over supply of gasoline stations.***

Minimum mark-up laws (or sales-below-costs laws) are currently law in several states. These laws typically require that retailers charge a 6 percent mark-up over cost. In the case of gasoline, this is supposed to lead to lower prices. Requiring a minimum mark-up will lead to higher prices in the short term if required mark-up is higher than the free-market mark-up. However, the goal of the legislation is to foster competition. Proponents of this law claim that major refiners will act to predatory-price (charge price below cost) independent retailers, forcing them out of the market. The refiners will then be able to raise prices and increase profits. So, in the long run, prices will be lower in states with minimum mark-up laws, because independent retailers will still be in the market, preserving competition. So even though there is a mandated mark-up, this mark-up prevents predatory pricing by oil companies, and preserves competition in the long run.

Empirical evidence rejects the hypothesis that these laws have acted to preserve independent marketers. For example, Utah has had a minimum mark-up law in place since 1987. New Mexico has never adopted this law. If the law accomplished its goal, we would expect to see independents exiting in Albuquerque, for example, while remaining (or even entering) in Salt Lake City. Examining the market share of independents in Albuquerque and Salt Lake City refutes this claim. Both Salt Lake City and Albuquerque have seen an almost identical decline in the market share of independents over the 1990s - both by about 15 percentage points.

Not only is there empirical evidence showing that minimum mark-up laws do not preserve competition in the manner they claim, but they may induce inefficiency in the market. These laws benefit both independent and integrated stations. All stations, regardless of affiliation, are guaranteed a minimum profit. This may lead to an excessive number of gasoline stations – integrated or unintegrated. Consumers are worse off under this legislation. It is also important to note that it is illegal for a company to require a minimum mark-up on its own – that would be *resale price maintenance*.

A Final Suggestion

Members of your Committee's staff have worked incredibly hard organize these hearings and to prepare an extensive report on gasoline prices. I am certain that many of them now deeply appreciate the following two facts: i) there is a pressing need for independent

academic research into factors that affect petroleum pricing in all markets and at all levels of the production chain, and ii) it is extremely difficult to acquire data to conduct such research. Private industry data is very expensive, and there is no single federal agency that funds economic research into energy policy, like the National Institute for Health (NIH) does for economic research into health-related policy questions. Perhaps we should introduce such grant programs for economists at the Department of Energy.

In addition, the Energy Information Administration collects data, but does not have a mechanism that allows it to be accessed by carefully screened academics at any meaningful level of aggregation. In comparison, the Census Bureau has worked hard at disseminating data in a range of aggregation levels, with corresponding levels of security to protect confidentiality. They have a model program of data organization and high security research centers that has significantly contributed to the production of high quality research, informing a large range of public policy decisions. Perhaps we should encourage the development of similar programs at the government energy agencies, to increase independent research into industries as important to our economy as petroleum and electricity.

Conclusions

- Independent retailers are important for competition. They are intensely price competitive. They can purchase gasoline from any refiner, thus increasing wholesale competition. They allow entry of outside refiners when local refiner's prices are excessively high.
- Independent refiners are important for competition. They are also intensely price competitive. They do not have an incentive to raise independent retailer's wholesale costs like integrated refiners do. They are important for ensuring adequate supply for independent retailers.
- Increases in vertical integration from the elimination of independent retail outlets and independent refiners, either through mergers or environmental regulation design, decrease competition in retail and wholesale gasoline markets
- Antitrust policy should incorporate the important role that vertical concentration can play in decreasing competition. Vertical relationships matter for competition, and need to be more prominently considered in merger analysis and divestiture requirements. I encourage the current efforts of the Federal Trade Commission to incorporate vertical integration issues into merger and antitrust regulation.
- The current system of segmented reformulated gasoline markets increases prices and volatility in the short run and in the long run. In the short run, boutique fuels lessen the number of potential suppliers for each market, increasing market concentration and increasing the potential for shortages.
- In the long run, price volatility induced by boutique fuels may drive out independent retailers. In addition, capital investment requirements to meet reformulated fuel requirements and a lack of independent retail outlets to sell gasoline to may prohibit independent refiners supplying many markets. These secondary effects will further increase volatility and price levels in the long run.

- Promoting less segmented markets, incorporating economic industry analysis into environmental regulation design, and promoting the expansion of pipeline and terminal systems to better integrate geographic markets will all help increase competition.
- Ensuring easy entry into high price markets through unintegrated refiner supply, unintegrated pipelines, supply terminals, and retail outlets will facilitate the interconnection of markets, reducing price volatility by increasing arbitrage.
- 'Fair Wholesale Pricing' legislation is not an effective policy for increasing competition and lowering wholesale and retail gasoline prices. At best, it will lead to price increases in low-priced neighborhoods, such as low-income neighborhoods, while decreasing prices in high-income, high-priced neighborhoods.
- Divorcement will not lead to lower prices or more competition – it will most likely only induce inefficiency. In general, to maximize the benefit to consumers, we want to encourage firms to lower costs and lower prices. Neither Fair Wholesale Pricing nor Divorcement will accomplish either of these goals.
- Minimum Mark-up Laws increase minimum prices without increasing competition. They are not an effective policy for preserving independent retail market share or retail competition.

Prepared Statement of R. Preston McAfee

U.S. Gasoline Prices

Introduction

Mr. Chairman and members of the Committee, my name is R. Preston McAfee. I am Murray S. Johnson Professor of Economics and former Chair of the Department of Economics at the University of Texas at Austin.[1] In 1999 and 2000, I was retained by the Federal Trade Commission ("FTC") to provide expert economic analysis and potential testimony in connection with the FTC's investigations of the mergers of Exxon Corporation and Mobil Corporation and of British Petroleum PLC and the Atlantic Richfield Company. In addition, I provided assistance to the FTC in its investigation of the summer 2000 gasoline price increase in the Midwest, and have been retained by the FTC in an on-going investigation. Finally, I have been actively involved in research on the effects of vertical integration on cooperative pricing behavior. I am pleased to be here today to discuss the economic issues that I researched, as they pertain to your examination of gasoline prices in the United States.

As part of my studies of the two mergers, I had access to and studied a substantial amount of information, including the documents that the FTC had gathered in the course of its investigations. I am advised that much of this information was provided to the FTC under statutory authority that generally requires the FTC to keep the information submitted to it confidential,[2] and, except to the extent that information has independently been made public, I am not at liberty to disclose today information submitted to the FTC pursuant to confidentiality restrictions.

However, the U.S. District Court for the Northern District of California has ordered the release of some of the documents filed under seal in *FTC v. BP Amoco*, and I am at liberty to discuss those documents. In addition, some of the information I examined as part of my analysis was obtained from public sources.

I would make the following points before this subcommittee.

The Competitive Performance of U.S. Gasoline Markets

- *West Coast wholesale gasoline markets are not integrated with the rest of the United States and must be analyzed separately from the east.*

West Coast wholesale gasoline markets are separate markets from the rest of the United States. Not only do those markets use different gasoline specifications (e.g., California Air Resources Board, or CARB, specifications), but there is no economical means of transporting gasoline from the major refining center of the U.S. Gulf Coast to California. Currently there is no pipeline moving gasoline from the Gulf Coast to the West Coast, although the plan to reverse the flow of the Longhorn Pipeline, which connects Houston and El Paso, might permit creating such a pipeline link. Sending gasoline by ship is relatively expensive. The Panama Canal cannot accommodate very large tankers and is expensive. Large tankers could go around South America, but this is a very long trip. Either way, it is expensive to ship gasoline from the Gulf Coast to the West Coast. Moreover, when the West Coast prices are sufficiently high to justify such shipments, the likely origin is the Caribbean rather the US Gulf Coast. Although shipments from the Caribbean arrive in California from time to time, these tend to be purchased by West

[1] I attach a copy of my *curriculum vita* for the Committee's reference.

[2] I was authorized to receive FTC confidential information as a consultant to the FTC, and I gave the FTC written assurances that I would not disclose confidential information that I received from the FTC.

Coast refiners to replace gasoline lost to planned refinery shutdowns, and not as a consequence of an attempt to arbitrage high West Coast prices.

- *The combination of inelastic demand and inelastic supply of gasoline magnifies the price effects of supply disruptions.*

An unusual feature of wholesale gasoline markets is the short-term unresponsiveness of both demand and supply to price changes, a characteristic that economists call "inelasticity." When prices rise substantially, consumers do not cut back their driving very much, so that the quantity of gasoline demanded falls very little. Put another way, it takes a large price increase to induce significant conservation in the short term, so that a fifty cent per gallon price increase might induce only 10% less consumption. Moreover, refineries run near capacity most of the time and cannot produce a great deal more gasoline without the installation of major capital equipment. Thus, in the short term, a refinery might be able to produce ½ percent more gasoline if the price justified it, but it takes a large price increase to reconfigure the inputs to produce even that much more gasoline.

- *Short run price changes can be three to five times the quantity changes.*

Because of the inelasticity of supply and demand, relatively small quantity effects are magnified into large price effects. A 10% shortfall in quantity, which might arise due to a fire in a refinery or a pipeline break, might require a 40% increase in price to clear the market – because consumers continue to drive almost as much, and the refineries cannot produce much more gasoline than they already do. The inelasticity of demand and supply imply that large price swings are normal – small supply disruptions create large price swings. The oil companies do *not* create such price changes – they are primarily a consequence of factors outside the control of the industry. These factors include the nature of consumer demand and the technology of refining capacity. The one factor that matters which the industry can control is storage, but storage is expensive, so it takes frequent, wide swings in price to make investments in increased storage capacity profitable.

- *Government-operated storage facilities, including a strategic gasoline inventory, serve no useful purpose.*

There is no market failure associated with storage of gasoline. As a result, the firms in the industry acquire a socially appropriate level of storage, the level at which the benefits of added storage equal the costs. Attempting to artificially inflate the level of storage will have a temporary effect at best, because the creation of government storage facilities will reduce the returns to privately held facilities and tend to eliminate private storage. This is a bad tradeoff for society.

If the costs of creating new storage have been artificially inflated by government regulation, government could act to reduce the costs by streamlining environmental regulations and eliminating redundant or useless regulation. However, real costs should be born by the firms and not subsidized by the government.

- *Minimum inventory laws are impractical and may serve to increase volatility.*

Minimum inventory requirements have major drawbacks. First, firms will tend to minimize the costs of meeting the law, and thus tend to inventory the products that are less expensive to inventory rather than the products that are most useful to inventory. Since reformulated gasoline tends to be more difficult to inventory, firms will tend to avoid inventories of RFG. Moreover, minimum inventory requirements prevent the market from running storage efficiently, because the firms that operate storage most efficiently should be the main storage companies, not necessarily producers or consumers.

- *The foremost problems in storage are boutique fuels and regulatory burdens.*

Boutique fuels increase the problem of storage by eliminating pooling. By proliferating fuel types, the amount of storage needed to prevent significant price spikes rises. Storage works like insurance: it reduces costs to be large. By dividing the nation into many smaller, separate fuel types, we increase the costs of storage and reduce its effectiveness.

The regulatory hurdles facing storage creation are high. Gasoline is dangerous and spills are damaging to the environment. The danger to life and health necessitate government intervention in the form of safety and environment regulation, and these regulations exist for good social purpose. However, regulations can be misused. Where regulations can be made more efficient, it is worthwhile doing so, and a side benefit will be a reduced volatility of gasoline prices. Regulations – not economic incentives – prevent building refineries on the West Coast. The inability to build a new refinery suggests the regulatory burden is too high.

- *Oil companies can have at most a very modest effect on the price of oil. BP's attempt to manipulate the spot price of oil on the West Coast resulted in month-to-month changes of less than three cents per gallon.*

Blaming the oil companies for the high price of oil and gasoline is a common American pastime, but is not consistent with the facts. Oil companies control a small fraction of world oil, and have little ability to change the price of oil. In the one recent documented attempt to manipulate the spot price of oil, BP shipped a small fraction of its production to the Far East to boost the West Coast price. This resulted in modest changes in the spot price for oil, which translate into even more modest changes in the spot price for gasoline.[3] The scale of oil company operations, even for a giant like BP, is simply too small to make a large difference in the world price of oil.

- *OPEC can have a significant effect on world oil prices, but historically OPEC has not been a very successful cartel.*

Americans tend to fear OPEC, but the history of OPEC suggests that our fears have been substantially overblown. OPEC is not a very successful cartel. Cartels operate by restricting supply in order to boost the price. The only members of OPEC to significantly restrict supply are Saudi Arabia and Kuwait. OPEC's successes, especially in 1973 and 1981, have been more

[3] Across-the-board increases in oil prices increase gasoline prices in approximately a one-for-one manner. The rate at which oil price increases that are not across-the-board pass through to consumers has not been quantified, and could range from zero to 100%. BP's increases were not across-the-board.

of a consequence of the joint exercise of market power by these two nations than of the collective or collusive exercise of market power by the remaining members. Of course, our alliance with these two producing countries takes on greater significance in light of their importance to OPEC's ability to exercise market power.

- *The tendency to reduce taxes when supply is temporarily disrupted is bad policy. The price must rise to ration demand to the available supply; removing the taxes does not change the price that consumers must pay to ration available supply, but transfers the taxes to the firms.*

Illinois suspended collection of its sales tax during the price spike of summer, 2000. This is good politics but bad policy. The price increase was caused by a shortage, and the price charged to consumers had to rise to a point that equated supply and demand. Because of inelastic supply, few new supplies are induced by the removal of the taxes, which means the price consumers pay doesn't change very much in response to the tax removal. Consequently, the removal of the tax mostly results in increased revenue to existing sellers and does not lower the retail price very much if at all. (Illinois also made it illegal for sellers not to pass on the tax cut to consumers, a law that neglects the rationing role of prices entirely and has the effect of making market economics illegal.)

I like seeing taxes removed, but gasoline taxes are one of the most sensible taxes in the country. Gasoline taxes are mostly user fees designed to pay for roads used by gasoline consumers. It doesn't make sense to suspend them in the event of a supply disruption.

West Coast Gasoline

- *West Coast gasoline refining and retailing is controlled by an oligopoly of seven firms: Chevron, Shell-Saudi Aramco,[4] BP-Amoco-Arco, Tosco[5], Valero,[6] Exxon-Mobil, and (likely) Tesoro.[7] These firms are interdependent and aware of each other's responses, which reduces the likelihood of fully competitive behavior. Vertical integration exacerbates the risk of non-competitive behavior.*

Concentration in any industry creates a concern that market power may be exercised, to the detriment of consumers. Gasoline refining and retailing on the West Coast are fairly concentrated, but not extraordinarily concentrated. At either level in the production chain, the concentration is high enough to create concern about new mergers. Moreover, those seven firms, along with an eighth firm (Kinder Morgan) control the terminaling facilities and pipelines, which permit the importation and transportation of gasoline in the market. The combination of control at all levels significantly exacerbates the risk of market power, and does so by two distinct means.

---

[4] The FTC required Texaco to drop out of the Equilon joint venture in order to merge with Chevron.

[5] Tosco was purchased by Phillips.

[6] Tesoro has been proposed as the purchaser of Valero assets to comply with the FTC consent decree to satisfy the antitrust laws in the purchase of Ultramar-Diamond Shamrock.

[7] These seven firms account for 96.3% of refining. In addition, Paramount and Kern together account for 3.6% of total refining.

First, the control of refining and retailing creates an entry barrier, for any potential entrant must enter at two levels of production, rather than one. For example, if a grocery store decides it would like to enter gasoline retailing (a nationwide phenomenon), the grocery store would ordinarily contact an independent refiner to assure a source of supply. In the West Coast, however, there are no significant independent refiners; the grocer is forced to buy gasoline from a competitor in the retail market. In principle, the grocer could build a refinery to supply its needs, but in practice environmental concerns make a new refinery uneconomical, and in any case, grocers are unlikely entrants to the refining business. Similarly, an attempt to build a new refinery or expand an existing small refinery runs into the roadblock of finding adequate retail capacity. Alternatively, a retailer could try to bring tankers of gasoline to the market, but then faces one independent supplier of terminaling facilities.

Second, the interconnection of the seven firms on the West Coast induces a more cooperative attitude than might arise otherwise, and a cooperative attitude by firms generally results in less price competition than is desirable. Several of the firms engage in "swaps," in which gasoline is exchanged to meet local needs. These firms buy from each other in the intermediate, bulk gasoline market. Such interdependence tends to mute competition. A firm that undercuts its rivals in one market faces a reaction by the rivals in other markets. For example, a firm that sells more at retail than it refines is hesitant to cut its retail price, for fear that its suppliers, who also compete at the retail level, will react by curtailing their bulk gasoline sales. Such interdependence may lead to prices above competitive levels without any illegal meetings or communications. In such a situation, the firms independently recognize their joint interest, which is called "tacit collusion" by economists.

- *The Federal Trade Commission is aware of the threat created by increasing vertical integration and interdependence.*

In my opinion, the FTC is very concerned that the West Coast market is less competitive than the market concentration would suggest. Its analyses have incorporated vertical integration issues and the public has been protected from increasing concentration.

- *There is no evidence of explicit collusion, and explicit collusion is unlikely.*

I have personally read a very large number of documents produced by oil companies as part of confidential investigations, and I have seen no evidence of explicit collusion, illegal meetings among executives, or other indications of conspiracy. I have personally examined sufficiently many documents that I believe I would have seen evidence if such evidence existed. I am confident that the oil companies are not engaged in an explicit conspiracy against the public.

It would be surprising if the oil companies were engaged in a "smoke-filled room" kind of conspiracy. These companies are among the world's most savvy about the antitrust laws, being one of the first major targets of the antitrust laws. Because of this history, the oil companies receive greater scrutiny than some industries, increasing the risks associated with a violation of the antitrust laws.

Moreover, it is difficult to motivate a manager in a large organization to engage in a price-fixing conspiracy (although management at ADM seems to have solved this problem!). The manager

personally risks jail by such actions, but the benefits mostly flow to the shareholders. Consequently, it is rare for large corporations to engage in explicit price-fixing.

- *A single refinery outage can create a major price spike in the West Coast.*

In recent years, California has had a rash of refinery fires that disrupted supply and have sent short-run retail prices up by as much as fifty cents per gallon. Tosco's Bay Area refinery, now owned by Ultramar-Diamond Shamrock, had a rash of fires. From an industry perspective, these fires were profitable, sending prices up significantly with only a modest quantity disruption. The isolation of the West Coast market, combined with inelastic demand, creates a situation where volatility of prices is normal.

- *The Longhorn Pipeline, which connects Houston to El Paso, may help integrate the West Coast into the rest of the country's supply pool.*

When events are random, pooling can reduce risk. This is the basis of insurance – by pooling the risks we face, we obtain the relatively steady average loss. The isolation of the West Coast prevents it from being pooled with the rest of the nation's wholesale gasoline markets. It is possible to increase the extent to which the nation is integrated through the creation of a pipeline connecting the Gulf Coast with the West Coast. The Longhorn Pipeline will not accomplish this connection by itself, but requires an additional pipeline from El Paso to Phoenix. The Longhorn Pipeline is incredibly unpopular in my hometown of Austin due to environmental concerns.

Eastern Gasoline

- *The eastern U.S. (east of the continental divide) has sufficiently many refiners and retailers to be very competitive. However, the "boutique fuels" problem slows competitive responses. Boutique fuels reduce and even prevent substitution across markets.*

The rest of the country is blessed with a large number of refiners and retailers. Thus, large discount retailers like RaceTrac have a steady source of supply. The vertical control concerns raised for the West Coast do not arise elsewhere in the U.S.

However, the U.S. is in danger of becoming a patchwork of separate geographic areas, due to what is called the "boutique fuels" problem. The ethanol-based reformulated gasoline used in Chicago and Milwaukee is used nowhere else, so when there was a supply disruption in the summer of 2000, gasoline could not be diverted from other parts of the Midwest to mitigate the short-run price increases. By some counts, there are more than forty gasoline types being produced in the U.S. to meet regulations established for local areas. While such a patchwork of fuel grades may alleviate local environmental concerns, boutique fuels separate our competitive marketplace into many less-competitive marketplaces. The proliferation of types of RFGs (reformulated gasoline) increases our vulnerability to small supply disruptions.

- *Some wholesale gasoline markets are served by one or two pipelines.*

Pipeline economics exacerbate the problem of boutique fuels. Pipeline economics are summarized by the familiar formula πr^2, or "pi r squared," which defines the area of a circle. Double the radius of a pipeline, and you quadruple the volume of the pipeline. This simple fact makes one pipeline more efficient than two smaller pipelines. Consequently, many places are served by only one or two pipelines. Pipeline economics exacerbate the effects of disruptions – there may be few alternate routes.

Moreover, boutique fuels create a further problem when combined with the nature of pipelines. Boutique fuels are transported by sending a large volume of one fuel, followed by a large volume of the next. The transition from one fuel to another creates a low value mixed fuel. (The mixture of MTBE-based and ethanol-based RFG produces a mix that is not environmentally sound, for example.) Thus, it is uneconomical to switch frequently from product to product and the loss associated with transportation grows the more types of fuels that are transported on a given pipeline. This makes geographic areas even more vulnerable to supply disruptions.

- *Long-distance transportation requires about four weeks, and refining plus transport takes around eight weeks, so a two-month response to an unexpected shortage is to be expected even in a competitive marketplace.*

Consider the retail gasoline price increase that occurred in Chicago in summer, 2ooo. How quickly could the market react? If a Gulf Coast refiner had a stock of Chicago-certified gasoline (ethanol-based RFG II), and the supplier could buy (or already had) pipeline space, the supplier could inject the gasoline into the pipeline. Three to four weeks later, the gasoline would arrive in Chicago. Thus, in the best circumstances, this kind of market reaction to a disruption requires a month. In practice, if the refinery is producing something other than the Chicago fuel and has to shut down and reorganize to produce the Chicago fuel, and the pipeline has to juggle its scheduled deliveries, at least an additional month is required for the fuel to arrive. Thus, realistically, a two-month lag to supply disruptions is reasonable, given the economics of refineries and pipelines.

- *The possibility of EPA waivers may slow supply responses.*

Some gasoline suppliers thought the EPA might issue waivers for Chicago and Milwaukee, and waited to see what the EPA would do. Such a concern on the part of oil companies is justified, because the EPA does issue waivers in some circumstances, and indeed did so in St. Louis. A company that races to bring RFG II to Chicago, only to have the EPA issue a waiver permitting ordinary fuel to be used, finds itself holding expensive gasoline that can only be sold at the price of inexpensive gasoline.

It is difficult to formulate policy to deal with the unpredictability of the EPA. There are going to be circumstances where the EPA should issue waivers, and others that don't merit waivers. Moreover, it is going to be difficult or impossible to specify in advance all the circumstances where the EPA should issue waivers. It is important, however, to understand the unpredictability of government can exacerbate supply disruptions by muting the responses of markets. Early, definitive announcements help markets perform.

- *The need to clean storage tanks between summer and winter creates a window of severe vulnerability to supply disruptions.*

Often summer fuels cannot be mixed with winter fuels and still meet EPA standards. The effect of the inability to mix means that the storage tank has to be emptied and cleaned before being refilled with summer fuel. Moreover, firms will generally wait until the very last week before summer fuel is mandated to switch, because cleaner summer fuel is more expensive to produce. This means that all of the storage tanks are empty the same week, which creates a week of severe vulnerability to a supply disruption.

Antitrust

Recent oil company mergers have raised concerns that "big oil" will soon be in a position to increase prices freely. However, these mergers receive exacting scrutiny from federal antitrust agencies and antitrust concerns are eliminated by divestitures. Big mergers have positive aspects – Exxon-Mobil is using the best of both companies, in particular applying Exxon's overseas development skills to Mobil assets, and Mobil's operations and technology know-how to heritage-Exxon domestic operations. Developing the oil resources of foreign nations often requires a very large firm, one that can weather large-scale adversity and develop great resource pools.

- *Boutique fuels balkanize the large integrated eastern market, increasing short-term market power concerns.*

The proliferation of fuels encourages refineries to specialize and, thereby, reduces the intensity of their competition. At a minimum, the increase in the number of fuels creates short-term market power, because it takes rivals some time to respond to a reduction in supply by any one firm, and there are fewer rivals in a position to respond quickly.

- *There is some concern about concentration of retail outlets, primarily in the downtown areas of larger cities where building a new gasoline station is very difficult. Retail concentration is less of a concern in suburban or rural areas, where new stations are entering.*

Generally, retail gasoline margins are thin – about seven cents per gallon – and there is little or no antitrust concern about the level of concentration in retail gasoline. Margins are just sufficient to cover the fixed costs of operating the retail station. There is some antitrust concern in the larger cities, where there are few gasoline stations and it is difficult or impossible to obtain zoning permission to open a new station. Elsewhere, new stations are opening up, with the modern multiple-bay convenience store design. Entry prevents the exercise of market power, so areas with retail entry present no significant antitrust concerns.

- *The Federal Trade Commission does a thorough job investigating oil company mergers. Big mergers have generally required divestitures to preserve competition.*

I have been impressed with the overall quality of the analysis coming from the Federal Trade Commission. The FTC must identify the areas of potential antitrust concern and develop sufficient data and information sources to permit evaluation of the likely competitive effects of mergers involving oil firms. The Exxon-Mobil merger, with over one hundred million pages of document production, resulted in the hallways of the FTC being lined with boxes everywhere

one went. The document *index* ran thousands of pages. Such a document production is daunting, and the FTC has done an impressive job identifying competitive issues and developing a case to take to court to protect competition. The issues in oil mergers range from owning shares in transportation pipelines to three-dimensional mapping technology. While consumers focus on gasoline, the FTC must evaluate the likely effects of the merger on many other products, such as jet fuel, diesel, asphalt, natural gas, lubricants and even candle wax. I can tell this committee that the FTC is very thorough and careful in its approach, and protects competition to the fullest extent of the law.

- *Exxon and Mobil sold thousands of retail stations and one of their two California refineries, along with shares in pipelines and various other assets.*

The divestitures obtained in the Exxon-Mobil merger could produce a sizeable oil company. This agreement serves as a model agreement. The combined company is a better company than its component parts, not because of any increase in market power, but because it has leveraged the best of both companies. This improved performance enhances competition, and benefits the American consumer. At the same time, where competition was threatened because of significant competitive overlaps, divestitures preserved competition.

- *BP sold all of Arco's Alaska assets to ensure competition in the search for North Slope oil. This divestiture actually increases competition, since BP's incentive to increase West Coast oil prices was eliminated by the purchase of Arco's retail outlets. BP stopped shipments of oil to the Far East after purchasing Arco's West Coast refineries.*

BP Amoco's takeover of Arco shows the insistence of the FTC to preserve competition. BP was initially unwilling to divest significant Alaskan assets, calling such a divestiture a deal-breaker. In spite of BP's tough posturing, the FTC sued to block the merger, which is the largest merger ever challenged by the FTC. After the lawsuit was filed, BP agreed to divest Arco's Alaskan assets, which were acquired by Phillips Petroleum for almost $7 billion, the largest divesture ever obtained by the FTC. This divestiture not only eliminates any competitive concerns, but in fact makes the merger pro-competitive. Because BP now owns West Coast refineries, its incentive to increase the spot price of oil on the West Coast is eliminated. The settlement represents a great victory for the antitrust laws, which have preserved competition on Alaska's North Slope, and a great victory for American consumers.

- *Vertical integration of West Coast firms magnifies the risk of non-competitive outcomes.*

Vertical integration by the seven major refiners decreases market competitiveness by several distinct means. First, entry is more difficult because a firm must enter at several levels (terminaling, refining and retailing) to produce and get the product to market. Second, the wholesale market and swaps (usually geographically-based exchanges) create an interconnection between the firms – they need each other. If BP-Arco buys wholesale gasoline from Chevron, BP-Arco is hesitant to take actions that might injure Chevron at the retail level. Similarly, actions by Chevron that would injure BP at the retail level harm Chevron at the wholesale level. Without any explicit conspiracy, such interdependence impedes pro-competitive behavior.

My assessment is that mergers of firms with West Coast gasoline assets require heightened scrutiny. Over the past five years or more, such mergers have received heightened scrutiny, with an increasing awareness that interdependence of the firms requires an analysis beyond the standard approach, because the standard approach does not recognize the significance of vertical integration in creating non-competitive outcomes.[8] The formulation of appropriate antitrust standards for vertical mergers is a subject in its infancy, but one of growing importance.[9]

- *Forced divestiture of retail outlets will likely interfere with efficient delivery of gasoline and is bad government policy.*

While mergers of firms operating on the West Coast are of greater concern because of the small number of refiners and retailers and the absence of independent operators at all levels of the production chain, a policy to artificially eliminate vertical integration is likely to do much harm and no good. Moreover, the vertical control issue arises only on the West Coast – for the rest of the country, there are independent refiners that can supply entering or growing retailers (such as grocery stores or RaceTrac), and independent retailers for the independent refiners to supply. Concentration levels are not so high as to create a concern.

There is not a great deal of competition for gasoline retailing in the center of many of the older large cities, such as Boston, New York and Detroit. The problem in these locations is NOT a problem of vertical integration but the simpler problem that there are few stations (due to high land value) and entry is very difficult. Entry is difficult primarily because land is expensive, but also because the existing stations (whether vertically integrated or not) lobby local zoning boards to prevent entry, using environmental threats as a reason.

There are many pro-competitive reasons for firms to be vertically integrated (operate at multiple levels of the production chain). In particular, vertical integration reduces risk by pooling, as with insurance, and it permits more complex contracting to solve a variety of incentive problems. Incentive effects are very important when various aspects of gasoline delivery that are difficult to monitor matter. Mobil has established a reputation for nicer stations, which serves the company and consumers well. Mobil's incentive and ability to create such a reputation requires a large scale of operation (to make it worthwhile) and the ability to tie its gasoline brand to its retail performance. Elimination of vertical integration would harm or even destroy the ability of a firm like Mobil (now Exxon-Mobil) to create such value for consumers.

A ban on vertical integration, or divorcement of retailing from other stages of operation, may do a great deal of harm. It is analogous to telling Starbucks to stick to coffee roasting and get out of the retail business.

---

[8] The standard approach does recognize the extreme of foreclosure, where a firm might shut down a rival through a denial of access to inputs. Vertical interdependence is related to foreclosure, for it considers the ability of firms to influence the behavior of rivals via pressure in other markets.

9 See, for example, Kenneth Hendricks, Joshua Fried, Preston McAfee, Melanie Williams and Michael Williams, "Measuring Antitcompetitive Effects of Mergers When Buyer Power is Concentrated," *Texas Law Review,* vol 79, no.1, 2001, 48-74.

- *Elimination of zone pricing may cause average retail prices to rise.*

Zone pricing refers to the policy of wholesale suppliers charging retail gasoline stations in different geographic zones different prices based on the nature of customers in that zone. Charging demand-based prices is common in gasoline markets and in many other industries as well. Economists call this price discrimination, while marketers use the softer term "value based pricing." Frequent flyer miles, Saturday night stayover fares, buy one get a second at half price, and senior citizen or student discounts are all examples of the same phenomenon. Even free delivery, in which different customers are charged the same prices in spite of different costs of service, is a form of price discrimination.

One man's surcharge is another man's discount. Relative to uniform pricing, zone pricing increases prices in the areas with little competition and/or rich consumers and reduces prices in the areas with the most competition and/or the poorest consumers. Elimination of zone pricing by statute will tend to force an average markup to all. This amounts to a transfer from poorer areas and/or areas with lots of competition to richer areas and/or areas with little competition. Overall, a ban on zone pricing will likely hurt the neediest segment of society.

Moreover, there is no economic prediction that average prices will fall. Refinery margins won't fall because refinery margins are determined by supply conditions at terminals rather than retail stations. Retail gasoline is quite competitive with very low profit margins in most areas. There is little scope for a significant price decrease.

Conclusion

What can the government do to improve the reliability of delivery and price of gasoline to the U.S. consumer? The main points I would make before this committee are:

- There is only a limited role for government in reducing price volatility. Some level of fluctuations in price is unavoidable, caused by large-scale phenomena like demand increases, and short-term phenomena like pipeline breaks.
- Price volatility is not unambiguously bad. Gasoline prices are volatile because the value of gasoline varies over time. Stabilizing prices at a high level is much worse for consumers than volatile prices.
- Price controls are not a fix for price volatility. We lived through the gasoline lines of the 1970s, and I hope never to see those again. Preventing the establishment of market prices through price controls does not change the underlying conditions, but instead often creates severe shortages and eliminates investment. Price controls do severe damage, as anyone who has driven through the Bronx can verify, because rent controls destroyed the Bronx.
- Tax holidays during price spikes do not decrease the price to consumers but create transfers to oil companies.
- Volatility is increased by the proliferation of boutique fuels. As a nation, we should be aware that every time an area is assigned its own fuel specifications, the rest of us lose a bit of insurance. We should attempt to minimize the total number of distinct gasoline types used.
- The greater the extent to which the nation is interconnected, the less will be the volatility of gasoline prices. Promoting the construction of pipelines can reduce volatility

by linking geographic areas more tightly. This may be an expensive fix with limited effects, however.

- Storage reduces volatility. Promoting the expansion of storage tanks is probably the least cost means of reducing volatility. However, such promotion should involve improvements in the regulatory environment, tax breaks or other inducements to the creation of storage facilities, rather than direct rewards to storage of gasoline itself, in order to minimize regulatory costs. It is important that the cure not be worse than the disease.
- Government-run storage will tend to crowd out private storage, which increases the overall cost of gasoline supply without increasing actual supplies.
- Industry executives are justifiably pessimistic about the ability of the nation to produce new refineries, especially in California. Even in their private documents, they say that there will never be a new West Coast refinery built. There is a role for the government to moderate the "Not in My Backyard" (NIMBY) mentality that prevents us from building adequate refineries, adequate electric power generation facilities, pipelines, electric transmission lines, and even cellular phone towers. Fortunately, my home state of Texas has relatively few NIMBY problems and we aren't in danger of losing our power. NIMBYism is approaching a crisis problem in some parts of our country.
- Forcing oil companies out of retail operations, e.g. divorcement, by legislation is likely to eliminate many of the benefits of vertical integration without encouraging competition.
- Elimination of zone pricing will not tend to reduce average gasoline prices, but instead increase prices in competitive and/or poor areas, while decreasing prices in less competitive and/or richer areas.
- Finally, let me end with a "big picture" remark. Over the past thirty years, this country has deregulated trucking, airlines, rail, gasoline, oil, natural gas, and long-distance telephony. It is in the process of deregulating electricity and local telephony for business customers. Overall, the deregulation of the U.S. economy has produced huge gains for American consumers. We should not let a few problems – most notably the California electricity crisis and price spikes in gasoline – deflect us from our market economy or send us back to regulation. In almost all instances, competitive industries deliver more, higher quality goods to consumers than regulated industries. Regulation produced gasoline lines, which are worse in the long run than volatile prices.

Prepared Statement of
Philip K. Verleger, Jr.[1]
Before

The Permanent Subcommittee on Investigations of the
Senate Governmental Affairs Committee

May 2, 2002

Mr. Chairman, it is a pleasure to appear today to discuss sources of gasoline price volatility. As you are aware, I have testified in the past before the Federal Trade Commission in that agency's investigation of the causes of price volatility. A copy of my prior testimony is attached. In today's testimony, I will make the following points.

- First, the increase in volatility and level of gasoline prices is attributable primarily to a group of countries conspiring to lift crude prices above the market-clearing level. The success of this effort since March 1999 has raised crude oil and gasoline prices by more than 100 percent. The increases in crude oil and wholesale gasoline prices this spring, as well as in prior springs, are substantially the consequence of their scheme.

- Second, the efforts of oil-exporting countries to elevate prices have been aided and abetted by the US auto industry and US consumers. The increased sales of "gas-guzzling" sport utility vehicles and trucks have reversed a twenty-year trend in increased automobile fuel economy. The problem has been exacerbated by the auto industry's success in assigning the cost of eliminating harmful emissions to the petroleum industry. The oil industry's failure to respond with the necessary investments in refining capacity has created a situation where unconstrained demand for gasoline rises at a rate faster than supply. Annual retail price increases of as much as 20 percent during peak driving periods will be required to balance the market in the future unless imports from foreign suppliers meet the higher demand.

- Third, the Congressional oxygenate mandate as specified in the Clean Air Act Amendments of 1990 has seriously complicated the manufacture and distribution of gasoline, contributing to localized shortages and product unavailability.

- Fourth, the merger policy applied by the Federal Trade Commission (FTC) has restricted the growth of the nation's gasoline supply. The policy has focused on the number of refineries and the capacity of refiners. Divestitures of refining capacity have been required. On occasion, these divestitures have denied merging companies

---

[1] PKVerleger LLC and BP Senior Fellow at the Council on Foreign Relations. Contact: pverleger@compuserve.com. The views expressed in this testimony are solely those of Dr. Verleger.

the opportunity to achieve very large increases in economies of scale by combining two adjacent facilities. A different policy might have boosted gasoline supply considerably.

- Fifth, the world's largest integrated oil companies are opting out of refining in the United States. Integrated companies own approximately 90 percent of refining capacity in Europe but only 56 percent of refining capacity in the United States. Over the last ten years, these firms have sold approximately 10 percent of their refining capacity, in part because they believe the regulatory system in the United States has denied and will continue to deny them the opportunity to earn adequate returns.

- Sixth, independent firms now own 34 percent (or 4.7 million barrels per day) of US refining capacity. This represents an increase of 360 percent in the capacity operated by such companies since 1985. These firms appear to be undercapitalized. As a result, they cannot make all the capital improvements required by environmental laws or growing demand. Furthermore, these firms are less able to compensate for volatility in crude markets. To the contrary, their limited finances may magnify fluctuations in gasoline prices, especially since they enjoy significant market power given the price inelasticity of gasoline demand.

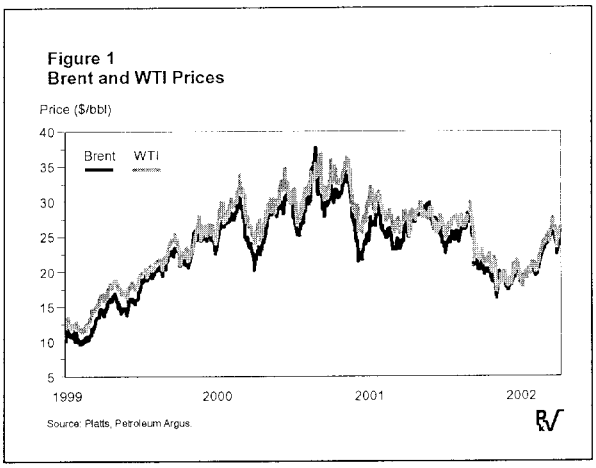
- Lastly, gasoline prices would be far more volatile and higher if major "big box" retailers and a few other specialized retailers had not introduced new competition to gasoline marketing. The entry of firms such as Wal-Mart has offset much if not all the upward pressure on gasoline prices in many regions of the country.

The Producer Conspiracy

Primary responsibility for the increase in the level and volatility of gasoline prices rests with oil-exporting countries. Beginning in March 1999, these nations have worked aggressively to restrain output in order to boost crude oil prices. They have succeeded most of the time. The market price for crude oil has risen from $10 per barrel to more than $30 per barrel as a direct result of their actions, as can be seen from Figure 1 (page 3).

The price increases were achieved by a conspiracy that would be illegal in the United States or most any other country if undertaken by private companies. The conspiracy may even be illegal under US law. I have filed an affidavit in Federal Court in Alabama in support of an action against OPEC.[2] In that affidavit, I showed that the market price for crude oil in the "but for" world would be less than $19 per barrel for the common indicator of US crude oil prices, West Texas Intermediate (WTI).

[2] See "Expert Report of Dr. Philip K. Verleger, Jr.," Prewitt Enterprises, Inc. et al. v. Organization of the Petroleum Exporting Countries (CV-00-W-0865-S), US District Court for the Northern District of Alabama, Southern Division, January 12, 2001.



The coordinated action of oil-exporting countries is doubly troubling because it has come about through coercion. Twice, first in March 1999 and more recently this last December, the largest members of the Organization of Petroleum Exporting Countries (OPEC) have demanded that non-OPEC countries join in production cuts. These demands were backed by threats of a price war. In the most recent episode, some close US allies — Mexico, Norway, and Russia — were forced to participate in output reductions when OPEC members, particularly Saudi Arabia, threatened to increase production and drive prices to low levels if they did not cooperate.

The OPEC conspiracy has had two important impacts on gasoline markets. First, higher oil prices are passed through to consumers in the form of higher gasoline prices. Second, OPEC nations have discouraged stock building on the part of consumers. The cartel's policy can be summarized this way: "Make buyers hold minimum stocks." They have pursued this goal because, as commodity economists have known for decades, market agents will hold fewer stocks when prices are above the long-run equilibrium level.[3]

The success of OPEC's action is illustrated in Figure 2 (page 4). This figure shows days of usable[4] supply of crude and product held in industrialized countries. The shaded area is the "normal range" in which stocks have been observed to fluctuate two-thirds of the time. One can note that stocks were well above the normal range in late 1998, early 1999, and again in late 2001. Prices were low during these periods. One can also note that stocks were drawn down to low levels in late 1999 and 2000. Prices rose to high levels during these times.

---

[3] On this, see John Maynard Keynes, "The Policy of Government Storage of Foodstuffs and Raw Materials," *The Economic Journal* (September 1938) in Donald Moggridge and Susan Howson (eds.), *The Collected Writings of John Maynard Keynes* (London: Cambridge University Press, 1982); Holbert Working, "The Theory of the Price of Storage," *American Economic Review* 48 (1949), pp. 1254-1262; Michael J. Brennan, "The Supply of Storage," *American Economic Review* 47, No. 1 (1958), pp. 50-72; or Jeffrey C. Williams, *The Economic Function of Futures Markets* (Cambridge, England: Cambridge University Press, 1986).

[4] Petroleum stocks are broken into usable and minimum working levels of inventories. Usable stocks are the portion of inventories that can be drawn. Here they are converted into days of supply.

The decline in inventories was not an accident. Oil-exporting countries cut production to decrease stocks, knowing that the drop would force crude prices up. Markets worked exactly as predicted in academic theory (see Figure 3). Crude oil prices rose as the conspiracy by oil-exporting countries limited production and caused stocks to decline.

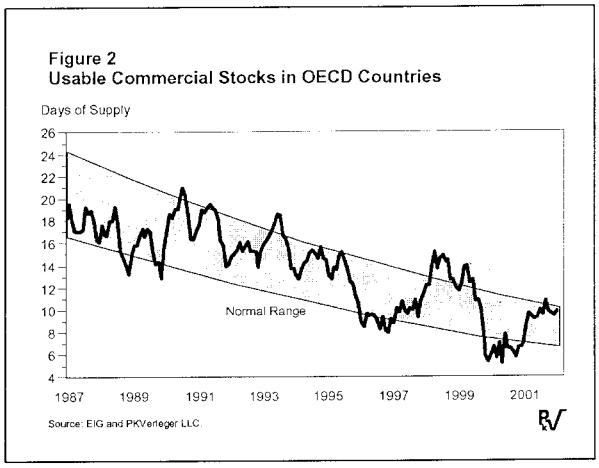


Figure 2
Usable Commercial Stocks in OECD Countries

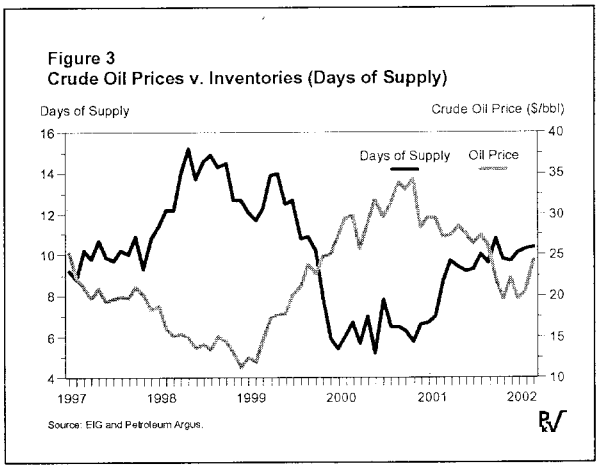


Figure 3
Crude Oil Prices v. Inventories (Days of Supply)

The Role of Demand

Strong consumer demand for gasoline caused by increased vehicle registrations and the decline in fuel economy of new cars and trucks — especially the large sport utility vehicles (SUVs) — has also contributed to gasoline price increases and the rise in gasoline price volatility. Quite simply, automakers have exacerbated the supply-and-demand imbalance. While selling ever-larger numbers of inefficient vehicles, they have ignored the problem of increasing the supply of gasoline and diesel fuel to meet the greater requirements generated by SUVs and small trucks. Instead, the auto industry has engaged in a "Field of Dreams" form of advertising: telling American they can go anywhere in their new oversized trucks but failing to warn them that adequate fuel supplies may not be available.

My very rough and simplistic calculations suggest that retail prices during the peak driving season may have to rise annually at a rate of 10 to 20 percent to balance the

market. Such increases would be required if unconstrained consumer demand for gasoline rises by 3 percent per year on a year-over-year basis, while the gasoline supply grows by only 1 percent.

Now I recognize that 10 or 20-percent increases in gasoline prices in the summer are not politically attractive. However, the only alternatives would be to increase gasoline imports from refineries in South America, Europe, and Asia or convince consumers to voluntarily reduce their driving.

On this issue, the Senate may wish to compare and contrast the situation in Europe with the one in the United States. In Europe, gasoline demand has not grown since 1990 and there have been relatively few sudden increases in gasoline prices. By contrast, US gasoline demand increased by 16 percent from 1990 to 2000. During this period, there were numerous price spikes. The increase in demand has played an important part in the greater volatility of gasoline prices. Greater use has resulted from economic growth, population growth, and our tragic refusal to address fuel conservation. Unfortunately, greater gasoline price volatility is a direct consequence of the automakers' current penchant to sell larger and larger, less-fuel-efficient vehicles and the consumers' willingness to buy them.

The Oxygenate Mandate

The nation's gasoline supply has also been adversely affected by the oxygenate mandate imposed by Congress in 1990. When this rule was passed, some scientists believed that including oxygenates in reformulated gasoline (RFG) might improve air quality. Their claim has since been disproved. Yet Congress and the EPA have continued to insist that RFG contain oxygenates. These requirements have complicated gasoline distribution and contributed to higher gasoline prices, as the Federal Trade Commission noted in its review of the Midwest gasoline price increases last year.[5]

The FTC's Merger Policy

The Federal Trade Commission has mandated the divestiture of refining assets in three of the petroleum mergers it has reviewed in the last ten years. These divestitures were required by the merger guidelines adopted by the FTC and the Department of Justice, guidelines not prepared specifically for the petroleum industry.

Unfortunately, this "cookbook" application of merger guidelines to the petroleum industry has adversely affected the expansion of gasoline supply by preventing firms from taking advantage of unique opportunities and by forcing the transfer of refining assets from well-capitalized integrated companies to undercapitalized independent refiners.

The loss of unique opportunities is certainly the least understood consequence of the FTC merger policy. While it is widely recognized that petroleum refineries provide the classic

[5] See "Midwest Gasoline Price Investigation," Final Report of the Federal Trade Commission, March 29, 2001. [http://www.ftc.gov/os/2001/03/mwgasrpt.htm]

example of an increasing returns to scale business, most observers do not know that refinery expansion is constrained by space. Larger refineries require more land. Today, land is not available at most sites. This means that refinery expansions can occur only if two existing plants can be combined. The evidence suggests that very large gains in capacity can be achieved when such combinations can be made.

The merger of the Shell and Texaco refining and marketing businesses provided an excellent opportunity to apply this reasoning because the two firms had adjacent facilities in the State of Washington. However, the opportunity was lost when Shell was required to sell its refinery. This divestiture may have reduced long-run gasoline supply by as much as 1 percent.

The FTC has also required other merging firms to divest refineries. Exxon had to sell off its Benicia refinery. The buyer was Valero Corporation, a modestly sized firm that operates refineries. More recently, the FTC required Valero to sell a San Francisco refinery to an even smaller firm when Valero merged with Ultramar Diamond Shamrock. Each sale moved refining capacity to firms with less capitalization. Over time, these events will reduce gasoline supply.

The loss in supply could be particularly acute in 2005 when refiners must reduce the sulfur content in gasoline. The new EPA regulations will require increased capital spending by refiners. Because small firms have less access to capital markets, their investments may have to be limited and they may be forced to cut supply. Indeed, one undercapitalized independent, Premcor, has already announced the closure of a Midwest refinery because it could not raise the capital required to upgrade it. Other independent refiners may have to take similar steps.

The nation's largest independent refiner, Valero, has called on the Bush administration to ameliorate this problem. The firm's CEO has suggested that the government should impose fees on gasoline imports. Such an action would raise the price of gasoline manufactured in the United States relative to the price of imported product. For example, if a fee of 10 cents per gallon were levied on imported gasoline, US-manufactured gasoline would command a premium of 10 cents per gallon above the price of gasoline manufactured in Venezuela, Canada, or the Netherlands. Valero's CEO clearly recognizes that instituting such a fee would provide his firm and other US refiners with the extra profits needed to upgrade their refining capacity. Indeed, they could count on increased cash flow of more than $10 billion per year from a 10-cent tariff program.

The fee would have the same effect as a gasoline tax except that domestic refiners would realize higher prices on production while the government received revenues only from imported product. Valero justifies its gasoline tax (the Valero Gasoline Tax) on the basis that it requires higher margins on gasoline to enable investments in new equipment to produce the low-sulfur gasoline and diesel fuel required by the EPA. As noted above, though, retail prices would be much higher today had it not been for the increase in imports.

In summary, the application of merger guidelines to refining has shifted a portion of US refining capacity from well-capitalized integrated companies to smaller independent refiners that may lack the financial resources to expand capacity. The merger policy may also have prevented firms from expanding capacity at certain critical facilities.

The Role of Integrated Companies

The integrated oil companies have been a popular political target for over thirty years. They are investigated, attacked, and vilified every time gasoline or heating oil prices increase. However, the attackers miss a point: the integrated oil companies have been slowly abandoning the refining business in the United States. This point is emphasized in Table 1, which shows statistics on the distribution of ownership of refining capacity in 1985 and 2001.[6]

Table 1. Distribution of Crude Distillation Capacity by Type of Firm — 1985 and 2001
(Thousand Barrels per Day)

Type of Firm	1985	Market Share	2001	Market Share
Integrated Majors	7,421	48.8%	8,165	49.9%
Smaller Integrated Firms	3,184	21.0%	0	0.0%
Large Independent Refiners	842	5.5%	4,724	28.9%
Other Refiners	3,745	24.7%	3,478	21.3%
Total	15,192		16,367	

Source: Compiled by PKVerleger LLC from DOE publications.

In Table 1, I show statistics on the number of refineries, the total capacity of refineries, and the distribution of ownership between major integrated companies, smaller integrated companies, and independent refiners.[7] Several statistics stand out.

- First, the number of refineries has declined from 211 to 156 (not shown in table).
- Second, the capacity of US refineries has increased from 15.2 million barrels per day to 16.4 million barrels per day, reflecting in part the ability to combine adjacent facilities noted above.
- Third, the share of capacity owned by medium-sized integrated companies such as Arco has declined from 21 percent to 0 percent. Today, there are no medium-sized integrated companies.
- Fourth, the share of capacity owned by larger independent refiners such as Sun and Valero has increased from 5 percent to 29 percent.

[6] The year 1985 was selected because the Federal Trade Commission is conducting a parallel investigation of the industry. In its formal request, the Agency asked for a quantification of changes in the industry between 1985 and 2001.

[7] The integrated companies are BP, Chevron Texaco, Citgo, Conoco, Exxon Mobil, Phillips, and Shell. Independent refiners are Ashland Marathon, Frontier, Giant, Koch, Premcor, Sinclair, Sun, Tesoro, Valero, and Williams.

The increase in refining capacity owned by independent companies is partially the result of divestitures ordered by the FTC. However, the primary force for change has been the decision of integrated companies to voluntarily sell refineries. Over the last decade BP, Chevron, Exxon, and Equilon (now Shell) have sold nineteen refineries with capacity of 2.7 million barrels per day (16 percent of the nation's 1985 refining capacity). All but two of these sales were voluntary.

There seem to be two reasons for the actions of the integrated companies. First, environmental regulations make it very difficult for them to earn what they perceive as an adequate return from refining. Second, these companies are changing their supply strategies. In the past, they produced more gasoline than required by their dealer systems. Today, they seem to want to rely on third parties to provide some product.

A frustration with increasingly complex environmental regulations is undoubtedly a primary motive for selling refining assets. Over the last decade, the industry has been required to spend substantial sums to produce cleaner gasoline and low-sulfur diesel fuel. Additional expenditures will be necessary in the next five years to remove more sulfur from diesel fuel and to lower sulfur levels in gasoline. The coming standards reflect a victory by the auto industry over the oil industry. Refiners had asked the EPA to impose the cost on the auto industry but lost the bureaucratic battle.

The response of the major oil companies seems natural. Integrated oil companies have abandoned as much of the refining business as they can. Their management has recognized that they have spent billions to meet existing standards for little or no financial returns. Managers also do not expect to see good returns from the additional investment requirements being imposed by the EPA. Indeed, the integrated companies clearly fear that the EPA will follow past practices and grant exemptions to smaller refiners if prices rise sharply when the new rules go into effect. Such exemptions are perceived to deny the integrated companies a chance to earn a return on their investment while rewarding the undercapitalized independents. These executives have ample evidence to support their beliefs. Under the circumstances, the integrated companies have hoisted the white flag and sold out.

Integrated companies have also sold capacity because they apparently no longer want to supply buyers that will not sign long-term contracts with them. In other words, the integrated companies have no interest in serving unbranded dealers. This reflects a change in strategy. Historically, integrated refiners produced more gasoline than their branded dealers could sell. Although data are sketchy, it appears that these firms are aiming to produce volumes that at most meet their internal needs. The change in strategy may have occurred because returns in refining have been so low. It may also have occurred because integrated companies are facing increased competition in retail marketing from large department store companies such as Wal-Mart.

The Role of Independent Refiners

The emergence of independent refiners as significant gasoline suppliers may inadvertently increase gasoline price volatility. The rise in volatility would occur for the following reasons:

- First, these firms often lack adequate working capital to chase rapidly rising crude prices.
- Second, these companies must be mindful that bidding up prices for a specific cargo of crude will increase the cost of their entire crude supply.
- Third, the low price elasticity of demand gives these firms market power. In many cases, they would do better by delaying crude purchases at times of tightening markets, which reduces gasoline production or sales, and benefiting from the rapid rises in spot gasoline prices that would result.

The undercapitalization of independent refiners may constrain the activity of such firms at times of rising crude prices, especially when oil-exporting countries exercise market power. The constraint comes from the cost of a cargo of crude. The increase in crude prices from the high teens to the high twenties can raise the price of a crude oil cargo by $10 to $20 million, while an incremental cargo may cost more than $50 million. The magnitude of these sums relative to the working capital available to these companies may cause them to reduce oil purchases when crude oil prices are volatile or oil-exporting countries attempt to reduce production and raise prices.

In bidding for crude, refiners also must be aware that any price increase associated with their purchases will raise the cost of all the oil they purchase because crude oil prices are indexed to the spot market. Thus, if Firm A has purchased a cargo of crude linked to the price of WTI and the price of WTI increases due to Firm B's purchases, Firm A would pay more for its supplies. Some firms will protect themselves from such swings in the market but others will not. In general, there will be an incentive to reduce purchases and potentially cut production at times of rising prices.

Finally, some independent refiners may have a strong incentive to respond to OPEC's efforts to tighten crude markets by cutting gasoline sales or production because this action is more likely to boost profits than paying more for crude. The April 8 decision by Iraq to reduce crude output to show solidarity with the Palestinians emphasized the situation faced by independent refiners. This act threatened to reduce crude supply to one company by perhaps 10 percent. The company could have replaced the lost crude through open market purchases, perhaps raising its crude costs by $2 per barrel or 5 cents per gallon. At best, such an action would have left its profits unchanged if spot gasoline prices rose by an equivalent amount.

However, if the company accepted the cut and balanced the reduction in purchases with lower gasoline production, it would reduce US gasoline output by perhaps 0.5 percent.

Such a change in supply would increase retail prices by perhaps 5 percent.[8] In April, a 5-percent increase in retail prices would have translated into a 10-percent rise in spot prices. A 10-percent increase in spot prices would almost exactly offset the loss in revenues incurred from the reduced volume of crude processed. Indeed, the firm's gross profits might actually increase if several independent refiners shared the cut in crude supplies.

This exercise reveals that independent refiners may have an incentive to respond to tightening crude supply by limiting gasoline production and sales. They are most likely to have this advantage if they market most of their output on the spot market.

Integrated firms, in contrast, do not generally have this incentive because they market most or all their production under dealer contracts that are not directly linked to spot prices. Instead, prices charged to branded dealers seem to increase in a more modulated manner. Thus, the transfer of refining assets to independent refiners seems to have increased gasoline price volatility, particularly when oil-exporting countries attempt to squeeze supplies.

The Role of Hypermarkets

The emergence of large merchandise and grocery distributors as gasoline marketers has offset much of the upward pressure on gasoline prices and could conceivably help stabilize them over the intermediate and long term. Over the last ten years, these firms have significantly affected retail prices in Britain and France. Competition authorities at the EU believe that consumer prices are significantly lower whenever this activity is permitted by local regulation and entry is not blocked by existing integrated companies. Preliminary evidence suggests that the entry of Wal-Mart and other large discounters into gasoline distribution has had a similar impact in the United States.

These firms are able to offer lower prices to consumers because they enjoy economies of scale and scope. Their large size and incredible volumes allow them to obtain supplies at lower costs. At the same time, the diversified nature of their business enables them to sell gasoline for less. These firms can offer consumers substantial benefits as long as they are permitted to compete.

Unfortunately, there is a concerted effort to block the entry of hypermarkets in Europe and the United States. In Spain, the dominant integrated oil company has apparently made it impossible to obtain supplies. In the United States, retail distributors have been attempting to block hypermarket entry by convincing state legislators to pass below-cost selling laws. The FTC recently noted in a letter to the Virginia legislature that passing such laws harms consumers.

In general, however, the entry of this new distribution channel should help moderate increases in gasoline prices.

[8] This assumes a short-term price elasticity of -0.1, a figure consistent with much of the literature, including my own work with Professor Houtaker.

Conclusion

This Senate inquiry has been convened to determine the causes of gasoline price increases and volatility. As I have indicated above, a number of factors explain the rise in prices.

The most important cause of the increase in gasoline prices since 1999 has been the success of OPEC's conspiracy. The limitation of crude production by oil-exporting countries has forced prices to rise from levels around $18 per barrel, which I would assert are "equilibrium levels," to the high twenties.

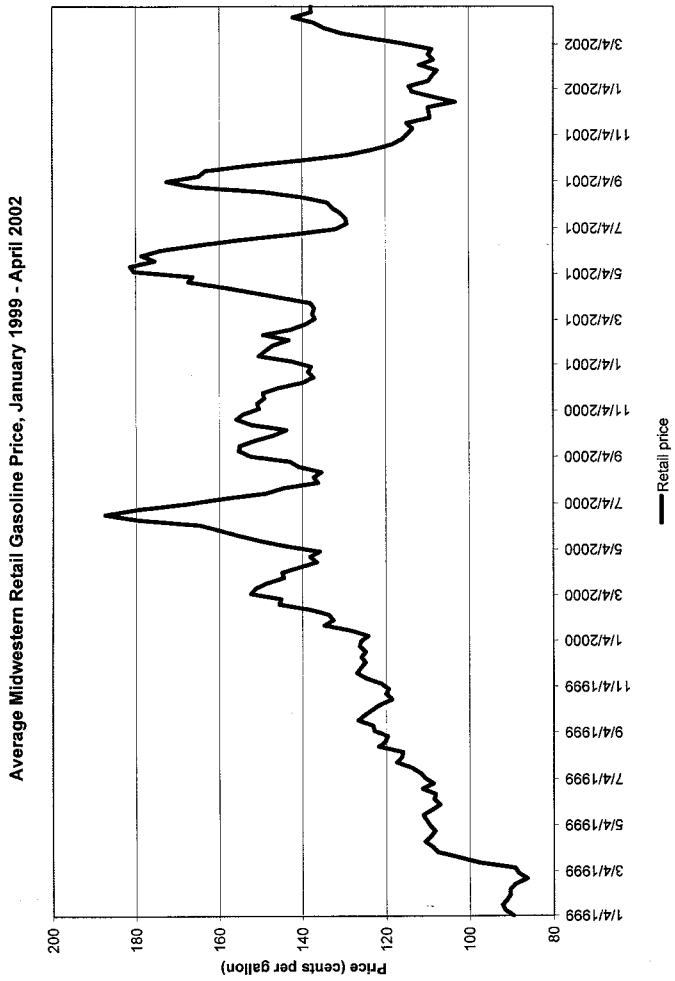
A second key factor is the strong growth in the economy combined with the sale of large, fuel-inefficient vehicles by automakers. The auto industry's flaunting of the spirit of fuel economy standards has contributed to strong growth in gasoline demand, growth that US refiners cannot meet.

The third factor has been the FTC's merger policy. In the interest of promoting competition, the FTC has required divestitures of refineries, and this has inadvertently boosted price volatility.

The fourth factor has been the decision by major oil companies to get out of refining. The sale of refining assets by major companies to smaller independent firms has left the market more vulnerable to crude price fluctuations. Furthermore, these firms have less incentive to boost gasoline production aggressively at times of crude oil price volatility than the integrated companies that previously dominated the market had.

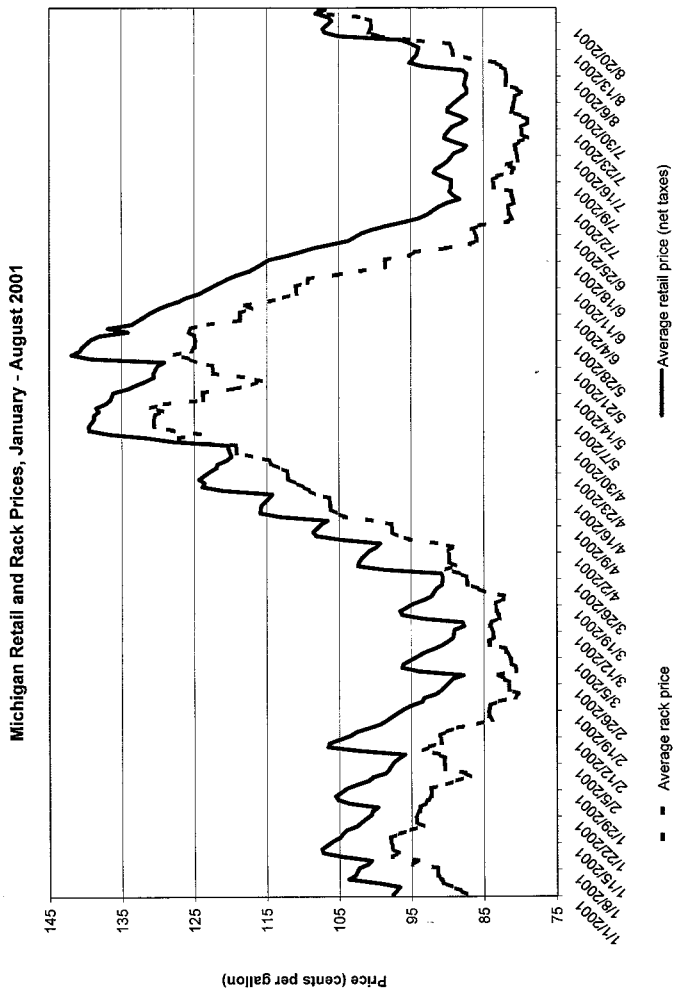
The final factor is US environmental regulations. These rules make it impossible to build new refineries or expand existing ones. Consequently, prices must increase to offset the rise in unconstrained demand created by fuel-guzzling vehicles. These regulations also make it more difficult to manufacture gasoline by requiring unneeded oxygenates in fuel. The oxygenate requirements reduce supply and raise prices. Government regulations also threaten to impose increased costs for removing sulfur from gasoline and diesel fuel. The prospect of higher, potentially unrecoverable costs has prompted the exit of those companies most able to meet consumer demands. These firms — the integrated majors — will continue to depart refining, leaving the United States short of the transportation fuels it requires.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #____1____



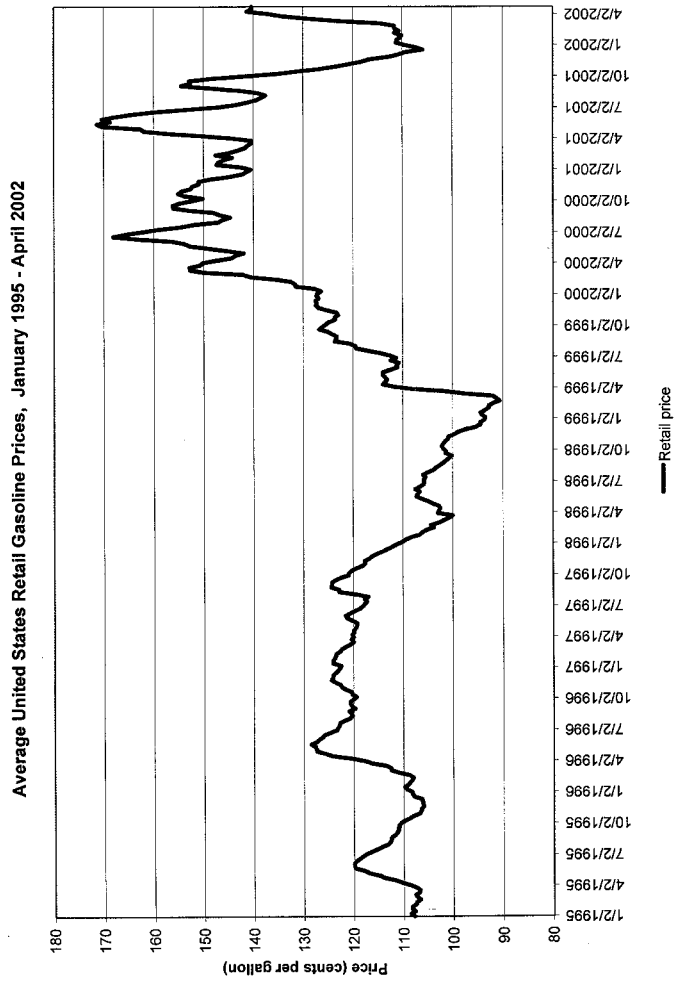
Source: DOE/EIA.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #__2__



Source: OPIS.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #____3____



Source: DOE/EIA.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #4

B. Concentration in the Oil Refining and Gasoline Marketing Industry

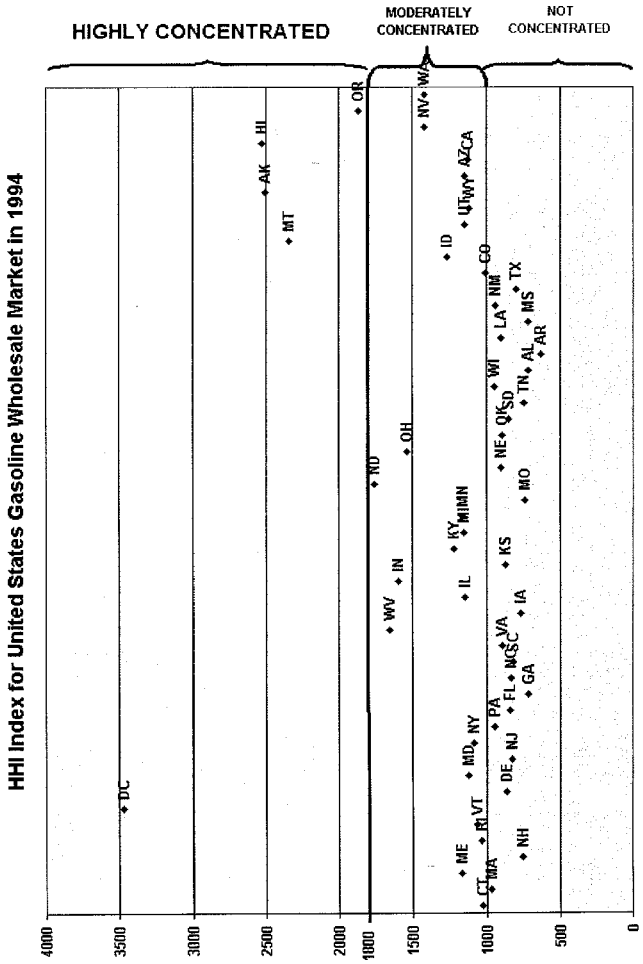
In recent years there have been a significant number of major mergers within the petroleum industry:

- In 1998, Marathon and Ashland Oil merged their downstream assets.
- In 1998, British Petroleum (BP) merged with Amoco
- In 1999, Exxon Corporation merged with Mobil Corporation.
- In 2000, BP/Amoco acquired ARCO

Within the past year –

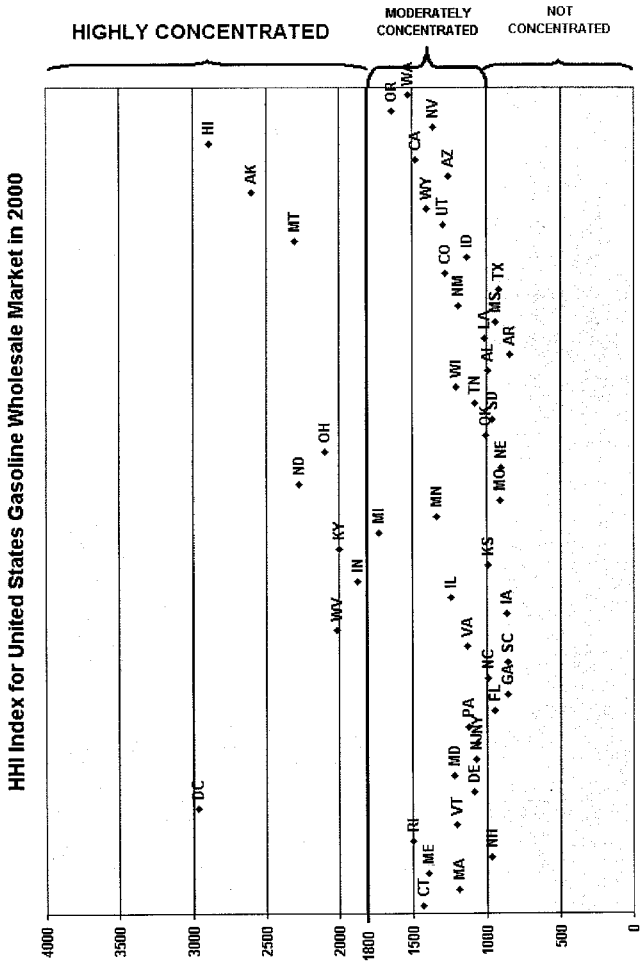
- Shell acquired Texaco's domestic downstream assets;
- Chevron, which had acquired Gulf Oil in 1994, acquired Texaco (other than downstream assets);
- Phillips acquired Tosco;
- Phillips announced a merger with Conoco;
- Valero acquired Ultramar Diamond Shamrock;

Senate Permanent Subcommittee
On Investigations
EXHIBIT #5



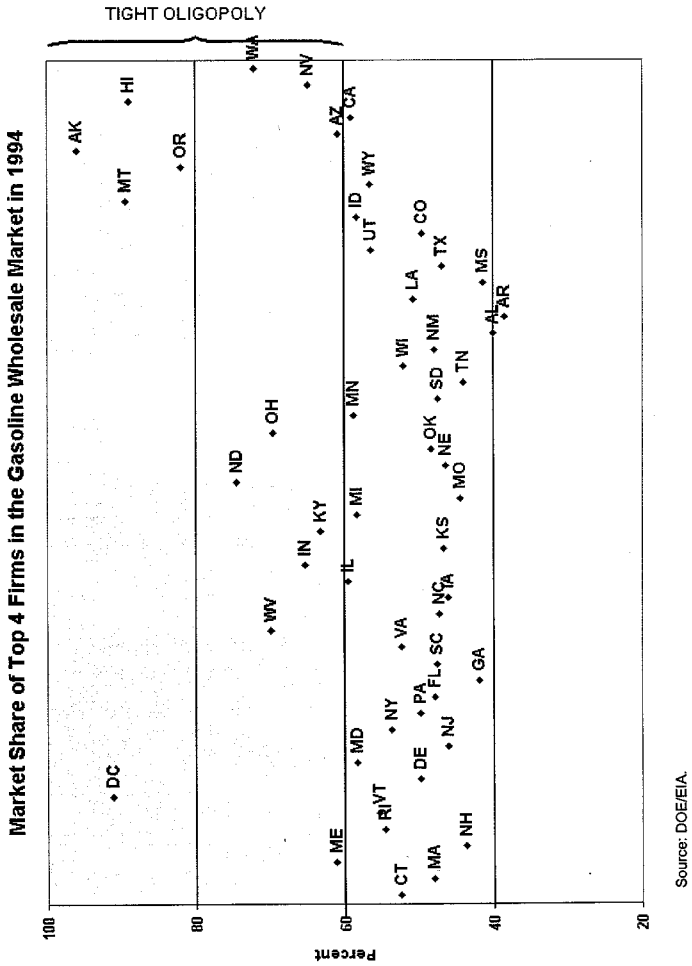
Source: DOE/EIA.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #____6____



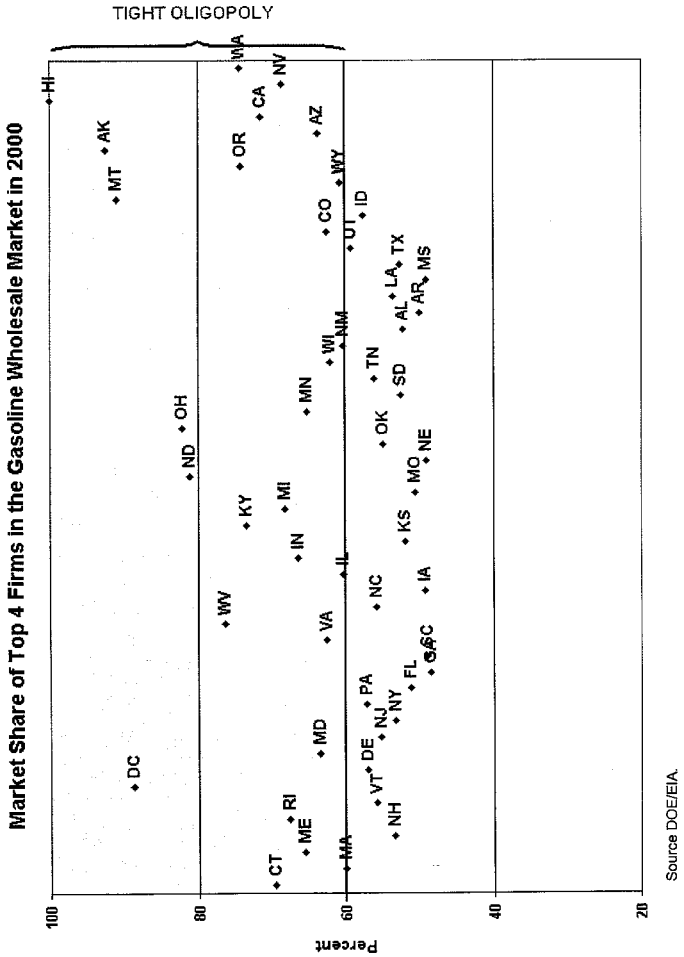
Source: DOE/EIA.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #____7____



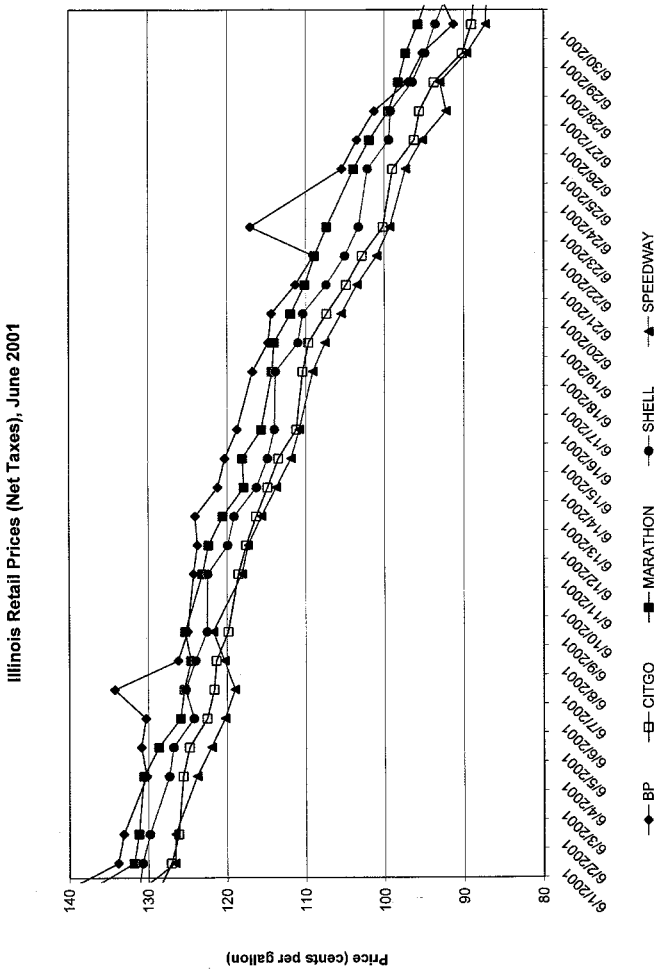
Source: DOE/EIA.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #___8___



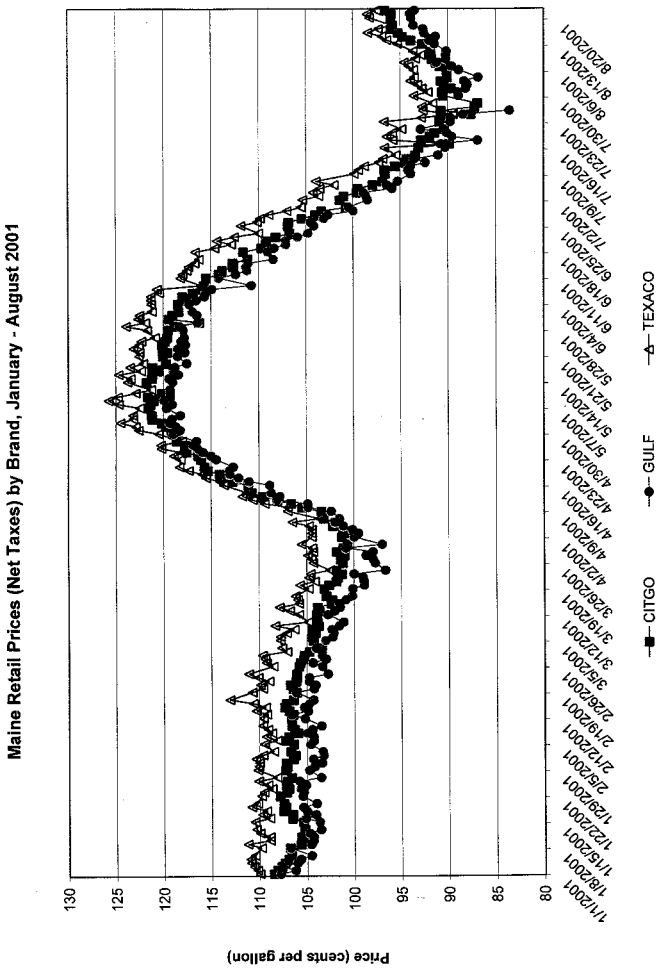
Source DOE/EIA.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #____9____



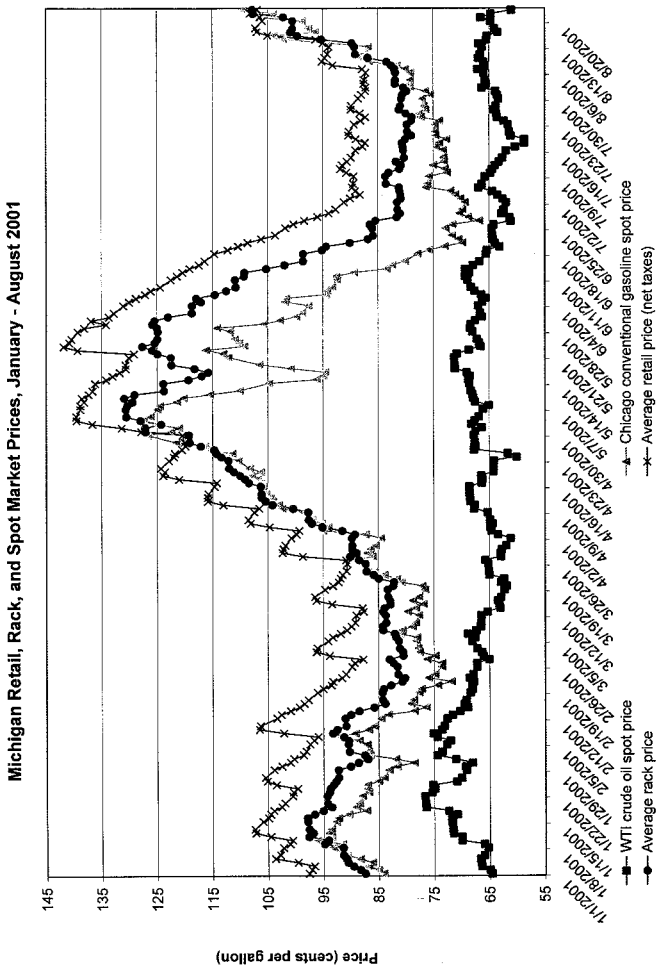
Source: OPIS.

Senate Permanent Subcommittee
On Investigations
EXHIBIT # 10



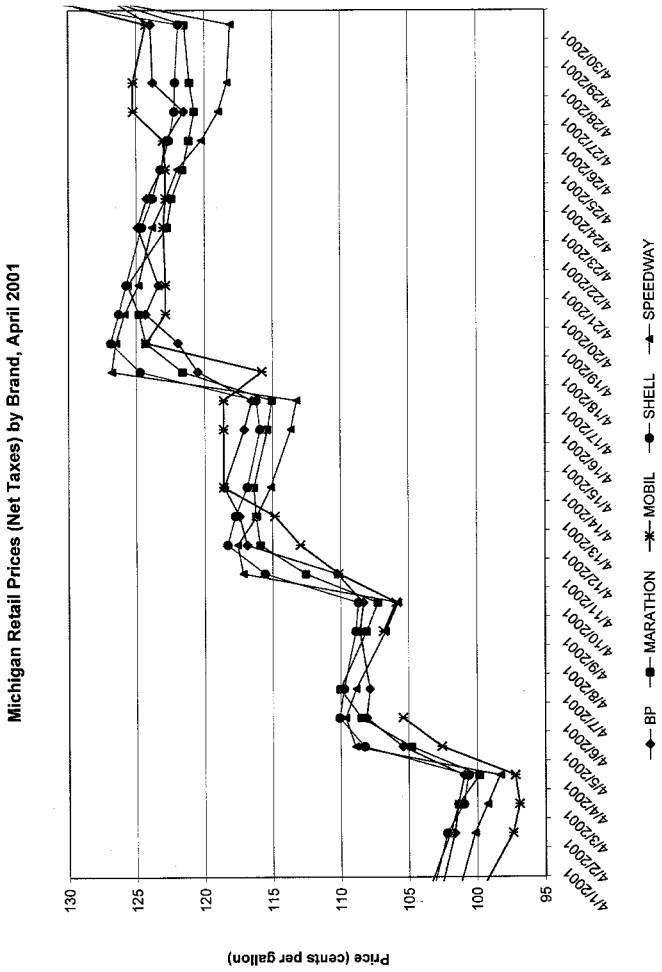
Source: OPIS.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #___11___



Source: OPIS.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #____12____



Source: OPIS.

Senate Permanent Subcommittee
On Investigations
EXHIBIT # 13

BP Amoco

Midwest / Mid Continent Strategy

Meeting with BULs

1st June 1999

CONFIDENTIAL
TREATMENT REQUESTED
BP-LSS 0014038

Recap of 4/30 presentation -

Key learnings on niche structure

BP Amoco

We can influence niche value (1-3cpg) but our actions need to be significant (>50 mbbl/d) to be sustainable (3 years+)

- There are several drivers which work together to determine the value of the niche :
  - Prices (and therefore asset value) in the Midwest / MidCon are set by the supply / demand in relation to logistics capability
  - Supply / demand balances are driven by macro-economic issues such as crude prices, crude field decline rates, economic growth
- When the niche is not present, Midwest refiners need to be able to compete on a cost and operational basis with the GC refiners.
- Opportunities exist for differentiation by improving business outside mainstream fungible products. [redacted]
- There are significant opportunities to influence the crude supply / demand balance
- Good market intelligence is critical to understanding market behavior

CONFIDENTIAL
TREATMENT REQUESTED
BP-USS 0014044

BP Amoco

Market levers - product short (1)

- **Shut down niche internal supply**
  - Offer supply agreements in exchange for capacity shutdown
  - Purchase capacity and shut it down
  - Lobby for elimination of oxygenates/tax breaks for same
  - Seasonal (winter)idling of capacity/corresponding winter import of product
    - Firms winter market AND secures large summer import volume
  - Low sulfur product requirements reduce production.
    - Eliminate exemptions for small Refiners.
    - Patent formulations to make niche production more expensive re: CARB fuels
  - Compliment shutdown of internal niche supply with investment in import pipeline
- **Increase product demand**
  - Lower prices
  - Convince swing cities on Gulf Coast supply to require reformulation that is not readily available from Gulf Coast
  - Incent "boundary" areas to buy supply from niche
    - Sell out western V system by using Milan line.

CONFIDENTIAL
TREATMENT REQUESTED

BP Amoco

Market levers - product short (2)

- **Export products from Midwest niche**
  - Create "Koch" style fly wheel markets
    - Kansas City, Pittsburgh, St.. Louis, Indianapolis
  - Move product into southern Ontario
  - Use Xylene line or others to move product south or out of area
- **Fill import logistics**
  - Ship crude substitutes and/or intermediates/blendstocks on product lines
    - Condensate, naphtha, light gasoil, BTX, oxygenates, raffinate, alkylate, etc.
  - Don't incent pipeline conversions to products
    - Threat of swing or seasonal production to deter
  - Incent Koch not to ship into Chicago market??
  - Lobby for elimination of DRA for environmental reasons
- **Change behavior of shippers to support niche uplift**
  - Implement market based tariffs.
  - Raise tariffs
- **Reduce product inventory in niche**

CONFIDENTIAL
TREATMENT REQUESTED
BP-USS 0014050

Senate Permanent Subcommittee
On Investigations
EXHIBIT # 14

"BP chief disputes need for refineries"
Chicago Tribune, June 28, 2001

"We don't think we need any more refineries in the U.S."

"[T]he issue of volatile fuel prices, which has been such a concern here, is not driven by any shortage of refining capacity."

"The driver of the instability has been the numerous, minor differences in fuel quality standards between one area and another–so that products can't flow easily to areas where shortages develop."

"The market is the best means of adjusting to changing patterns of demand and supply–with higher prices, for instance, encouraging the development of new resources."

– Lord Browne
Chief Executive, BP

Senate Permanent Subcommittee
On Investigations
EXHIBIT #15

CONFIDENTIAL

THE RE-START OF POWERINE , WHICH RESULTS IN 20-25 TBD OF GASOLINE SUPPLY AT A COST OF ONLY 4-5 CPG VERSUS CONVENTIONAL (COST OF MTBE BLENDING), COULD BACK OUT SUMMER ALKYLATE IMPORTS AND EFFECTIVELY SET THE CARB PREMIUM A COUPLE CPG LOWER (ADVANTAGE OF 6-8CPG VERSUS IMPORTS). IN THE WINTER , THE POWERINE INCREMENTAL COST IS 2-3 CPG LOWER THAN OTHER REFINERY INCREMENTAL COSTS. REGARDING THE OTHER TO SMALL REFINERS , KERN AND PARAMOUNT, I DONT SEE ANY REAL IMPACT . EACH REFINER CAN PROBABLY SUPPLY MAX 5TBD, AND KERN IS UP NORTH.

NEEDLESS TO SAY, WE WOULD ALL LIKE TO SEE POWERINE STAY DOWN. FULL COURT PRESS IS WARRANTED IN THIS CASE AND I KNOW BRIAN AND CHUCK ARE WORKING THIS HARD. ONE OTHER THOUGHT, IF THEY DO START UP, DEPENDING ON CIRCUMSTANCES , MIGHT BE WORTH BUYING OUT THEIR PRODUCTION AND MARKETING OURSELVES. ESPECIALLY IF THEY START TO MARKET BELOW OUR INCREMENTAL COST OF PRODUCTION. LAST YEAR WHEN THEY WERE DUMPING RFG AT BELOW COST OF MTBE , WE PURCHASED ALL THEIR AVAILS AND MARKETED OURSELVES WHICH I BELIEVE WAS A MAJOR REASON THAT THE RFG PREMIUM LAST YEAR WENT FROM 1 CPG IN JAN TO 3-5CPG THRU TO THEIR SHUTDOWMN. WE'LL HAVE TO SEE HOW THIS PLAYS OUT , HOWEVER, IF THEY DO START UP, I'D SERIOUSLY CONSIDER THIS TACTIC. REGARDS MARK

Please develop response. Thanks.

_____ Forward Header
_____ Subject: POWERINE CARB SMALL REFINER STATUS
Author: MCCOOL/RJ (NECCVMD.RJMCCOOL) at CCFXGTW1
Date: 2/2/96 2:39 PM

To: LJCAVANA--TOR1 LJ CAVANAUGH
cc: GWBERRY --NECCVMA GW BERRY MDDIMEZZ--NECCVMD MD DIMEZZA

From: Bob McCool
Subject: POWERINE CARB SMALL REFINER STATUS
if they get ok, what impact
bob

_____Bob
*** Forwarding note from RJMCCOOL--NECCVMD 02/02/96 13:41 ***
To: EARENNA --FFX1 EA RENNA
cc: DMSHERMA--FFX1 DM SHERMAN

From: Bob McCool
Subject: POWERINE CARB SMALL REFINER STATUS
fyi
bob

_____Bob
*** Forwarding note from BMHARNEY--FFX7 96/02/02 14:31 ***

From: Brian M. Harney at FFXMFG-P01 1996/02/02 14:31
To: MCCOOL/RJ (NECCVMD.RJMCCOOL) at CCFXGTW1
cc: Charles R. Morgan at TORMFG-P01, Randy T. Smith at FFXMFG-P01
Subject: POWERINE CARB SMALL REFINER STATUS
To: Lucille J. Cavanaugh at TORMFG-P01
cc: Vickie S. Jones at FFXMFG-P01
---------- Message Contents ---------- ---------- Forwarded with Changes ---------- From: Charles R. Morgan at TORMFG-P01

MOB 17685

Senate Permanent Subcommittee
On Investigations
EXHIBIT # 16

HIGHLY CONFIDENTIAL

demand growth could result in significant additional increases in West Coast product excess supply, putting pressure on both prices and margins, and necessitating additional exports

Exports from the West Coast to maintain the balance between supply and demand have historically been made by refiners who have some remaining, less economic refining capacity which could be used to cut crude runs and by refiners who have excess product and the ability to export that product economically. As the table below shows, this incentive is strongest for Chevron and Shell, though others have the excess supply to export product if necessary.

Further complicating light product supply on the West Coast is the existence of several distinct "micro-markets". Regionally, the West Coast is short on light product in southern California, long on light product in northern California and balanced to long in the Pacific Northwest. Additionally, CARB gasoline and diesel specifications reduce the fungibility of products within PADD V. As a result, we experience significant volatility of product pricing within PADD V as well as pricing versus the Gulf Coast. The existence of a handful of players with large supply positions in specific West Coast regions and/or products, such as APC's CARB diesel position in southern California or APC's high sulfur diesel position in the Pacific Northwest, add further to this volatility. Close monitoring of supply and demand within these micro-markets is needed to ensure that refiners react to imbalances and prevent wide volatility in the premiums realized for specific products.

ARC 000015435

Senate Permanent Subcommittee
On Investigations
EXHIBIT # 17

APC MUST BECOME AN ACTIVE MARKET PLAYER, PREPARED TO EXPORT WHEN EXPORT PARITY THREATENS

- APC's manufacturing profitability depends critically on maintaining import parity—APC and Chevron have the most to lose from a price war
  - $8 million/week for APC manufacturing
  - Potential retail overflow
- Since APC is short in the Bay, and short overall, APC should not export first—others should be forced to behave rationally
- Most of the time, APC believes others will act rationally and ensure market balance
- APC must monitor conditions to anticipate potential collapse to export parity
- Should the market move to export parity, APC should be prepared to export to help balance the market
  - If others are already behaving rationally ...
  - ... and if APC's contribution can make a difference
- From time to time, APC may need to endure brush fires to discipline the market

HIGHLY CONFIDENTIAL

ARC 000011672

SPECIFICALLY, PRODUCT SUPPLY HAS A ROLE TO PLAY IN MONITORING AND MAINTAINING BALANCE IN THE WEST COAST

MONITOR SUPPLY / DEMAND	TRACK COMPETITOR ACTIVITY / BEHAVIOR	TAKE ACTION
• Track pricing trends and movements • Understand competitors market position (i.e., who is long / short in specific products) and strategies • Forecast changes in market supply and demand	• Monitor export activity • Understand trading behavior	• Export to keep the market tight • Execute appropriate spot sales if APC is long in tight market

HIGHLY CONFIDENTIAL

ARC 000011676

DEC 03 '92 10:45 TEXACO SACRAMENTO

Senate Permanent Subcommittee
On Investigations
EXHIBIT # 18

Texaco

WESTERN REGION
Manufacturing & Marketing
Action:
X Hendo DEC 03 '92
✓ Read
[redacted]
Final Handling ☐ File ☐ Destroy

DATE: December 3, 1992

TO: [redacted]
Universal City

FROM: [redacted]
Sacramento

SUBJECT: CARB Phase 2

This letter is a follow up to our phone conversation of last week where I briefed you on a recent conversation I had with Shell's California Government Relations Manager.

His comments centered around Shell's intended $1.8 billion investment to modernize their Martinez refinery. He indicated this expenditure is necessary to comply with the 1996 CARB Phase 2 RFG requirement. You indicated that the $1.8 billion was inordinately high for RFG compliance and that the figure likely included other necessary improvements and modernization projects at the refinery.

Who?

He went on to say that Shell and the other oil companies are extremely concerned about Texaco's silence and lack of activity concerning our plans toward CARB Phase 2 compliance. He said Texaco is positioning itself to be the "wild card" on this issue and "we are nervous about it". He said Texaco or any other company could easily import compliant fuel from outside of California for considerably less cost than those companies that intend to retool their refineries. He went on to talk about the various scenarios that would occur if a company was able to import RFG for 5-10 cents less per gallon than what it would cost other companies that retooled. He said it would be virtually impossible for a company to recover their investment.

He went on to say that if such a scenario was to evolve, Shell would be at the California legislature and CARB immediately asking for relief. He specifically referred to a fee, tax or penalty assessed for imported RFG. He suggested that such an approach would be necessary to "level the playing field" thus, protecting Shell's investment.

I am not certain what CARB's authority is relative to levying an assessment on imported fuel. However, if necessary, a piece of legislation could be introduced to provide CARB with the necessary authority. Such legislation would likely be actively supported by oil companies which intend to refine RFG in California, and opposed by those that plan to import. No doubt the labor unions would support the proposal because of potential construction jobs.

Senate Permanent Subcommittee
On Investigations
EXHIBIT # 19

U.S. DOWNSTREAM INDUSTRY PROFILE - USWC

- USWC market appears to allow better average returns than USGC. The better performers generate ROCEs greater than 12%.
- Relatively isolated market; California product specification changes may create additional import barriers and opportunities for well positioned refiners (jet, LAD).
- Refining and marketing closely linked; thinly traded spot market.
- Market is dominated by limited number of large, committed refiner/marketers whose individual actions can have significant market impact.
- Exports becoming a more important factor in balancing light product supply and demand.
- With the exception of Chevron, all major refiners process a large % of equity crude; some indication of integrated upstream/downstream economics by some California heavy crude producers.

AGLR078537

HIGHLY CONFIDENTIAL
DO NOT DISCLOSE

715.7

Senate Permanent Subcommittee
On Investigations
EXHIBIT #20

6. The proposed changes will affect each refinery differently. To illustrate, Attachment 6 is included to show the DI scatter on samples obtained from the Southwest Research Institute's monthly retail surveys in 1994, both for Texaco gasolines and the entire industry gasolines. It is true that many of these samples could be from fungible product supplies, but the variability is still quite significant.

7. As for RVP, it is not apparent that summer RVP max levels will go much lower, if any. There is no motive at this time. Lowering winter-time RVP's could occur in certain metro areas, especially desert cities such as Phoenix, Las Vegas, etc. The auto companies seem to be concerned by lowing RVP much lower as it would begin to increase driveability problems, especially cold start problems.

8. On a separate but related matter, a reiteration of TRMI's fundamental policy on oxygenates is that we oppose mandated oxygenate useage where the environmental benefits are not commensurate with the cost. For example, the use of oxygenates to reduce ozone in non-attainment areas is not cost-effective: the use of oxygenates to reduce CO emissions in non-attainment areas is cost-effective. Further, there should be no biases favoring any specific oxygenate over another, but use should be based on performance criteria and free-market economics. This policy also serves to remove the oxygenate swell from the gasoline supply pool where it is not needed and not economical.

<u>SUMMARY</u>

Both the Texaco position and the API position currently is to fight the proposed specification changes because it will increase fuel cost and not deliver commensurate benefits to the consumers nor the environment. Thus it is not cost-effective.

Incremental improvements to refinery margins from reducing supplies or increasing demand can be achieved in a number of ways. One way would be to promote the more restrictive mandated specification changes to reduce supply of product; another would be to continue the poor financial performance by the industry until some weak performer dropped out; another would be for refiners to voluntarily reduce refinery production without incurring added costs or suffering attrition (admittedly unreasonably idealistic, but the best option).

Advocacy of a Texaco position on issues with industry groups or any regulatory agency should be consistent with those actions that will benefit TRMI vis-a-vis competition, or hurt TRMI less than competition.

TEX 0018681

HIGHLY
CONFIDENTIAL

Senate Permanent Subcommittee
On Investigations
EXHIBIT # 21

[redacted]

From: [redacted]
To:
Subject: Pricing Strategy
Date: Monday, November 17, 1997 2:24PM

1. ~~Use Chevron and Aloha as benchmarks~~. w/consid of all to of factors in their specifics.
2. Price on a ~~site~~ PJ site by ~~site~~ ~~comparative~~ basis~~, not on price alone.~~
3. ~~Optimize profitability by avoiding price wars and undercutting prices unnecessarily.~~
4. Optimize profitability and margins by pricing ~~gasoline~~ PJ ~~gasoline~~ at the highest achievable price to volume point.
5. Offer ~~gasoline~~ PJ at a retail price that is fair, competitive and ~~supportive of~~ our value proposition.
6. Price for long term profitability, not short term increase in market share.
7. ~~Adjust price down when diminished volume is sustained, unexplainable and likely to not be followed by major competitors.~~
8. ~~Separate retail and fleet volumes and monitor on an individual as well as combined basis.~~

Max. profit, not volume.

[redacted]

From: [redacted]
To: [redacted]
Subject: FW: Pricing Strategy
Date: Friday, December 05, 1997 11:42AM
Priority: High

[redacted] let's discuss on Monday.

From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: Pricing Strategy
Date: Friday, December 05, 1997 11:18AM
Priority: High

I took a look at the Pricing Strategy statement from [redacted] and also ran the list past [redacted] Here are some comments:

The theory of "conscious parallelism" among competitors is a type of circumstantial evidence that may be used to infer the existence of a conspiracy among competitors to fix prices. Unfortunately, it is an amorphous area of antitrust law with no clear-cut guidelines for assessing when parallel conduct or acts facilitating parallel prices are illegal. As a result, we must be sensitive to generating documents which would need to be produced in any pricing investigation, and may be misconstrued.

If you want to articulate our pricing strategy in writing that will not be privileged, I recommend that you consider the following that deletes any reference to areas of conscious parallelism. The oral discussions of this strategy can go into greater detail.

1. ~~Maximize profit, not volume.~~

2. Offer product at a retail price that is fair, competitive and consistent with our value proposition.

3. Price for long term profitability, not short term increase in market share.

4. Optimize profitability and margins by pricing product at the highest achievable price to volume point.

5. Price on a location-by-location basis with consideration of all competitive factors for that specific location.

Please let me know if I can be of further assistance.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #_____22_____

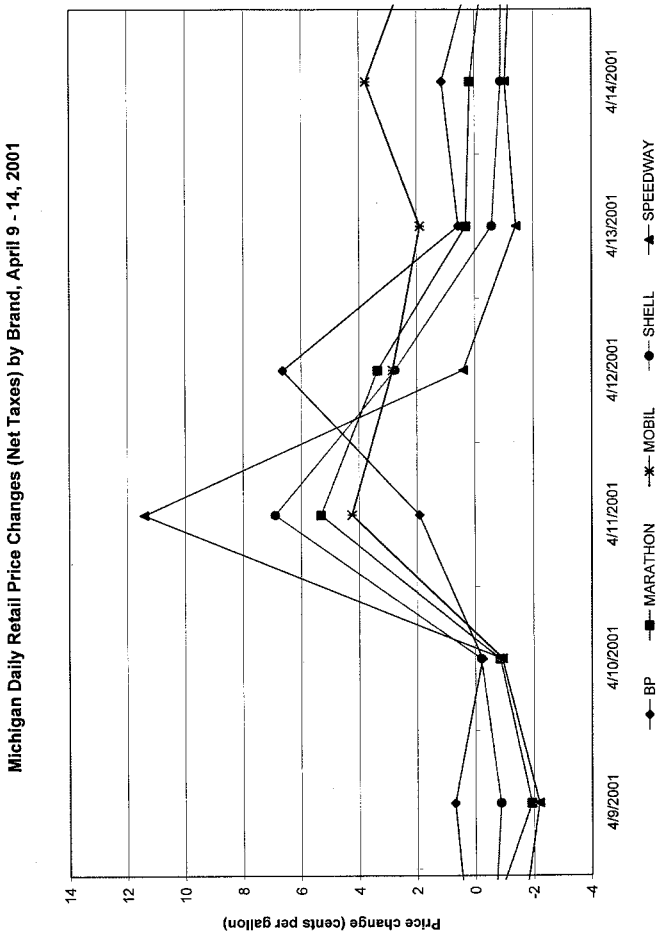
Senate Permanent Subcommittee
On Investigations
EXHIBIT #___23___

Pipeline Transportation Charges in 1999

	Holland (cents per barrel)	Ferrysburg (Grand Haven) (cents per barrel)
Interstate Rate Hammond to Niles	21.78	21.78
Intrastate rate Niles to Holland/Grand Haven*	22.1	23.1
Total Paid by Shippers	43.88	44.88
Wolverine Published Interstate rate Hammond to Holland/Grand Haven	40.12	45.31
Difference	+3.76	-0.43

* Ferrysburg is 24.2 miles FARTHER north than Holland.

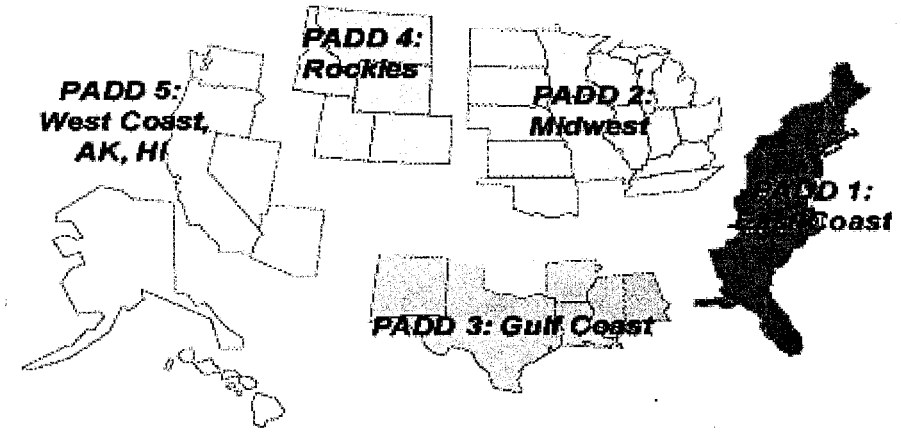
Senate Permanent Subcommittee
On Investigations
EXHIBIT #24



Source: Analysis of OPIS data.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #_____25_____

Petroleum Administration for Defense Districts (PADD)



Source: DOE/EIA.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #_____26_____

SUMMARY: SHORT-TERM PRICE OUTLOOK

Marathon Oil Company *Economics*

As OPEC and other exporters' efforts to rein in output began bearing fruit, Nature stepped in to lend the oil producers a helping hand in the form of Hurricane Georges, which caused some major refinery closures, threatened off-shore oil production and imports, and generally lent some bullishness to the oil futures markets. However, this storm induced optimism is likely to prove temporary, leading to some pullback in prices prior to the heavier worldwide demands for crude in late Fall and early Winter.

OPEC compliance with the agreed reductions in output this year have been estimated in a range of 80% to 85%, which means the organization is acting as much like an effective cartel as it ever has. A $2 per barrel price increase in the first half of last month is the result of their resolve, but also a demonstration of the remaining bearishness and demand-side weakness in the market. In more typical times, the price reaction to a removal of over 2 million b/d from the world oil market would have been more significant.

Growth in U.S. oil demand remains favorable, with gasoline up almost 2 %, year-do-date, when upward revisions to data from the second quarter are included. Distillate and residual fuel demands are likewise well ahead of a year ago, with only kerojet among the major products suffering from inexplicable weakness. Other oil demand suffered from a warm first quarter, weakening in the petrochemical industry, and the delay in the reauthorization of the Intermodal Surface Transportation Efficiency Act, which has now been signed into law. Final figures are likely to show healthy growth in U.S. demand this year, but this cannot make up for the loss of oil demand growth from East Asia, and the market remains skeptical that exporters have reduced sales sufficiently after their monumental miscalculation early this year.

The onset of heavier world-wide crude runs in the fourth quarter in preparation for the Northern Hemisphere winter should tighten crude supplies noticeably, lifting the WTI spot price to $16.50 per barrel in January and February, after the initial post-storm pullback.

Year-over-year gasoline demand growth in August is reported to have been 4.3%, and has not slowed much in September. Gasoline stocks do not appear to have begun an upward climb, as they can do at a time of seasonally lower demand and rising output potential with the advent of higher allowable RVP, which facilitates greater NGL blending. Indeed, the difference of the gasoline stock level over last year has now narrowed to 14 million barrels. Turnarounds and other refinery shutdowns have not had their expected impact on gasoline output as yet, but there is normally a lag between the two, and output should slide soon even with higher NGL input. Hence, we expect little additional weakening of gasoline relative to crude until December, when runs pick up once more. Gulf Coast spot unleaded regular gasoline is forecast to average 41cents per gallon this month, rising less than crude to 42 cents in December. The price differential for 93 octane gasoline over regular has narrowed to 3.5 cents per gallon, and should remain close to this value through the forecast. The differential for RFG will average under 2 cents a gallon through February.

Distillate demand is preliminarily reported to have settled down to a more sustainable 3% growth rate in September, after the 12% of August. Because of unusually heavy demand last October, it is even conceivable that distillate demand will be lower this month than a year ago. Nonetheless, distillate demand continues strong, which together with an imminent decline in output due to refinery shut-downs, offsets the impact of inventories that remain about 17 million barrels above last year. Assuming normal weather, distillate prices are forecast to increase only slightly relative to crude oil, with the Gulf Coast spot high sulfur distillate price averaging 41cents per gallon in October, and rising to a high of 45 cents in January. The price premium for low sulfur diesel is expected to contract from just over 2 cents per gallon recently to about 1 cent per gallon around year end, as the market's focus turns toward heating oil.

Oct. 1, 1998

Senate Permanent Subcommittee
On Investigations
EXHIBIT #27

Gary R. Heminger
President

MARATHON ASHLAND Petroleum LLC

539 South Main Street
Findlay, OH 45840-3295
Telephone 419/422-2121
Fax 419/421-3837

May 13, 2002

Mr. Dan Berkovitz, Counsel
United States Senate Committee on Governmental Affairs
Permanent Subcommittee on Investigations
199 Dirksen Senate Office Building
Washington, DC 20510

Dear Mr. Berkovitz:

Subject: Hearing on Gasoline Pricing - April 30, 2002

On April 30, 2002, I testified on behalf of Marathon Ashland Petroleum LLC in connection with hearings into the pricing of gasoline in the United States. Immediately following the testimony, members of my staff discussed with you the possibility of making corrections to the testimony, if required. Subsequently, we received from the Chief Clerk's office a transcript of the testimony. After reviewing my testimony, I would appreciate the opportunity to make the following two clarifications:

First, in Lines 16 and 17, Page 86 of the transcript, Senator Levin asked a question regarding our lobbying efforts surrounding the oxygenate mandate for reformulated gasoline. After the hearing, I was informed that, at times in the past, my company has lobbied for the elimination of the oxygen mandate. Our position is that, with today's automobile technology, mandating oxygenates in reformulated gasoline places unnecessary restrictions on the manufacture of gasoline with minimal environmental benefit.

Second, in Line 4, Page 171 of the transcript, Senator Levin asked questions regarding zone pricing. To clarify my response to the Senators' questions, my company utilizes zone pricing only for our seller locations (*i.e.*, locations where our Marathon® dealer owns his or her location) and lessee-dealer locations (*i.e.*, locations where our Marathon® dealer leases his or her location from the company). These sellers and dealers represent only a small percentage of our total Marathon® locations. Most, but not all, of our sellers and dealers are in individual pricing zones. The remainder are zones with one to four other sellers or dealers. This issue was also addressed in my follow up letter to Linda Gustitus of the Subcommittee Staff on June 28, 2001.

Also, in Line 23, Page 158 of the transcript, I would like to make a grammatical change in my testimony, changing the word "fiercest" to "fiercely." This change is noted in the copy of the transcript which I am returning to you.

Thank you for the opportunity to make these changes in the record. The time and attention of you and your staff is most appreciated.

Very truly yours,

Gary R. Heminger

GRH:dks

{153500.DOC 5}

ExxonMobil
Fuels Marketing Company
3225 Gallows Road
Fairfax, Virginia 22037
703 846 3000 Telephone

J. S. (Jim) Carter
Regional Director U.S.

Senate Permanent Subcommittee
On Investigations
EXHIBIT # 28

May 17, 2002

ExxonMobil
Fuels Marketing

The Honorable Carl Levin
Chairman
Permanent Subcommittee on Investigations
United States Senate
269 Russell Building
Washington, DC 20510

The Honorable Susan M. Collins
Ranking Minority Member
Permanent Subcommittee on Investigations
United States Senate
172 Russell Building
Washington, DC 20510

Dear Senators:

Thank you for the opportunity to present the views of ExxonMobil at the Permanent Subcommittee on Investigations' hearing on April 30th regarding the majority report/investigation into "Gas Prices: How Are They Really Set?". I have had the opportunity to review my testimony and some issues discussed at the hearing bear further comment. In addition, I have been requested to provide additional information. Accordingly, I request you include this correspondence in the official hearing record.

First, I stated in response to a question at the hearing that ExxonMobil does not currently recommend retail prices to its dealers. I also testified that while one of our predecessor companies communicated a recommended retail price to its dealers in the past, dealers were told that they were free to set prices as they chose. This testimony is accurate.

I recently learned that some employees are still using outdated forms of the predecessor company which reflect the past practice. Efforts were made following the merger of Exxon and Mobil to discontinue this practice, and we have taken additional steps to stop the use of these outdated forms.

ExxonMobil does provide price counseling to its dealers. As part of this counseling in markets where ExxonMobil utilizes retail-based pricing, dealers are provided a competitive retail price assessment. This represents ExxonMobil's evaluation of a competitive retail price in the area where the dealer does business, and is the basis for establishing *wholesale* prices to our dealers. In

markets where retail-based pricing is not used, dealers also receive price counseling, but are not provided a competitive retail price assessment. In conjunction with all the price counseling we do, whether in retail-based pricing markets or otherwise, dealers are told that *they alone* determine the retail price they charge.

Second, I was asked whether I could pledge on behalf of ExxonMobil to not export any oil obtained from the Arctic National Wildlife Refuge. I responded that I had no authority to make such a pledge. I have checked on this issue and ExxonMobil supports maintaining the current flexibility to export Alaskan crude.

Finally, Subcommittee staff requested additional information regarding the plan endorsed by the American Petroleum Institute to reduce the number of "boutique fuels". Below is an excerpt *(italicized)* of the applicable section of "Comments of the American Petroleum Institute on the U.S. Environmental Protection Agency's Staff White Paper, "Study of Unique Gasoline Fuel Blends ("Boutique Fuels), Effects on Supply and Distribution and Potential Improvements" submitted to the EPA on January 29, 2002:

> ***III. Fuels Options***
> *EPA has chosen a reasonable initial set of summer fuels options to evaluate in its White Paper. API believes that the EPA 3-fuel option is the closest of the options evaluated to being the optimal solution to the proliferation of boutique fuels. API would support the addition of one additional conventional fuel choice, creating a "5-fuel" (including CA) option. The final slate of fuels should be:*
>
> *• California CBG for use in California;*
> *• Federal RFG or Cleaner Burning Gasoline (CBG) with no mandated oxygen content, meeting either a 6.8 psi RVP cap or the current southern grade RFG VOC performance standard;*
> *• 9.0 psi conventional gasoline (CG);*
> *• 7.8 psi CG; and*
> *• 7.0 psi CG.*
>
> *This slate of fuels provides a range of environmental performance to meet the needs of states and local areas. It also allows them to balance environmental benefits against cost, distribution and producibility. As the White Paper noted, the one-fuel option would impose a very stringent fuel across the country, even in areas where it wasn't needed, at a very significant cost and loss of volume. The 3-fuel option was least costly because it would allow areas to balance needed environmental controls against the costs. API believes that expanding the list by one fuel will continue the trend in reducing overall cost, offers more choices for meeting environmental needs cost-effectively, and will not complicate the supply and distribution system. API would like to work closely with EPA to establish the final, best mix of fuels.*

As indicated by the list above, API supports replacing RFG with a single national CBG meeting the performance standards for southern RFG in the summertime and having no associated requirement for a minimum oxygen content.

API also supports adoption of a 6.8 psi summertime RVP requirement for RFG/CBG as a voluntary option to meet the current RFG VOC performance standard. Some refiners may choose to comply with the RVP limit rather than the VOC performance standard because it will simplify their operations and should offer equivalent environmental results.

Again, I appreciate the opportunity to clarify my previous comments for the record and respond to the request by Subcommittee staff for additional information.

If you have any questions, please contact Amy Hammer at 202-862-0216.

Sincerely,

James S. Carter

Senate Permanent Subcommittee
On Investigations
EXHIBIT # 29

bp

Ross J. Pillari
President, BP America Inc.
Group Vice President, BP plc

BP America Inc.
28100 Torch Parkway
5th Floor North
Warrenville, IL 60555-4015
Direct 1 630 836 5875
Fax 1 630 836 5934
Mobile 1 630 561 0436
PillariRJ@bp.com
www.bp.com

May 16, 2002

The Honorable Carl Levin
Chairman
Permanent Subcommittee on Investigations
Committee on Governmental Affairs
United States Senate
100 Russell Senate Office Building
Washington, D.C. 20510-6250

Dear Mr. Chairman:

April 30, 2002 Senate Hearing on Gasoline Prices

On April 30, 2002, I provided testimony before your Subcommittee on the subject of gasoline prices. In response to Subcommittee questions, I discussed an internal to BP brainstorming effort undertaken in 1999. I write this letter to supplement the record in response to your request to regarding how we addressed this issue with our staff.

Let me first state that it is BP's policy to conduct our business in an ethical manner. We strive to bring our customers the most attractive and compelling offer possible, and to satisfy their need for petroleum products at competitive prices. It would be unfortunate and inaccurate to conclude that the preliminary brainstorming activity during the 1999 study gave any appearance to the contrary.

As I explained at the Subcommittee hearing, BP did not implement, or act upon, the hypothetical supply scenarios described in the June 1999 brainstorming document. Our regional management quickly discarded them as unacceptable and inappropriate. They were emphatically rejected and eliminated from further consideration.

The final report of that study team, issued in November 1999, and included in the documents reviewed by your committee, confirms this outcome. We provided this final report to your staff during its investigation, and clearly pointed out that this November report is a reflection of our intent and of how we actually do business.

At BP, it is inappropriate to offer language suggestive of supply manipulation. The manager in charge of the study communicated that fact to the employees involved. And it is why such language was rejected and never brought forward to senior management. I am pleased that middle level management did not require higher levels of management to make this decision. They knew it was wrong and rejected the suggestions.

Further, it is BP's practice to provide periodic instruction to our employees on appropriate business communication, as well as on a variety of other legal issues, such as antitrust principles and the like. Such training was conducted periodically throughout this period, and continues today. Additionally, our managers are familiar with our business practices and ethics guidelines. They serve to ensure that inappropriate ideas brought forward by staff are rejected, and they assure that legal and ethical practices are implemented. In this situation, that is exactly what they did.

Please do not hesitate to contact Mr. Frank Hernandez of our Washington Office, (202) 785-4888, if you have additional questions or concerns.

Sincerely,

Ross J. Pillari/nc

Ross J. Pillari

RJP/njc

ChevronTexaco Corporation
Public and Government Affairs
2613 Camino Ramon
San Ramon, CA 94583
Tel 925 973 4468
Fax 925 973 4460
grant.kimura@chevrontexaco.com

Grant Kimura
Senior Policy Analyst

Senate Permanent Subcommittee
On Investigations
EXHIBIT #____30____

ChevronTexaco

May 14, 2002

Edited Transcript of David Reeves – ChevronTexaco – April 30, 2002

Mary D. Robertson
Chief Clerk
Permanent Subcommittee on Investigations
8617 Groveland Drive
Springfield, VA 22153

Ms. Robertson:

Enclosed is the Transcript of the Permanent Subcommittee on Investigation's hearing on: "Gas Prices: How Are They Really Set?", held on April 30, 2002.

We have edited the portions of the transcript pertaining to testimony given by David Reeves, President, North America Products, ChevronTexaco Corporation.

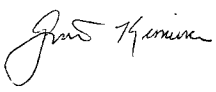
Please note that we have not edited two sections on page 109 of the Transcript, pertaining to the shutting down of the Philadelphia refinery, "One was in Philadelphia that ultimately did shut down… Well, certainly at the time Philadelphia was shut down, that wasn't the case."

For the record, the Philadelphia refinery was not shut down by Chevron, but was sold to Sun Company, Inc. on August 4, 1994, two days after the sale was approved by the Federal Trade Commission.

Please contact me should you have any questions pertaining to the editing of the Testimony.

Sincerely,

Grant Kimura



Senate Permanent Subcommittee
On Investigations
EXHIBIT #___31___

To: Permanent Subcommittee on Investigations
Committee on Governmental Affairs
United States Senate

From: James S. Carter
Regional Director, United States
ExxonMobil Fuels Marketing Company

Date: May 2, 2002

RE: Correction for the Record

At today's Permanent Subcommittee on Investigations hearing, Chairman Levin referenced a statement that he incorrectly attributed to my testimony before the Subcommittee on April 30th. I would appreciate your assistance in correcting the record.

Chairman Levin stated my testimony indicated all of ExxonMobil's zones for purposes of zone-pricing were comprised of a single dealer. That was not my testimony. As you can see from the relevant portion of pages 170 - 171 of the transcript referenced below, my testimony indicated that I expected the percentage of single-dealer zones to be less than 10 percent.

Your assistance is appreciated.

Page 170, Transcript of Proceedings (Unrevised and Unedited)

Senator Levin: Do you know about what percentage of the zones are single-dealer? Would it be less than 10 percent?

Mr. Carter: I don't know the exact number. I expect that it's less than 10 percent.

Senator Levin: Okay, Mr. Heminger?

Mr. Heminger: Mr. Chairman, they are all single-dealer zones.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #__32__

Senator Carl Levin
Questions Submitted for the Record
to BP
Permanent Subcommittee on Investigations' Hearing
Gas Prices: How Are They Really Set?
April 30, 2002

1. At the hearing, I asked Mr. Pillari a series of questions regarding Exhibit 13 a-d, the BP Midwest Strategy document.

   Senator Levin: "And did the senior person who was overseeing the presentation ever say to the people making the presentation this is wrong, it should not be presented to our executives?"

   Mr. Pillari: "I don't know exactly what they had said, but since it never came forward and since I know that they were counseled, I would assume that something like those words were said."

   Please respond for the record as to the counseling that the BP employees received from their superiors concerning Exhibit 13 a-d.

✧ ✧ ✧

Senator Daniel K. Akaka
Questions Submitted for the Record
to BP
Permanent Subcommittee on Investigations' Hearing
Gas Prices: How Are They Really Set?
April 30, 2002

For All Members of the Panel

1. In testimony many of you commented on how the volatility of crude oil prices led to spikes in gasoline prices in 2000 and 2001. However, Hawaii always faces high prices for gasoline. For example, according to the American Automobile Association's (AAA) Fuel Gauge Report, the price trends in almost every state closely resembles that of the national average. Prices in Alaska and Hawaii, however, appear relatively unaffected by the market forces which affect other states and remain unusually high. While the geographic location of Hawaii may contribute to some of this cost, the Attorney General for Hawaii has found otherwise. In fact, the Attorney General has found that the price of gasoline in Hawaii has exceeded the cost of buying gasoline in California and transporting it to Hawaii by more than 20 cents per gallon. In light of this finding, to what do you contribute the continuous high cost of gasoline in Hawaii?

2. On May 2, 2002, the Hawaii State Legislature passed S.B. No. 2179 to regulate gas prices in Hawaii. Some argue that such government action is warranted due to a number of seemingly uncontrollable market factors including inelasticity of demand. Given that Hawaii has had such a long-standing problem, what action would you recommend lawmakers consider in order to ease the financial burden people are facing at the pump?

✧ ✧ ✧

bp

Ross J. Pillari
President, BP America Inc.
Group Vice President, BP plc

BP America Inc.
28100 Torch Parkway
5th Floor North
Warrenville, IL 60555-4015
Direct 1 630 836 5675
Fax 1 630 836 5934
Mobile 1 630 561 0436
PillariRJ@bp.com
www.bp.com

June 10, 2002

VIA FACSIMILIE TRANSMISSION & REGULAR US MAIL

The Honorable Carl Levin
Chairman
Permanent Subcommittee on Investigations
Committee on Governmental Affairs
United States Senate
100 Russell Senate Office Building
Washington, D.C. 20510-6250

Dear Mr. Chairman,

April 30, 2002 Senate Hearing on Gasoline Prices

On April 30, 2002, I provided testimony before your Subcommittee on the subject of gasoline prices. I write this letter as follow up to the hearing and in response to your letter of May 22, 2002.

The response to your question concerning Exhibit 13 is contained in my letter of May 16, 2002. This letter is attached for your reference.

Regarding questions from Senator Akaka, we believe free market mechanisms provide the best way to determine price. Therefore, if gasoline prices are higher than the transportation costs from outside markets, and provide attractive returns for the operator, we would expect new market entrants to establish a new equilibrium price point. Similarly, price controls such as those proposed by the Hawaii State Legislature add complexity and cost to the detriment of the consumer and are likely to limit competitive response in a market.

For the record, BP does not currently market refined products in the State of Hawaii.

Please do not hesitate to contact Mr. Frank Hernandez of our Washington Office, (202) 785-4888, if you have additional questions or concerns.

Sincerely,

RJP/njc

Attachment

bp

Ross J. Pillari
President, BP America Inc.
Group Vice President, BP plc

BP America Inc.
28100 Torch Parkway
5th Floor North
Warrenville, IL 60555-4015
Direct 1 630 836 5875
Fax 1 630 836 5934
Mobile 1 630 561 0436
PillarRJ@bp.com
www.bp.com

May 16, 2002

The Honorable Carl Levin
Chairman
Permanent Subcommittee on Investigations
Committee on Governmental Affairs
United States Senate
100 Russell Senate Office Building
Washington, D.C. 20510-6250

Dear Mr. Chairman:

April 30, 2002 Senate Hearing on Gasoline Prices

On April 30, 2002, I provided testimony before your Subcommittee on the subject of gasoline prices. In response to Subcommittee questions, I discussed an internal to BP brainstorming effort undertaken in 1999. I write this letter to supplement the record in response to your request to regarding how we addressed this issue with our staff.

Let me first state that it is BP's policy to conduct our business in an ethical manner. We strive to bring our customers the most attractive and compelling offer possible, and to satisfy their need for petroleum products at competitive prices. It would be unfortunate and inaccurate to conclude that the preliminary brainstorming activity during the 1999 study gave any appearance to the contrary.

As I explained at the Subcommittee hearing, BP did not implement, or act upon, the hypothetical supply scenarios described in the June 1999 brainstorming document. Our regional management quickly discarded them as unacceptable and inappropriate. They were emphatically rejected and eliminated from further consideration.

The final report of that study team, issued in November 1999, and included in the documents reviewed by your committee, confirms this outcome. We provided this final report to your staff during its investigation, and clearly pointed out that this November report is a reflection of our intent and of how we actually do business.

At BP, it is inappropriate to offer language suggestive of supply manipulation. The manager in charge of the study communicated that fact to the employees involved. And it is why such language was rejected and never brought forward to senior management. I am pleased that middle level management did not require higher levels of management to make this decision. They knew it was wrong and rejected the suggestions.

Further, it is BP's practice to provide periodic instruction to our employees on appropriate business communication, as well as on a variety of other legal issues, such as antitrust principles and the like. Such training was conducted periodically throughout this period, and continues today. Additionally, our managers are familiar with our business practices and ethics guidelines. They serve to ensure that inappropriate ideas brought forward by staff are rejected, and they assure that legal and ethical practices are implemented. In this situation, that is exactly what they did.

Please do not hesitate to contact Mr. Frank Hernandez of our Washington Office, (202) 785-4888, if you have additional questions or concerns.

Sincerely,

Ross J. Pillari/nc

Ross J. Pillari

RJP/njc

Senate Permanent Subcommittee
On Investigations
EXHIBIT #___33___

Senator Carl Levin
Questions Submitted for the Record
To Marathon Ashland Petroleum
Permanent Subcommittee on Investigations' Hearing
Gas Prices: How Are They Really Set?
April 30, 2002

During the hearing when we discussed the various price spikes in the Midwest I asked if Marathon had extra supplies of RFG that it could have supplied to the market during the period of the price spike. You said that Marathon had in fact produced more gasoline that year than the prior year and had sold every drop. I would like you to clarify that during the period of the 2000 price spike, May and June of that year, Marathon had no additional RFG supplies available that it could have provided to the Midwest market region affected by the sudden rise in prices.

✧ ✧ ✧

Senator Daniel K. Akaka
Questions Submitted for the Record
To Marathon Ashland Petroleum
Permanent Subcommittee on Investigations' Hearing
Gas Prices: How Are They Really Set?
April 30, 2002

For All Members of the Panel

1. In testimony many of you commented on how the volatility of crude oil prices led to spikes in gasoline prices in 2000 and 2001. However, Hawaii always faces high prices for gasoline. For example, according to the American Automobile Association's (AAA) Fuel Gauge Report, the price trends in almost every state closely resembles that of the national average. Prices in Alaska and Hawaii, however, appear relatively unaffected by the market forces which affect other states and remain unusually high. While the geographic location of Hawaii may contribute to some of this cost, the Attorney General for Hawaii has found otherwise. In fact, the Attorney General has found that the price of gasoline in Hawaii has exceeded the cost of buying gasoline in California and transporting it to Hawaii by more than 20 cents per gallon. In light of this finding, to what do you contribute the continuous high cost of gasoline in Hawaii?

2. On May 2, 2002, the Hawaii State Legislature passed S.B. No. 2179 to regulate gas prices in Hawaii. Some argue that such government action is warranted due to a number of seemingly uncontrollable market factors including inelasticity of demand. Given that Hawaii has had such a long-standing problem, what action would you recommend lawmakers consider in order to ease the financial burden people are facing at the pump?

✧ ✧ ✧

Gary R. Heminger
President

MARATHON ASHLAND Petroleum LLC

539 South Main Street
Findlay, OH 45840-3295
Telephone 419/422-2121
Fax 419/421-3837

June 11, 2002

The Honorable Carl Levin
Chairman, Permanent Subcommittee on Investigations
Senate Committee on Governmental Affairs
269 Russell Senate Office Building
Washington, DC 20510-2202

Dear Mr. Chairman:

Subject: Your Letter and Questions of May 22, 2002

This letter is written in response to your letter of May 22, 2002, which requests my response to three questions. The first question from you states as follows:

> During the hearing when we discussed the various price spikes in the Midwest I asked if Marathon had extra supplies of RFG that it could have supplied to the market during the period of the price spike. You said that Marathon had in fact produced more gasoline that year than the prior year and had sold every drop. I would like you to clarify that during the period of the 2000 price spike, May and June of that year, Marathon had no additional RFG supplies available that it could have provided to the Midwest market region affected by the sudden rise in prices.

In my opening statement I did remark that my company did not deliberately withhold RFG from the market during the 2000 price spike to boost prices. However, in reviewing the transcript of the hearings, we were not able to identify any questions or responses on the subject of extra supplies of RFG.

The Majority Staff of the Permanent Subcommittee on Investigations, in its report entitled "Gas Prices: How are They Really Set" (the "Staff Report"), states on Page 149 that Marathon Ashland had a 10-15 day reserve inventory for our Chicago and Milwaukee customers. The Staff Report also notes that we wanted to maintain certain minimum inventory levels in order to assure a reliable supply for our customers. We had established these minimum inventory levels in part because of difficulties we experienced in producing RFG blendstock (RBOB) early in 2000.

The FTC and your Subcommittee Staff apparently concluded that the minimum inventory levels we tried to maintain during that time period were "additional supplies" that we could have made available to the market. However, at the time, we had no way of knowing whether other production or transportation problems might develop.

During May and June 2000, we supplied significantly more RFG through our terminal racks in the Chicago and Milwaukee areas than during the same period in 1999. These terminals supplied independent marketers in addition to our Marathon® Brand customers and retail locations operated by our Speedway SuperAmerica subsidiary.

The only example of our company refusing to make a sale cited by the Staff Report involved a proposal made around May 23, 2000, by BP for a spot purchase of 75,000 barrels of RBOB from our company for delivery in June 2000. After describing this proposed spot purchase, the Staff Report notes on Page 149 that "No sale to BP ever occurred." I want to reiterate that these barrels were not deliberately "withheld" from the market to boost prices; rather, they were made available for sale through our terminal rack to our other regular customers.

While it is true that the proposed spot purchase by BP described in the Staff Report never occurred, our company did make other spot sales of RBOB during the months of May and June 2000, including two separate sales to BP. From our records, it appears that one of the spot-market sales to BP occurred before, and the other occurred after, the proposed transaction described in the Staff Report. These spot sales were in addition to our ongoing rack sales of RFG.

Below is a list of MAP spot sales of RBOB in the Chicago market during the months of May and June 2000:

Customer	Quantity (bbls)	Date of Transaction	Delivery
Customer A	10,000	5/01/00	May 2000
Customer B	25,000	5/19/00	May 2000
Customer C	50,000	5/19/00	May 2000
Customer C	35,000	5/25/00	June 2000
Customer D	10,000	6/16/00	June 2000
Customer E	15,000	6/19/00	June 2000
Customer E	10,000	6/19/00	June 2000

These spot sales represent an increase from 20,000 barrels in 1999 to 155,000 barrels in 2000, a 675% increase in spot sales of RBOB over the same period in 1999. I believe these spot sales, together with our significantly greater rack sales during May and June 2000, demonstrate that we did not deliberately withhold RFG from the market to boost prices.

As for the two questions attached to your letter from Senator Akaka related to Alaska and Hawaii, my company does not market gasoline in the western half of the continental U.S. nor in Alaska or Hawaii. I am not familiar with the gasoline markets in those areas, so I am not in a position to answer question number 1.

As for question number 2, I believe that any effort by the government to regulate gasoline prices is likely to result in higher average prices over time than consumers otherwise would have paid. As I stated in my testimony before your committee, I believe the things government could do to help moderate increases in gasoline prices are as follows:

- increase regulatory certainty so refiners and pipelines can better understand compliance issues such as New Source Review;
- have appropriate phase-in of rules such as low-sulfur gasoline, low sulfur diesel and off-road diesel;
- adopt policies that encourage investment in the refining and transportation of motor fuels; and
- expedite permitting for refinery and pipeline projects.

I believe these measures would help in the Midwest, and possibly in Alaska and Hawaii as well.

If I may be of any further service to you, please let me know.

Sincerely,

G. R. Heminger

GRH:dks

Senate Permanent Subcommittee
On Investigations
EXHIBIT #34

Senator Daniel K. Akaka
Questions Submitted for the Record
To Shell Oil Products U.S.
Permanent Subcommittee on Investigations' Hearing
Gas Prices: How Are They Really Set?
April 30, 2002

For All Members of the Panel

1. In testimony many of you commented on how the volatility of crude oil prices led to spikes in gasoline prices in 2000 and 2001. However, Hawaii always faces high prices for gasoline. For example, according to the American Automobile Association's (AAA) Fuel Gauge Report, the price trends in almost every state closely resembles that of the national average. Prices in Alaska and Hawaii, however, appear relatively unaffected by the market forces which affect other states and remain unusually high. While the geographic location of Hawaii may contribute to some of this cost, the Attorney General for Hawaii has found otherwise. In fact, the Attorney General has found that the price of gasoline in Hawaii has exceeded the cost of buying gasoline in California and transporting it to Hawaii by more than 20 cents per gallon. In light of this finding, to what do you contribute the continuous high cost of gasoline in Hawaii?

2. On May 2, 2002, the Hawaii State Legislature passed S.B. No. 2179 to regulate gas prices in Hawaii. Some argue that such government action is warranted due to a number of seemingly uncontrollable market factors including inelasticity of demand. Given that Hawaii has had such a long-standing problem, what action would you recommend lawmakers consider in order to ease the financial burden people are facing at the pump?

✧ ✧ ✧

Response of Rob Routs
President & CEO
Shell Oil Products
To Questions Posed by Senator Daniel Akaka
June 12, 2002

1. In testimony many of you commented on how the volatility of crude oil prices led to spikes in gasoline prices in 2000 and 2001. However, Hawaii always faces high prices for gasoline. For example, according to the American Automobile Association's (AAA) Fuel Gauge Report, the price trends in almost every state closely resembles that of the national average. Prices in Alaska and Hawaii, however, appear relatively unaffected by the market forces which affect other states and remain unusually high. While the geographic location of Hawaii may contribute to some of this cost, the Attorney General for Hawaii has found otherwise. In fact, the Attorney General has found that the price of gasoline in Hawaii has exceeded the cost of buying gasoline in California and transporting it to Hawaii by more than 20 cents per gallon. In light of this finding, to what do you contribute the continuous high cost of gasoline in Hawaii?

In addition to the costs associated with refining, marketing and transporting fuels, there are many other factors that influence the price of fuels. Many of these are unique to particular markets and Hawaii is no exception.

First, according to the American Petroleum Institute, Hawaii's state and county taxes are about 8 cents per gallon higher than California. The local tax in Oahu is 16.5 cents per gallon alone.

As in any business, economies of scale can help to keep down the cost of doing business. According to the U.S. Energy Information Agency, the average service station in Hawaii sells 81,000 gallons per month while in California the average is 105,000 gallons per month. Of course, the higher throughput allows fixed costs to be distributed over a greater number of gallons. Therefore, the price per gallon attributed to these costs is less in California than it is in Hawaii.

The smaller relative scale of operations in Hawaii versus other U.S. markets also affects the cost to operate terminal, transportation and other operations. In addition, the relatively high cost of doing business, particularly as it relates to the real estate needed to site our operations, adds to this burden.

Still, the market ultimately sets the price for a gallon of gasoline and Shell is committed to ensuring that we provide our customers with a stable supply of competitively priced fuel. This commitment is reflected in the almost $30,000,000 Shell has invested in the Hawaiian market since 1994.

2. On May 2, 2002, the Hawaii State Legislature passed S.B. No. 2179 to regulate gas prices in Hawaii. Some argue that such government action is warranted due to a number of seemingly uncontrollable market factors including inelasticity of demand. Given that Hawaii has had such a long-standing problem, what action would you recommend lawmakers consider in order to ease the financial burden people are facing the pump?

As stated in testimony before the committee, the free market must be allowed to work. Laws or regulations designed to control or manipulate the price of fuels can have the opposite effect and can serve to stifle competition. If concerned with the price of fuel, legislators should reject any initiatives that would place an additional fee or charge on the product and they could also consider lowering the current rate of the gasoline tax.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #35

Senator Daniel K. Akaka
Questions Submitted for the Record
To Chevron Texaco Corporation
Permanent Subcommittee on Investigations' Hearing
Gas Prices: How Are They Really Set?
April 30, 2002

For All Members of the Panel

1. In testimony many of you commented on how the volatility of crude oil prices led to spikes in gasoline prices in 2000 and 2001. However, Hawaii always faces high prices for gasoline. For example, according to the American Automobile Association's (AAA) Fuel Gauge Report, the price trends in almost every state closely resembles that of the national average. Prices in Alaska and Hawaii, however, appear relatively unaffected by the market forces which affect other states and remain unusually high. While the geographic location of Hawaii may contribute to some of this cost, the Attorney General for Hawaii has found otherwise. In fact, the Attorney General has found that the price of gasoline in Hawaii has exceeded the cost of buying gasoline in California and transporting it to Hawaii by more than 20 cents per gallon. In light of this finding, to what do you contribute the continuous high cost of gasoline in Hawaii?

2. On May 2, 2002, the Hawaii State Legislature passed S.B. No. 2179 to regulate gas prices in Hawaii. Some argue that such government action is warranted due to a number of seemingly uncontrollable market factors including inelasticity of demand. Given that Hawaii has had such a long-standing problem, what action would you recommend lawmakers consider in order to ease the financial burden people are facing at the pump?

The following questions are for David Reeves of the Chevron Texaco Corporation:

1. The report issued by the Permanent Subcommittee on Investigations concludes that mergers in the petroleum industry have led to high concentration levels in individual markets. These have reduced competition and have resulted in increased prices at the pump. In your testimony, you seem to disagree with this analysis. You claimed that mergers in the petroleum industry have created fewer, but stronger, competitors. This seems to suggest that stronger competitors will lead to lower prices at the pump. However, it appears contrary to common economic assumptions which suggests that concentrated markets with fewer competitors result in higher prices. Hawaii's gasoline market is a classic example of an industry with very few strong competitors and yet its gasoline prices have been consistently high. This appears at odds with your testimony. How do you correlate the reality of high gasoline prices with your testimony?

2. Earlier this year, the state of Hawaii settled a lawsuit with Chevron regarding the high gasoline prices in the state. Despite the settlement, the Hawaii Attorney General believes that there is no economic reason for Hawaii citizens to be paying such high gasoline prices. Knowing the concern of Hawaii citizens and the continued interest in this matter by state lawmakers, are there any steps that Chevron Texaco, or the gasoline industry in general, can take to ease the burden on consumers?

3. It has been argued that the main reason Hawaii has such high gas prices is due to the high profits received by Chevron and other market participants. According to information provided by the Hawaii Attorney General, Chevron's return on capital employed (ROCE) in Hawaii was 13.1 percent in December 1991. The grand total for the year, which included the U.S. mainland, was -7.8 percent. In fact, every sector measured had a negative return except for Hawaii. Please explain the relationship between ROCE and the cost of gasoline at the pump. In addition, please explain why Chevron had such a high rate of return only in Hawaii.

4. The Hawaii Attorney General has informed us that Hawaii has a substantial surplus of gasoline that is exported from the state to lower price markets. Why is this surplus exported to lower price markets rather than being sold in Hawaii? Couldn't this surplus be used to lower the prices for consumers in Hawaii?

✧ ✧ ✧

Chevron Products Company
Law Department
6001 Bollinger Canyon Road
San Ramon, CA 94583-2324
Tel (925) 842-5230
Fax (925) 842-5190
prtr@chevrontexaco.com

Paul R. Truebenbach
Associate General Counsel

July 25, 2002

Via Federal Express
(Airbill No. 8291-6934-9120)

The Honorable Carl Levin
Chairman
Permanent Subcommittee on Investigation
Committee on Governmental Affairs
199 Russell Senate Office Building
Washington, D.C. 20510

Dear Senator Levin:

I am writing to answer the questions attached to your letter dated May 22, 2002, addressed to David C. Reeves. Mr. Reeves is traveling and asked that I respond on his behalf. Preliminarily, you may be aware that we did not receive the original letter. We learned about it only recently when your staff inquired about our response, and they then sent us a copy. I should also note that several of the questions contain prefatory assertions with which we do not necessarily agree. Our responses, however, address the actual questions themselves.

The first two questions are posed to "All Members of the Panel." Our response is as follows:

1. ". . . [t]o what do you contribute the continuous high cost of gasoline in Hawaii?"

In our view, gasoline prices in Hawaii are not "high" compared with gasoline prices in other countries or with prices for other goods and services, many of which have increased over the years at greater rates than gasoline prices. It is true that gasoline often costs more in Hawaii than in other states. That differential is the result of differences in supply, demand and other market forces in the various markets. This topic was exhaustively explored in the recent antitrust case brought by the Hawaii Attorney General. The State's own economists concluded that the price levels resulted from factors such as high taxes imposed by the State and local authorities, and the adverse business climate created by the Hawaii legislature that has discouraged competitors from entering the market. The Honorable Susan Oki Mollway, the federal judge who recently declared the rent control provisions of Hawaii's Act 257 unconstitutional, summarized the entry barriers as including

> "substantial fixed costs, regulatory impediments to building new terminals, an oversupply of gasoline stations in the market, and an adverse political climate, including rent controls, government proposals to take over petroleum terminals, and restrictions on the location and types of stations that may be built." (Amended

> Findings of Fact, Conclusions of Law, and Order, April 1, 2002, *Chevron U.S.A. Inc v. Cayetano*, pp. 22-23).

Based on testimony of economists, Judge Mollway found in particular that the dealer rent controls enacted in 1997 would raise gasoline prices:

> "This Court finds that Act 257 will not decrease retail gasoline prices. In fact, it will cause retail gasoline prices to increase. Act 257 will also discourage oil companies from investing in lessee-dealer stations."

2. ". . . . [w]hat action would you recommend lawmakers consider in order to ease the financial burden people are facing at the pump?"

It follows from Judge Mollway's decision that the Legislature should eliminate the legislation that impedes competition in Hawaii. In particular, restrictions on building new stations and operating existing ones, as well as rent and price controls, impede competition and should be removed. This topic is discussed in the attached article by Professor Suyderhoud, a professor of business economics at the College of Business Administration, University of Hawaii-Manoa. As Professor Suyderhoud concluded:

> "Rather than regulate prices, we should make the industry more competitive by reducing barriers to entry, making it easier for retailers to obtain refined product from outside the state. At the retail level, let's eliminate the rules that make opening new gas stations difficult. More competition is the answer, not price regulation."

The attachment to your letter posed four additional questions to ChevronTexaco. Our response is as follows:

1. "How do you correlate the reality of high gasoline prices with your testimony [that mergers in the petroleum industry have created stronger competitors]?"

This question confuses two different concepts: (1) why gasoline prices are generally higher in Hawaii than in other states—which appears to be the intended subject of the question; and (2) the effect of mergers on gasoline prices nationwide—which was the subject of Mr. Reeves' testimony. The first subject is addressed in the foregoing answers. As far as we know, no one has claimed that mergers are responsible for any difference in prices between Hawaii and other states. The only claim in the majority staff report is that mergers have caused prices generally to increase. As shown in the ChevronTexaco analysis of that report (a copy of which is attached), we do not believe there is any support for that claim, in Hawaii or elsewhere.

2. ". . . [A]re there any steps that ChevronTexaco, or the gasoline industry in general, can take to ease the burden on consumers?"

As recommended above, the best course is for the Legislature to let the market work. That is the tried and true method for optimizing consumer benefit. Competitors should be permitted to continue providing a reliable supply of gasoline at prices determined by supply, demand and competitive forces.

3. "Please explain the relationship between ROCE and the cost of gasoline at the pump. In addition, please explain why Chevron had such a high rate of return only in Hawaii."

Return on capital employed or ROCE is simply the ratio of some measurement of net revenues divided by some measurement of the capital employed to earn those revenues. If everything else stays equal, ROCE increases if costs decrease, or if the value of the capital employed decreases, or if revenues increase. Two companies can charge the same price for gasoline but the company that invested earlier in the market and that has a more efficient operation will have a higher ROCE.

The question refers to an ROCE of 13.1% in Hawaii compared to a negative ROCE on the West Coast and elsewhere for 1991 and asks why Hawaii's ROCE was so "high." We do not consider 13% "high." In the antitrust litigation, the State explored why that figure was higher than on the West Coast and admitted that returns on the West Coast were below competitive levels because of a significant oversupply of gasoline. That conclusion illustrates the difficulty of comparing ROCEs in markets with different supply, demand and other competitive forces. Information disclosed in the litigation also showed that Chevron's marketing ROCE was higher than that of the other refinery in Hawaii even though both charged similar prices. This difference may have been attributable to the factors noted above, e.g. Chevron invested earlier in the market and runs an efficient operation. In our view, that is the type of business activity that the State should applaud and encourage.

4. "Why is this surplus exported to lower price markets rather than being sold in Hawaii? Couldn't this surplus be used to lower the prices for consumers in Hawaii?"

Chevron is not exporting gasoline from Hawaii. Our top priority is, and has always been, to supply the gasoline that our dealers and retail and wholesale customers want to buy from Chevron. We also have contracts to supply gasoline (without our additives) to other oil companies that market in Hawaii but do not have refineries there. In the past, when those companies chose to buy less gasoline from Chevron, we exported small quantities of gasoline [usually less than 10% of our production]. Those decisions are made based on economics and take into account the highly inelastic demand for gasoline in Hawaii, which means that lowering the price will not significantly increase aggregate demand.

In closing, we appreciated the opportunity given Chevron to testify before your Subcommittee and to respond to your questions. Do not hesitate to contact us if there is any other information you would like us to supply.

Very truly yours,

PRT:kt-s
Enclosures

cc: D. C. Reeves
R. A. Mittelstaedt
M. Hopkins

HAWAII'S GASOLINE PRICE CAP

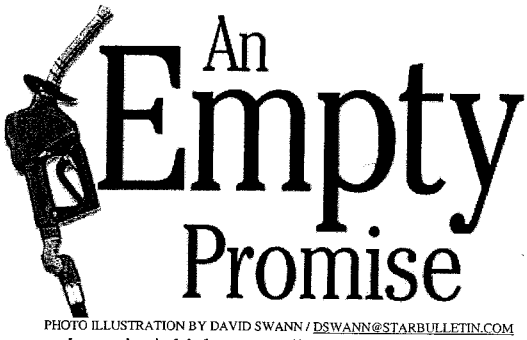


PHOTO ILLUSTRATION BY DAVID SWANN / DSWANN@STARBULLETIN.COM

Hawaii drivers pay the nation's highest gasoline prices and the Legislature has passed a law capping what stations can charge. If it's really a good idea, why don't other states do it?

In the first of a new weekly series, the Price of Paradise takes a look at the law's loopholes and some reasons it probably won't work.

Suyderhoud: Cap won't cut prices | **Fesharaki**: Prices aren't too high

BACK TO TOP

Gasoline price cap will not lower prices or protect Hawaii consumers

By Jack Suyderhoud

IT'S JULY 2004. Your gas tank is almost empty. You search for a gas station -- the one you've patronized for 10 years has closed. When you finally find a station, there's no self-serve regular. Instead, you fill up at a "mini-serve" pump and pay 25 percent more per gallon than your cousin in California.

What happened to the "consumer protection" promised in 2002 when Hawaii became the first state to establish gasoline price controls?

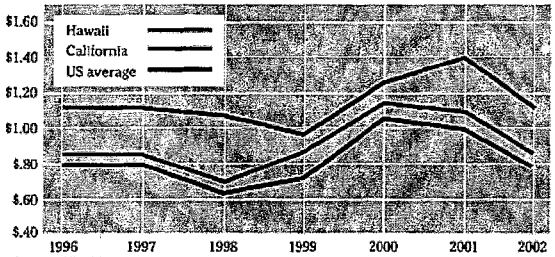
Traditional economics argues excessive market power creates super-normal profits, forcing consumers to pay non-competitive prices. To some, Hawaii's gasoline market fits this situation exactly.

In Hawaii, only two refineries, Chevron and Tesoro manufacture gasoline. Three brands account for 58 percent of the retail market; Chevron, Shell and Tesoro.

Price cap advocates (including the Star-Bulletin in an April 26 editorial) cited a lack of competitive prices and "obscene profits" as reasons to enact regulation. Claims that gasoline prices are not competitive and profits excessive are debatable (see the accompanying article). Regardless, the gas cap will definitely not protect consumers or lower prices.

Regular gasoline prices

Prices below do not include taxes. Hawaii motorists pay 36 cents per gallon in state and local taxes, the highest rate in the nation.



Source: EIA,2002 STAR-BULLETIN

The cap does not tie the price of self-serve regular to its cost of production or distribution but to an artificial benchmark: the West Coast price. According to a simulation by the respected Lundberg Letter (May 29), if it had been in place the last three years, it would have meant lower retail prices only 31 percent of the time, while creating greater price variability.

The rest of the time, the formula would have capped prices an average of 10 cents per gallon above the prevailing Hawaii market price. If retailers had used this cap rather than competitive market forces as a pricing target, retail prices actually would have been higher the other 69 percent of the time.

THE CAP also creates market distortions. Since the price of regular is set by West Coast prices, not local product costs, the price formula could actually make the wholesale price of regular higher than higher-octane, premium grades.

How wholesalers and retailers respond could mean further unintended consequences. If the formula denies refiners an adequate return on investment, they might withhold regular gasoline from dealers. Instead, they could add octane enhancers and sell only premium fuel at prices that do yield adequate returns.

Because of the formula, a retailer who bought fuel last week at a high price might have to sell it for less this week. If dealers cannot make an adequate profit selling self-serve regular, they will convert those pumps to mini-serve or full-serve -- or perhaps require cash-only transactions. This will be especially true for dealers in high-cost locations since all dealers (regardless of their cost structures) are limited to a mark-up of 16 cents per gallon.

FOR BOTH refiners and retailers, the price cap increases uncertainty and thereby reduces incentives to invest in new production and sales capacity.

Gasoline retailing is highly competitive and maintaining profitability is already problematic. Accelerating industry trends, the cap will mean fewer stations, which will use higher volume to offset lower margins. Increasingly, gas will be a sideline to other businesses, such as convenience stores or large-box retailing.

Ultimately, the price cap will be a failure. It may increase the volatility of gas prices, but it will not lower them. Consumers will demand further action: Cap all gas prices or create a regulated gasoline monopoly like the electricity company. These are troubling prospects.

Rather than regulate prices, we should make the industry more competitive by reducing barriers to entry, making it easier for retailers to obtain refined product from outside the state. At the retail level, let's eliminate the rules that make opening new gas stations difficult.

More competition is the answer, not price regulation.

Jack Suyderhoud is a professor of business economics at the College of Business Admini-stration, University of Hawaii-Manoa. He uses self-serve regular gasoline in his 1997 Maxima and is price-sensitive.

How the gas cap would work

Hawaii's gasoline price cap law is not what it appears. At the wholesale level, it caps only the price of regular unleaded gasoline while other grades are uncapped. The wholesale price of regular is capped at the previous week's prevailing price in Los Angeles, San Francisco and the Pacific Northwest, plus 22 cents per gallon on Oahu, 30 cents on neighbor islands.

The retail price is capped only for self-serve regular at 16 cents per gallon above the wholesale price for all islands. Prices at mini- or full-serve pumps are not subject to the cap.

Because the bill's specifics were widely criticized, the Legislature deferred implementation until 2004 and included a provision that the cap can be suspended if the governor decides it will have adverse effects.

Jack Suyderhoud

Senate Permanent Subcommittee
On Investigations
EXHIBIT #___36___

Senator Daniel K. Akaka
Questions Submitted for the Record
To ExxonMobil
Permanent Subcommittee on Investigations' Hearing
Gas Prices: How Are They Really Set?
April 30, 2002

For All Members of the Panel

1. In testimony many of you commented on how the volatility of crude oil prices led to spikes in gasoline prices in 2000 and 2001. However, Hawaii always faces high prices for gasoline. For example, according to the American Automobile Association's (AAA) Fuel Gauge Report, the price trends in almost every state closely resembles that of the national average. Prices in Alaska and Hawaii, however, appear relatively unaffected by the market forces which affect other states and remain unusually high. While the geographic location of Hawaii may contribute to some of this cost, the Attorney General for Hawaii has found otherwise. In fact, the Attorney General has found that the price of gasoline in Hawaii has exceeded the cost of buying gasoline in California and transporting it to Hawaii by more than 20 cents per gallon. In light of this finding, to what do you contribute the continuous high cost of gasoline in Hawaii?

2. On May 2, 2002, the Hawaii State Legislature passed S.B. No. 2179 to regulate gas prices in Hawaii. Some argue that such government action is warranted due to a number of seemingly uncontrollable market factors including inelasticity of demand. Given that Hawaii has had such a long-standing problem, what action would you recommend lawmakers consider in order to ease the financial burden people are facing at the pump?

✧ ✧ ✧

ExxonMobil
Fuels Marketing Company
3225 Gallows Road
Fairfax, Virginia 22037-0001

June 11, 2002

ExxonMobil
Fuels Marketing

The Honorable Carl Levin
Chairman
Permanent Subcommittee on Investigations
United States Senate
269 Russell Office Building
Washington, DC 20510

The Honorable Susan M. Collins
Ranking Minority Member
Permanent Subcommittee on Investigations
United States Senate
172 Russell Office Building
Washington, DC 20510

Dear Senators,

I appreciate the opportunity to respond for the record to Chairman Levin's letter dated May 22, 2002 containing follow-up questions to the April 30, 2002 hearing into gasoline prices.

Q1. [T]he Attorney General has found that the price of gasoline in Hawaii has exceeded the cost of buying gasoline in California and transporting it to Hawaii by more than 20 cents per gallon. In light of this finding, to what do you [attribute] the continuous high cost of gasoline in Hawaii?

A1. ExxonMobil does not market gasoline in Hawaii. Therefore, I have no specific knowledge or experience with market factors that may influence retail gasoline prices in Hawaii.

However, in general terms the retail price of gasoline is determined based on a number of factors, many of which vary locally. In addition to local competition, these factors typically include labor costs, real estate costs, fees, taxes, and other costs of doing business, as well as local laws and regulations. To the extent these costs may be higher in one geographic region than another, retail prices may reflect these higher costs.

Q2. Given that Hawaii has such a longstanding problem [with high gasoline prices], what action would you recommend lawmakers consider in order to ease the financial burden people are facing at the pump?

A1. ExxonMobil does not support the imposition of government controls on our products or our industry, particularly price controls. While such measures may appear attractive, past experience suggests price control schemes disrupt the operation of the free market by severing the fundamental relationship of prices from local supply and demand conditions. In the long run, consumers benefit from a competitive marketplace that sets gasoline prices at a level sufficient to encourage adequate supply and reflect market conditions.

A better response to high prices would include an evaluation of the various factors that either increase the cost of providing petroleum products to a market, or limit opportunities for competition in a local area. Such factors could include local taxes, fees, or other government regulations, including retail divorcement laws, below-cost sales prohibitions, and other constraints on free market operations.

I appreciate the opportunity to address these topics. If you have any questions, please contact Amy Hammer at 202-862-0216.

Sincerely,

James S. Carter

Senate Permanent Subcommittee
On Investigations
EXHIBIT #___37___

CHEVRON TEXACO'S COMMENTS ON THE REPORT OF THE GASOLINE PRICING REPORT OF THE MAJORITY STAFF OF THE PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

At the request of the Subcommittee, ChevronTexaco submitted written testimony on April 26, 2002. Later that day, the Subcommittee released the 396-page report of its majority staff. On April 30, Mr. Dave Reeves, the President of ChevronTexaco's North American Products Company, testified before the Subcommittee. Because there was insufficient time for ChevronTexaco to respond in any detail to the majority staff report, we respectfully request that the Subcommittee include these comments as part of the record of its investigation of gasoline pricing.

The majority staff report reflects an effort to review an overwhelming amount of information and documents in a relatively short time and to master complex subjects dealing with petroleum industry asset changes, infrastructure issues and supply logistics. However, the opinions expressed are not supported by the factual data presented in the report. The report's major conclusion that mergers in the industry have reduced competition and raised prices cannot be reconciled with the facts. To the contrary, those facts demonstrate that the gasoline markets in California and elsewhere are competitive and that gasoline prices have not increased as a result of mergers.

Gasoline prices

As shown by the factual data set forth in the staff report, consumers have benefited from competition in the gasoline markets:

- Gasoline prices are lower today than 20 years ago, despite the evolution of reformulated gasoline which has made it more costly to produce. *Figure II.1.*
- Gasoline prices dropped last winter by more than 60 cents per gallon, from $1.70 to less than $1.10. *Figure II.2.*
- Gasoline prices are lower now than they were a year ago. *Figure II.3.*

Mergers

The staff report focuses on the various mergers and acquisitions in the oil industry over the last five years and asserts that they have resulted in higher gasoline prices. The facts cited in the staff report and presented to the Subcommittee, however, show the opposite.

- Mergers and acquisitions have been occurring in the oil industry since the early 1980s. During the last 20 years of consolidation, gasoline prices in real dollars have decreased. *Figure II.1.*
- The Federal Trade Commission has required that merging companies divest gasoline refining, marketing and pipeline facilities where necessary to avoid reducing competition.

- These FTC-ordered divestitures have enabled smaller, non-integrated refiners to strengthen their businesses and their ability to compete. The list of the ten largest refiners in the country has changed substantially over the last 20 years. Now, seven of the top ten refiners are not vertically integrated with crude oil supplies. *Report, p. 103, n. 109.*

- As a result of these mergers, oil companies have become more efficient, as reflected in steadily declining operating costs. *Figure III.5.*

- These efficiencies have been passed on to the consumers, as reflected by the steadily declining refining "gross margins" (the difference between the cost of crude oil and the price of gasoline). *Figure III.5.*

- As a result, the "net margins" and "rate of returns" in the industry have remained relatively flat and low. Refining returns have averaged around 5% over a 25 year period. *Figures III.5 and III.7.*

Concentration

The staff report uses unorthodox measurements of concentration which, in any event, do not support its conclusions. The first measurement is a comparison of the total market shares of the top ten refiners in 1981 with the total market shares of the top ten refiners in 2001. According to the report, the top ten refiners in 1981 accounted for 55% of the refining capacity, increasing to 62% over the next 20 years.

We are unaware that any economist, agency or court has ever used the aggregate "ten firm" market share as a measure of concentration. Indeed, in many industries, there are fewer than 10 producers so the statistic would be meaningless. Until this report, no one has ever suggested to our knowledge that it is anticompetitive or cause for concern that the ten largest producers have a total of 62% of the capacity in a market. Another way of looking at the same statistic is that 38% of the capacity is in the hands of the companies other than the top ten.

Moreover, as the report notes, the identity of the top ten refiners has shifted over those 20 years—away from fully integrated international major oil companies and in the direction of companies that do not have their own crude oil supplies. The fact that the top ten players have changed reflects jockeying among companies to gain a competitive advantage, which is the opposite of the impression created by the staff report.

The staff report's use of the Hirfendahl-Hirschman Index is also unconvincing. The report asserts, for example, that five states were "highly concentrated" in 1994 (i.e., greater that 1800 HHI) and that four additional states were in that category by 2001. The report suggests that the increase in concentration was responsible for price increases. But the report makes no attempt to back up that central claim. It does not attempt to evaluate the reasons for increased concentration in those states (e.g., from a merger or from unilateral decisions to withdraw from the market due to low returns). In California, for example, concentration levels have been affected by the decision of several refiners to close their plants instead of investing the huge sums required to convert the refineries to meet California's new gasoline specifications. Nor does the report evaluate whether prices have increased in the four states that moved into the

highly concentrated category, let alone whether the increased concentration was the cause of any price increases.[1]

As it turns out, according to the staff's exhibits from the April 30 hearing, the net change of four states from 1994 to 2001 results from one state—Oregon—becoming **less** concentrated and five other states—Indiana, Kentucky, North Dakota, Ohio and West Virginia—becoming more concentrated. If the staff's hypothesis that increased concentration leads automatically to higher prices were true, relative prices in Oregon should have decreased compared to other states, and the prices in the five other states should have increased. A review of pricing data, however, shows no correlation between changes in concentration and changes in price levels. *See* Exhibit A hereto, which shows the changes in average retail prices for regular gasoline and changes in HHI concentration levels between 1994 and 2000, by state. The smallest changes in prices occurred in states with some of the **largest** changes in concentration; conversely, the largest changes in prices occurred in states with some of the **smallest** changes in concentration. In other words, increases in concentration do not appear to be related to price movements.

Along the same lines, the staff report notes that, in 2000, six more states were in the "moderately concentrated" category than in 1994 (an increase from 22 to 28 states). Again, the report does not analyze the reasons for the increased concentration level in any of those states or attempt to show that increased concentration is correlated to increased prices. The report implies that "moderately concentrated" markets are anticompetitive. But the DOJ and FTC guidelines do not view those markets as problematic from a competitive perspective unless a merger results in an increase of more than 100 points.

The same defects exist in the staff report's use of the aggregate market share of the top four firms. The report refers to markets where the top four firms have an aggregate market share of 60% or more as "tight oligopolies." The FTC and DOJ guidelines do not use that term. As the DOJ Guidelines observe, the four-firm ratio ignores "the composition of the market outside the top four firms" and does not account for the relative market shares of the top four firms." To illustrate, if the top four are of equal size and have 60% of the market and the other 40% is made up of very small companies, the HHI is only 900 ((15 X 15) X 4) and the DOJ guidelines do not view this situation as cause for antitrust concern.

In sum, the staff reports uses the wrong measures of concentration and fails to establish that increases in concentration, however measured, lead to price increases. To the contrary, as noted above, the report's own data shows that net margins have not increased—as companies have competed away the cost savings from the increased efficiencies created by the mergers.[2]

---

[1] The concentration calculations are also flawed because they are on an individual state basis rather than an individual market basis. The report appears to ignore the fact that, in many instances, gasoline is supplied in one state from refineries in another state. Hawaii, for example, is reported as having a four-firm concentration ratio of 100%. Indeed, only two refineries operate in Hawaii given the small size of that market. Using the staff's methodology, the "top" two refiners have 100% of the refining market. In fact, at least six companies sell gasoline at the retail level including a large independent Aloha Petroleum, which has imported gasoline from time to time

[2] In response to a question by Senator Levin, Mr. Reeves stated that the Philadelphia refinery had been closed down after Chevron's merger with Gulf. In fact, that refinery was not closed but subsequently sold to Sunoco and

Price Fluctuations

Importantly, the staff report does not and could not credibly claim that average price levels or margins are excessive. As noted, prices are lower today than three years ago and lower when adjusted for inflation than 20 years ago. Margins and returns on investment are also low. The focus of the staff report, therefore, is on the cycle of prices or, more narrowly, on those occasions when prices rapidly increase. The two central defects in the staff analysis of price increases are: (1) it views price increases in isolation, ignoring the price decreases that came before and after the price increases and ignoring movements in the cost of the raw material for making gasoline; and (2) as discussed in the following section on California, it ignores the causes of the price increases which, as other government reports have concluded, have had nothing to do with concentration levels.

The report focuses on the 35 cent increase in the average price of gasoline from 1999 to 2000, from $1.16 to $1.51. Although the staff does not specify the time period, it appears from *Figure II.2* that it is referring to the period from July 1999 to July 2000. In focusing on the price increase, the report ignores the period from July 1997 to April 1999 in which (as shown on the same chart) the price **dropped** by roughly the same amount, from around $1.25 to 90 cents. *See Figure II.2.* Also ignored is the second half of 2001 in which the price again **dropped** more than twice that amount, from over $1.70 to below $1.10. Focusing exclusively on the 35 cent increase sandwiched between the substantial price decreases is misleading. One cannot fairly evaluate gasoline price fluctuations by looking only at the price increases any more than by looking only at price decreases.

The report ignores the most obvious explanation for the 35 cent price increase. During the very same time period that gasoline prices were increasing, the cost of crude oil increased dramatically as a result of crude oil supply decisions by OPEC and the other crude oil producing countries. *See Chevron prepared testimony, April 30, 2002, p. 4 [or reproduce chart here]* It should be no surprise that gasoline prices increase when the price of its primary raw material increases. It is indefensible for the staff report to purport to evaluate the reasons for gasoline price increases without mentioning the increase in the cost of crude oil.[3]

Finally, the staff ignores the fact that temporary price spikes are a market-based economy's method of encouraging suppliers to bring more product into a market and causing consumers to slow down their rate of consumption. These supply and demand effects in turn help resolve whatever supply situation caused the price increase in the first place. Nobody likes the temporary higher prices, but price is the method by which supply and demand are balanced in our free enterprise system.

Instead of acknowledging this fundamental precept of our economic system, the staff report equates a dime increase in the gasoline price to a huge increase in annual revenues. *See, e.g., Staff Report, p. 20.* In reality, when the price increase follows an increase in the cost of

---

continues in operation today. The Gulf refinery that Mr. Reeves had in mind was a small refinery in Cincinnati, which was uneconomic to run and therefore it was closed.

[3] At the hearing, the subcommittee chair noted that certain price increases were not tied to crude oil price changes. That was evidently true for certain price spikes in the Midwest. But the 35 cent price increase featured in the staff report was clearly the result of sharply increasing crude oil prices.

crude oil, there is no increase in net revenues. Indeed, if the market does not permit the sellers to capture the full increased cost of crude oil, there may be a loss in net revenues to refiners and marketers. In all events, the report's focus on a temporary increase in revenues ignores its own Figure III.5 which demonstrates that net margins and rates of return have been relatively flat and low. Profits in 2001, for example, were lower than the previous year. *See Report, p. 27.*

California Price Fluctuations

The staff report notes (p. 126) that, as reported by the GAO, "price spikes during [1995 to 1999] were no more frequent in California than in the rest of the nation." It added: "these spikes coincided with increases in crude oil prices and increases in demand during the spring and driving seasons." The report nonetheless notes that the price spikes were higher in California than elsewhere and suggests that concentration levels in California may be the reason. That suggestion is indefensible for two reasons.

First, concentration levels in California are considerably lower than in many other states, as reflected by the staff report's charts. *See Exhibit 6 and 8.* There is no evidence that concentration and price spikes are correlated.

Second, while the staff report cites the GAO report for some purposes, it ignores the information contained in the GAO report as to the causes of the magnitude of the price spikes in California. To quote the GAO report:

> "Many federal, state and oil industry officials told us that the higher price spikes in California were caused primarily by unplanned refinery outages that disrupted the state's tight balance between gasoline supply and demand. Because California refiners produce at almost full capacity, supply disruptions caused by refinery outages must be made up from other sources, such as out-of-state providers. However, obtaining gasoline from such providers is slow and costly because only a few out-of-state refineries can produce gasoline that meets the state's stringent emission-reducing standards and the gasoline must be shipped by tanker from far-away locations."

Zone Pricing

The staff report notes with apparent approval that refiners provide rebates or discounts to jobbers and retail outlets to help them compete with the increasing number of retail outlets that "price their gasoline with little or no margin, such as hypermarkets." Without rebates or discounts, the jobbers and retail outlets could not maintain a reasonable profit margin. *See Staff Report, p. 302.* The staff report, in a footnote (fn. 401, p. 317), accurately summarizes the pro-competitive benefits of zone pricing:

> "By pricing according to market areas or zones that together outlets facing similar local conditions and/or competitive environments (that differ from conditions confronting outlets in another area) [oil companies] can be more responsive to the particular conditions of each area and therefore more competitive."

The staff report features complaints by some dealers that they are disadvantaged when dealers in other zones receive lower prices and the suggestion by one dealer that companies in a

"perfect world" would have a single price for an entire state. It is understandable why a dealer would prefer the price offered in an adjacent zone when it is lower (although he will prefer his zone's price when it is lower.) But, as the report acknowledges (pp. 318-320), dealers in different zones face different competitive forces, which accounts for different prices.

The economists whom the Subcommittee invited to testify on this topic agreed that zone pricing makes economic sense and probably results in lower prices overall.

- Dr. Hastings:

  "Economic theory predicts that wholesale prices could actually *increase* if refiners are forced to charge one wholesale price. . . .making consumers worse off than they were before."

- Dr. Ashton:

  "One man's surcharge is another man's discount. . . Elimination of zone pricing will tend to force an average markup to all. Moreover, there is no economic prediction that average prices will fall."

Chevron uses a zone pricing approach to marketing gasoline and agrees with these economists that average prices would likely be higher if companies were forced to charge a single price in all markets.

Inventory Levels

At the hearing, the Subcommittee raised the question whether inventory levels were "too low" and contributed to price volatility. The suggestion was made that companies should be required to increase inventory levels. We offer two observations. First, as a factual matter, the record shows that inventory levels for gasoline are generally closer to 25 days' supply than the 3 days' supply referred to by the Subcommittee. *See Testimony of Peter K. Ashton, May 2, 2002, p. 6 and Figure 3, p. 12.* Second, Dr. McAfee, the University of Texas economist who testified on May 2 at the invitation of the Subcommittee, confirmed Mr. Reeves' observation that free market forces result in optimal inventory levels and that arbitrarily raising inventory levels will result in higher prices. As Dr. McAfee put it: "[T]he firms in the industry acquire a socially appropriate level of storage, the level at which the benefits of added storage equals the costs." Requiring higher levels of inventory will impose greater costs, which will necessarily raise the average price of gasoline over time.

The economists who testified on the subject on May 2 also agreed that the proliferation of boutique fuels contributes to inventory concerns. "Boutique fuels increase the problem of storage by eliminating pooling. By proliferating fuel types, the amount of storage needed to prevent significant price spikes rises. . . By dividing the nation into many smaller, separate fuel types, we increase the costs of storage and reduce its effectiveness." *McAfee Written Testimony, p. 3.* We agree with these economists that mandating minimum inventory levels would likely lead to overall increases in average gasoline prices.

Jobber Supply

Although not raised in the staff report, Senator Wyden asserted that the Federal Trade Commission found that oil companies use a practice he calls "redlining" "to discourage competition and raise prices while providing no benefit to consumers." *Written Testimony of Senator Wyden, May 2, 2002, p. 2.* Although not disclosed in his testimony, the practice referred to is nothing more than the practice by some companies, including ChevronTexaco, to sell and deliver gasoline directly to their branded dealers and to sell gasoline at generally lower prices to independent jobbers who develop and supply dealers other than the ones that Chevron supplies directly. This practice has absolutely no relationship to the alleged practice of banks or insurance companies that gave rise to the term "redlining." Of even more importance, contrary to Senator Wyden's testimony, the Federal Trade Commission found no evidence that the practice caused higher prices or any other "actual or prospective consumer harm." To the contrary, the FTC found that "the discounted jobber prices . . . were designed in part to stimulate incremental sales in more rural areas of new markets." As a result of those findings and others, "the Commission voted to close the investigation." *See FTC Press Release entitled "FTC Closes Western States Gasoline Investigation, Investigation Finds No Illegal Activity by Oil Refiners" May 7, 2001; Statement of Commissioners Anthony, Swindle and Leary Concerning Western States Gasoline Pricing Investigation, May 11, 2001.*

"Parallel Pricing"

At the April 30 hearing, the Subcommittee Chair noted that retail pricing charts for various states showed that the retail prices charged by gasoline retailers moved in a "ribbon pattern," i.e., that when prices changed, the relative differential among the various brands generally remained constant. A closer examination of the charts, however, reveals considerable variation in the differential among brands during periods of changing prices. *See, e.g., Subcommittee's Exhibit 24.* On a longer term basis, the differential among retail prices charged by different brands reflects the differences in brand values—differences that one would not necessarily expect to vary in any significant amount.

On a broader level, the fact that competitors' prices of relatively fungible products move roughly in the same direction by roughly the same amounts at roughly the same times does not suggest anticompetitive conduct. It is to be expected in our free market system; it reflects true competition. If the price of one brand drops, the price of the other brands must likewise drop unless they are willing to lose volume to the other brands. That basic economic truth is played out every day across America, in countless industries. Contrary to the suggestions by Subcommittee members, this type of pricing (referred to as "parallel pricing" by the courts) does not suggest conspiracy but simply "reflect[s] the ordinary forces of competition at work" *Clamp-All Corp. v. Cast Iron Soil Pipe Institute* (1st Cir. 1988) 851 F.2d 478, 484 (*cert. denied,* 488 U.S. 1007 (1989).

The proposal to make "parallel pricing" presumptively illegal would be unworkable and inhibit competition. With such a presumption in place, what should a company do when its competitor raises or lowers its price. If the company does not change its price, it risks losing business (in the case of a price decrease) or gaining so much business that it would risk running out of product (in the case of a price increase). If the company does change its price, it risks an

antitrust case and a guaranteed lengthy trial with a presumption that it has violated the antitrust laws when in fact all it had done was to respond to a competitor's price move in a competitive fashion. That is the very reason why courts have uniformly held that parallel pricing is insufficient, by itself, to constitute an antitrust violation, much less require a trial.

Chevron's 1993 presentation

Senator Wyden's written testimony seriously distorted the testimony of ChevronTexaco's Dave Reeves. Contrary to Senator Wyden's assertion that Mr. Reeves "admitted" that West Coast refiners "can evade the laws of supply and demand and manipulate the market," Mr. Reeves merely affirmed and explained the statement in a 1993 document that actions of individual companies can have "significant market impact." The example he gave was when the Shell refinery caught on fire in 1996 and removed some 10% of California gasoline supply overnight. That event did have "significant market impact" and resulted in companies scrambling to obtain sufficient supplies of gasoline, including importing gasoline from as far away as Finland. As the California Energy Commission found, this event showed that the market – and the laws of supply and demand – are working.

Senate Permanent Subcommittee
On Investigations
EXHIBIT #_____39_____

United States Senate
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS
Committee on Governmental Affairs

Carl Levin, Chairman
Susan M. Collins, Ranking Republican

GAS PRICES: HOW ARE THEY REALLY SET?

REPORT

PREPARED BY THE

MAJORITY STAFF
OF THE
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

RELEASED IN CONJUNCTION WITH THE
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS' HEARINGS
ON APRIL 30 AND MAY 2, 2002

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY 1
A. Background 1
B. Findings 2

II. INTRODUCTION 17
A. Subcommittee Investigation 17
B. The Importance of Gasoline in the United States 19
C. Recent Increases In the Price of Gasoline 20
D. Economic Effects of Increases in the Price of Gasoline 24
E. Increasing Concentration in the Refining Industry 27

III. THE PRODUCTION AND MARKETING OF GASOLINE 36
A. Overview of Gasoline Production 36
1. Exploration and Production 36
2. Refining 39
3. Storage and Distribution 40
4. Retail Marketing 43
B. Trends in Refining 45
C. Trends in Storage and Inventories 51
D. Trends in Marketing 55
E. Impact of Environmental Requirements on Motor Gasoline 65
1. RFG Program 66
2. Oxygenated Gasoline Program 72
3. State Fuel Programs 72
4. Impacts of Boutique Fuels on Fuel Supply 74
5. Seasonal Transition Issues Involving RFG 78

IV. THE EFFECTS OF MARKET STRUCTURE AND CONCENTRATION ON GASOLINE PRICES 95
A. General Characteristics of Concentrated Markets 95
B. Concentration in the Oil Refining and Gasoline Marketing Industry 102
1. The West Coast 104
a) California 104
i. The refining industry in California is an oligopoly. 106
ii. In the early to mid-1990s, the California market for gasoline was generally "long,"meaning there was an excess of supply over demand. Refiners also were concerned about the potential for an oversupply of CARB gasoline in 1996 and beyond. During this period, refiners in California sought to limit supply by discouraging imports, exporting gasoline, eliminating the oxygenate mandate, and preventing a refinery from operating. 111

iii. In recent years, the California market has become "short," meaning

imports are needed to satisfy demand. This market tightness is optimal from a refiner's perspective for maximizing profits. 120
iv. In recent years, retail gasoline prices, gasoline price volatility, and gasoline refining margins in California have increased. The high degree of concentration has led to higher retail prices. Today California is one of the most profitable markets for refiners. 125
v. The high degree of vertical integration in California between refiners and marketers leads to higher wholesale prices. 128
vi. The high degree of vertical integration in California between refiners and marketers leads to higher retail prices. 131
vii. The high degree of vertical integration in California makes it more difficult to import gasoline into the state. 135
b) Other West Coast Markets 139
2. The Midwest 142
a) Spring Price Spike, 2000 145
b) Spring Price Spike, 2001 151
c) The Labor Day Price Spike, 2001 155
d) Spring Price Increases to Date, 2002 165
e) Company Documents 167
f) The Wolverine Pipeline Case 169
g) Upcoming Pipeline Expansions 189

V. HOW GASOLINE PRICES ARE SET 283
A. The Crude Oil Market 284
1. Crude Oil Contract Purchases 285
2. The Crude Oil Spot Market 286
3. The Crude Oil Futures Market 288
B. The Gasoline Wholesale Market 291
1. Most wholesale gasoline is sold by contract. 292
2. Exchange agreements are used to transfer gasoline between refining companies. 292
3. The spot market reflects current market conditions. 293
4. The futures market provides critical price information for both the contract and spot markets. 294
5. Rack price. 296
6. Gasoline spot prices do not necessarily reflect crude oil prices, but they are reflected almost immediately in rack and retail prices. 299
7. Dealer Tank Wagon (DTW) price. 300
8. Rebates and discounts given to branded outlets may help them compete with low priced retailers. 302
C. The Retail Gasoline Market 303
1. How retail prices are set. 303

2. Retail price trends vary by region with the Midwest experiencing a high degree of price volatility. 313

2. Retail price trends vary by region with the Midwest experiencing a high degree of price volatility. 313
3. Zone pricing. 316
4. How retail prices are changed. 321
5. Midwestern retail gas prices changed quickly and often in 2001. 323

APPENDIX 1. METHODOLOGY USED FOR ANALYSIS OF WHOLESALE AND RETAIL PRICE DATA 337

APPENDIX 2. FIGURES RELATING TO MAJORITY STAFF ANALYSIS OF WHOLESALE AND RETAIL PRICES REFERRED TO IN SECTION V 339

The figures and exhibits referred to in each section of the text of this report can be found at the end of the corresponding section, with the exception of some of the figures referred to in Section V, "How Gas Prices are Set," which are located in Appendix 2.

I. EXECUTIVE SUMMARY

A. Background

In June 2001, following the spike in the price of gasoline in the Midwest, the Chairman of the Permanent Subcommittee on Investigations, Senator Carl Levin, directed the Majority Staff of the Subcommittee to investigate the reasons for these price increases, and, in particular, whether the increased concentration within the refining industry has contributed to recent price spikes and price increases.

The Majority Staff's investigation encompassed issues concerning the structure of the domestic refining and marketing industry and the conduct of the participants in these markets. The staff interviewed representatives from a variety of segments of the downstream petroleum industry (refinery to gas station), including major refining and marketing companies, distributors of refined gasoline, service station owners and dealers, trade association representatives, lawyers and economists. The staff analyzed data obtained from the Energy Information Administration and wholesale and retail price data purchased from the Oil Price Information Service. The Subcommittee issued subpoenas to a number of major oil companies and one pipeline company for relevant refining and marketing documents from 1998 through 2001. In response, the Majority Staff received and reviewed 103 boxes of documents containing approximately 265,000 pages. Due to staff and time constraints, the Majority Staff focused on three regions of the country: the West Coast – California in particular; the Midwest – Michigan, Ohio, and Illinois in particular; and the East Coast – Maine and the Washington, D.C. area in particular.

This report presents the Majority Staff's findings regarding recent increases in gasoline prices and volatility, especially with respect to the effect of increasing concentration in the refining industry on gasoline prices.

B. Findings

1. In the past three years there have been extraordinary spikes in the price of gasoline and the price of gasoline has increased significantly.

Over the past three years, the price of gasoline has increased significantly. The 35-cent increase in the average annual price of regular unleaded gasoline from 1999 to 2000 (from $1.16 to $1.51 per gallon) had been matched only once in history – by the 34-cent average annual increase in 1980 that followed the Iranian revolution and the outbreak of war between Iran and Iraq.

The price of gasoline has also become more volatile than ever. Gasoline prices now regularly vary more in one month than they previously did in entire years. In late spring of 2000, prices in Chicago spiked to $2.13. In 2001, Midwestern prices spiked again, reaching over $1.90 per gallon in central Michigan. Just this spring, retail prices have increased faster than at any time in the past 50 years since gasoline prices have been tracked regularly.

2. Spikes in the price of gasoline are harmful to consumers and the economy..

Gasoline price increases can disrupt the entire U.S. economy. By increasing the cost of transportation, increases in the price of gasoline affect the costs of all goods and services. Last year's increases in the price of gasoline, along with rises in the prices of other petroleum products, helped push the American economy into a recession, and this year's increases are threatening the current recovery. These price increases result in large transfers of wealth from

consumers to a few companies that refine and market gasoline. Over the course of a year, each ten cent increase in the price of gasoline results in approximately an additional $10 billion in revenues to the oil companies. Price increases are particular burdens on people with fixed-incomes who depend on cars for their basic needs. Although through much of the 1990s the refining industry's profits were not above most other industries, the recent price spikes brought exceptional returns. For the year 2000, net income for major energy companies from refining and marketing was up 57 percent from income in 1999.

3. The mergers in the oil industry over the last few years and the closing of many refineries over the past twenty years have increased concentration in the refining industry. In some states, the refining and marketing industry for gasoline is highly concentrated; in many states it is at least moderately concentrated.

A large number of mergers and acquisitions in the oil industry in recent years has led to a significant consolidation of refining assets.

- In 1998, Marathon and Ashland Oil merged their downstream assets.
- In 1998, British Petroleum (BP) merged with Amoco
- In 1999, Exxon Corporation merged with Mobil Corporation.
- In 2000, BP/Amoco acquired ARCO.

Within the past year –

- Shell acquired Texaco's domestic downstream assets;
- Chevron, which had acquired Gulf Oil in 1994, acquired Texaco (other than downstream assets);
- Phillips acquired Tosco;
- Phillips announced a merger with Conoco;

- Valero acquired Ultramar Diamond Shamrock (UDS).

This wave of mergers has followed a general consolidation of assets within the refining industry over the past two decades. In 1981, 189 firms owned a total of 324 refineries; by 2001 65 firms owned a total of 155 refineries, a decrease of about 65 percent in the number of firms and a decrease of about 52 percent in the number of refineries. During this period the market share of the ten largest refiners increased from 55 percent to 62 percent.

As a result of this consolidation, in a number of regions, states, and cities across the country the wholesale and retail markets for gasoline in the United States are moderately to highly concentrated. In 2000, as measured by the Department of Justice/Federal Trade Commission guidelines for evaluating mergers, the gasoline wholesale market was "moderately concentrated" in twenty-eight states and "highly concentrated" in nine. According to the four-firm concentration ratio, which is another standard measure of market concentration, the wholesale market is a "tight oligopoly" in twenty-eight states (including the District of Columbia).

4. Over this same time period, the balance between supply and demand has become "tight."

Because of the decline in the number of domestic refineries, total domestic refining capacity is slightly lower now than it was twenty years ago. At the same time, demand has increased. As a result of these trends, at present supply and demand are very closely balanced. This is sometimes referred to as a "tight" market.

In 1981, when the number of refineries was at its highest, capacity utilization was at its lowest. Just over 68 percent of refining capacity was being used, meaning that nearly one-third of all domestic capacity was idle. During most of the 1980s and into the early 1990s, total

capacity remained high and excess capacity remained. This excess capacity led to low refining margins and a number of refinery closures. At the same time, many refiners invested capital to "de-bottleneck" their refineries to increase their efficiency, capacity and ability to process less expensive streams of crude oil.

Following the passage of the Clean Air Act Amendments of 1990, many refiners not only upgraded their facilities to produce cleaner fuels, but took the opportunity to add more capacity as well. Again, less efficient refineries were closed rather than upgraded.

In the United States today, 63 companies operate about 150 refineries with a combination distillation capacity of just over 16 million barrels per day. With the closure of many small refineries and the addition of new capacity to existing refineries, the average capacity of a refinery in the United States has increased by nearly 50 percent since 1970.

As demand has slowly but steadily grown, and refineries have closed, there is no longer an excess of refining capacity; the West Coast is even short. The annual average refinery utilization rate is now regularly greater than 90 percent, which is near maximum capacity.

5. **High concentration exacerbates the factors that allow price spikes and increases, a key one of which is the tightness of supply.**

6. **In concentrated markets refiners can affect the price of gasoline by their decisions on the amount of supply. In a number of instances, refiners have sought to increase prices by reducing supply.**

Economic principles dictate that markets in which a few firms have market power to affect overall supply will exhibit higher prices than more competitive markets. As long as sellers in a market can indirectly affect prices through their supply decisions, it can be expected that sellers will act in their self-interest to manage supply so as to maximize their profits; this

means that producers in a concentrated market will attempt to achieve and maintain a tight balance between supply and demand. This is increasingly the situation in the gasoline industry today.

A tight market optimizes profits for a refiner. When a market is in a tight balance or a little bit short, as it is in California and the West Coast today, imports will be necessary to satisfy peak demand and prices will be lifted by an amount at least equal to the cost to import marginal barrels from elsewhere. Moreover, as recent history in California and the Midwest demonstrates, when supply and demand are closely balanced and inventories are low, refinery or pipeline disruptions will cause immediate supply shortages. Because of the inelasticity of the price of gasoline, even relatively small supply shortages will lead to large increases in the price of gasoline and refining margins.

In California, which is the second largest market for gasoline in the world, the market is an oligopoly. Six refiners own or operate about 85 percent of the retail outlets in the state, which account for than 90 percent of the retail gasoline sold in the state. As a result, the few large refiners within the state have the ability to affect the price of gasoline through their individual supply decisions.

In California, retail gas prices are higher and more volatile than the rest of the nation; refining margins – the difference between refining costs and wholesale (rack) prices – are also higher. The high level of concentration and vertical integration within California's gasoline markets, the tight balance between supply and demand, low inventories, the state's unique gasoline specifications, and its geographic isolation from other refining centers contribute to these higher prices and margins.

Evidence from a recent lawsuit in California indicates that during the early- to mid-1990s, when supply exceeded demand, a number of refiners sought to limit the amount of supply available in order to tighten the supply/demand balance. To reduce supplies these refiners sought to increase exports, limit imports, eliminate the oxygenate mandate in gasoline, and prevent additional refinery capacity from operating.

Today, demand for gasoline in California slightly exceeds the available supply from within the state; imports are necessary to satisfy demand during peak driving seasons. Prices have risen to levels necessary to attract these imports. Because of the high degree of concentration and vertical integration between refiners and marketers within the state, as well as the other high barriers to entry into the California market, it is unlikely that any significant increase in imports or production will occur to alleviate this tightness.

The Midwest overall is less concentrated than California but has several pockets of high concentration in the wholesale market. The Midwest relies on imports from other regions, such as the Gulf Coast, for approximately 20 percent of its gasoline. It may take at least two to three weeks for additional supplies to arrive after a supply disruption within the region.

Low inventories have created the conditions for price spikes in the Midwest, which have occurred when demand has increased (near driving holidays) and/or the supply of gasoline was disrupted. Because demand for gasoline is inelastic, even a small reduction in supply or an increase in demand will lead to a large increase in price. Generally the extent of the price spike has depended on how quickly alternative supplies have been brought to the market and how much it cost to bring in those additional supplies.

Not unlike oil companies nationwide, oil companies in the Midwest have adopted just-in-time inventory practices, resulting in crude oil and product stocks that frequently are just above

minimum operating levels. And, in the spring of 2000 and 2001, the conversion from the production and supply of winter-grade gasoline to summer-grade gasoline further contributed to low inventories just prior to a seasonal increase in demand. With the stage set by those two factors, the oil companies took actions over these past two years in accordance with their profit maximizing strategies that significantly contributed to the price spikes when disruptions in supply occurred:

– During the spring of 2000, three major refiners determined it wasn't in their economic self interest to produce more RFG (reformulated gasoline) than that required to meet the demands of their own customers. That contributed to the shortness in the spot market for RFG, contributing to the price spike of spring 2000. While Marathon did have surplus RFG, it withheld some of it from the market so as to not depress prices.

– During the spring of 2001, the Energy Information Agency projected that gas inventories were the same or even less than in the spring of 2000. These low inventories and the tight balance between supply and demand again set the stage for the spring price spike that occurred when supply was disrupted.

– In the summer of 2001, major refiners affirmatively reduced gasoline production, even in the face of unusually high demand at the end of the summer driving season because of low refining margins, contributing significantly to the price spike of summer 2001.

Nationwide, in the winter of 2001 - 2002, demand fell and inventories rose following the tragic events of September 11, 2001. With reduced demand and higher inventories, prices fell. As a result, refining margins fell and refiners cut back on production in order to obtain higher margins. Along with the increase in the price of crude oil and market speculation, these

reductions in production were a significant factor contributing to the run-up in price in the late winter and continuing into the early spring of this year.

An internal BP memo from 1999 confirms the interest at least one oil company has had in limiting the supply of gasoline in the Midwest. The memo identifies a number of options for consideration in order to reduce supply in the Midwest. Among the options are: shutting down capacity, exporting to Canada, lobbying for environmental regulations that would slow down movement of gasoline in pipelines, shipping product other than gasoline in pipelines, and providing incentives to others not to provide gasoline to Chicago.

As the domestic refining market is currently structured, it is likely that supply and demand in certain markets will continue to remain in tight balance and vulnerable to disruptions.

7. Highly concentrated retail markets have higher retail prices.

Retail gasoline prices may vary considerably in different cities within the same geographic region. Some of these differences are attributable to the differences in the costs to transport gasoline from a refinery to the market and others are attributable to the characteristics of each market.

Industry documents obtained by the Subcommittee during the investigation provide evidence of what many have suspected but what has been controversial and elusive to demonstrate – that retail prices are higher in areas where there is greater market concentration, especially among the major brands. According to these documents, retail margins (the difference between the wholesale price and the retail price for gasoline) depend upon the characteristics of the local market: the degree of concentration, the market share of the major oil companies, the per capita income in the market area, the average volume of gasoline sold at each

gasoline station, and the presence of independents or "new era" marketers, such as convenience stores or hypermarkets with gasoline islands.

In a number of markets, many traditional-style independents have disappeared. These independents served to push prices down in their local markets. In some markets they have been replaced by "new era" competitors, which continue to have this effect.

In other markets, however, prices have risen when independents have left the marketplace. In California, for example, after ARCO purchased the Thrifty chain of independent gasoline stations prices increased in the areas formerly served by the Thrifty stations.

The presence of competitors other than a few major brands is critical to price competition in local markets.

8. Markets in which there is a high degree of vertical integration between refiners and marketers have higher wholesale and retail prices.

A high degree of vertical integration between gasoline refiners and marketers leads to a number of anti-competitive results, including higher wholesale and higher retail prices. In markets in which there are few independent *retailers*, not much gasoline will be bought at a wholesale price lower than the wholesale prices set by the integrated refiners. Similarly, in markets in which there are few independent *refiners*, there will not be much wholesale gasoline sold at a price lower than the wholesale price set by the integrated refiner. Integrated refiner/retailers have little incentive to sell to other retailers at low prices, since they will not want to undercut their own retailers.

As the markets in California and Arizona demonstrate, a high degree of vertical integration will contribute to the demise of the "spot" market for unbranded gasoline, which is typically sold at lower prices than branded gasoline. In a highly integrated market, the non-

integrated retailers will have difficulty finding reliable sources of supply and may be forced to exit the marketplace entirely.

A high degree of vertical integration makes it more difficult for refiners in other markets to export gasoline into the integrated market, as integrated firms will not want to have other refiners sell gasoline into their market and lower prices through additional supply. In a highly integrated market, the number of non-integrated retailers remaining in the market may not be large enough to economically bring in imports from elsewhere. Thus, as a practical matter, in a highly integrated market the integrated refiners will be the only ones who determine whether to import gasoline into the state during price spikes, or whether to increase overall supply into the state. These barriers to imports will lead to higher prices. Indeed, the evidence shows that in both California and Arizona the high degree of vertical integration has led to higher retail prices.

9. Oil companies do not set wholesale (rack) or retail prices based solely upon the cost to manufacture and sell gasoline; rather wholesale (rack) and retail prices are set on the basis of market conditions, including the prices of competitors. Most oil companies and gasoline stations try to keep their prices at a constant price difference with respect to one or more competitors. As a result of these interdependent practices, gasoline prices of oil companies tend to go up and down together.

Neither wholesale nor retail prices for gasoline are established on a cost-plus-profit basis. The wholesale price a refiner can obtain for refined gasoline is determined largely by the factors influencing the then-current supply and demand situation in the wholesale market, including the market's outlook for the future. Competitors' prices also are considered. Similarly, the price a retailer will charge for gasoline on any given day will not be equal to the cost to manufacture, transport, and sell the gasoline at the station with a reasonable profit; rather the retail price will

be set based upon the prevailing market conditions, including the retail prices of nearby competitors.

Most gasoline stations focus their retail pricing policies on the retail pricing of their competitor's outlets. Oil companies and station operators typically will survey the retail prices at nearby gasoline stations at least once a day.

Each company's formula for determining an appropriate retail or "street" price is different, but companies rely on a system of identifying which competitors are market drivers for a particular area. One type of pricing system prices directly against a specific market driver, usually a low priced competitor, such as Company X's price + 3 cents per gallon. Another method for pricing is to price at the average of the prices of all major market drivers. Sometimes the price is determined using a combination of both methods.

Companies state that if they attempt to increase the price of their product above the other retail prices in the area, they will lose volume to the retail outlets with lower prices. Companies state that if they lower their prices either they will run out of gasoline due to a run on their supplies, or their competitors will lower their price, too, and the net result for all of the stations in the area will be reduced margins. As a result of these interdependent pricing practices, retail gasoline prices move up and down together.

10. In Michigan and Ohio, these interdependent and parallel retail pricing practices have led to sharp daily increases in retail prices across the states.

The Majority Staff analyzed wholesale (rack) and retail data obtained from the Oil Price Information Service for the leading retail brands of gasoline in five states: Michigan, Ohio, Illinois, California, and Maine. In 2001, in Michigan and Ohio, and to a lesser extent Illinois, prices often increased by as much as 7 to 10 cents in one or two days, and then slowly fell over

the next several days, but not by as much as they had risen. These one- and two-day increases were often led by one brand, and sometimes two, in order to increase retail margins, and were almost always followed by other brands.

11. Oil companies use zone pricing to charge different prices for gasoline to different station operators, some of which are in nearby geographic areas, in order to confine price competition to the smallest area possible and to maximize their prices and revenues at each retail outlet.

Most oil companies follow the practice of grouping their retail outlets into geographic or market zones and charging their branded dealers (either lessee-operated or dealer-owned outlets) in different zones different prices for the same brand and grade of gasoline that is delivered from the company. This practice is called "zone pricing." Each oil company has its own zone system. The number of outlets in a zone, the shape of a zone and the number of zones in a particular area vary from zone to zone and company to company. In recent years zone size has been shrinking; some zones now contain only one retail outlet.

Oil companies argue that zones are created to account for differences in such factors as demand for their product and competition. Station dealers argue that the zone pricing policy is unfair, because it allows an oil company to charge gas stations in nearby geographical areas – sometimes on the same corner – different prices for the same gasoline. Almost all of the companies interviewed by the Majority Staff indicated they employed some form of zone pricing in order to respond to local competitive conditions.

Another rationale for creating zones is to enable particular stations to be able to charge higher prices without losing too much volume to nearby competitors. By determining the various "elasticity curves" in the area surrounding a gasoline outlet, marketing consultants believe they can determine how much prices can be raised at a particular station before

consumers will drive to other nearby stations. These consultants claim that zones enable retailers not only to be competitive with nearby stations, but also to maximize prices and revenues at each station.

12. For the many stations owned or leased by the major oil companies, it is the major oil company rather than the local dealer that determines the competitive price position of the local station and that benefits from higher prices and profit margins.

Refiners generally set the wholesale price of the gasoline they directly deliver to their dealers (called the "dealer tank wagon" price, or "DTW") by calculating an appropriate competitive retail price for the dealer – which is done by surveying the competitive prices in the retailer's local market – and then subtracting a fixed margin, usually between 7 and 10 cents per gallon. Although retail prices fluctuate, the dealer's margin stays fixed. In a number of cases dealers have reported that when they attempted to obtain a greater margin by increasing their retail prices, the refiner increased the DTW by a commensurate amount. As the retail price rises and falls, it is the refiner, rather than the dealer, that receives either the profit or the loss.

13. The "hypermarket" is rapidly expanding as a highly competitive format for selling gasoline.

The hypermarket, which is "a supermarket, other traditional retail store, or discounter (such as Wal-Mart or Costco) with a motor gasoline outlet in the parking lot," has rapidly become an extraordinarily competitive presence in the retail gasoline marketplace. Hypermarkets have captured almost half of the gasoline market in France and approximately one-quarter of the market in the United Kingdom. Although hypermarkets currently account for only about 3 percent of gasoline sales in the United States, it is highly likely that hypermarkets

will rapidly increase their gasoline business at the expense of major brand retail and convenience stores across the country, just as they have done in Europe.

If the anticipated growth in hypermarket occurs, it will result in additional significant changes in the composition of the retail marketplace. A number of distributors (jobbers) and small independent operations may be the most seriously threatened by the hypermarkets, as they tend to own or service smaller, older stations with fewer offerings which cannot compete either on price or on convenience with the hypermarkets. Even the most efficient stations with a traditional format may not be able to compete with the hypermarkets, as the traditional format requires a higher margin than a hypermarket just to break even. The extent to which major brands will themselves invest – either through discounts to their jobbers on wholesale purchases, or through site upgrades – to enable such sites to become competitive with new hypermarkets and convenience stores remains to be seen.

Although convenience stores and hypermarkets are major competitive forces in the gasoline retail market, it is unclear what the nature of the competition will be in the long run if these new formats force a significant number of smaller independents or smaller jobbers out of business. Traditionally, the smaller independents and jobbers have helped to keep prices low.

14. The Wolverine Pipeline case illustrates how control over storage facilities and pipelines can be used to limit gasoline supplies and competition in a market.

The Wolverine Pipeline transports gasoline and other products from Chicago to Michigan, Illinois, Indiana, and Ohio. Wolverine is owned by affiliates or subsidiaries of major oil companies, namely ExxonMobil, Equilon, Unocal, Citgo, and Marathon.

The Wolverine Pipeline is a major source of supply for the gasoline market in and around Grand Rapids, Michigan. Wolverine and its affiliates utilized their control of critical transportation and storage facilities to limit access to and competition in markets, particularly disadvantaging independent shippers of unbranded gasoline. In a recent challenge to a Wolverine rate request, the Federal Energy Regulatory Commission staff found that practices of Wolverine and its affiliates violated the Interstate Commerce Act, some for over twenty years. Had not the rate request been challenged, it is likely these discriminatory practices would have continued, and it would have been more difficult for independents to compete.

15. If concentration in the oil industry continues to increase, higher prices can be expected.

II. INTRODUCTION

A. Subcommittee Investigation

In June 2001, following the second consecutive spring price spike in the Midwest, Senator Carl Levin, Chairman of the Senate Permanent Subcommittee on Investigations, directed the Majority Staff of the Subcommittee to investigate the reasons for these increases in the price of gasoline, and, in particular, whether the increased concentration within the refining industry has contributed to these price spikes and increases.[1]

The staff's investigation encompassed issues concerning the structure of the domestic refining and marketing industry and the conduct of the participants in these markets.[2] The staff interviewed representatives from a variety of segments of the industry, including major refining and marketing companies, distributors of refined gasoline, service station owners and dealers, trade association representatives, lawyers and economists.[3]

The staff reviewed several recent investigations and studies of gasoline pricing, including the Federal Trade Commission's (FTC) Report on the Midwestern gasoline price spike in the

---

[1] Under Senate Resolution 54, 107th Congress, the Senate Permanent Subcommittee on Investigations (PSI) is authorized to study or investigate "the efficiency, economy, and effectiveness of all agencies and departments of the Government involved in the control and management of energy shortages including, but not limited to their performance with respect to . . . (iii) the pricing of energy in all forms . . . (vii) maintenance of the independent sector of the petroleum industry as a strong competitive force . . . (viii) the allocation of fuels in short supply by public and private entities . . . [and] (xi) the monitoring of compliance by governments, corporations or individuals with the laws and regulations governing the allocation, conservation, or pricing of energy supplies . . . ."

[2] This is commonly referred to as the "downstream" market. The staff did not examine issues associated with the exploration and production of crude oil, or the operation of the OPEC cartel.

[3] The Majority Staff interviewed 34 service station retailers/distributors in Michigan and 7 retailers/distributors in the Washington, D.C., area.

spring of 2000, and were briefed by the FTC staff on the results of their three-year investigation into West Coast prices. The staff met with officials from the Department of Energy's Energy Information Administration (EIA), reviewed their findings and conclusions regarding recent price spikes and trends in gasoline prices, and analyzed pricing and supply data provided by the EIA.

The staff also examined industry documents produced in several antitrust and gasoline pricing lawsuits and in several FTC proceedings. Because a number of these documents were originally produced in legal proceedings and not publicly available, the Subcommittee issued subpoenas for many of these documents.

The staff purchased wholesale (rack) price and retail price data from the Oil Price Information Service (OPIS). The information contained daily gasoline price data, by brand, for all of 2000 as well as the first eight months of 2001 from five states: California, Illinois, Maine, Michigan, and Ohio. The staff analyzed, by brand, state-wide average rack prices, state-wide average retail prices, daily price changes, and the rack-to-retail margins.

As part of this investigation the Subcommittee issued subpoenas to a number of major oil companies for relevant refining and marketing documents from 1998 through 2001. In response, the Subcommittee received approximately 103 boxes of documents containing approximately 265,000 pages. The staff reviewed these documents from January 2002 until March of 2002.[4]

---

[4] Almost all of the information obtained by the Subcommittee through the issuance of subpoenas was claimed by the originating parties to be "Business Sensitive," "Confidential," or "Proprietary" information, the disclosure of which allegedly could adversely affect the originating party's competitive position. Although the Subcommittee is not obligated to withhold any documents upon such a claim of confidentiality, the Subcommittee has determined not to release the majority of these documents so as not to potentially further impair competition within the industry. In a few instances in which subpoenaed documents or portions thereof are being released, the Subcommittee has determined that the public interest in the disclosure of the

This report presents the Majority Staff's findings regarding recent increases in gasoline prices and volatility, especially with respect to the effect of increasing concentration on the refining industry. First, the report discusses the Majority Staff's findings regarding the causes of recent price spikes and the effect of concentration in the gasoline refining and marketing industry on gasoline prices. The report then describes the operation of the wholesale and retail markets for gasoline and how retail prices are set. Then, the report provides a factual background on how gasoline is produced and marketed.

B. The Importance of Gasoline in the United States

Gasoline is the lifeblood of the American economy. As the largest consumer of oil and gasoline in the world, the United States uses about one quarter of the world's production of oil and over 40 percent of the world's production of gasoline.[5]

In the United States today, there are more than 208 million registered light duty vehicles, including over 130 million cars.[6] With over 187 million licensed drivers in the country, this equates to more than one vehicle for each driver.[7] About 80 percent of urban households and over 90 percent of suburban and rural households own cars.[8] Demand for gasoline for these vehicles accounts for more than 40 percent of the total demand for petroleum products, and

---

information released outweighs the confidentiality concerns communicated to the Subcommittee.

[5] Energy Information Administration, International Energy Annual 1999, at http://www.eia.doe.gov/emeu/iea/table12.html; http://www.eia.doe.gov/emeu/iea/table35.html.

[6] Federal Highway Administration, *Highway Statistics*, 1998; Cambridge Energy Research Associates, *Gasoline and the American People*, July 2001 Update, at 4.

[7] *Gasoline and the American People*, at 4.

[8] Consumer Federation of America, *Ending the Gasoline Price Spiral*, July 2001.

accounts for about 17 percent of the total energy consumed in the nation.[9] This gasoline is dispensed to the public at nearly 176,000 service stations located throughout the country.[10]

"Over the last half century, Americans' driving has increased more than 600 percent, and their use of gasoline has almost quadrupled – from 35 billion gallons to over 130 billion gallons."[11] In 2000, the average driver drove nearly 13,200 miles, used about 700 gallons, and paid about $1,060 for gasoline.[12] At this rate of consumption, each dime increase in the price of gasoline costs a consumer approximately an additional $1.50 per full-tank fill-up, or $70 per year. According to an industry rule-of-thumb, each dime increase in the price of gasoline adds approximately $10 billion in revenues to the oil industry.

C. Recent Increases In the Price of Gasoline

In the past three years gasoline prices in the United States have been extraordinarily volatile. (See Figures II.1 and II.2 on pages 29 and 30.) The current price roller-coaster began its ride in February 1999, when the national average price for regular unleaded gasoline fell to just over 95 cents per gallon, a record low in constant dollars.[13] By June 2000, the price had risen approximately 80 percent, to $1.70 per gallon. Overall, from 1999 to 2000, the average

---

[9] Energy Information Administration, *Restructuring the Changing Face of Motor Gasoline*, March 2002, at 1; *A Primer on Gasoline Prices*, July 2001.

[10] *Restructuring the Changing Face of Motor Gasoline*, March 2002, at 1.

[11] *Gasoline and the American People*, at 5. This is approximately 8.4 million barrels per day. One barrel equals 42 gallons.

[12] *Gasoline and the American People*, at 2.

[13] American Petroleum Institute, *How Much We Pay for Gasoline*, April 2001 Review, at 4.

annual price of regular unleaded gasoline jumped from $1.16 to $1.51 per gallon.[14] This one-year increase of 35 cents has been matched only once in history – by the 34-cent increase in 1980 that followed the Iranian revolution and the outbreak of war between Iran and Iraq.[15]

Certain markets, especially in the Midwest, have seen particularly sharp increases. (See Figures II.3 and II.4 and pages 31 and 32.) For example, during a three-week period in the spring of 2000, the retail price for reformulated gasoline (RFG)[16] in Chicago rose almost 30 cents, from $1.85 per gallon on May 30 to $2.13 on June 20. Over the next month prices in Chicago fell 56 cents, to $1.57 on July 24. At the peak of the Midwestern spike, the wholesale price of RFG in Chicago had risen from being equal to the wholesale price in Dallas to more than 45 cents above the wholesale price in Dallas.[17] Similar increases were seen in other Midwestern cities.

In the spring of 2001, the price of gasoline in the Midwest spiked again. For example, in the first seven days of May the average price for regular grade gasoline in the Saginaw-Bay City-Midland region of Michigan rose approximately 26 cents – from $1.65 to $1.91 per gallon. Within the next two weeks the average price slipped to $1.73 per gallon, a drop of 18 cents. In the next two days, however, prices climbed 20 cents, so that by May 25 the average price had risen back up to $1.93 per gallon. Similar increases occurred elsewhere in Michigan. The EIA

---

[14] American Petroleum Institute, *How Much We Pay for Gasoline*, April 2001 Review, at 4. The average prices for mid-grade and premium exhibited similar behavior. *Id.*

[15] API; P.K. Verleger Jr., *Third Oil Shock: Real or Imaginary?*, Oil and Gas Journal, June 12, 2000.

[16] See Section III.E for a description of RFG.

[17] Final Report of the Federal Trade Commission, *Midwest Gasoline Price Investigation*, March 29, 2001.

noted that although not "outside the realm of market behaviors of market behaviors seen previously," this level of volatility was "somewhat extreme."[18] Moreover, the EIA observed that these rapid increases were not due to any significant supply problems, such as refinery or pipeline outages, that would have disproportionately affected prices in Michigan.[19]

Just before the Labor Day holiday in 2001 the average retail price for regular grade conventional gasoline in the Midwest again rose abruptly. By mid-summer, as a result of a seasonal increase in production as well as the price run-up in the spring, gasoline supplies in the Midwest had increased by a sufficient amount to drive prices down to about $1.30 per gallon by the Fourth of July. Prices then rose by 3 cents from mid-July through the first week in August. In the second week of August, however, prices in the Midwest rose quickly, reaching $1.70 per gallon by Labor Day – nearly a 40-cent increase in less than one month. By contrast, from 1992 through 1998 average prices in the Midwest had not varied by more than 24 cents in any one year.[20]

On September 10, 2001, the average national price stood at $1.52 per gallon.[21] The average price for conventional gasoline in the Midwest was about $1.63 per gallon.[22] In a

---

[18] EIA, *A Brief Analysis of Michigan Gasoline Price Behavior During May 2001*, June 14, 2001.

[19] EIA, *A Brief Analysis of Michigan Gasoline Price Behavior During May 2001*, June 14, 2001.

[20] EIA Data at http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwrmw.xls (Midwest prices).

[21] EIA, U.S. Retail Gasoline Prices, at http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwreg.xls (national average prices).

[22] EIA Data, at http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwrmw.xls (Midwest prices).

number of local markets, prices were higher. In Chicago the price for regular unleaded reformulated gasoline was about $1.84 per gallon, as was the price in San Francisco for regular unleaded California-standard ("CARB" gas) gasoline.[23] In Los Angeles, California, the average price for regular CARB gasoline was $1.60 per gallon.[24]

The terrorist attacks of September 11, 2001, disrupted a jittery domestic economy that already was on the verge of recession. The transportation and energy industries were affected immediately. Air travel virtually ground to a halt in the days after the attack. In the week after the attacks Americans stayed off the highways as well – weekly gasoline consumption dropped by almost 9 million gallons, the equivalent of a whole day's worth of gasoline consumption across the entire country.

With the economy in a recession, a slump in airline and automobile travel, and a warmer-than-normal winter, jet fuel, gasoline, and heating oil consumption declined and stocks rose. With decreased demand for product, crude oil stocks rose as well. As inventories grew, prices fell. By the end of October, the national average price for regular unleaded gasoline had fallen about 30 cents from its level in early September. In the Midwest, prices dropped 46 cents in the 6 weeks following the attacks. At this time the EIA reported, "In total, the national average

---

[23] EIA Data, at http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwych.xls (Chicago prices); http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwysf.xls (San Francisco prices). "CARB" is the gasoline formulation required under the California Air Resources Board Phase II regulations. CARB gasoline was first introduced in California in 1996. CARB gasoline must meet more stringent standards for nitrogen oxides (NOx) and aromatic emissions; it is expected to reduce smog-forming emissions from motor vehicles by 15 percent and reduce cancer risk from exposure to motor fuel toxins by approximately 40 percent. See, e.g., Attorney General of California, *Report on Gasoline Pricing in California* (1999).

[24] EIA Data, at http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwyla.xls (Los Angeles prices).

retail gasoline price has fallen nearly 48 cents from its peak on May 14. This is already the widest one-year range in retail prices since EIA began its weekly survey in 1990, and it's all occurred in the past 5 months."[25] By mid-December, after the national average price had fallen another 15 cents, the national average retail price bottomed-out at $1.04 per gallon.[26]

What initially began as a slow creep upwards in price turned into a rocket by early March, 2002. "As another March unfolds, retail gasoline prices have begun their now familiar rise," the EIA reported on March 13, 2002.[27] The previous week the average U.S. retail price jumped 7.9 cents per gallon, to $1.22 per gallon, "the second largest 1-week increase since EIA began this survey in 1990."[28]

Prices have continued to rise. From early February to early April, prices increased an average of just over 30 cents, with the national average price for unleaded regular gasoline jumping from about $1.10 per gallon to over $1.41 per gallon. In California, prices have risen 37 cents in 8 weeks and about 50 cents since the first of the year. In the Midwest, prices have risen nearly 34 cents in 8 weeks; in Chicago they have risen almost 49 cents during this period. According to the EIA, these 8-week increases are the second highest in history.

D. Economic Effects of Increases in the Price of Gasoline

Sudden increases in gasoline prices are costly to the consumer and disrupt our economy. Following last spring's increase in gasoline prices, Federal Reserve Chairman Alan Greenspan

---

[25] EIA, *Why are gasoline prices falling so rapidly?*, October 29, 2001.

[26] EIA, http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwnus.xls (national prices).

[27] EIA, *This Week In Petroleum*, March 13, 2002.

[28] Id.

explained the harmful effects of rising energy prices, including the price of gasoline. Chairman Greenspan considered the "run-up" in gasoline prices in the spring of 2001 to be "of particular concern because in the past steep increases in the price of gasoline have arguably undermined both the real purchasing power and the confidence of consumers. This effect has likely been an avenue through which previous spikes in the price of crude oil have slowed economic activity. The jump in gasoline prices from March through May was wholly the result of a twenty-cent per gallon surge in gross refining margins. By contrast, refinery acquisition costs of crude oil changed little over that period.[29]

Indeed, there is evidence Chairman Greenspan's pessimistic projections proved accurate. In March 2002, the Wall Street Journal reported "OPEC production cuts – and subsequent spikes in oil prices – are widely seen as one factor that pushed the U.S. into recession last year."[30] Increasing energy prices continue to hurt the economy. The Washington Post reported that March 2002 saw the largest increase in producer prices for finished goods in more than a year and attributed this increase to a 5.5 percent jump in energy prices.[31]

Although detrimental to the consumer, the recent increases in the price of gasoline brought higher profits to the refiners and certain retail marketers of gasoline. "After explosions at Conoco Inc. and Tosco Corp. oil refineries in April, consumers felt the effects almost immediately." Bloomberg News reported last June. "Gasoline prices in the U.S. jumped 9

---

[29] Remarks by Chairman Alan Greenspan, *Impact of energy on the economy*, Before the Economic Club of Chicago, Chicago, Illinois, June 28, 2001.

[30] Thaddeus Herrick and Bhushan Bahree, *As OPEC Maintains Curbs on Oil Output, Rising Prices Could Jeopardize Recovery*, Wall Street Journal, March 18, 2002.

[31] John M. Berry, *Energy Costs Spur Increase in Producer Prices*, Washington Post, April 13, 2002.

percent to a record at the pump." At the same time, refiners reaped benefits. "'The second quarter will be great,' one market analyst predicted."[32]

The low inventories in the spring of 2001 that led to the May price spikes in the Midwest also led to higher profits for refiners. In fact, according to the EIA, "Earnings from the majors' domestic refining/marketing operations increased 78 percent [in the second quarter of 2001 as compared to the second quarter of 2000], primarily due to a merger, higher refining margins, higher throughput, and higher product sales."

> Refining margins (the per barrel composite wholesale product price less the composite refiner acquisition cost of crude oil) increased by more than $6 per barrel because of higher product prices, particularly on the West Coast and in the Midwest. Almost all companies reported higher product margins. One reason for higher margins was the reduced inventory costs achieved by the U.S. majors as evidenced by the relatively low level of U.S. motor gasoline stocks, which were 8 percent lower during Q201[1st quarter 2001] than the Q2 [1st quarter 2002] average over the 1995 to 1999 period.[33]

For the year 2000, net income for major energy companies from refining and marketing was up 57 percent from income in 1999.[34] "Tight supply conditions together with sporadic price spikes for gasoline and distillate led to a widened spread between refined product prices and crude oil input costs."[35]

---

[32] Alex Lawler, *Oil Companies to Profit on Refining Gains: Outlook (Update 1)*, Bloomberg Energy News, Bloomberg.com, June 27, 2001.

[33] EIA, *Financial News for Major Energy Companies*, April-June 2001, at http://www.eia.doe.gov/emeu/perfpro/news_m/index.

[34] EIA, *Performance Profiles of Major Energy Producers 2000*, January 2002.

[35] Id.

Conversely, high inventories and low product prices depress refining and marketing profits. The recession and price collapse in energy markets in the second half of 2001 led to dramatically lower profits for oil companies as compared to their performance in 2000.

E. Increasing Concentration in the Refining Industry

A large number of mergers and acquisitions in the oil industry in recent years has led to a significant consolidation of refining assets. In 1998, Marathon and Ashland Oil merged their downstream assets. Also in 1998, British Petroleum (BP) merged with Amoco, and then in 2000 acquired ARCO in an all-stock deal valued at $27 billion. In 1999, Exxon Corporation merged with Mobil Corporation, through an exchange of assets valued at $79 billion, to create the world's largest publicly-traded energy company. In 2001, Chevron (which had acquired Gulf Oil in 1994) completed its $46 billion acquisition of Texaco's upstream capabilities, to create the second-largest U.S. oil company. Also within the past year, Shell Oil completed its acquisition of all of Texaco's domestic downstream assets; Phillips acquired Tosco, a major independent refiner; and then announced its merger with Conoco, which will create the largest refiner in the United States and third-largest U.S.-based oil and gas company. Additionally, Valero paid $3.7 billion to acquire Ultramar Diamond Shamrock (UDS), which created the third-largest refiner in the nation.

According to the EIA, "In recent years, the growth in the major energy companies' U.S. reserve base has come increasingly from mergers and acquisitions."[36] The frenzy of mergers and acquisitions accounted for nearly all of the growth in capital expenditures by U.S. energy companies between 1999 and 2000. (See Figure II.5 on page 33.)

---

[36] EIA, *Performance Profiles of Major Energy Producers 2000.* By 2000, over 60 percent of the companies' total additions to reserves were gained in this way, up from an average of slightly over 10 percent in the 1990 to 1996 period.

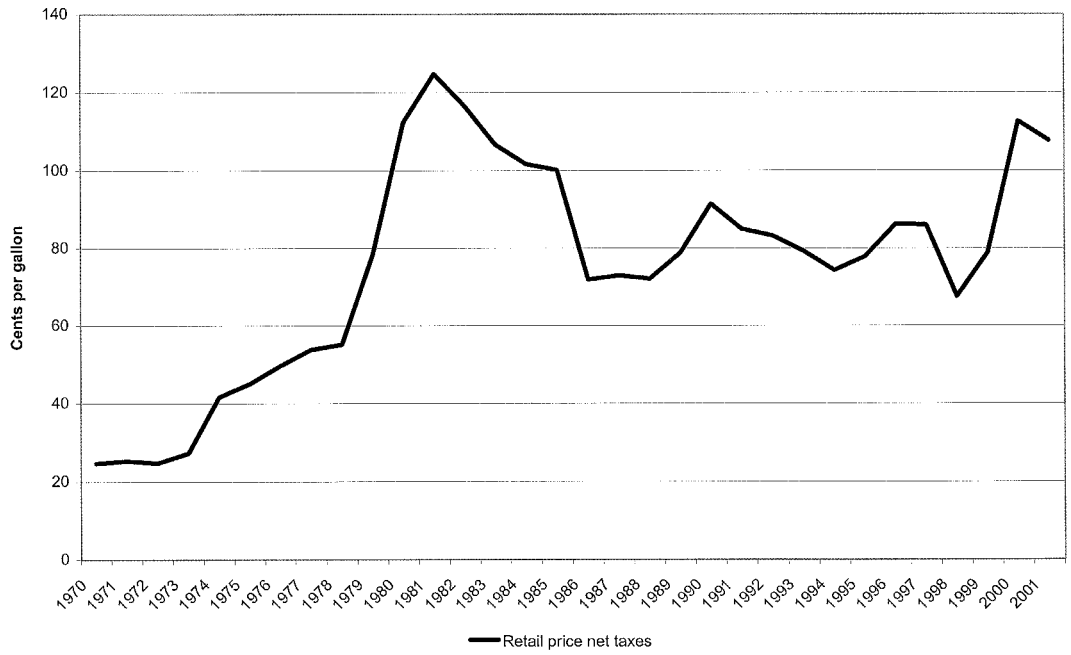
This wave of mergers has followed a general consolidation of assets within the refining industry over the past two decades. In 1981, 189 firms owned a total of 324 refineries; by 2001 65 firms owned a total of 155 refineries, a decrease of about 65 percent in the number of firms and a decrease of about 52 percent in the number of refineries.[37] Although the number of refineries has decreased, as a result of capacity expansions and improvements in efficiency, the average refining capacity in the United States has increased, so that the total refining capacity is just below the level it was twenty years ago. (See Figures II.6 and II.7 on pages 34 and 35.) During this period the market share of the ten largest refiners increased from 55 to 62 percent.[38]

---

[37] Information provided to the Subcommittee by the Energy Information Administration, August 7, 2001.

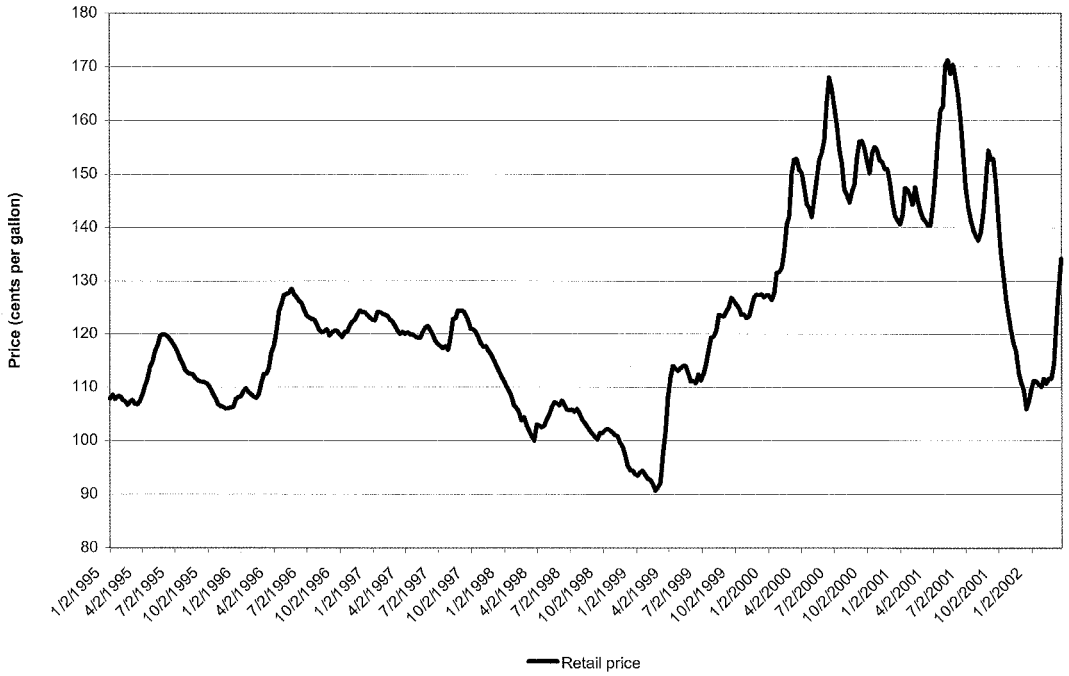
[38] There has been a change in the composition of these top ten companies from exclusively major integrated companies in 1981, to the majority being non-integrated refiners. These independent refiner/marketers, who have no significant crude oil production, have through acquisitions amassed approximately 23 percent of all the refining capacity in the U.S.. In 1981 all ten of the companies were fully integrated oil companies, but by 2001 only four of the companies were integrated. However, although 7 of the top 10 refiners were not fully integrated companies, all of those 7 own one or more chains of retail outlets.

Figure II.1: Average United States Retail Prices for Regular Gasoline Net Federal and Average State Taxes, 1970-2001



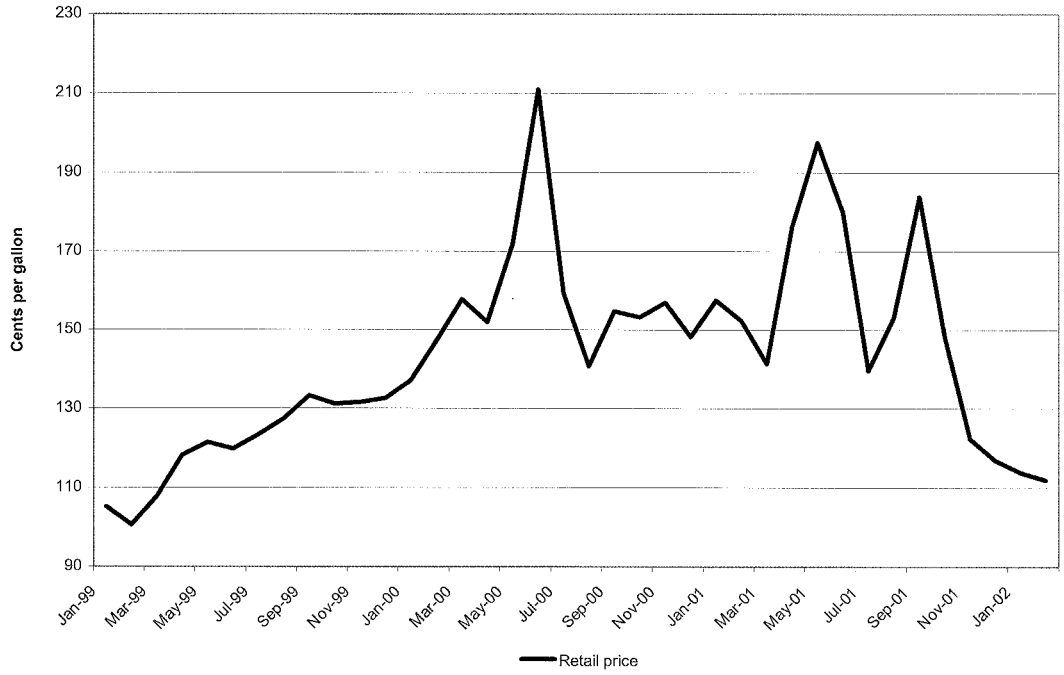
Source: DOE/EIA.

Figure II.2: Average United States Retail Gasoline Prices, January 1995 - March 2002



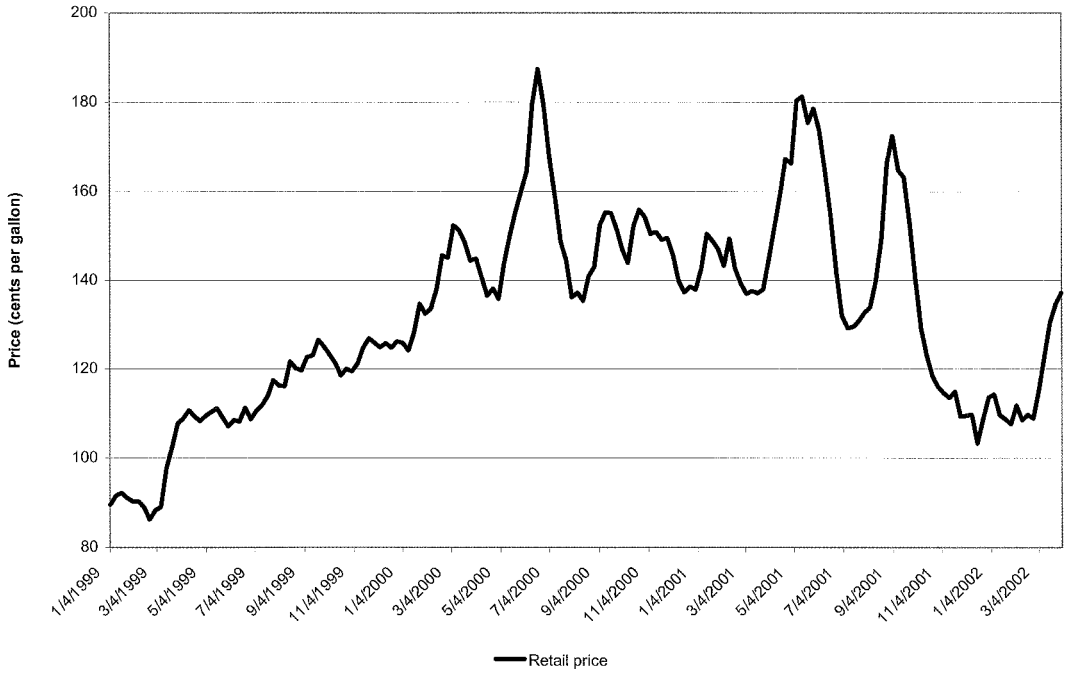
Source: DOE/EIA.

Figure II.3: Chicago Regular Gasoline Retail Prices, January 1999 - February 2002



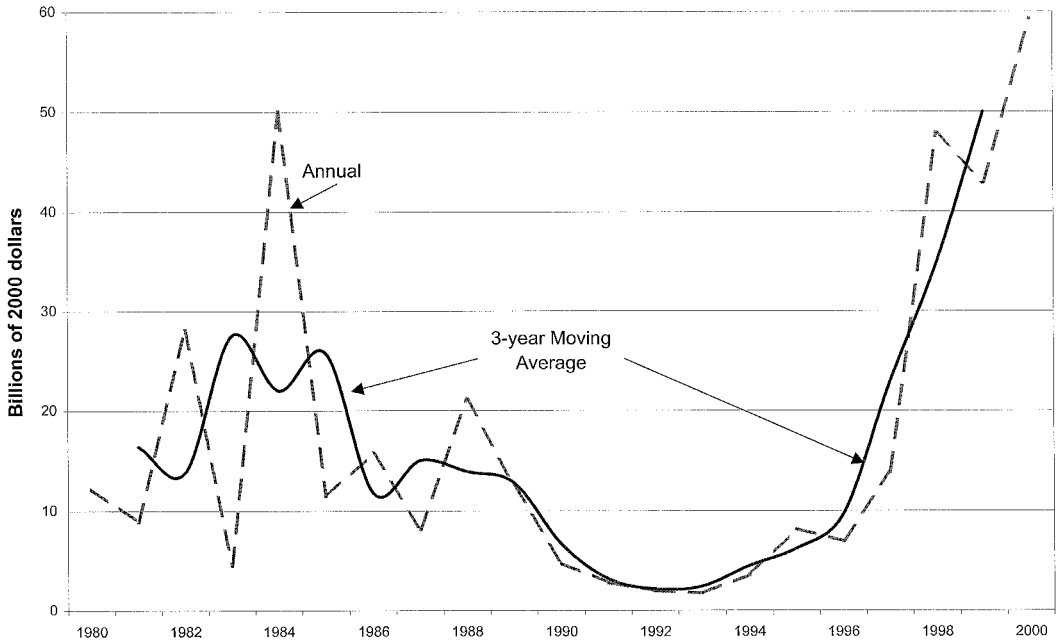
Source: DOL/BLS.

Figure II.4: Average Midwestern Retail Gasoline Price, January 1999 - March 2002



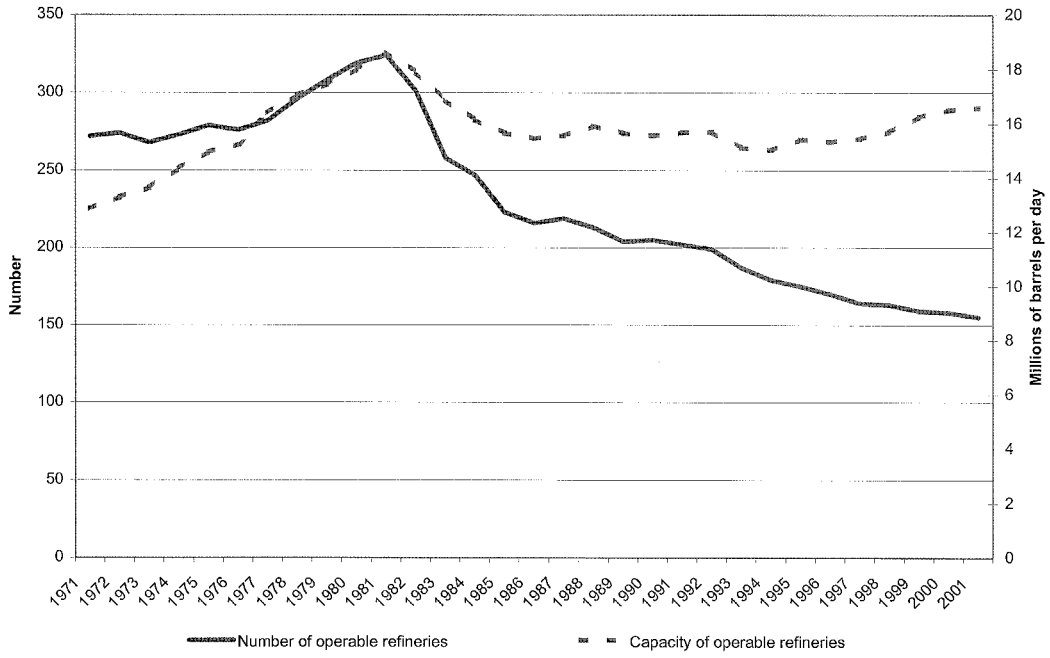
Source: DOE/EIA.

Figure II.5: Capital Expenditures for Mergers and Acquisitions for Major U.S. Energy Producing Companies, 1980-2000 (In constant 2000 dollars)



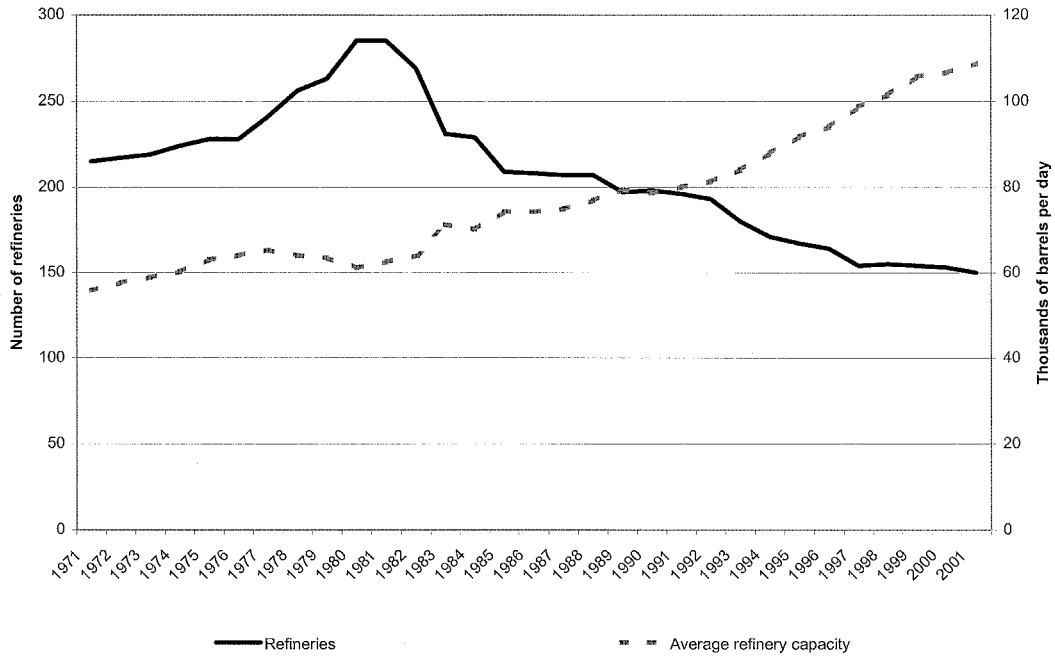
Source: DOE/EIA.

Figure II.6: Number and Total Capacity of Operable Refineries in the United States, 1971-2001



Source: DOE/EIA.

Figure II.7: Number and Average Capacity of Operable Refineries in the United States, 1971-2001



Source: Cambridge Energy Research Associates.

III. THE PRODUCTION AND MARKETING OF GASOLINE

A. Overview of Gasoline Production

Through the application of heat energy and a variety of chemical processes, crude oil can be transformed into many useful products, including motor fuels, heating oil, asphalt, lubricating oils, solvents, paraffin, petroleum jelly, petroleum coke, and feedstocks for the manufacture of chemicals, synthetic rubber, fibers, plastics, drugs, and detergents. (See Figure III.1 on page 80.) Fuel products, which include motor gasoline, jet fuel, diesel fuel, kerosene, and liquified petroleum gases, account for nearly 90 percent of the petroleum used in the United States.[39]

Locating crude oil, extracting it from the earth or seabeds, transporting it to refineries, transforming it into useful products, and transporting the refined products to the end-users is a complex, technologically sophisticated industrial operation that spans nearly the entire globe. By one measure, the oil industry is the most capital-intensive industry in the United States.[40] The oil industry is generally divided into two segments: "upstream," which includes exploration, production and transportation of crude oil to refineries; and "downstream," which includes the refining process and the distribution and marketing of the refined products.

1. Exploration and Production

Over the past 25 years, the proven reserves of crude oil in the United States have declined by one-third, from approximately 33 billion barrels of crude oil equivalent in 1978 to

---

[39] Energy Information Administration, *Petroleum: An Energy Profile, 1999*, at 5-8. This document provides a more detailed description of the oil industry.

[40] The measure used here is assets per worker. By this measure the oil industry is significantly more capital-intensive than any other U.S. industry. Other measures of capital intensity, such as the capital-sales ratio, the capital-labor ratio, or the capital-value added ratio, do not yield significantly different results for analytic purposes such as this. William G. Shepherd, *The Economics of Industrial Organization*, 3rd ed., 1990, at 78-79.

23 billion barrels in 1999.[41] Today, the United States holds only about 2 percent of the world's proven crude oil reserves; almost two-thirds of the proven reserves are located in the Middle East. Nearly 50 percent of the crude oil consumed in the United States is imported; the EIA projects that by 2020 the percentage of imports will rise to nearly 70 percent.[42] It is considered unlikely that any major new reserves will be found in the United States.[43]

As proven reserves are consumed, exploration for additional reserves becomes more costly and requires increasingly sophisticated technologies to locate petroleum deposits. Just within the United States, the average cost of drilling a crude oil well has risen from about $250,000 in 1960 to over $850,000 in 1999.[44] Exploration is also financially risky: currently only about one-third of all exploratory wells are successful in finding deposits.[45] Because of the

---

[41] Proven reserves are those quantities that geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reserves under existing economic and operating conditions (British Petroleum Statistical Review of World Energy, Oil: Proved Reserves). The crude oil equivalent is composed of crude oil, dry natural gas, and natural gas liquids. The level of reserves in 1999 represented a significant increase over proven reserves as of 1998: a 3.5 percent increase in actual crude oil reserves, a 2.1 percent gain in dry natural gas reserves, and a 5.1 percent gain in natural gas liquids. Energy Information Administration, *Annual Energy Review 2000*, Table 4.2.

[42] *Petroleum: An Energy Profile, 1999*, at 45.

[43] *Petroleum: An Energy Profile, 1999*, at 14.

[44] In the U.S. in 1960, 45,620 wells were drilled in the search for oil and natural gas. Approximately 60 percent of those wells were successful. They were drilled to an average depth of 4,213 feet, and cost an average of $58.63 per foot ($247,008 per well). Over 95% of those wells were drilled on shore in the lower 48 states, and the average productivity per well was 11.9 barrels. In 1999 in the U.S., 25,140 wells, with an average success ratio of over 80% (a 20% increase in success over 1960), were drilled. They were drilled to an average depth of 5,944 feet at an average cost of $145.10 per foot ($862,474 per well). In 1999 87% of the wells were being drilled on shore and 20% of the wells drilled were drilled in Alaska. *Annual Energy Review 2000*, Table 4.4 & Table 5.2.

[45] *Petroleum: An Energy Profile, 1999*, at 21.

tremendous expense and risk involved, many downstream companies that refine and distribute gasoline do not engage in upstream exploration. Today, although successful exploration may be very profitable, out of the 63 companies that refine crude oil in the United States just 11 companies explore for crude oil.[46]

As domestic reserves have been depleted, average well productivity has declined too – from over 18 barrels per day in 1972 to just under 11 barrels per day in 2000.[47] Nonetheless, technological advances have increased the ability to access crude oil deposits and improved the efficiency of recovery of oil from identified deposits. Today, petroleum is being recovered from basins that would have been abandoned as unproductive in the past or that were beyond any technology to reach. For example, oil platforms in the Gulf of Mexico now can drill over 5 miles into the earth to capture crude oil deposits that just a few years ago were too deep to recover.

Throughout the history of the oil industry, the upstream sector has been subject to cycles of "boom" and "bust." When supplies are scarce and the price of crude oil rises, companies will invest in exploration and development. When supplies are plentiful, companies will reduce their upstream expenditures.

Crude oil is transported to the United States in tankers from Europe, Asia, the Middle-East and Alaska, in barges from Mexico and Canada, and through pipelines from Canada and Mexico. The major ports with capability to receive shipments of crude oil are located in New

---

[46] Information provided by Energy Information Administration, March 4, 2002.

[47] Energy Information Administration, Annual Energy Review 2000, table 5.2; (http://www.eia.doe.gov/emeu/aer/txt/tab0502.htm)

York Harbor, the Gulf Coast, and on the West Coast.[48] Once in the U.S., crude oil is transported by barge or pipelines to refineries. A network of pipelines carries crude oil delivered to the Gulf Coast into the Midwest, and a lesser network carries crude oil produced in the continental United States across the various regions. (See Figure III. 2 on page 81.) There are 114,000 miles of crude oil pipelines in the United States.[49]

2. Refining

The first step in the refining process is atmospheric distillation, which consists of heating the crude oil to separate the different hydrocarbon components with differing boiling points. (See Figure III.3 on page 82.) Lighter products, such as gasoline, are recovered at the lowest temperatures; middle distillates, such as home heating oil and diesel fuel, come next; the heaviest products, such as residual fuel oil, are only recovered at the highest temperatures, sometimes over 1000 degrees Fahrenheit. Most refineries in the United States use additional refining technologies, such as vacuum distillation, coking, catalytic cracking, and hydrocracking, to improve efficiency, recover additional components, and improve product quality.

Every refinery has unique characteristics and capabilities for processing crude oil and for making refined products. Most refineries were initially built to process a specific slate of crude

---

[48] The Port of Long Beach is the only U.S. port that is capable of handling "very large crude carriers," (capacity of up to 2 million barrels), and no U.S. port is capable of handling "ultra large crude carriers" (capacity greater than 2 million barrels). Crude oil must be transferred from these tankers into smaller vessels before it can be delivered to U.S. ports. The Louisiana Offshore Oil Port (LOOP) is a storage facility 18 miles offshore in the Gulf of Mexico where ultra large tankers can dock and load their cargo into pipelines that carry the crude oil into storage in salt caverns ashore in Louisiana. *Petroleum: An Energy Profile, 1999*, at 38.

[49] According to the Association of Oil Pipelines, there are also 86,500 miles of product pipelines. Together, the 200,500 miles of pipeline (crude and product) run through each of the 50 states. See http://www.aopl.org/pubs/facts.html.

oils, usually the crudes from the company's upstream division or from a nearby oil field. In the past two decades, many refiners have upgraded their refineries to be able to take advantage of the price differentials between the different grades of crude oil sold on the world market. In some cases, these capital improvements have cost hundreds of millions of dollars.

The economics of refinery operation is largely dependent on three variables: the cost of crude oil, the cost of operating the refinery, and the market price the seller can obtain for the product. In addition to the refinery's capabilities for processing crude oil, the "crack spread" – the difference between the price a refiner can obtain for a refined product and the cost of crude oil – will determine the types of crude oil a refiner will purchase and the products that the refiner will produce.

The United States has the largest refining capacity of any nation in the world – approximately 20 percent of the total global refining capacity.[50] Almost all of the gasoline consumed in the United States – approximately 96 percent – is produced in domestic refineries; the remainder is imported from locations such as the Caribbean and Europe.[51]

3. Storage and Distribution

Once crude oil is refined, the products are stored in tanks at the refinery or shipped to other distribution facilities, called wholesale terminals. It is estimated there are more than 1,300 wholesale terminals in service. A terminal may have as much as 2 million gallons of storage capacity.[52] Although major oil companies own a number of these terminals, about 75 percent

---

[50] *Petroleum: An Energy Profile, 1999*, at 25.

[51] Energy Information Administration, *Petroleum Supply Annual 2000*, Volume 1, Table S4.

[52] Bureau of the Census, American Fact Finder, Economic Data Sets, Sector 42.

are owned by independent petroleum companies, distributors (jobbers), and terminal/supply service companies.[53]

Most of the volume of petroleum products is transported from refineries to wholesale terminals through pipelines.[54] (See Figure III.2 on page 81.) Most oil pipelines are operated as "common carriers," which means that the pipeline owner does not take title to the oil being shipped but simply provides the transportation service. As common carriers, pipelines must be accessible to all oil that meets the pipeline's shipping specifications, regardless of the ownership. Further, they are subject to government regulation concerning rates and operating practices. Some 184 companies operate pipelines that are regulated by the Federal Energy Regulatory Commission (FERC) for the purpose of rates.

A small percentage of pipelines are operated as proprietary pipelines. Proprietary pipelines transport crude oil or products for their owners or their affiliates. The owners of these pipelines can set their own rates; however, if they begin shipping substantial quantities of product for the use of third parties, the FERC can require that they become common carriers and be subject to the FERC's rate making authority.[55]

Petroleum products also are transported from refineries to wholesale terminals by barge. Barges generally have a capacity of 30,000 barrels or less, and are commonly used on the Mississippi and Ohio river systems. Most of the barges are owned by commercial transportation

---

[53] Documents in Subcommittee Files.

[54] Some 60 percent of the products move via approximately 87,000 miles of product pipelines. Generally, crude oil pipelines and product pipelines operate separately and do not carry the same commodities. Crude oil pipelines generally run from ports and production facilities to refineries and product pipelines generally run from refineries to distribution terminals.

[55] Information provided by the Association of Oil Pipelines on December 3, 2001.

companies, with some owned by the petroleum companies themselves. Less than six percent of petroleum products is moved from refineries by truck, and only half that amount, just over three percent, is moved by rail.[56]

Although different refineries have different operating characteristics, with limited exception the basic gasoline produced at any particular refinery will be chemically identical to the gasoline produced at any other refinery. A brand of gasoline is created when the refined gasoline is mixed with a company's proprietary blend of chemical additives at the terminal, which usually occurs as the tanker trucks are being filled for their deliveries to service stations. Because all gasoline must meet the applicable minimum federal standards, most gasoline is identical even after the proprietary chemical additives are mixed.[57] "Branded gasoline" is sold by the refiner with the understanding that it may be resold under the trademark or trade name owned by the refiner. "Unbranded gasoline" cannot be resold under the trade name.

Branded gasoline is distributed from refineries and terminals to retail outlets, either directly to the service station or through bulk plants. Bulk plants are like terminals, but they are used by jobbers to store product for distribution to retailers.[58] Jobbers purchase and transport gasoline from refiners and sell or distribute it to gasoline retailers or, in some cases, directly to

---

[56] Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, August 4, 2000, Table 3.

[57] Some refiners contend that their gasoline contains unique constituents and/or additives. Documents in Subcommittee Files.

[58] United States Census Bureau, Economics and Statistics Administration, *Summary 1997 Economic Census, Wholesale Trade, Subject Series*, March 2001, EC97W42S-SM, Table 1, Summary Statistics for the United States, p. 12.

the public through their own retail stations.[59] A jobber may distribute several brands of gasoline, and may own or lease several retail outlets selling different brands, including unbranded gasoline. Jobbers who contract with a company to distribute a particular brand of gasoline are often required to obtain that gasoline from a particular terminal. Refiners and jobbers distribute the gasoline to retail outlets by trucks that generally carry about 7,700 gallons of fuel each. Figure III.4 (page 83) shows the flow of gasoline from the refiner either directly to the dealer or indirectly through a jobber distribution system.

4. Retail Marketing

Service stations, which first appeared around 1910, remain the predominant retail establishments for marketing gasoline.[60] Currently there are over 175,000 retail gasoline outlets in the United States.[61] Today, there is an increasing variety of service station formats and ownership.

*A **company-owned, company-operated station*** is owned by a refining company and operated by salaried or commissioned personnel of the refining company. Although there are some company-operated stations that are supplied by a jobber on contract with a refining company, they are few-in-number and almost all of these stations are supplied by the refining companies directly.

---

[59] The Petroleum Marketers Association of America (PMAA) estimates that the current number of petroleum distributors is 7,500, and that the number has declined by approximately 30 percent from 1989. PMAA states that the earlier estimates were "skewed" because they counted a number of small dealers with one or two trucks as distributors. There are very few of those small dealers still in business. (Interview with Bob Bassman, PMAA, 9/5/2001)

[60] *Petroleum: An Energy Profile 1999*, at 56.

[61] National Petroleum News, *Annual Market Facts*; data provided to the Subcommittee by EIA, 8/7/01.

*A **lessee-dealer*** is a person who leases the station and land, including tanks, pumps, signs, and other equipment, from a refiner and is supplied directly by the refiner or an affiliate or subsidiary company of the refiner. The lessee-dealer is required by contract to buy gasoline from the refiner at the price set by the refiner, the "dealer tank wagon" (DTW) price. This price will generally be higher than the rack price charged to jobbers (see below), as it will include a charge for promotional support provided by the refiner. The refiner also sets the lease rate and other operating standards and may also offer certain discounts, all of which affect operating costs and ultimately the retail price charged by the lessee dealer.

*An **open dealer*** is a person who owns (or leases from a third party who is not a refiner) the station or land of a retail outlet and has use of tanks, pumps, signs, and other equipment. An open dealer sells gasoline under the brand of a refiner. An open dealer may have a supply agreement with a refiner or may be supplied by a jobber under contract with a refiner. The open dealer may, upon expiration of a contract, switch to another source of supply, including a different brand.[62]

*A **jobber*** purchases branded or unbranded gasoline at a terminal owned or supplied by a refinery, commonly called the "rack," and distributes it to either his or her own service stations or to service stations owned by others or both. Many jobbers have term contracts with refiners for purchases of specific amounts of branded gasoline.

*An **independent dealer*** purchases unbranded gasoline, either on the spot market or at a refiner's rack. Independent dealers generally do not have long-term contracts with any particular

---

[62] EIA, *Performance Profiles of Major Energy Producers 1999*, Glossary; http://www.eia.doe.gov/emeu/perfpro/glossary.html, at 2.

brand; they generally shop around for the lowest unbranded rack price.[63] They may also use a jobber to execute delivery of the gasoline purchased at the rack. Unbranded gasoline may be sold under a local retail chain name such as Sheetz, Wawa, or Freestate, or a local individual owner, such as "Joe's Gas."

As of 1999 there were approximately 117,250 branded stations and 57,750 unbranded stations in the U.S.[64] About half of the branded stations are open dealers, while the remaining stations are divided almost evenly between company-owned and lessee-dealer outlets.

In recent years, the retail marketing of gasoline has become increasingly linked with convenience shopping. For many years, the most common service station format consisted of several islands of gasoline pumps and two or three service bays. Today, gasoline is becoming just another offering at convenience outlets, such as Seven-Eleven and WaWa, supermarkets such as Safeway and Kroger, or hypermarkets such as Wal-Mart and Costco. This trend in retail marketing is discussed in Chapter D of this section.

B. Trends in Refining

The number of refineries in the United States reached a high of 324 in 1981 and then gradually declined to 155 by 2001. Several factors have contributed to this decline. First, the Crude Oil Entitlements Program[65] ended, and price controls on domestically produced crude oil

---

[63] Jobbers may purchase branded gasoline and sell it to independent, unbranded stations. In those instances, the unbranded stations cannot identify the name of the brand they are selling. Such an arrangement only makes economic sense when the branded rack price is cheaper than the unbranded rack price.

[64] National Petroleum News, *Annual Market Facts*; Data supplied by EIA on 8/7/01.

[65] Until 1973 U.S. oil prices were generally above international prices. After the 1973 Arab oil embargo, however, most domestic oil was priced below imported oil due to U.S. price controls and the increase in OPEC oil prices. One result of this price disparity was to give refiners with greater access to less expensive domestic crude oil a substantial competitive edge

ended in 1981. Once the protections and price controls ended, it was no longer profitable to operate many of the small, simple refineries and a number of less efficient older refineries.

Crude oil and gasoline prices peaked in 1981, following the start of the war between Iran and Iraq and the decontrol of domestic crude prices[66]. Demand slackened as retail gasoline prices rose to unprecedented levels throughout the country. In addition to high prices, a number of conservation measures adopted during the 1970s took effect, further reducing demand. With declining demand and increasing OPEC production, crude oil and gasoline prices plummeted, putting further pressure on marginal refiners.[67] Figure III.5 (page 84) shows the trend in refining margins during and after this period.

The total amount of refining capacity during this period has been described as an "overcapacity bubble." In 1981, when the number of refineries was at its highest, capacity utilization was at its lowest. Just over 68 percent of refining capacity was being used, meaning that nearly one-third of all domestic capacity was idle. During most of the 1980s and into the early 1990s, total capacity remained high and utilization remained low, leading to low refining

---

over refiners that relied on more expensive imported crude oil. To redress this inequity, the Crude Oil Entitlements Program was established in 1974. This program subsidized and protected the operation of small refineries. Refiners were able to buy and sell entitlements (permits) designed to minimize the disparity in their crude oil acquisition costs. U.S. General Accounting Office, *The United States Exerts Limited Influence on the International Crude Oil Spot Market*, August 21, 1980.

[66] The U.S. imposed price controls on domestically produced oil in 1973. Full decontrol of prices and supplies in the industry occurred in 1981. U.S. Department of Energy Office of Industrial Technologies, *Energy and Environmental Profile of the U.S. Petroleum Refining Industry*, December 1998.

[67] *Petroleum: An Energy Profile, 1999*, at 53-54.

margins.[68] In total, about 120 refineries closed during the 1980s, representing a loss of capacity of about 3 million barrels per day.[69]

Demand for petroleum products slowly began to increase after 1983.[70] Since that time, the annual gross input to domestic refineries has continued to increase as well.[71] Utilization rates have increased too. Many refiners made capital investments to "de-bottleneck" their refineries and add downstream processing equipment, such as catalytic cracking and reforming units, to increase their efficiency and capacity. Many of these investments also allowed refiners to process less expensive, heavier, crudes of lower quality.[72]

The Clean Air Act Amendments of 1990 also altered the refining landscape. To improve the air in a number of urban areas where the air quality did not meet federal standards, the Clean Air Act Amendments required the use of cleaner burning fuels, such as oxygenated gasolines by late 1992, lower sulfur diesel fuels by late 1993, and reformulated gasoline by January 1, 1995. According to the EIA, expenditures for pollution abatement rose from approximately 10 percent

---

[68] Documents in Subcommittee Files.

[69] *Petroleum: An Energy Profile, 1999*, at 30

[70] EIA, *Annual Energy Review 2000*, at Table 5.11.

[71] *Petroleum: An Energy Profile, 1999*, at 30.

[72] EIA, *The U.S. Petroleum Refining and Gasoline Marketing Industry*, updated September 25, 2001.

of refining capital expenditures in 1988 to approximately 40 percent in the mid-1990s.[73] Figure III.6 (page 85) shows the increase in environmental expenditures during this period.

As refiners were faced with the requirement to upgrade their facilities to produce cleaner gasoline, many refiners took the opportunity to de-bottleneck and upgrade their refineries. According to one trade publication, "As much as the environmental mandates were an economic burden to the oil industry, they did in an unintended way lead to a refinery capacity expansion. When certain capital investments were mandated, refiners took the opportunity to de-bottleneck and effectively add to capacity. The incremental cost of capacity addition was simply much less when combined with mandated investment than it would have been as a stand-alone project."[74] As a consequence, from 1989 to 1992 major energy companies doubled their capital expenditures for refining.[75]

Other refiners, however, chose not to make the necessary upgrades to produce the new, cleaner fuels. In the early 1990s, at the same time that refiners were faced with the new fuel requirements, refining margins continued to be depressed due to excess refining capacity. Figures III.5 and III.7 (pages 84 and 86) show the decline in refining margins and returns on investment, respectively, for the years 1990-1995. The combination of these and other factors in

---

[73] The EIA study also concluded that although "the additional capital expenditures stemming from heightened pollution abatement requirements for the U.S. refining operations . . . have added to the capital intensity of U.S. refining in the late 1990s,...pollution abatement costs have been and continue to be a small part of overall operating costs." EIA also found "Although pollution abatement requirements clearly reduced the rate of return to refining/marketing assets, these requirements appear to account for only a small part of the steep decline in the rate of return to U.S. refining/marketing operations in the 1990s. . ." *The Impact of Environmental Compliance Costs on U.S. Refining Profitability*, October 1997, at 2, 5.

[74] Joe Petrowski, *Refining Concerns*, National Petroleum News, June, 2001.

[75] EIA, *The Impact of Environmental Compliance Costs on U.S. Refining Profitability*, October 1997, at 2.

the early 1990s led to another round of refinery closures beginning in the early part of the decade. Thirty-five refineries closed between 1991 and 1995, and another 15 closed between 1997 and 1999.[76] (See Figure II.6 on page 34.) In 2000, the National Petroleum Council projected that "the refinery shutdown trend is likely to continue into the future, regardless of the new fuels regulations, as the competitive landscape continues to evolve."[77]

With the closure of many small refineries and the addition of new capacity to existing refineries, the average capacity of a refinery in the United States has increased by nearly 50 percent since 1970. Thus, even though no new refinery has been built in the United States since the early 1980s, total capacity has increased by nearly 1 million barrels per day since 1986 – the equivalent of several new large refineries.[78]

In the United States today, 63 companies operate about 150 refineries with a combination distillation capacity of just over 16 million barrels per day.[79] These refineries range in size from small refineries with a capacity to process about 3,000 barrels of crude oil per day to the largest refinery, with a capacity to process just over than 500,000 barrels per day.[80] As demand has slowly grown, however, much of the industry is at its operable limit; the West Coast is even

---

[76] National Petroleum Council, *U.S. Petroleum Refining, Assuring the Adequacy and Affordability of Cleaner Fuels*, June 2000, at 24-25. Only about half the closed refineries were able to produce finished gasoline. According to the NPC, the closures "have varied in size, complexity, and geography, with no apparent single physical factor responsible for the owner's decision to cease operation."

[77] *U.S. Petroleum Refining, Assuring the Adequacy and Affordability of Cleaner Fuels*, at 25.

[78] Cambridge Energy Research Associates, *Gasoline and the American People, July 2001 Update*, at 24-25.

[79] *Petroleum Supply Annual 2000*, Tables 36 & 40.

[80] EIA, Information provided to the Subcommittee, August 7, 2001.

short.[81] The annual average refinery utilization rate is now regularly greater than 90 percent.[82] (See Figure III.8 on page 87.)

The ownership of these refineries has changed in recent years. Within the last decade, as refining margins from downstream operations failed to provide as high a return as upstream operations for many of the major oil companies, a number of the oil companies divested several of their less profitable refineries. In 1990, fully integrated major oil companies (i.e. those with both upstream and downstream assets) owned 72 percent of domestic refining capacity, whereas the "independent" or non-integrated refiners (i.e. those without both upstream and downstream assets) owned only 8 percent. Included in this latter category were the "merchant" refiners such as Tosco Corporation, Valero Energy, and Tesoro Petroleum, which owned either no or relatively few retail outlets for the distribution of their refined products. By October 1998 the majors' share had fallen to 54 percent, and the independents owned 23 percent.[83]

These "independents," however, have themselves become increasingly vertically integrated refiners and marketers. During the mid-1990s Tosco, which at one point was mostly a merchant refiner, acquired all of Unocal's West Coast refining and marketing assets, all of BP's retail outlets on the West Coast, the Circle K convenience store chain, and all of the retail outlets on the East Coast the FTC required Exxon and Mobil to divest as a condition of approval for the Exxon-Mobil merger. Within the past year Phillips acquired Tosco, and Conoco is now seeking to merge with Phillips/Tosco. Valero merged with Ultramar Diamond Shamrock, which had

---

[81] See Section IV.

[82] *Petroleum: An Energy Profile, 1999*, at 30; Petroleum Economist Limited, September 20, 2001.

[83] EIA, *The U.S. Petroleum Refining and Gasoline Marketing Industry*, September 25, 2001.

merged with Total. In 1990, independent refiners operated just over 13,000 retail outlets in 10 states; by 1999 these refiners were operating almost 22,000 outlets in 22 states.[84]

As a result of all of the mergers and acquisitions, even with the refinery divestitures by the majors that occurred in the 1990s, the refining business is now more concentrated than before and remains highly vertically integrated. The market share of the top 10 refiners has increased from about 55 to 62 percent over the past two decades. Seven of these ten refiners own one or more chains of retail outlets.[85]

C. Trends in Storage and Inventories

As the number of refineries has decreased, gasoline storage capacity and gasoline stockpiles at refineries also have decreased. In 1981, the aggregate storage capacity at the 324 refineries in the country was approximately 167 million barrels. By 2001, as the number of refineries was reduced by half, storage capacity for gasoline at refineries declined by 14 percent, to 143 million barrels.

As previously discussed, however, most of the terminal storage capacity is not located at refineries. Independents, jobbers, and terminal/supply service companies operate almost three times as many facilities as do the refiners. Of current stocks, approximately 40 percent is stored in bulk terminals, about one-third is stored at refineries, and the remainder, just over one-quarter (28 percent) is found in pipelines.[86] The Bureau of the Census reports that total storage capacity

---

[84] EIA, *Restructuring: The Changing Face of Motor Gasoline Marketing*, October 30, 2001.

[85] See footnote 34, supra.

[86] *Petroleum: An Energy Profile, 1999*, at 41.

for refined petroleum products, including gasoline, declined almost 27 percent between 1987 and 1997,[87] while demand during the period increased almost 12 percent.[88]

In the Gulf Coast region (PADD 3)[89], which has the most refining capacity, gasoline storage is concentrated at the refineries. This is true as well for the Rocky Mountain (PADD 4) and West Coast (PADD 5) regions, neither of which are significant importers of gasoline. In the East Coast (PADD 1) and Midwest (PADD 2) regions, gasoline is stored primarily in bulk terminals closer to the market areas. In these regions, gasoline imports from other regions or nations are necessary to meet demand.

The costs of storing gasoline in inventory will vary, depending on market conditions, such as the type of storage required, the type of product being stored, and overall supply and demand considerations. Generally, long-term storage costs can become significant. On an average basis, it costs approximately $2 per barrel to hold gasoline in inventory at a refinery storage facility for a year and approximately $6 per barrel for a company to rent a storage facility for the same length of time. Thus, storing gasoline in rented tank space costs roughly 1 cent per gallon per month.[90]

---

[87] Information provided to the Subcommittee by the Bureau of the Census, September 26, 2001.

[88] Energy Information Administration, *Annual Energy Review 2000,* Table 5.11.

[89] In 1950, the Petroleum Administration for Defense divided the country into five districts or Petroleum Administration for Defense Districts (PADDs). These districts were originally defined during World War II for purposes of administering oil allocation. See Figure III.9 (page 88) for a chart of the U.S. divided into PADDs.

[90] Energy Information Administration, *Oil Market Basics*, http://www.eia.doe.gov/pub/oil_gas.../oil_market_basics/Stocks_text.htm

In the past several years most refiners have aggressively reduced amounts of gasoline held in inventory. During the 1990s, a number of industries adopted "just-in-time" inventory practices to reduce operational costs and become more efficient. As the Wall Street Journal recently reported, "New software in use at most major energy companies allows employees to keep closer watch over how much oil or gas is sitting in tank farms, vast pipelines and neighborhood gas stations. By squeezing inventories to the minimum, the companies reduce storage costs and improve cash flow."[91] ExxonMobil, the largest oil company, has established a goal of reducing its crude oil and refined products in inventory by 15 percent. BP claims it has reduced its inventories by 7 percent since 1997. Prior to its merger with Texaco, Chevron had reduced its inventories of mid- and premium-grade gasoline by nearly two-thirds over the previous decade.[92]

Total gasoline stocks – meaning the total amount of gasoline and blending components in storage at refineries and terminals and in pipelines – have similarly fallen over the past two decades by about 20 percent, from approximately 250 million barrels in 1981 to around 200 million barrels at present. (See Figure III.10 on page 89.) In 1981 the amount of gasoline in storage equated to approximately 40 days of consumption; by 2001 the amount in storage had declined to around 25 days of consumption. Nationally, current stock levels represent only about 3 days worth of supply at the nation's current consumption rate of 8.5 million barrels of gasoline per day over the minimum amount of stocks considered necessary to effectively and efficiently distribute gasoline, which the EIA terms the "Lower Operational Inventory Level"

---

[91] Alexei Barrionuevo, *Get Ready for Spikes In Gasoline Prices, As Supplies Tighten*, Wall Street Journal, January 24, 2002.

[92] *Id.*

("LOI").[93] According to the EIA, the LOI is the level of gasoline stocks at which "inventory related supply flexibility could be constrained or non-existent."[94]

The declines in inventory levels have been particularly severe in the Midwest and in California. In the Midwest, inventory levels have fallen about 22 percent over the past decade. In California, inventories have been reduced by about 20 percent over the same time period.[95]

Low inventories are widely regarded as a key factor contributing to the increased volatility of gasoline prices in recent years. The Federal Trade Commission, the Energy Information Administration, economists, and industry documents all attribute, in part, increasing volatility to reduced inventory levels.[96] In an analysis presented to the FTC, Philip Verleger relates the recent wave of mergers, the reduction in inventories, and increased price volatility:

> While proponents of the supermajors (including the author) have asserted that larger firms were necessary to maintain the diversified exploration programs required to stay in the business, the basic reason to merge has clearly been shareholder value. Every merged firm has sought to improve margins.

---

[93] Energy Information Administration, *Petroleum 1996: Issues and Trends*, Figure 67.

[94] Energy Information Administration, *Weekly Petroleum Status Report*, July 6, 2001, p. 59.

[95] *Get Ready for Spikes In Gasoline Prices, As Supplies Tighten*, Wall Street Journal.

[96] See, e.g. EIA, *Petroleum 1996, Issues and Trends*; Final Report of the Federal Trade Commission, *Midwest Gasoline Price Investigation*, March 29, 2001 ; EIA, Testimony Before the Committee on Energy and Commerce, May 15, 2001 ("As EIA has pointed out on numerous occasions, very low gasoline stocks, combined with a market short on crude oil, generates an environment ripe for price volatility, both during the spring and peak summer periods."); Cooper, Consumer Federation of America, *Ending the Gasoline Price Spiral* at 10-11 ("Stocks are the key factor in policy responses to market power where supply is inelastic. Every investigation of every product spike in the past several years points to unusually low stock as a primary driver of price shocks."); P.K. Verleger, Jr., *World Oil Markets: Changing Structure and Greater Price Volatility Causing the Third Petro-Recession*, April 2001 Draft ("The recession will occur because the price of oil, like the price of any commodity, can achieve equilibrium over a wide range of identical level of supply and demand. The key determinant of the observed price is the amount of inventories held by processors and consumers.")

Improving margins is synonymous with cutting costs. In most cases, the merged firms have sought to achieve these synergies by reducing inventories. In fact, one of the merged companies sought to lower its worldwide stocks by between 30 and 50 million barrels.

The pursuit of minimum stocks by the merged companies must have increased the inelasticity of the supply-of-storage function. As companies chose to operate with lower stocks, they implicitly accepted the fact that they would be forced to pay a greater premium for incremental supplies. In the process, they abrogated a traditional role. In the past, integrated companies provided a pseudo price insurance program for consumers by holding stocks. Today, financial markets and responsibility to shareholders make it impossible for these firms to perform such a role.

The effect of lower inventories on price volatility is discussed further in Section IV.

D. Trends in Marketing

The "hypermarket" is rapidly expanding as a highly competitive format for selling gasoline. (F-13)

The gasoline marketing techniques prevalent in America from the 1940s through the 1960s and early 1970s reflect not only a competitive landscape entirely different from today's, but also a culture in which the public placed much more trust and confidence in major institutions. "The Shell Answer Man" was an authoritative source for anything anyone wanted to know about gasoline and car performance. Every American during the 1960s knew the Texaco jingle that you could "trust your car to the man who wears the star." Oil companies often gave away handy household items for free following frequent fill-ups. Within the gasoline marketing industry the 1960s are characterized as "The Era of the Major Brands."

Prior to the oil embargo of 1973 gasoline was cheap and plentiful; not until 1974 did the retail price reach 40 cents per gallon. Cars, however, were less reliable than they are today. The local service station, which almost always sold a major brand, provided the full range of services a car owner needed - full-service gasoline islands; attendants to pump the gas, clean the

windshield, and check the oil; and two or three service bays for maintenance of tires, batteries, brakes, wipers, mufflers, and for oil changes. Gasoline had been sold this way since the 1920s, and most customers were loyal to the major brands.[97]

Independents in operation during this period offered a lower price for gasoline, but the price was offset by a lack of services and amenities. These stations offered minimal fueling facilities, no repair bays, did not accept credit cards, were frequently poorly maintained, were in less desirable locations, and the gasoline sold generally was of lower quality. These independents initially occupied a "low price niche."[98]

At first, the independents did not affect the majors' retail strategies. For many of the fully integrated major oil companies, service stations were not a major profit center but rather an outlet for those companies' refined products. The major profits were obtained from the upstream operations, especially the production and sale of crude oil, and retail strategies were often designed to maximize these upstream profits. With superior quality, customer brand loyalty, and different economic goals, many majors did not deem it necessary to compete with these independents on price.[99]

---

[97] Presentation by ExxonMobil to the Subcommittee staff, July 23, 2001.

[98] Presentation by ExxonMobil to the Subcommittee staff, July 23, 2001.

[99] See F. M. Scherer, *Industry Structure, Strategy, and Public Policy*, 1996, at 134-5. Prof. Scherer states that a number of major oil companies deliberately pursued a strategy of developing many low-volume small outlets with high retail prices, some of which operated at a loss, as a result of "anomalies fostered by the percentage depletion tax break given domestic oil producers." The majors chose this strategy to maximize throughput of crude oil rather than sell additional products to independent marketers or gain additional volumes through lower retail prices because the multi-site low-volume strategy was "less likely to trigger price wars." *Id.*

At this point in time, the marketing of convenience items and the marketing of gasoline had not been linked. Convenience stores did not offer gasoline, and gasoline stations offered few, if any, convenience items.

The upheaval in the oil markets caused by the Arab oil embargo in 1973 and the formation of the OPEC cartel forever altered the marketing of gasoline. As gasoline prices skyrocketed in the mid-1970s, consumers became much more cost-conscious. Self-service stations proliferated, soaring from just 6 percent of all retail outlets in 1974 to 68 percent in 1978.[100] Major brands cut costs further by de-emphasizing advertising in an effort to move additional product through the system.[101]

By the mid-1970s the reliability of the automobile had improved significantly, so that car owners had less need for the routine repair and maintenance service that traditionally had been offered at the service station. With a high volume of focused service, specialty service shops, such as Midas Muffler, Jiffy Lube, and Aamco transmission services, could provide these specialized services at less cost than the full-service mechanic at a retail gasoline station, and therefore captured a major segment of the repair and maintenance market. The service station repair and maintenance business was eroded further by a new network of dealers and specialty repair shops that had arisen as a result of the influx of more fuel-efficient cars imported from Europe and Japan. As customers took their cars elsewhere for repair, they also realized that any gasoline would work in their cars. Brand loyalty and brand value began to decline.[102]

---

[100] By 1985, 87 percent of all stations had self-service pumps, and 46 percent were exclusively self-service. Scherer, *Industry Structure, Strategy, and Public Policy*, at 136.

[101] Presentation by ExxonMobil to the Subcommittee staff, July 23, 2001.

[102] Presentation by ExxonMobil to the Subcommittee staff, July 23, 2001. According to one industry analysis, in 1986, the typical difference between the rack price of a major brand and

The loss of revenues from repair and maintenance work, combined with the more intensive competition in price, prompted many dealers and companies to look for replacement sources of revenues and attractions for customers. In the 1980s and 1990s, sometimes called "The Age of Marketing Diversity," the focus of gasoline marketing shifted from automotive needs to driver needs, from an emphasis on selling a product to providing a "retail experience" for the customer.[103] Many gasoline stations added convenience items, such as soft drinks, cigarettes, coffee, nuts, donuts, and candy to their offerings. Further, the de-emphasis on brands encouraged other types of retailers to begin selling gasoline. Existing convenience chains, such as 7-Eleven, Sheetz, and QuickTrip, enlarged their stores and formats and began selling gasoline. Independents added convenience stores to their lots as well.

Convenience stores have continued to grow in size and range of offerings. Correspondingly, the percentage of revenues obtained from gasoline sales at these outlets has decreased. One industry document notes that typical petroleum marketers depend on gasoline to provide 50 percent of total site margin, but "best of class retailers rely on gasoline margins for only 25 percent of the total site margin."[104]

Because companies are looking to increase their merchandise sales, companies are investing significant amounts of money to construct newer and bigger stores. The average

---

the lowest rack price for a non-major brand (termed the brand "uplift") for unleaded gasoline was slightly over 6 cents per gallon. By the mid-1990s, that difference had declined to between 1 and 2 cents per gallon. The uplift for premium similarly declined from about 13 to 7 cents per gallon during this period. Demand for premium fuel has been steadily declining as well, further eroding a source of profits for the major brands. Documents in Subcommittee Files.

[103] Presentation by ExxonMobil to the Subcommittee staff, July 23, 2001. One study reports a decline of 25,000 service bays since 1990. Tracy Cox, *Down, But Not Out*, National Petroleum News, November 2001.

[104] Document in Subcommittee files.

investment per new convenience store is now over $1.8 million in an urban area, and nearly $1.2 million in rural areas.[105] Figure III.11 (page 90) shows the growth in the number of convenience stores and corresponding decline in the number of conventional stores since the late 1970s.

Cigarettes and tobacco generate nearly one-third of all non-gasoline sales at convenience stores, accounting for nearly $9.4 billion in sales in 2000.[106] Soft drinks were the next most popular item, accounting for about one-sixth of all sales and providing nearly $4.8 billion in sales revenues in 2000. Beer and alcohol sales were almost 9 percent of sales and accounted for $2.6 billion in revenue. Although fast food accounted for only about 10 percent of sales, it provided the most sales revenue, approximately $10.2 billion.

A variety of marketing strategies has evolved to satisfy these and other consumer preferences in purchasing gasoline and convenience items. As different consumers attach different weights to factors such as store appearance, location, price, speed, type of food offering, safety, crowdedness, the availability of a car wash, or the ability to pay by cash or credit card, either at the pump or in the store, companies have sought to carve out distinct offerings and identities. Some have focused on sales of cigarettes, tobacco, beer and alcohol in order to satisfy the "time-sensitive," "urgent wants" of young adult males. Others have focused on "smart shopping," offering freshly made food and produce, or on "safety firsters," whose "primary concern is to avoid crime while buying gas," or on "simplicity seekers," who are "overburdened by increasing complexities of day-to-day life, dislike too many choices/hassles," and are "interested in a simple, streamlined gasoline purchasing experience."[107]

---

[105] National Petroleum News, *Facts, Figures, Trends*, Mid-July 2001, at 126.

[106] *Id.*, at 120.

[107] Documents in Subcommittee Files.

The hypermarket, which the EIA defines as "a supermarket, other traditional retail store, or discounter (such as Wal-Mart or Costco in the United States) with a motor gasoline outlet in the parking lot," has rapidly become an extraordinarily competitive presence in the retail gasoline marketplace. [108] Hypermarkets have captured almost half of the gasoline market in France and approximately one-quarter of the market in the United Kingdom.[109] Although hypermarkets currently account for only about 3 percent of gasoline sales in the United States and are mostly located in the Gulf Coast, Midwest, and Southeast, many of the people interviewed by the Majority Staff believe that hypermarkets will continue to increase their gasoline business at the expense of major brand retail and convenience stores across the country, just as they have done in Europe. In Texas, hypermarkets have captured just over 11 percent of the gasoline market since first entering the marketplace in 1997; over this same period the branded marketers' share dropped from 94 to 82 percent.[110] Some believe that the hypermarket will most likely become the dominant format of the future.[111]

---

[108] Energy Information Administration, Department of Energy, *Restructuring: The Changing Face of Motor Gasoline Marketing*, Footnote 18, http://www.eia.doe.gov/emeu/finance/sptopics/downstrm00/index.html

[109] Documents in Subcommittee files.

[110] OPIS, *Hypermarts Wrestle 11% of Market Share From Majors in Texas*, December 18, 2001.

[111] Documents in Subcommittee files.

Figure III.12 (page 91) presents a widely-quoted industry projection of the growth of hypermarket gasoline sales in the next several years.[112] Industry projections show that hypermarkets have the potential to capture over one-quarter of the gasoline market. [113]

Unlike the cost of building new convenience stores with gasoline islands, the cost of entry into the gasoline market for large retail or grocery chains can be relatively low. Many hypermarkets are simply adding gasoline islands onto their existing parking lots where there are sufficient excess parking spaces. Due to the potentially large volume of sales, these companies have been able to secure favorable long-term contracts with independent or merchant refiners seeking long term customers.

Hypermarkets are even less dependent on gasoline sales than convenience stores for their overall profit margins.[114] For many of the hypermarkets, gasoline is simply one more product in an array of offerings for the customer at a low price. The cost of operating several gasoline islands at a hypermarket is just another element in the overall overhead costs of the entire facility. Hypermarkets are thus much less dependent on gasoline margins for overall profitability than traditional gasoline stations or convenience stores. Unlike a traditional gasoline retailer, the primary goal of a hypermarket that decides to offer gasoline often is not

---

[112] As of the end of 2000, about 1250 hypermarkets sold in total over 4 billion gallons, which was about 3.3 percent of the U.S. retail gasoline sales. Hypermarket gas sales were predicted to reach 11 billion gallons in 2002 and 22.7 billion gallons by 2005.

[113] Documents in Subcommittee files.

[114] One industry executive interviewed by the Majority Staff stated that some hypermarkets do not make any profits from retail sales – that retail products are priced just to cover the cost of operations, without any profit margin. According to this executive, these hypermarkets make their profits solely from the fees charged to the customers who purchase shopping memberships.

necessarily to make a large margin from the sale of gasoline, but rather to increase traffic to the store by offering gasoline at a very low price.

Hypermarkets have priced themselves below much of the competition. In Houston, Texas, for example, Wal-Mart sold gasoline at an average of under 5 cents per gallon more than the rack price. By contrast, majors such as Shell, Chevron, Texaco, and Mobil were selling gasoline at 12 to 13 cents more than the rack price.[115] Another industry analysis notes that hypermarkets generally price gasoline anywhere from 5 to 15 cents below major branded competitors in their area.[116] One hypermarket told Majority Staff that its policy is to price 2 cents below the lowest nearby competitor.[117]

As a result of these lower prices, the volume of gas sold at hypermarkets can be very high. For example, the average convenience store sells between 95,000 and 100,000 gallons per month. The supermarket-hypermarkets sell between 150,000 and 300,000 gallons per month. "Super-store" hypermarkets may sell between 200,000 to 700,000 gallons per month.[118]

If the anticipated growth in hypermarkets occurs, it will result in additional significant changes in the composition of the retail marketplace. Because demand for gasoline is projected to grow at only 1-2 percent per year, a significant growth in hypermarket sales volume would have to be at the expense of a number of retailers in the market today. In fact, a number of

---

[115] OPIS, *Hypermarts Wrestle 11% Of Market Share From Majors in Texas.*

[116] Document in Subcommittee files.

[117] Document in Subcommittee files.

[118] Document in Subcommittee files.

retailers already have seen significant declines in margins and volumes as a result of nearby hypermarket competition.[119]

At this point, it is unclear, however, how current market participants will respond to the new competition from hypermarkets. A number of jobbers and small independent operations may be the most seriously threatened by the hypermarkets, as they tend to own or service smaller, older stations with fewer offerings which cannot compete either on price or on convenience with the hypermarkets. Already in San Diego, just seven hypermarket gasoline sites have captured 20 percent of the market share from jobbers and independents.[120] Even the most efficient stations with a traditional format may not be able to compete with the hypermarkets, as the traditional format requires a higher margin than a hypermarket just to break even. Moreover, these smaller operations may not have the resources – which can amount to more than $1 million per new convenience store – to move to a more competitive format. The extent to which major brands will themselves invest – either through discounts to their jobbers on wholesale purchases, or through site upgrades – to enable such sites to become competitive with new hypermarkets and convenience stores remains to be seen. [121]

---

[119] Documents in Subcommittee files. Several industry case studies conclude that a hypermarket that sells gasoline can take over about 20 percent of the sales volume in a market and wipe out up to 40 percent of the margin that the other retailers previously enjoyed. Keith Reid, *The Wal-Mart Approach*, National Petroleum News, May 2001.

[120] James Naughton, *Stand By Your Brand?*, National Petroleum News, August 2001.

[121] One response has been for the large fuel marketers to seek to partner with hypermarketers for joint ventures. In seeking to link with hypermarketers, some oil companies have sought commitments from existing hypermarkets that they will not build gasoline facilities within a certain number of miles of the company's existing locations. Document in Subcommittee files.

One response of independents and jobbers has been to seek legislative protection against below-cost pricing tactics allegedly used by the hypermarkets. One Wal-Mart official recently told *The Washington Post* that, with certain discount plans, Wal-Mart's retail gasoline prices are below its cost.[122]

Even prior to the entry of hypermarkets, the number of retail outlets had been steadily declining. (See Figure III.13 on page 92.) Beginning in the mid- to late-1970s, as the majors grew more cost-conscious, retail outlets began to be judged as stand-alone businesses. The majors increased franchisee rents, imposed fees for credit card services, and sometimes left entire regions of the country that no longer were considered profitable.[123] In many instances, major oil companies also began to price their own company-operated stores and jobber-supplied stations lower than their lessee dealers selling the same brand, driving many of these dealers out of business.[124]

---

[122] Wal-Mart shoppers who buy a shopping card get a 3-cent discount on gasoline, and Sam's Club members get a 5-cent discount. Dina ElBoghdady, *The High Price of Cheap Gas*, Washington Post, February 1, 2002.

[123] For example, Texaco, which had previously boasted that it was the only petroleum company in all 50 states, withdrew from six Midwestern states in 1978; Exxon left Kentucky, Ohio, Vermont and parts of other northeastern states in 1982; and Chevron abandoned Arkansas and adjacent territories in Tennessee and Kentucky in 1993 and sold all of its jobber outlets in 7 other states. *Industry Structure, Strategy, and Public Policy,* at 137.

[124] "New company outlets were typically located on heavily traveled urban traffic arteries, where they could satisfy two objectives: meeting the competition of independents head-to-head, and maintaining pressure on the refining company's smaller franchised dealers, who might otherwise be inclined to set relatively high prices and sacrifice volume. . . .

"There are at least two reasons why [conflicts with jobbers] arose. For one, when the gasoline industry was subject to thoroughgoing federal controls between 1974 and 1981, the regulations probably froze jobbers' wholesale margins at levels sufficiently generous to put retailers too small to buy directly from refiners at a significant disadvantage. . . . But second, even after federal regulation ended, dealer-jobber conflicts persisted. It seems probable that the refiners recognized the superior market retention potential of low-price jobber-owned stations. Therefore, they did little to discourage their jobbers from maintaining rack-to-tank wagon price

In the midst of this turmoil in the retail market, Congress enacted the Petroleum Marketing Practices Act in 1978, which specified the conditions under which a refiner could unilaterally terminate a lessee dealer and provided the dealer with the right of first refusal for a franchise the refiner intended to sell. A number of states, including Maryland and Connecticut, outlawed company-owned gasoline stations, and some, including New Jersey and Oregon, have prohibited self-service.

As Figure III.13 (page 92) indicates, the total number of retail outlets in the United States continues to decline. At the same time, as Figure III.14 (page 93) indicates, the volume per retail outlet continues to increase. If the past and current trends are a reasonably accurate guide to the future – and there is nothing apparent to suggest the contrary – the number of stations will continue to decline as the economies of scale of the convenience stores and hypermarkets continue to put pressure on the traditional formats remaining.

While convenience stores and hypermarkets are major competitive forces in the gasoline retail market, it is unclear what their impact will be in the long run if their growing presence drives out a significant number of smaller independents or smaller jobbers.

E. Impact of Environmental Requirements on Motor Gasoline

In addition to the three familiar grades of gasoline available at most gasoline pumps – regular, mid-grade, and premium – there are a number of federal, state and local specifications for gasoline, which has resulted in a variety of what are termed "boutique fuels."[125] This variety

---

spreads that squeezed small franchised outlets – perhaps into oblivion." *Industry Structure, Strategy, and Public Policy,* at 138.

[125] There is some confusion about the definition of the term boutique fuels. President Bush's Energy Report of 2001 used the term to describe only the state and local fuel control programs. In the press, the term boutique fuels has been used more broadly, to mean any state or

of fuel specifications has arisen from federal, state and local efforts to improve air quality and public health in areas with air quality problems. The Environmental Protection Agency (EPA) lists 15 different fuel types in use today.[126]

In the Clean Air Act Amendments of 1990, Congress established a clean fuel program to reduce harmful emissions from motor vehicles. The reformulated gasoline (RFG) program was designed to primarily reduce ozone pollution, and the oxygenated gas program was intended to addresses carbon monoxide pollution. According to the EPA, "seventy five million Americans breathe cleaner air today due to this program.[127]

1. RFG Program

Under the Clean Air Act, the EPA is responsible for establishing minimum national standards for air quality. According to the 1990 Amendments, "severe" or "extreme" non-attainment areas – i.e. areas that did not meet EPA's national ambient air quality standards for ozone, carbon monoxide, particulate matter, sulfur dioxide, nitrogen dioxide and lead – were

---

federal fuel program. Environmental Protection Agency, Staff White Paper, *Study of Unique Gasoline Fuel Blends ("Boutique Fuels"), Effects on Fuel Supply and Distribution and Potential Improvements*, October 2001, at 9. In this report, the term "boutique fuels" will be used in the same manner as in the EPA Staff White Paper, which includes any fuel that is developed pursuant to a state, local, or federal fuel program. See Figure III.15 (page 94) for a map of boutique fuels in the U.S.

[126] *Study of Unique Gasoline Fuel Blends ("Boutique Fuels"), Effects on Fuel Supply and Distribution and Potential Improvements*, Appendix D, at 100. Some estimates include different grades of these fuel types as a distinct type of gasoline, and thus conclude there are more than 40 different types of gasoline. See, e.g., Association of Oil Pipe Lines, *Answers to Common Questions*, http://www.aopl.org/about/questions.html.

[127] *Study of Unique Gasoline Fuel Blends ("Boutique Fuels"), Effects on Fuel Supply and Distribution and Potential Improvements*, at 1.

required to use RFG as of January 1, 1995.[128] Areas with less severe pollution were given the option of using RFG.[129]

Today, RFG is used in portions of 17 states and in the District of Columbia. It accounts for nearly 30 percent of the gasoline sold in the United States. The EPA estimates that since the RFG program began, it has resulted in annual reductions of smog-forming pollutants of at least 105,000 tons, and toxic air pollutants by at least 24,000 tons. EPA also estimates that compared to conventional gasoline, Phase II RFG, which has been in use since 2000, has cut air toxics by 22 percent and smog precursors by 27 percent, the latter of which is equivalent to taking 16 million vehicles off the road.[130]

---

[128] RFG is gasoline that is blended in a manner such that, on average, it significantly reduces Volatile Organic Compounds (VOC) and air toxic emissions relative to conventional gasolines. Apart from the oxygenate requirement in the 1990 Amendments, RFG differs from conventional gasoline in that it has lower levels of certain compounds, such as benzene, sulfur, and aromatics, and will not evaporate as easily as conventional gasoline (lower Reid Vapor Pressure), particularly in the summer. RFG provides the same vehicle performance characteristics as conventional gasoline. EPA, Reformulated Gasoline and Vehicle Performance, at http://www.epa.gov/otaq/rfgvehpf. EPA estimates that it costs 4 to 8 cents per gallon more to produce RFG than conventional gas. EPA Briefing to Subcommittee Staff, September 2001.

[129] The areas where RFG is required are: Los Angeles, San Diego, and Sacramento in California; Milwaukee, Wisconsin, Hartford, Connecticut, New York City (including portions in the states of New York, New Jersey, and Connecticut), Greater Philadelphia (including portions in the states of Pennsylvania, New Jersey, Delaware, and Maryland), Chicago (including portions in the states of Illinois, Wisconsin, and Indiana), Baltimore, Maryland, and Houston, Texas.

The opt-in areas are: Connecticut, Delaware, Massachusetts, Rhode Island, New Jersey, District of Columbia, the Kentucky portion of the Cincinnati metro area, Louisville, Kentucky, portions of Maryland near the District of Columbia, the New Hampshire portion of Greater Boston, St. Louis, Missouri, New York counties near New York city, Dallas-Fort Worth, Texas, and portions of Virginia (DC suburbs, Richmond, Norfolk-Virginia Beach-Newport News). EPA Briefing to Subcommittee Staff, September 2001

[130] EPA Briefing to Subcommittee Staff, September 2001.

The 1990 Amendments require that RFG contain at least 2 percent oxygen by weight, but neither the Amendments nor the EPA requires the use of any specific oxygenate in RFG.[131] It is within the discretion of the refiner as to how the 2 percent requirement is met. The 2 percent requirement can be met by adding a number of ethers or alcohols to gasoline, any of which contains oxygen and other elements. The most common additives to RFG are ethanol and methyl tertiary butyl ether (MTBE). Presently, about 87 percent of the RFG contains MTBE as an oxygenate. In Chicago and Milwaukee, which are close to major ethanol production centers, ethanol is used in 100 percent of the RFG.[132] It takes approximately 6 percent of the nation's corn crop to produce the amount of ethanol currently used in gasoline.[133]

The use of MTBE has become controversial. Low levels of MTBE have been detected in numerous ground and surface waters, and these sites of contamination have been linked to MTBE's use as a fuel.[134] In July 1999, a Blue Ribbon Panel appointed by EPA Administrator Carol Browner to study the use of oxygenates in gasoline released its findings and recommendations regarding the use of MTBE, including the following findings:

- RFG provides considerable air quality improvements and benefits for millions of US citizens.

---

[131] Office of Transportation and Air Quality, U.S. Environmental Protection Agency, *Study of Boutique Fuels and Issues Relating to Transition from Winter to Summer Gasoline,* October 24, 2001.

[132] Office of Transportation and Air Quality, U.S. Environmental Protection Agency, *Study of Boutique Fuels and Issues Relating to Transition from Winter to Summer Gasoline,* October 24, 2001.

[133] Congressional Research Service, James E. McCarthy, March 7, 2002, *Clean Air Act Issues in the 107th Congress.*

[134] Statement of Linda Fisher, Deputy Administrator, U.S. EPA, Before the Senate Committee on Energy and Natural Resources, June 21, 2001.

- . . . MTBE, due to its persistence and mobility in water, is more likely to contaminate ground and surface water than the other components of gasoline.
- MTBE has been found in a number of water supplies nationwide, primarily causing consumer odor and taste concerns that have led water suppliers to reduce use of those supplies. Incidents of MTBE in drinking water supplies at levels well above EPA and state guidelines and standards have occurred, but are rare. The Panel believes that the occurrence of MTBE in drinking water supplies can and should be substantially reduced.
- MTBE is currently an integral part of the U.S. gasoline supply both in terms of volume and octane. As such, changes in its use, with the attendant capital construction and infrastructure modifications, must be implemented with sufficient time, flexibility, certainty, and flexibility to maintain the stability of both the complex U.S. fuel supply system and gasoline prices.

The Panel recommended that the use of MTBE should be reduced substantially, Congress should remove the current 2 percent oxygen requirement "to ensure that adequate fuel supplies can be blended in a cost-effective manner while quickly reducing usage of MTBE," and EPA should take actions "to ensure that there is no loss of current air quality benefits."

In 2000 the EPA announced that it would begin to phase out MTBE under Section 6 of the Toxic Substances Control Act, a process that will take several years. However, it is unclear whether or not EPA has the authority to take steps to ban MTBE use in the absence of specific Congressional authorization.[135] Thirteen states have passed legislation to limit or phase out MTBE, the largest among these being California.[136]

There are a number of issues regarding the availability of ethanol in the event that large quantities are needed as a gasoline additive as a result of the elimination of MTBE. If MTBE

---

[135] Congressional Research Service, James E. McCarthy and Mary Tiemann, *MTBE in Gasoline: Clean Air and Drinking Water Issues*, Update February 7, 2002.

[136] These states are: Arizona, California, Colorado, Connecticut, Illinois, Iowa, Kansas, Michigan, Minnesota, Nebraska, New York, South Dakota, and Washington. Congressional Research Service, James E. McCarthy, March 7, 2002, *Clean Air Act Issues in the 107th Congress.*

use is reduced or phased out, but the 2 percent oxygenate requirement remains in effect for RFG, the demand for ethanol would soar.[137] Ethanol is more difficult to distribute than MTBE; it absorbs water and would separate from gasoline if transported long distances by pipeline, so it must be mixed with non-oxygenated gasoline blendstock close to the market in which it is to be sold.[138] At present, the infrastructure to transport and store significantly more quantities of ethanol for blending into gasoline has not yet been developed. In the short term, ethanol is unlikely to be available in sufficient quantity at a reasonable cost to replace MTBE nationwide.[139] In addition, replacing MTBE with ethanol as an oxygenate would result in a decline in the volume of gasoline produced by at least 5 percent.[140]

---

[137] Current ethanol production is approximately 1.7 billion gallons per year. Nominal production capacity is projected to be approximately 2.7 billion gallons per year. Renewable Fuels Association, Ethanol Industry Outlook 2002. Approximately 2.7 billion gallons of gasoline or approximately 4.1 billion gallons of ethanol per year would be required to replace the consumption of approximately 3.3 billion gallons of MTBE per year. Congressional Research Service, Brent Yacobucci, *Energy Content of Ethanol vs. MTBE*, April 1, 2002.

[138] Because ethanol increases the evaporation rate of RFG, refiners must produce a unique blendstock with a very low evaporation rate (RVP) to which the ethanol will be added. This blendstock is slightly more expensive to produce and must be segregated from other RFG blends. At the same time, ethanol reduces tailpipe emissions of carbon monoxide and dilutes the more toxic components in gasoline. EPA Briefing to Subcommittee Staff, September 2001.

[139] Congressional Research Service, James E. McCarthy and Mary Tiemann, *MTBE in Gasoline: Clean Air and Drinking Water Issues*, Updated February 7, 2002.

[140] This is because in a given gallon of RFG, to meet the 2 percent (by weight) oxygen requirement for RFG, 11 percent MTBE must be used by volume. To meet the same requirement, only 5.7 percent (by volume) ethanol must be used, because of its higher oxygen content. Therefore, to replace MTBE with ethanol for purposes of meeting the oxygen requirement, another 5.3 percent volume must also be replaced. This could come in the form of additional ethanol, gasoline, or other additives. Memo to the Permanent Subcommittee on Investigations, *Energy Content of Ethanol vs. MTBE*, Brent Yacobucci, Congressional Research Service, April 1, 2002.

The American Petroleum Institute, the Renewable Fuels Association, the National Farmers Union, the National Corn Growers Association, and the American Farm Bureau Federation, support the provision in the energy bill currently before the Senate that provides for a nation-wide phase-out of MTBE over 4 years, the elimination of the 2 percent oxygenate requirement, and a "renewable fuels standard" (RFS), in which part of the nation's fuel supply, growing to 5 billion gallons by 2012, would be provided by renewable domestic fuels, such as ethanol.[141]

California Governor Gray Davis recently issued a state executive order providing an additional 12 months for California refiners to transition from MTBE to ethanol. Initially, under California law, MTBE was to be phased out by December 31, 2002. The California Energy Commission estimates that because the EPA has denied California's application for a waiver from the 2 percent oxygenate requirement, California will need to import between 750 and 900 million gallons of ethanol each year once the MTBE ban becomes effective.[142] A study sponsored by the California Energy Commission concluded that the MTBE phase-out could lead to a 5 to 10 percent reduction in gasoline supplies, which could result in a doubling of gasoline prices in California – meaning consumers would be paying up to $3 per gallon of gasoline.[143]

---

[141] S. 517, Introduced in the 107th Congress.

[142] Statement of Governor Gray Davis, *Governor Davis Allows More Time for Eihanol Solution*, May 15, 2002.

[143] Consultant Report, California Energy Commission, *MTBE Phase-Out in California*, March 2002, at 1-2.

2. Oxygenated Gasoline Program

During the winter months, increased carbon monoxide emissions from cold vehicles have elevated carbon monoxide levels in a number of urban areas.[144] These carbon monoxide concentrations can be reduced by adding oxygen to gasoline.[145] The oxygenated gasoline program requires that gasoline in certain non-attainment areas of the country that have a large amount of carbon monoxide contain at least 2.7 percent oxygen by weight during the winter months.[146] The EPA originally designated 39 areas of the country as having levels of carbon monoxide that were too high.[147] Today 16 areas of the country are using oxygenated fuel.[148] The oxygenated gasoline program is administered and enforced by the individual states (in contrast to the RFG program, which is administered by the EPA). [149]

3. State Fuel Programs

States with areas that are in "non-attainment" of the standards of the Clean Air Act must submit plans to EPA – referred to as State Implementation Plans (SIP) – that outline the state's

---

[144] Tancred Lidderdale, U. S. Department of Energy, *Areas Participating in the Oxygenated Gasoline Program*, at http://www.eia.doe.gov/emeu/steo/pub/special/oxy2.html.

[145] While serving different purposes, the same additives (i.e. ethanol, MTBE) can be used in both the RFG program and the oxygenated program.

[146] The RFG program is year-round.

[147] Energy Information Administration, *Demand, Supply, and Price Outlook for Oxygenated Gasoline, Winter 1992-1993,* Monthly Energy Review, August 1992, by Tancred Lidderdale.

[148] Thirteen of these areas are in non-attainment, and three are using the oxygenated gas program pursuant to a State Implementation Program. Oral Interview of Brent Yacobucci, Congressional Research Service Analyst, March 26, 2002.

[149] Tancred Lidderdale, U.S. Department of Energy, *Areas Participating in the Oxygenated Gasoline Program*, at http://www.eia.doe.gov/emeu/steo/pub/special/oxy2.html.

strategy for attaining and/or maintaining air quality standards in those areas. The EPA is authorized to approve a state fuel control program in a SIP if the EPA finds the state fuel control is necessary to achieve the air quality standards which the SIP implements.[150]

Generally, state fuel controls have not been as stringent as the federal RFG standards but have imposed lower volatility requirements, caps on sulfur content, limits on the use of MTBE, or requirements for minimum oxygen or ethanol content. The most notable exception is California, which requires a unique clean-burning gasoline ("CARB") across the entire state, and requires RFG that is cleaner than federal RFG in ozone non-attainment areas. There are also SIP fuel requirements for parts of Alabama, Arizona, Florida, Georgia, Illinois, Kansas, Louisiana, Maine, Minnesota, Missouri, Nevada, North Carolina, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Utah, and Virginia.[151] The SIP fuel controls usually apply only in the more urban parts of the state, which tend to be the most polluted areas.

The EPA has identified a variety of reasons why states and localities have either adopted a fuel controls program in a SIP or opted into the RFG program. First, noted the EPA, fuel controls "can provide significant, cost effective emission reduction of VOCs and NOx."[152] Another reason, according to the EPA, some refiners have sought to encourage states to develop

---

[150] Generally, the Clean Air Act preempts states from regulating motor vehicle fuels for emission control purposes if the EPA already has established controls for those fuels. In addition to the exception for EPA-approved SIPs, California is statutorily exempted from this preemption.

[151] Information provided by Congressional Research Service.

[152] *Study of Unique Gasoline Fuel Blends ("Boutique Fuels"), Effects on Fuel Supply and Distribution and Potential Improvements,* at 14.

unique fuel requirements in order to create distinct fuel markets with limited competition while simultaneously telling federal officials to reduce the number of fuels:[153]

> Discussions with refiners and marketers suggested that another possible reason refiners promoted state fuel programs over RFG related to the effect on competition. A state-specific program generally leads to the secondary effect of limiting competition for the gasoline supplied to the affected market since the market for a state fuel is often small compared to the market for federal RFG. As a result, the number of refiners likely to devote production to this small state fuel market is often limited. This has been perceived as a benefit to the refiners that produce the gasoline for a state fuel market.[154]

4. Impacts of Boutique Fuels on Fuel Supply

The variety of fuels in use today in different areas of the country is often cited, particularly by gasoline marketers and refiners, as one of the prime causes of the recent price volatility. The mix of state and federal standards in effect today has resulted in a situation where adjacent areas may be using gasoline with significantly different properties.[155] In the event of a supply disruption or shortage, it may be more difficult to bring in additional supply to an area that requires a boutique fuel rather than a conventional fuel, because fewer refiners may be readily capable of producing the required gasoline.[156]

---

[153] Document in Subcommittee files.

[154] *Study of Unique Gasoline Fuel Blends ("Boutique Fuels"), Effects on Fuel Supply and Distribution and Potential Improvements*, at 14.

[155] The petroleum industry, however, opposes providing states with authority to require RFG in areas that are not currently non-attainment areas, which could help reduce such geographic disparities. See, e.g., *American Petroleum Institute v. EPA*, F.2d (D.C. Cir. 2000).

[156] EPA emergency provisions provide for a refiner to apply to EPA for a waiver of the RFG requirement until alternative RFG supplies can be obtained. U.S. Department of Energy, Tancred Lidderdale and Aileen Bohn, *Demand and Price Outlook for Phase 2 Reformulated Gasoline, 2000*, at http://www.eia.doe.gov/emeu/steo/pub/special/rfg4.html.

The EPA has found that the current gasoline production and distribution system is able to provide adequate quantities of boutique fuels, as long as there are no supply disruptions. If there is a disruption, however, the EPA determined that it becomes more difficult to provide gasoline supplies to affected areas because of boutique fuel requirements.[157] One common proposal to improve fuel availability is to reduce the number of boutique fuels in use. Proponents of fewer fuels contend it would be easier to mitigate price spikes and easier and more economical for foreign refiners to ship gasoline to the United States if there were not so many micro-markets within the United States.[158]

In developing its Staff White Paper on boutique fuels, the EPA considered a variety of comments from persons interested in this issue. The EPA reported that a majority of the stakeholders it consulted "although not all in agreement on the magnitude of the problems caused by boutique fuels today or the need to make significant changes, saw merit in having fewer fuel specifications across the country as long as it did not negatively impact supply, air quality benefits, or cost, and as long as sufficient time was provided to allow for an orderly transition." According to the EPA, refiners were concerned about a continued proliferation of state-mandated boutique fuel. "[The refiners] wanted a strong federal program that would not cause states to adopt their own fuel programs but not so strong as to significantly impact refinery operations and cost of production." The states "argued for a strong national program," one that

---

[157] EPA, *Study of Boutique Fuels and Issues Relating to Transition from Winter to Summer Gasoline,* October 24, 2001.

[158] Brent Yacobucci, Congressional Research Service, *Harmonization of Gasoline Standards.*

would minimize the need for state programs, yet still provide the flexibility for states to set their own unique fuel specifications to address their concerns, such as the use of MTBE.[159]

The EPA paper proposed for consideration four basic fuel program options: a three-fuel option, a two fuel option, a 49-state Federal fuel, and California fuel available nationwide. The EPA is currently seeking public comments on the extent to which these options improve the fungibility and movement of gasoline across the country, maintain or improve air quality, maintain or improve production capacity, and minimize cost.[160]

Although fewer fuels fosters fungibility, a reduction in the number of fuels required would not necessarily lead to greater availability of gasoline. Since each refinery has been configured to meet the specific standards and requirements of the current marketplace, changing these standards could substantially affect refinery economics.[161] These economic effects would not necessarily be equitably distributed across the refining industry. Accordingly, there is no consensus within the industry on many boutique fuels issues. An official at one company has noted that the company had made a considerable investment in its refineries to be able to provide boutique fuels in certain markets and would object to any reduction to less than four gasoline types because "it could lead to reduced supplies and higher prices with no corresponding benefits to the environment." [162] Another company document states, "a national or even regional

---

[159] *Study of Unique Gasoline Fuel Blends (Boutique Fuels), Effects on Fuel Supply and Distribution and Potential Improvements*, at 16.

[160] *Id.* at 16 ff.

[161] See, e.g., Brent Yacobucci, Congressional Research Service, *Harmonization of Gasoline Standards.*

[162] Document in Subcommittee files.

gasoline plan would mean huge investments in refineries...while stranding much of the industry's current investment in small refineries, pipeline tankage and terminals...it is not coincidental that the parties currently tending to support this approach have very deep pockets with little current investment in product infrastructure, and have or are in the process of shedding any 'small' refineries."[163]

If the past is any guide, new fuel standards that impose additional capital requirements on the refining industry will likely result in the loss of some marginal refining capacity. The extent to which the benefits of such standards in terms of air quality, fuel flexibility, cost, and fungibility outweigh the costs and the decrease in refining capacity must be carefully considered.

Last summer the Department of Energy testified to Congress about boutique fuels:

> [It] is important to understand that the current situation of using different fuels to meet the differing air quality needs of various urban areas has economic benefits, at least at this time. Under this approach, areas that do not need the more expensive clean fuel do not have to bear the cost of that fuel. Problems arise with this localized fuel approach when there is an upset in the supply system and fuel supplies need to be brought in from alternative sources that may not normally store or make the particular fuel needed. In the past, such as last summer in St. Louis, EPA and the Department have dealt with these supply disruption situations by considering fuel supplier or state government requests to allow the sale of non conforming gasoline on an as needed basis. This system has worked well and continuing it is certainly one option...some have suggested a move to a federal reformulated gasoline, or regional fuels instead of the current mix of clean and conventional gas. While this might help make for a simpler distribution system, it would reduce the total volume of gasoline that today's refineries could produce and place significant additional investment requirements on refineries. If a sufficient number of states were to restrict use of MTBE, refiners and distributors might choose to remove MTBE from all gasoline to protect the fungibility of the gasoline distribution system and avoid even more boutique fuels. MTBE's contribution to gasoline suppliers nationally is equivalent to about 400,00

---

[163] Document in Subcommittee files.

> barrels a day of gasoline production capacity or the gasoline output or the gasoline output of four to five large refineries.[164]

5. Seasonal Transition Issues Involving RFG

Because summer-grade gasoline must have lower evaporation rates than winter-grade gasoline, each spring winter-grade gasoline in storage tanks must be completely drained to make room for the summer-grade gasoline.[165] This can lead to supply disruptions since the changeover occurs at the same time as gasoline demand is approaching its yearly peak.[166] In both 2000 and 2001, gasoline prices rose sharply during the transition period, particularly in the Midwest. [167] Many fuel marketers have stated they need greater flexibility in the transition from winter to summer grade RFG so that sufficient inventories are available during this period.

The EPA has described the effects of low spring inventories on price:

> Although gasoline prices generally rise around Memorial Day, the start of the summer driving season, for the past two years spikes have occurred in various parts of the United States. These price spikes occur when gasoline inventories have become unusually low. Low gasoline inventories have occurred for a

---

[164] Statement of Robert Card, Under Secretary of Energy before the Senate Committee on Energy and Natural Resources, June 21, 2001.

[165] EPA regulations require that gasoline retailers must be selling summer-grade conventional gasoline and RFG by June 1 of each year. To ensure that sufficient retail supplies are available by this date, EPA also requires that by May 1 terminals and all other facilities upstream from the retailer must have only summer-grade gasoline. Typically, refiners will begin producing summer-grade gasoline in March or April in order for terminals to meet the May 1 deadline. *Study of Boutique Fuels and Issues Relating to Transition From Winter to Summer Gasoline*, at 3.

[166] Gasoline production typically peaks in May and June in order to meet peak demand in July and August. EIA, *Petroleum Supply Monthly*, March 2002.

[167] For a more detailed discussion of Midwest gas prices, see Section IV.

variety of reasons, including a recent trend in the petroleum industry towards reducing inventories to near the minimum operating levels. This has been particularly the case recently during the winter to summer transition. Additionally, because it costs refiners more to make summer grade fuel than winter grade fuel, competitive economic pressures lead refiners to delay this expense as long as possible.

Following the two recent spring price spikes and the concerns refiners have raised regarding the winter-to-summer transition, EPA has taken the following actions to provide refiners and marketers with more flexibility during this transition: [168]

- Eliminated the existing blend stock accounting;[169]
- Allowed gasoline terminal operators a broader testing tolerance than currently permitted for the initial tank turnover from winter to summer fuel; and [170]
- Adjustment of VOC standard for Chicago and Milwaukee RFG. [171]

---

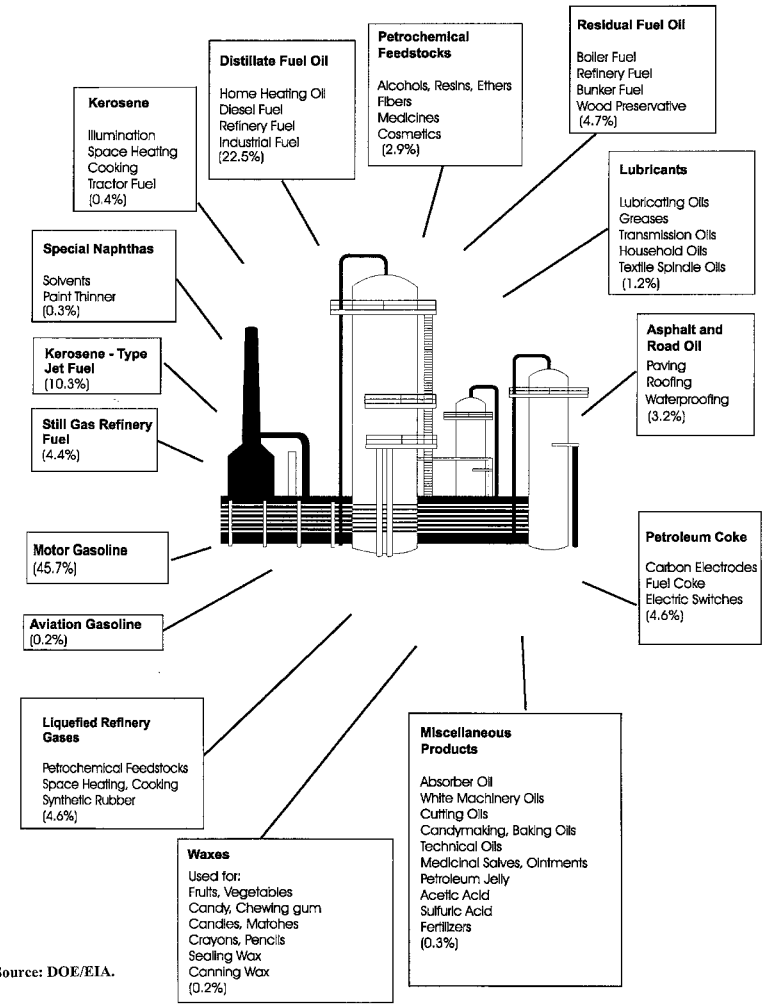
[168] *Study of Boutique Fuels and Issues Relating to Transition From Winter to Summer Gasoline.*

[169] *Regulation of Fuel and Fuel Additives RFG-Transition,* 67 C.F.R., 8729, February 26, 2001.

[170] This guidance outlined the EPA's policy on allowing a 2 percent testing tolerance for the volatile organic compound (VOC) standard. The 2 percent enforcement tolerance will apply at terminal locations at the time the terminal first classifies the tank as complying with summer standards for federal RFG. This means that the EPA is removing the so called "no tolerance for the first turn" condition from use of the 2 percent VOC tolerance at terminals. *Reformulated Gasoline Transition Fact Sheet.*

[171] *Adjustment to RFG VOC Standard*, 66 C.F.R. 37156, July 17, 2001.

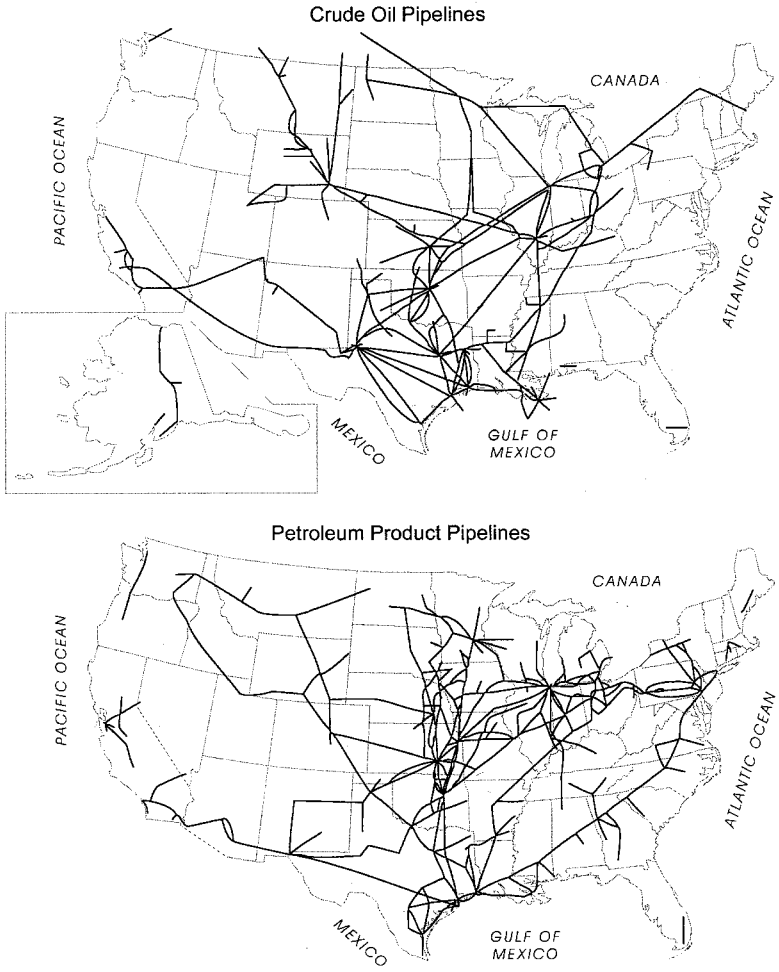
Figure III.1: Petroleum Products and Uses (1997 Percent Refinery Yield)



Source: DOE/EIA.

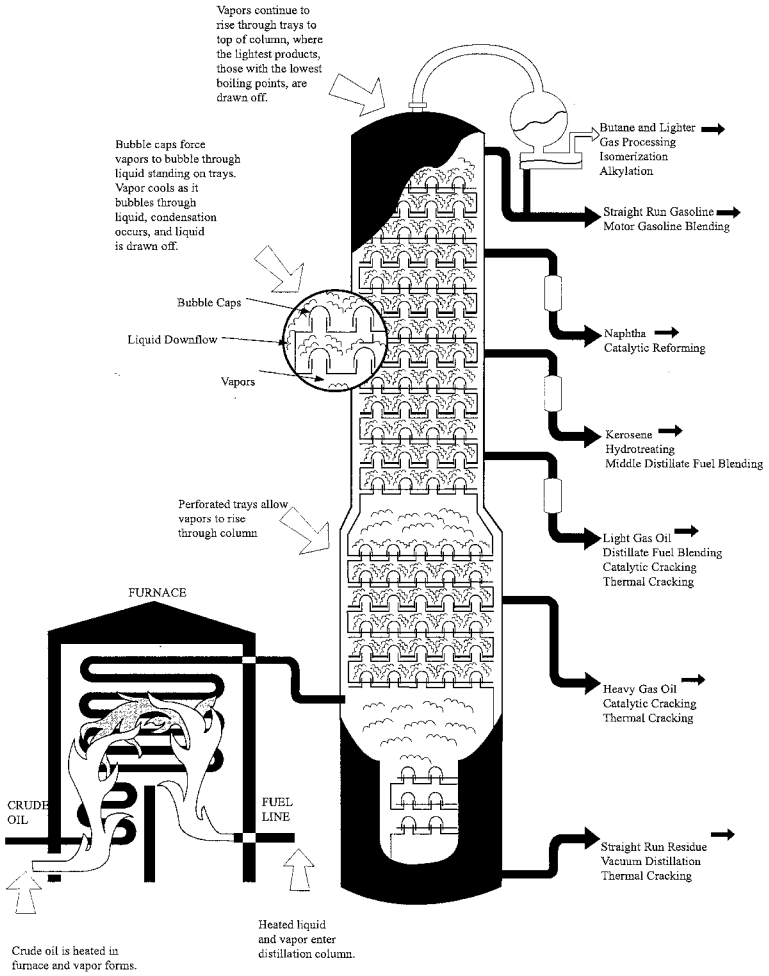
Note: Refinery yield represents the percent of finished product produced at U.S. refineries from input of crude oil and net input of unfinished oils. Components do not add to 100 percent because of processing gain (an increase in volume that occurs during refining).

Figure III.2: Petroleum Pipelines in the United States as of December 31, 1997



Source: DOE/EIA.

Figure III.3: Crude Oil Distillation



Source: Energy Information Administration, Office of Oil and Gas.

Figure III.4 Marketing Structure for Gasoline

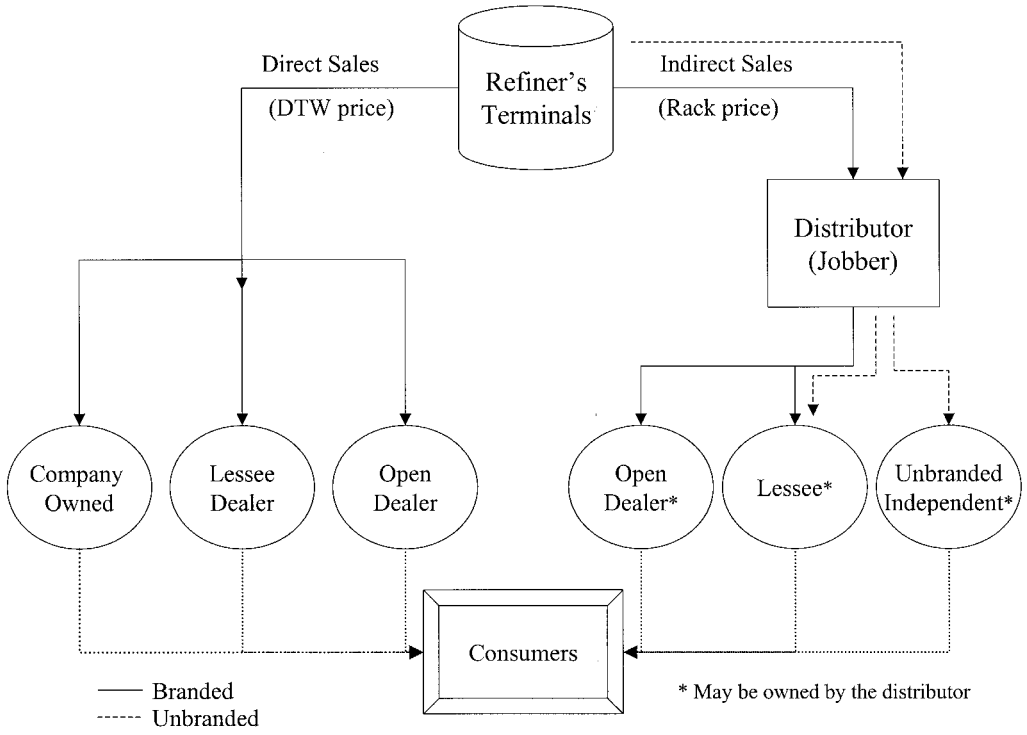
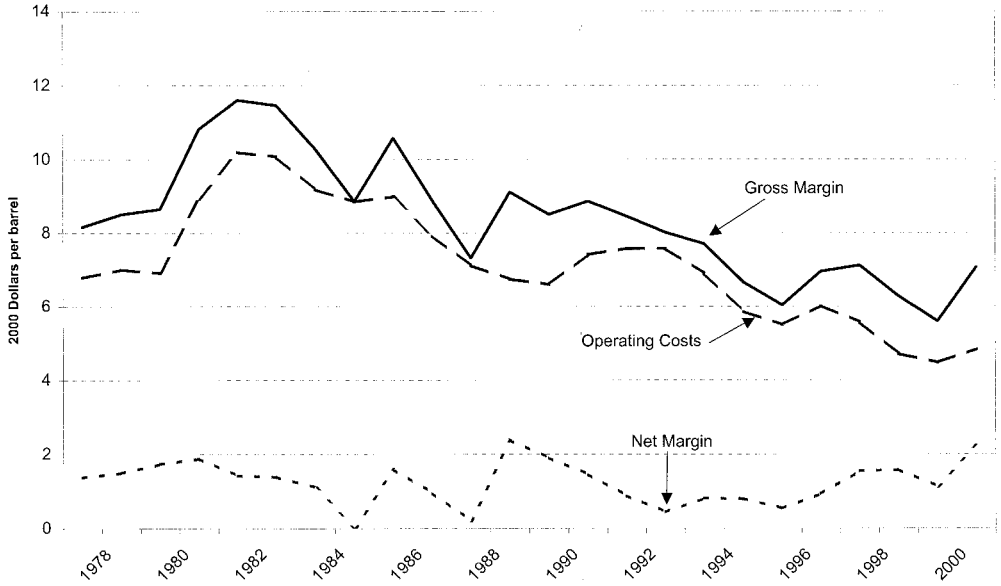
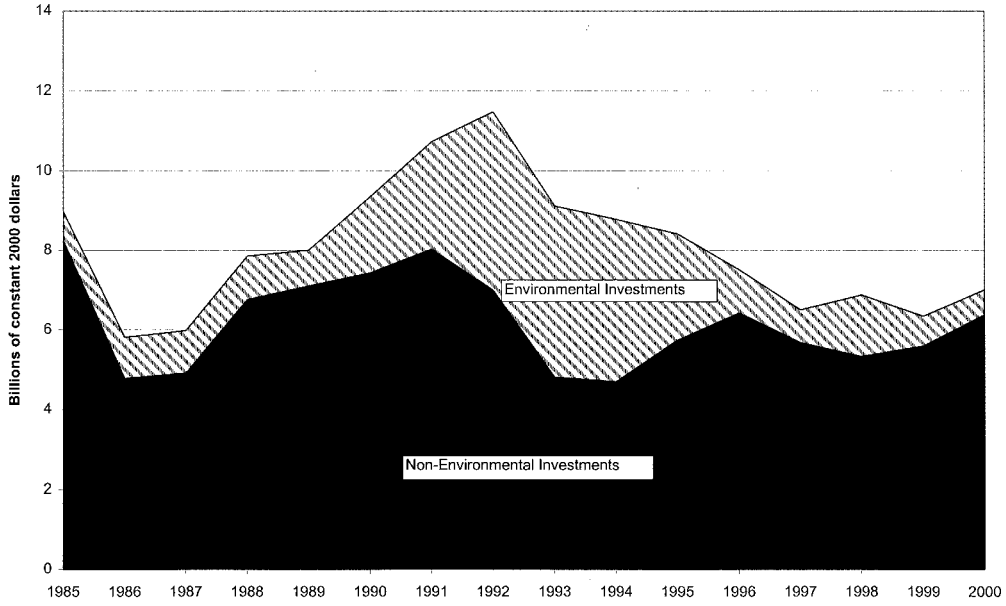


Figure III.5: U.S. Refined Product Margins and Costs per Barrel of Petroleum Product Sold by Major U.S. Energy-Producing Companies, 1977-2000 (In constant 2000 dollars)



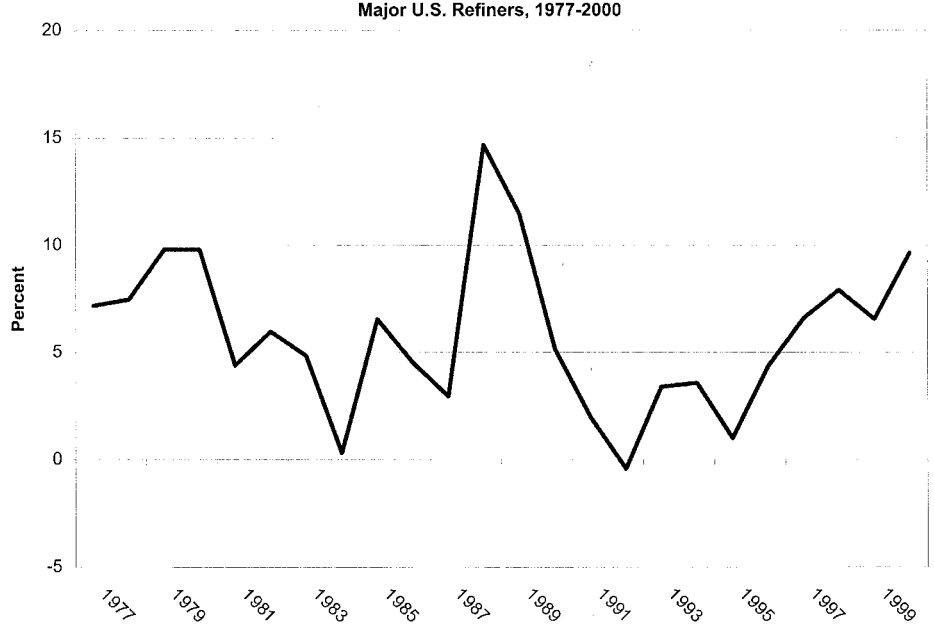
Source: DOE/EIA.

Figure III.6: United States Refining and Marketing Capital Investments, 1985-2000
(In constant 2000 dollars)



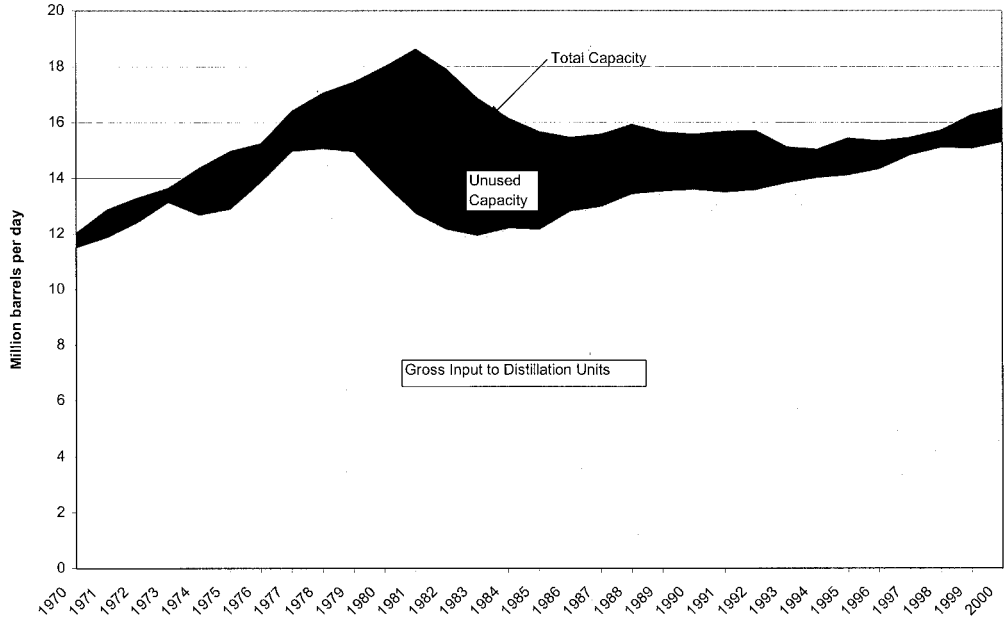
Source: Cambridge Energy Research Associates.

Figure III.7: Return on Investment in Refining/Marketing for Major U.S. Refiners, 1977-2000



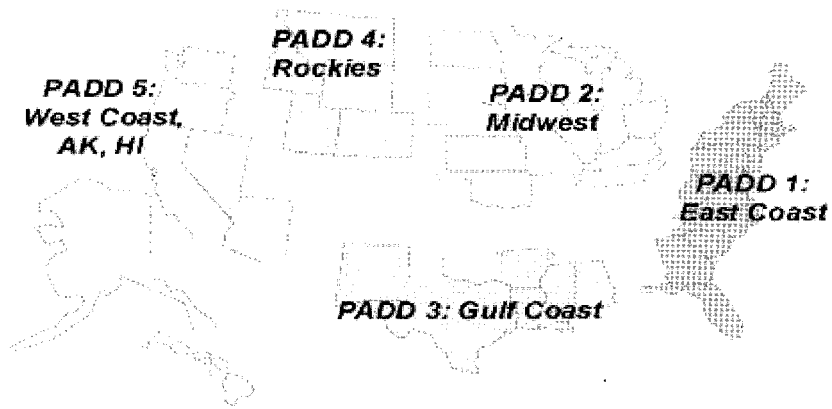
Source: DOE/EIA.

Figure III.8: United States Refinery Capacity and Utilization, 1970-2000



Source: DOE/EIA.

Figure III.9: Petroleum Administration for Defense Districts (PADD)

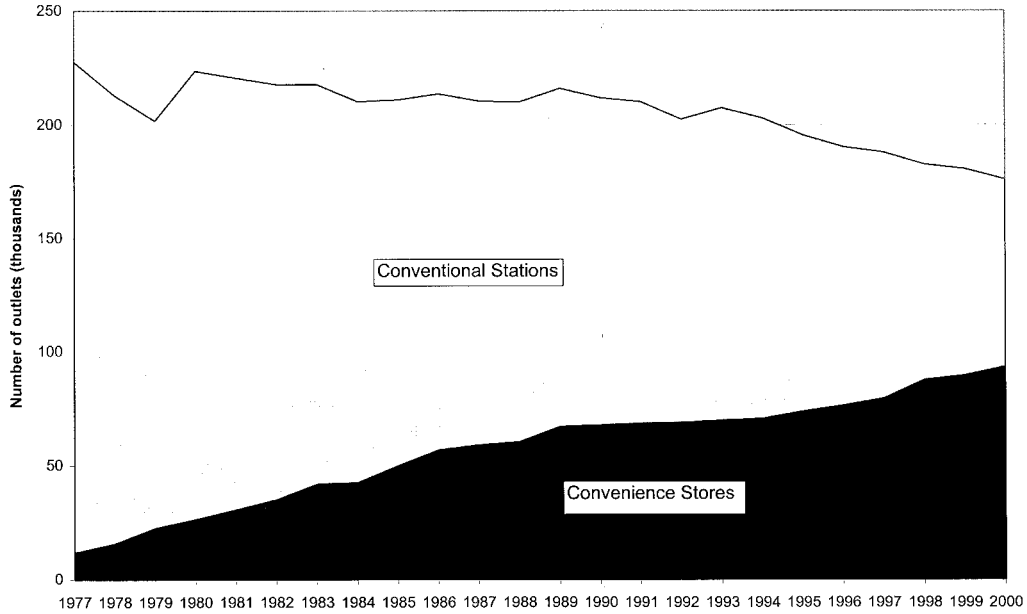


Source: DOE/EIA.

Figure III.10 Total Motor Gasoline Ending Stocks, 1984 - 2001

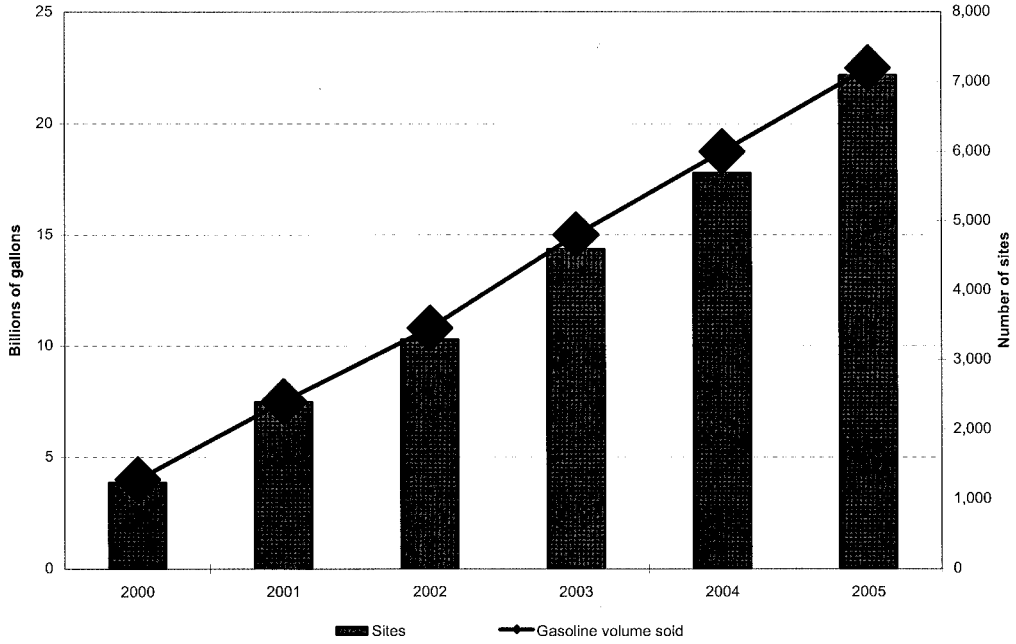
Source: DOE/EIA.

Figure III.11: Retail Gasoline Stations in the United States by Type, 1977-2000



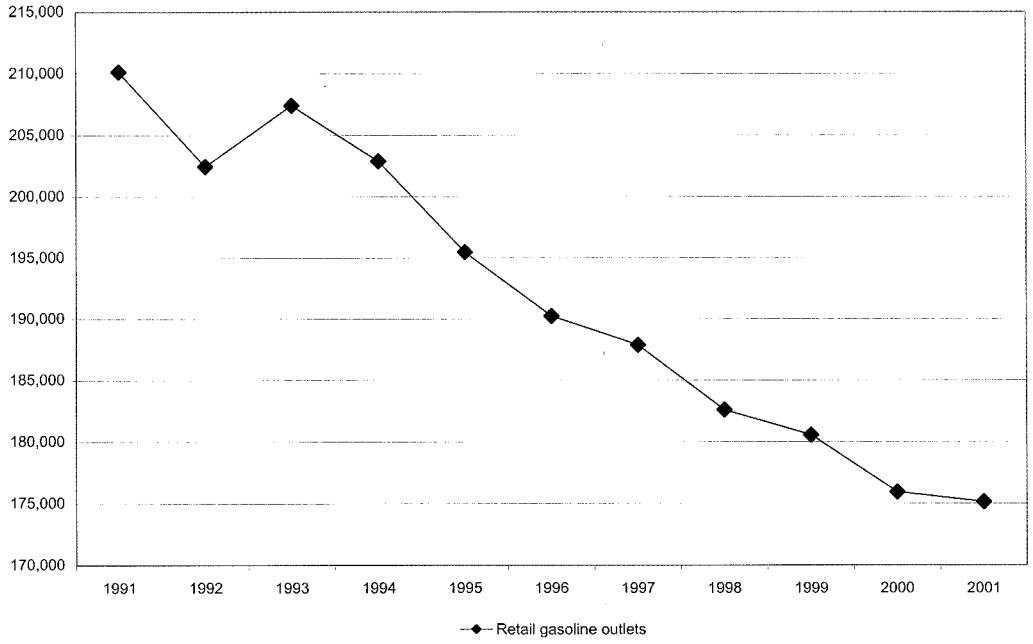
Source: Cambridge Energy Research Associates.

Figure III.12: United States Hypermarket Growth Projections, 2000-2005



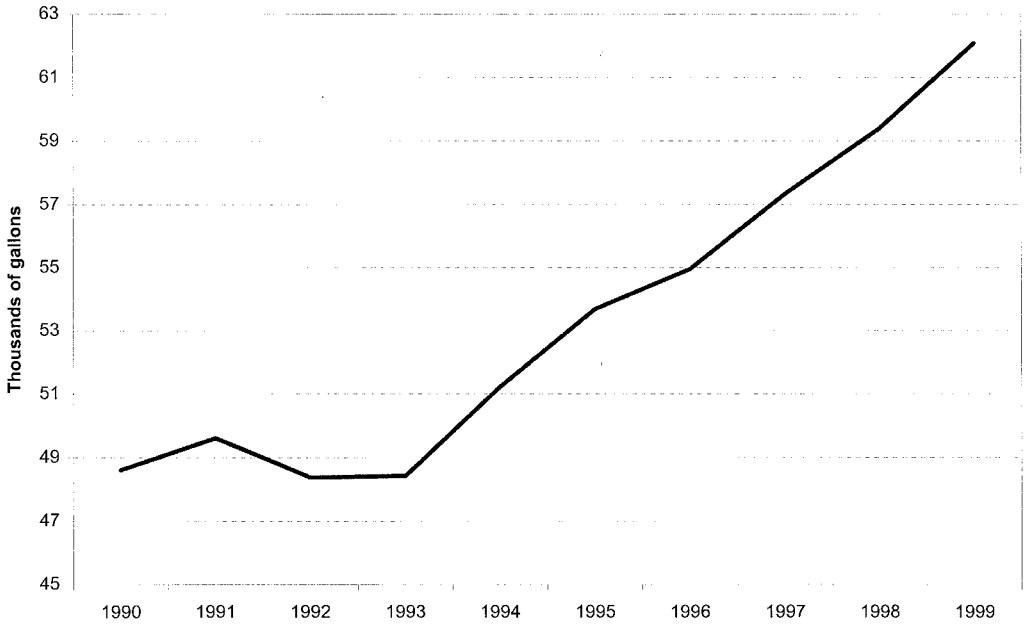
Source: Oil and Gas Journal.

Figure III.13: Total number of Retail Gasoline Outlets in the United States, 1991-2001



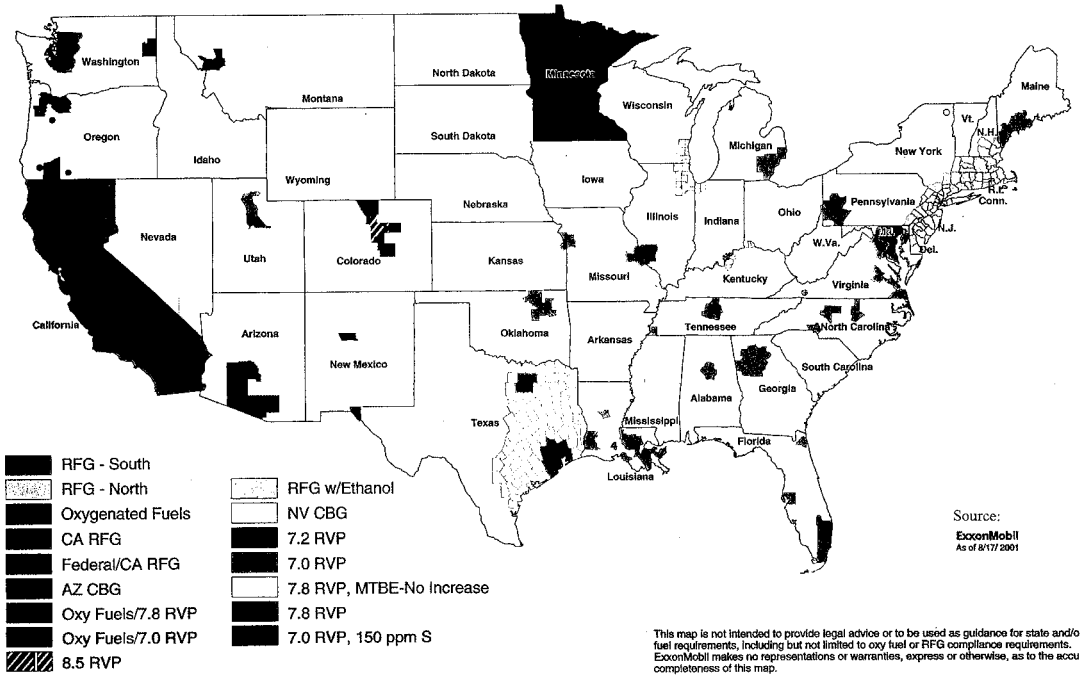
Source: DOE/EIA.

Figure III.14: Average Monthly Motor Gasoline Sales Volume per Retail Outlet, 1990-1999



Source: DOE/EIA.

Figure III.15: U.S. Gasoline Requirements



This map is not intended to provide legal advice or to be used as guidance for state and/or federal fuel requirements, including but not limited to oxy fuel or RFG compliance requirements. ExxonMobil makes no representations or warranties, express or otherwise, as to the accuracy or completeness of this map.

IV. THE EFFECTS OF MARKET STRUCTURE AND CONCENTRATION ON GASOLINE PRICES

- **The mergers in the oil industry over the last few years and the closing of many refineries over the past twenty years have increased concentration in the refining industry. In some states, the refining and marketing industry for gasoline is highly concentrated; in many states it is at least moderately concentrated. (F-3)**

- **High concentration exacerbates the factors that allow price spikes and increases, a key one of which is the tightness of supply. (F-5)**

- **In concentrated markets refiners can affect the price of gasoline by their decisions on the amount of supply. In a number of instances, refiners have sought to increase prices by reducing supply. (F-6)**

- **Highly concentrated retail markets have higher retail prices. (F-7)**

- **Markets in which there is a high degree of vertical integration between refiners and marketers have higher wholesale and retail prices. (F-8)**

A. General Characteristics of Concentrated Markets

In a perfectly competitive market many firms sell an identical product, and the amount of each seller's output is too small to affect the market price.[172] If one firm reduces output, other firms can step in and increase their output, thereby increasing their own market share and revenues through innovation, efficiency, and competition in price.[173]

---

[172] Firms will increase their output until the marginal cost of producing that product equals the demand for the product at that price. In a perfectly competitive market, therefore, the price of the product will equal the marginal cost of the product. Firms in the market are considered "price-takers" rather than "price-makers." For a general explanation of competitive and non-competitive markets, see Samuelson and Nordhaus, Economics, 17th ed., 2001.

[173] Adam Smith wrote that although every individual "intends only his own security, only his own gain, . . . he is led by an invisible hand to promote an end which was no part his

In markets in which either one firm (monopoly) or a few firms (oligopoly) produce the entire output for an industry, such a firm or firms will have sufficient "market power" to affect the price of their output through their decisions on how much to produce. The market power of firms in a highly concentrated market will vary, depending on the particular circumstances of the industry.

"Imperfect competition" is a cause for concern, because it can yield results "that are inimical to the public interest," namely high prices and poor quality.[174] By sustaining higher-than-competitive prices, imperfect competition represents a type of market failure that hurts consumers.

Although the general trend in the United States over the past 70 years has been towards increasingly competitive markets, in recent years a number of markets have consolidated into oligopolies.[175] In part this is because of the wave of mergers in the past few years which the President's Council of Economic Advisors reports has been "well above average."[176] Economies

---

intention. By pursuing his own interest he frequently promotes that of society more effectually than when he really intends to promote it." Samuelson and Nordhaus, at 30.

[174] Samuelson and Nordhaus, at 185.

[175] In 1939, approximately half of the markets were considered "effectively competitive"; 36 percent were considered to be a "tight oligopoly" (i.e. the top 4 firms have over 60 percent of the market); 5 percent were dominated by one firm; and about 6 percent were pure monopolies. In 1980, just over three-fourths of the markets were effectively competitive; 18 percent were considered to be tight oligopoly; just under 3 percent were dominated by one firm; and about 2 ½ percent were pure monopolies. William G. Shepherd, *The Economics of Industrial Organizati*on, 3rd ed., 1990.

[176] Wireless phones, cable television, DRAM semiconductor chip manufacturing, college textbooks, and defense contracting all have become highly oligopolistic industries. *Why the Sudden Rise in the Urge to Merge and Form Oligopolies?,* Wall Street Journal, February 25, 2002, at A1.

of scale, increasing costs of producing and marketing products, a desire to reduce market risks, and more lax antitrust enforcement are cited as factors underlying this trend.[177]

A central theme of the Department of Justice and the Federal Trade Commission's "Horizontal Merger Guidelines" is that mergers should not be permitted to create or enhance market power or facilitate its exercise. The Guidelines explain market power and its harmful consequences:

> Market power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time. In some circumstances, a sole seller (a "monopolist") of a product with no good substitutes can maintain a selling price that is above the level that would prevail if the market were competitive. Similarly, in some circumstances, where only a few firms account for most of the sales of a product, those firms can exercise market power, perhaps even approximating the performance of a monopolist, by either explicitly or implicitly coordinating their actions. Circumstances also may permit a single firm, not a monopolist, to exercise market power through unilateral or non-coordinated conduct – conduct the success of which does not rely on the concurrence of other firms in the market or on coordinated responses by those firms. In any case, the result of the exercise of market power is a transfer of wealth from buyers to sellers or a misallocation of resources.[178]

As Samuelson and Nordhaus explain, monopolists and oligopolists obtain non-competitive prices by limiting production rather than by directly setting high prices:

> Now Monopoly Inc. enters the picture. A monopolist is not a wicked firm—it doesn't rob people or force its goods down consumers' throats. Rather, Monopoly Inc. exploits the fact that it is the sole seller of a good or service. ***By keeping its output a little scarce, Monopoly Inc. raises its price*** above marginal cost. Since [setting the price at marginal cost] is necessary for economic efficiency, the monopolist's output will be less than the efficient output; the marginal value of the good to consumers is therefore above its

---

[177] Wall Street Journal, February 25, 2002, at A1.

[178] US Department of Justice, Federal Trade Commission, Horizontal Merger Guidelines, April 1997 Revision, Sec. 0.1.

> marginal cost. ***The same is true for oligopoly*** and monopolistic competition, ***as long as companies can hold prices above marginal costs.***[179] [emphasis added].

The Department of Justice and the Federal Trade Commission measure market concentration in two ways. One is the Herfindahl-Hirshman Index (HHI), which is obtained by summing up the squares of the market shares (expressed in percentages of total market) of each firm in the market. Thus, for example, if 4 firms have 10%, 20%, 30%, and 40% of the market, respectively, then the HHI for this market would be 10x10 + 20x20 +30x30+40x40 = 100+400+900+1600 = 3000. The DOJ/FTC Guidelines consider markets with a HHI below 1000 to be "unconcentrated," with a HHI between 1000 and 1800 to be "moderately concentrated,"and with a HHI above 1800 to be "highly concentrated." According to the Guidelines, "Where the post-merger HHI exceeds 1800, it will be presumed that mergers producing an increase in the HHI of more than 100 points are likely to create or enhance market power or facilitate its exercise."

Another measure of market concentration is the 4-firm concentration ratio. This is obtained by calculating the total market share of the 4 leading firms in the market. Economists characterize a market with a 4-firm concentration ratio of more than 60 percent as a "tight oligopoly."[180] As the DOJ/FTC Guidelines note, in an oligopolistic market it is not necessary for the firms to explicitly collude to raise prices above competitive levels. Rather, individual firms

---

[179] Samuelson and Nordhaus, at 196. This too is not a recent observation. Adam Smith noted it is "the manifest interest of every particular class of [traders] to prevent the market from being overstocked, as they commonly express it, with their own particular species of industry; which is in reality to keep it always understocked." Adam Smith, *The Wealth of Nations* (Modern Library ed., 1937), at 124.

[180] William G. Shepherd, *The Economics of Industrial Organization* (3rd ed. Prentice Hall, 1990).

with a degree of market power in a sufficiently concentrated market can act in "conscious parallelism" with the other similarly situated firms to raise prices. "Oligopolists are 'interdependent' in their pricing: they base their pricing decisions in part on anticipated reactions to them. The result is a tendency to avoid vigorous price competition."[181] "In countries where . . . explicit schemes are illegal (as in the United States), 'tacit' collusion may evolve instead. Though it is rarely as forceful as full-blown price agreements, it can make a significant difference."[182]

Although "conscious parallelism" does not violate the antitrust laws, it may lead to the same economic effect as outright collusion. In upholding the FTC's preliminary injunction against the proposed merger of Heinz and Beech-Nut, the second and third largest sellers of baby food in the nation (17.4% and 15.4% of the market, respectively), the U.S. Court of Appeals wrote, "The combination of a concentrated market and barriers to entry is a recipe for price coordination. *See University Health*, 938 F.2d at 1218 n.24 ('Significant market concentration makes it 'easier for firms in the market to collude, expressly or tacitly, and thereby force price above or far above the competitive level.''(citation omitted)). '[W]here rivals are few, firms will be able to coordinate their behavior, either by overt collusion or implicit understanding, in order to restrict output and achieve profits above competitive levels.'"[183]

---

[181] Richard A. Posner, Antitrust Law, *An Economic Perspective* (Univ. of Chicago Press, 1976), at 43.

[182] Weber at 337. "[E]very oligopolist is like a general on the battlefields of commerce, trying to outwit, bluff, and bludgeon its rivals. Yet, since oligopoly rewards team play, the generals are constantly tempted to form alliances with their 'adversaries.' Then the warfare gives way to collusion among some or all of the combatants. *Id.* at 316.

[183] *FTC v. H.J. Heinz Co.* (D.C. Cir. April 27, 2001), http://laws.findlaw.com/dc/005362a.html at 11.

Some legal scholars contend that because the harmful economic effects of "tacit" collusion may be no different from the effects of express collusion, tacit collusion should be no less objectionable.[184] Others maintain it is futile to try to prohibit interdependent behavior in a highly concentrated market, because it is difficult to prevent firms from taking the actions of their competitors into consideration.[185] Under these circumstances, the remedy would be to try to change the structure of the market underlying the industry – such as the degree of concentration – rather than the behavior of the market participants.[186]

Even in highly concentrated markets, including monopolies, market power will not be absolute. A monopolist who restricts output and raises prices too much will eventually attract new entrants into the market who will attempt to capture some of those profits. In the refining industry, for example, firms must produce enough gasoline to meet their agreements to keep their contractual customers and branded outlets supplied. According to refiners, running out of product for contractual customers and branded outlets would be "disastrous" for a refiner, as

---

[184] "If the economic evidence introduced in a case warrants an inference of collusive pricing, there is neither legal nor practical justification for requiring evidence that will support the further inference that the collusion was explicit rather than tacit. Certainly from an economic standpoint it is a detail whether the collusive pricing scheme was organized and implemented in such a way as to generate evidence of actual communications." Posner, *Antitrust Law*, at 71.

[185] "'The rational oligopolist is behaving in exactly the same way as is the rational seller in a competitively structured industry; he is simply taking another factor into account [the reactions of his rivals to any price cut] . . . which he has to take into account because the situation in which he finds himself put him there.' Since the oligopolist is behaving just like the seller in an atomized market, oligopoly pricing can be described as 'rational individual decision in the light of relevant economic facts' as well as it can be described as collusion. . . An injunction that merely 'prohibited each defendant from taking into account the probable price decisions of his competitors in determining his own price or output' would 'demand such irrational behavior that full compliance would be virtually impossible.'" Posner, *Antitrust Law*, at 43, quoting Donald F. Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal*, 75 Harv. L. Rev. 655 (1962) at 665-66.

[186] *Id.* at 44.

retailers and customers would seek to shift their purchases to more reliable suppliers. In the short- to medium-term, higher prices resulting from shortages may attract lower-cost supplies from other markets to be imported depending upon the costs of transportation. This situation – called "import parity" – exists when prices in one market rise high enough to cover the transportation costs from another market where prices or the cost of production are lower. Higher refining margins sustained or projected to exist over longer periods of time may eventually attract others to invest in additional production or transportation capacity. In economic terms, the price of marginal supply acts as a ceiling on the price in any given market.

Firms in highly concentrated markets will not necessarily reap greater profits than firms in more competitive markets. Although the few firms in a market may reach a tacit agreement not to compete on price, they may nonetheless compete quite strenuously on non-price items, such as brand identification, product appearance, and service. In fact, vigorous non-price competition in a highly concentrated market can wipe out much of a firm's profits.[187] Hence, the profitability of the firms in a market cannot be used to gauge the level of concentration in the market.[188]

In addition, although the HHI and the 4-firm concentration ratio are useful tools for categorizing the degree of concentration in a particular market, the numerical cut-offs used to

---

[187] "The only effect of eliminating price competition may be to channel competitive energies into other, and costly, forms of competition. Indeed, as we have already discussed, firms may increase their expenditures on the other forms of competition until they have competed away all of the higher profits that they hoped to obtain by increasing prices above the competitive level." Posner, *Antitrust Law*, (1976 ed.), at 60.

[188] "The relationship of concentration to profitability is likely to be loose or nonexistent." Shepherd, *The Economics of Industrial Organization*, at 64. Profitability is more easily correlated with a firm's market share in an industry rather than the overall concentration level within the industry.

categorize competition are not considered precise demarcations between these various categories. According to the DOJ/FTC merger guidelines, "Although the resulting regions provide a useful framework for merger analysis, the numerical divisions suggest greater precision than is possible with the available economic tools and information. Other things being equal, cases falling just above and just below a threshold present comparable competitive issues." Thus, whether a particular market falls under the category of "moderately" or "highly" concentrated is not necessarily dispositive of how the firms in that market will behave.

B. Concentration in the Oil Refining and Gasoline Marketing Industry

In recent years there have been a significant number of major mergers within the petroleum industry:

- In 1998, Marathon and Ashland Oil merged their downstream assets.
- In 1998, British Petroleum (BP) merged with Amoco
- In 1999, Exxon Corporation merged with Mobil Corporation.
- In 2000, BP/Amoco acquired ARCO.

Within the past year –

- Shell acquired Texaco's domestic downstream assets;
- Chevron, which had acquired Gulf Oil in 1994, acquired Texaco (other than downstream assets);
- Phillips acquired Tosco;
- Phillips announced a merger with Conoco;
- Valero acquired Ultramar Diamond Shamrock;

This wave of mergers has followed a general consolidation of assets within the refining industry over the past two decades. In 1981, 189 firms owned a total of 324 refineries; by 2001 65 firms owned a total of 155 refineries, a decrease of about 65 percent in the number of firms and a decrease of about 52 percent in the number of refineries.[189] During this period the market share of the ten largest refiners increased from 54.9 percent to 61.6 percent.[190]

Both the Hirfendahl-Hirschman Index ("HHI") and the 4-firm concentration ratios indicate that the domestic gasoline refining and supply system has become markedly more concentrated. In 1994, as measured by the HHI, the gasoline wholesale market was "moderately concentrated" in 22 states (an HHI in excess of 1000) and "highly concentrated" in 5 states (an HHI in excess of 1800).[191] In 2000, 28 states were "moderately concentrated" and 9 states were "highly concentrated."[192]

---

[189] Information provided to the Subcommittee by the Energy Information Administration, August 7, 2001.

[190] There has been a change in the composition of these top ten companies from exclusively major integrated companies in 1981, to the majority being non-integrated refiners. These independent refiner/marketers, who have no significant crude oil production, have through acquisitions amassed approximately 23 percent of all the refining capacity in the U.S. In 1981 all ten of the companies were fully integrated oil companies, but by 2001 only four of the companies were integrated. However, although 7 of the top 10 refiners were not fully integrated companies, all of those 7 own one or more chains of retail outlets.

[191] Information on state market concentration figures supplied to the Subcommittee staff by EIA. The EIA calculated the HHI and concentration ratio for a state on the basis of the amount of gasoline produced by the refineries, if any, located in that state and the amounts of gasoline transported into the state by refiners, multi-state distributors, and traders.

[192] Under the HHI, the moderately concentrated states are: Connecticut, Massachusetts, Maine, Rhode Island, Vermont, Delaware, Maryland, New Jersey, New York, Pennsylvania, Maryland, Illinois, Indiana, Michigan, Minnesota, Oklahoma, Tennessee, Wisconsin, Louisiana, New Mexico, Colorado, Idaho, Wyoming, Alaska, Arizona, California, Nevada, Oregon, and Washington. The highly concentrated states are: District of Columbia, West Virginia, Indiana, Kentucky, North Dakota, Ohio, Montana, Alaska, and Hawaii.

In 1994, the 4-firm concentration ratio was greater than 60 percent – meaning a tight oligopoly – in 14 states and exceeded 70 percent in 7 of those states. In 2000, the 4-firm ratio was greater than 60 percent in 28 states and exceeded 70 percent in 11 of those states.[193]

The U.S. consists of many regional, local, and micro-markets for gasoline that, to a varying degree, are linked by pipelines, shipping routes, and highways. Because of the practical and economic constraints on this manufacturing, transportation and pipeline system, the effects of increased concentration in the refining and marketing industry are seen most acutely in a number of these discrete regional and local markets.

This section examines the effects of increased concentration in the West Coast and Midwest markets.

1. The West Coast

West Coast markets clearly exhibit the effects of high concentration. These effects can be seen on the regional, state, and local level. The refining and marketing industry in California provides a particularly good example of the effects of increased concentration and consolidation of market power in a few firms.

a) California

California drivers consume nearly 1 million barrels of gasoline per day, putting the state on a par with Japan as the second largest gasoline markets in the world, behind only the United

---

[193] Information on state market concentration figures supplied to the Subcommittee staff by EIA. Under the 4-firm concentration ratio, the highly concentrated markets (i.e. "tight oligopoly) are: Connecticut, Massachusetts, Maine, Rhode Island, Maryland, Virginia, Illinois, Indiana, Michigan, Minnesota, Wisconsin, New Mexico, Colorado, Idaho, Wyoming, Arizona and Nevada. The 11 states with 4-firm concentration ratios in excess of 70% are: the District of Columbia, West Virginia, Kentucky, North Dakota, Ohio, Montana, Alaska, California, Hawaii (4-firm concentration ratio of 100%), Oregon and Washington.

States as a whole.[194] California is geographically isolated from the other major domestic markets; few pipelines can carry gasoline into the state and tanker shipments must travel from Europe, Asia, the Gulf Coast or Carribean to either Los Angeles or San Francisco. Such journeys are time-consuming and expensive. A trip by tanker from Europe takes from just over three to four weeks and costs from 10 to 12 cents per gallon. A tanker from the Carribean or Gulf Coast will take two weeks and cost 5 to 10 cents per gallon.[195]

California has a unique requirement for CARB gasoline.[196] Only CARB gasoline can be sold in California, and California is the only state where CARB gasoline is required. The more stringent specifications required to make CARB gasoline further isolate the California market and, because of the capital investments necessary to manufacture CARB gasoline, make alternative sources of CARB gasoline outside the state more scarce. Refiners outside the state normally do not manufacture CARB gasoline; therefore an additional week to ten days is required to produce a shipload of CARB for export into California.

---

[194] Daily consumption in the United States is approximately 8 million barrels per day. By way of perspective, China, the most populous nation, consumes approximately one-tenth this total amount – nearly 800,000 barrels per day – as does West Germany. Russia uses approximately 570,000 barrels per day of gasoline. Across the entire African continent, approximately 535,000 barrels are consumed daily. EIA, International Energy Annual 1999, Table 3.5; National Petroleum News, Market Facts, July 2001, p. 88. Although California is the largest single market within the U.S., per capita usage in California is the 9th *lowest*, at approximately 240 gallons per person per year. The national average is about 258 gallons per person per year. California Energy Commission website, at http://www.energy.ca.gov/fuels/gasoline/gasoline_per_capita.html.

[195] Philip K. Verleger, *The California Conundrum, 2000*, citing California Energy Commission figures from 1997.

[196] "CARB" is the gasoline formulation required under the California Air Resources Board Phase II regulations. It was first introduced in California in 1996. CARB gasoline must meet more stringent standards for nitrogen oxides (NOx) and aromatic emissions.

As in other markets, demand for gasoline in California is inelastic. A small decrease in supply will produce a large increase in price. In 1999, an explosion at Tosco's Avon refinery reduced CARB gasoline refining capacity in California by approximately 24,000 barrels per day, which is roughly two percent of the total CARB capacity in the state. The wholesale price of CARB rose by about 13 cents per gallon – about 20 percent – in just under two weeks.[197] Several weeks later, outages at the ARCO and Chevron refineries resulted in a total capacity loss of 5 to 10 percent, which doubled spot prices and led to retail price increases of nearly 50 percent.[198]

Because of the large volume of gasoline bought in California, these price increases result in significant additional expenses for California drivers. Each one-cent increase in the price of gasoline costs California consumers a total of approximately $420,000 per day, or about $153 million per year.

i. The refining industry in California is an oligopoly.

The California refining industry is an oligopoly. As of January 2000, the top two refiners, Chevron and Tosco (now Phillips), accounted for nearly half of the state's capacity; the top 4 refiners owned nearly 80 percent of California capacity. Moreover, six refiners own or operate about 85 percent of the retail outlets in the state.[199] These outlets sell more than 90 percent of the CARB gasoline sold at retail locations in the state.[200] By the 4-firm concentration

---

[197] Documents in Subcommittee Files.

[198] Consultant Report, MTBE Phase-Out in California, at 11-12.

[199] Attorney General's Report, at 42.

[200] Attorney General's Report, at 23.

ratio, this market is considered to be a "tight oligopoly." Under the DOJ/FTC Guidelines, the market is considered "moderately concentrated."[201]

The level of concentration of the refining and marketing industry in California and the type of behavior that follows such levels of concentration were discussed in a recent lawsuit in California. In *Aguilar v. ARCO*, the plaintiffs alleged that the oil companies in California had, in violation of the state's antitrust laws, "seized the opportunity provided by California's requirement that a cleaner-burning gasoline (CARB gas) be used in California, and agreed with each other to restrict CARB gas refining capacity and production."[202] Specifically, the plaintiffs alleged the California refiners had manipulated the spot prices for wholesale sales of gasoline; conspired to fix the amount of CARB gasoline produced to ensure adequate prices and profits; entered into supply and exchange agreements with each other to discourage the importation of gasoline into the state from sources not controlled by the California refiners; and used common consultants to transmit confidential business information to each other. After discovery and reviewing the plaintiffs' evidence, the California Court of Appeals found the plaintiff did not meet her burden of proof for establishing an unlawful conspiracy and granted the defendants'

---

[201] In 1994, the top 4 refiners accounted for about 59 percent of the state's capacity, and the top 8 refiners accounted for about 86 percent of the total capacity. By the time CARB gasoline was introduced in 1996, these figures had not changed much. By 2000, however, the top 4 refiners' share had grown by 20 percent, and the top 8 refiners were responsible for about 96 percent of all production in the state. From 1994 to 2000 the HHI index for the California refining industry increased by about 30%–from 1121 to 1476. EIA, Financial Reporting System (FRS) information provided to the Subcommittee.

[202] Aguilar v. ARCO, 78 Cal.App. 4th 79, 92 Cal. Rptr. 2d 351 (2000) Cal.App. LEXIS 65 (January 31, 2000). The defendants in the case all operated refineries in California: ARCO, Chevron, Exxon, Mobil, Shell, Texaco, Tosco, and Union Oil. Several of these defendants have subsequently merged with each other.

motion for summary judgment. In July 2001, the California Supreme Court upheld the dismissal.[203]

In its ruling in *Aguilar*, the California Court of Appeals found that the gasoline market in California is an oligopoly. The court stated, "Plaintiffs allege, and defendants do not dispute that the California CARB gas market is oligopolistic."[204]

Indeed, the evidence before the Court of Appeals reflects the recognition by a number of the refiners and petroleum industry consultants that the small number of large refiners in California possess a significant degree of market power.

One such document (see Exhibit IV.1 on page 191), a briefing book that was generated for senior executives by the ARCO Products Company in 1996, notes that the market power of a few firms significantly affects prices in several West Coast markets:

> [A] significant increase in exports of light products out of the West Coast (combined with the shut down of some non-economic capacity in various West Coast refineries) has allowed supply and demand to remain in close balance. However, the West Coast light product balance remains a precarious one. The overall balance shifts seasonally, with the summer months in close balance and the excess product long in winter months. These supply/demand balance swings make the West Coast prices far more volatile than in other world markets.

---

[203] Aguilar v. ARCO, 25 Cal. 4th 826 (2001).

[204] 92 Cal. Rptr. 2d 351 (2000). LEXIS at 134. Mobil's expert witness, MIT Professor Franklin Fisher, testified that as an oligopoly the firms are "big enough so that they don't take prices as given but have to think about the way their actions influence the price." Fisher Deposition, at 87. Fisher characterized the nature of the oligopoly as "loose."

Chevron's expert witness, Dr. Richard Gilbert, Professor of Economics at the University of California at Berkeley, testified, "the California market at the refining level is characterized by what we would call at the low end of moderate concentration, which means, yes, it's an oligopoly. It's not a highly concentrated oligopoly by the typical competitive standards." Gilbert Deposition at 169.

Professors Gilbert and Fisher provided their testimony regarding the degree of oligopoly in California in 1997, before the recent round of mergers and acquisitions.

* * *

> Exports from the West Coast to maintain the balance between supply and demand have historically been made by refiners who have some remaining, less economic refining capacity which could be used to cut crude runs and by refiners who have excess product and the ability to export that product economically.
>
> * * *
>
> Further complicating light product supply on the West Coast is the existence of several distinct "micro-markets." Regionally, the West Coast is short on light product in Southern California, long on light product in northern California and balanced to long in the Pacific Northwest. Additionally, CARB gasoline and diesel specifications reduce the fungibility of products within PADD V. As a result we experience significant volatility of product pricing within PADD V as well as pricing versus the Gulf Coast. ***The existence of a handful of players with large supply positions in specific West Coast regions and/or products, such as APC's CARB diesel position in southern California or APC's high sulfur diesel position in the Pacific Northwest, add further to this volatility.*** Close monitoring of supply and demand within these micro-markets is needed to ensure that refiners react to imbalances and prevent wide volatility in the premiums realized for specific products. (emphasis added).

Another document produced during discovery in *Aguilar* (see Exhibit IV.2 on page 199), generated by Chevron in 1993 as part of a strategic study, also states that a few large refiners dominate the West Coast and have a significant effect on the market. The Chevron document contrasts the high returns of the refiners in the West Coast market with the lower returns of refiners in the Gulf Coast and attributes the difference, in part, to the concentrated nature of the West Coast market:

> USWC market appears to allow better average returns than USGC [Gulf Coast]. The better performers generate [returns on capital employed] greater than 12%. . . ***Market is dominated by a limited number of large, committed refiner/marketers whose individual actions can have significant market impact.*** (emphasis added).

Another such document (see Exhibit IV.3 on page 203) is an "Energy Briefing Note" which was generated in 1996 by the PIRA Energy Group, a petroleum industry consulting organization, and presented to all of its "retainer clients," including Mobil, regarding the impact

of the introduction of CARB gasoline on refining margins. This document noted that the supply/demand balance in California was likely to be "tight," and would remain so, partially as a result of the market structure in which a few refiners in the state had sufficient market power and motivation to maintain prices above marginal costs:

> The CARB 2 balance appears to be tight in California. Add in the remoteness of the California market, the unique characteristics of CARB 2, the requirement for domestic shippers to use higher cost Jones Act shipping, ***and the small number of companies involved, all of whom share a motivation to recoup costs and not undermine the market. The implication is that prices on average will do quite a bit more than cover marginal costs***, which will mainly comprise the incremental oxygenate cost, although not during the extended phase-in period. (emphasis added).

This PIRA memo presents a classic description of a market failure. In a purely competitive market, prices do not rise above marginal costs, which are the costs of producing an additional unit of the product. Samuelson and Nordhaus describe the importance of using marginal cost as a measure of economic efficiency:

> The essential role of marginal cost in a market economy is this: Only when prices are equal to marginal costs is the economy squeezing the maximum output and satisfaction from its scarce resources of land, labor and capital.[205]

They then describe the adverse effects to consumers when prices rise above marginal costs:

> When a firm has market power in a particular market (say it has a monopoly because of a patented drug or a local electricity franchise), the firm can raise the price of its product above its marginal cost. Consumers buy less of such goods than they would under competition, and consumer satisfaction is reduced. This kind of reduction of consumer satisfaction is typical of the inefficiencies created by imperfect competition.[206]

---

[205] Samuelson and Nordhaus, supra, at 160.

[206] *Id.* at 161.

The PIRA report projected CARB gas would cost between 10 and 15 cents more than conventional gas:

> Even if conventional gasoline prices soften, this implies a sharp increase in California pump prices in an election year. The industry's P.R. machine needs to be ahead of the curve on this issue so that there is an appreciation of the benefits and not just the cost of CARB 2 gasoline.

ii. In the early to mid-1990s, the California market for gasoline was generally "long,"meaning there was an excess of supply over demand. Refiners also were concerned about the potential for an oversupply of CARB gasoline in 1996 and beyond. During this period, refiners in California sought to limit supply by discouraging imports, exporting gasoline, eliminating the oxygenate mandate, and preventing a refinery from operating.

In the early- to mid-1990s, the California market had an excess of supply over demand, and refiners sought to limit supplies in order to obtain higher refining margins. The high level of concentration in the California market enabled these refiners to affect prices through their decisions on supply. Following the introduction of CARB gasoline in 1996, the market grew short, meaning a shortfall of supply relative to demand. Today, the high degree of vertical integration between the refining and marketing sectors raises prices within the state and raises the barriers for others to enter into the market or import gasoline, thus helping to keep the supply/demand balance tight and to sustain higher prices.

The 1996 ARCO briefing book (see Exhibit IV.1 on page 191) describes the supply/demand balance in California as it existed at the time: "in 1991 the supply/demand balance shifted from short supply to excess, and has stayed slightly long ever since."

Refiners in California and elsewhere were concerned about this excess capacity. In a document produced during discovery in *Aguilar*, a Chevron report notes that a senior energy

analyst had "warned that if the U.S. petroleum industry doesn't reduce its refining capacity, it will never see any substantial increase in refining margins, pointing out the recent volatility in refining margins over the past 12 months." (See Exhibit IV.4 on page 211.) The author of the Chevron report wonders whether refineries can operate at reduced capacity as a result of the existing oversupply:

> In the last nine months, gasoline demand has been healthy and inventories have remained close to record lows, factors that should normally lead to higher prices. However, refining utilization has been rising, sustaining high levels of operations, thereby keeping prices low. ***Implication: in what alternate modes can the refinery operate given low-margin economics?*** (emphasis in original).

When the California Air Resources Board promulgated regulations requiring that by June 1, 1996, only CARB gas could be sold at retail in California, California refiners were faced with the decision of whether or not to upgrade their refineries to produce CARB gasoline and, if they chose to do so, how much CARB capacity to create.

In *Aguilar*, the California Supreme Court explained the situation as follows:

> In 1991, the California Air Resources Board adopted regulations requiring the sale in this state of a new, cleaner burning, but more expensive formulation of gasoline – CARB gasoline – beginning in 1996. In 1991, the state's market for gasoline was oligopolistic, that is, it was served by a few large firms . . . . Each of the petroleum companies faced decisions of substantial magnitude and difficulty with respect to CARB gasoline capacity, production and pricing. In arriving at its own decisions and then following through, each had to make great capital expenditures, from a low of about $100 million to a high of more than $1 billion. In 1996 the state's market for gasoline was even more oligopolistic, being served by even fewer large firms, including as dominant participants the petroleum companies that figure here.[207]

---

[207] *Aguilar*, California Supreme Court, at 3.

At this time, with the market slightly long, and the possibility of significant shifts in capacity as a result of the CARB requirement, refiners in California were very concerned about avoiding an excess of supply in the market. In *Aguilar*, the California Court of Appeals found "Internal documents from several defendants also acknowledged excess CARB gas supply could reduce prices and hurt profitability."[208] Furthermore, the Court of Appeals stated, "The evidence showed, and defendants concede, that defendants shared the common belief that an oversupply of CARB gas was undesirable and therefore had a common motive to restrict capacity."[209]

Although the Court of Appeals held that the plaintiff had not presented sufficient evidence of an illegal conspiracy to restrict capacity, the Court did conclude that the evidence showed "nine defendants using all available information sources to determine capacity, supply, and pricing decisions which would maximize their own individual profits. . . ."[210]

A number of documents from *Aguilar* and elsewhere illustrate how these refiners sought to "maximize their own individual profits" through capacity and supply decisions.

- ***Preventing imports***

Several documents from *Aguilar* reflect a desire by California refiners to limit imports into California. An Exxon official, in an internal 1995 memo reviewing projections for the CARB gas market, supports a general strategy of limiting imports of gasoline into the West Coast market: "Should not do deals that supports other's importing barrels to West Coast." (See Exhibit IV.5 on page 212.) The author also questions whether Exxon should develop a reserve

---

[208] *Aguilar*, 78 Cal. App. 4th at 99.

[209] *Id.* at 131.

[210] *Id.* at 152.

capability for the production of alkylate (a component of gasoline) if this added capacity will cause an oversupply of alkylate and therefore depress the price of gasoline: "Desire to build ALK8 for contingency should be weighed against market revenue factor impact from ALK8 sales if end up with ALK8 length (ALK8 sales = + CARB mogas)."

In an internal e-mail discussion of marketing strategies, one Mobil official predicted that because of the unique requirements for CARB gasoline it would not take much to upset the California market and create fuel shortages. (See Exhibit IV.6 on page 215.) Rather than import CARB to bolster supply to prevent any such shortages, which would run the risk of depressing prices, this official advocated a strategy of using existing inventories to take advantage of the supply shortages that were likely to arise:

> To my mind the discussion is really this: Depending upon the [Supply/Demand] balance, it probably will NOT make sense to import finished CARB into what has historically been an isolated, near balanced/long market. As you probably know, US West Coast margins are on average more attractive than most other US regions. ***Flooding the market and depressing margins on the base volume we market would likely be a big hit and not in Mobil's interest.***
>
> However, since there is uncertainty about CARB supply/demand in the market, and we will soon have unique fuels formulations, I anticipate a high probability of market upsets when there is a [West Coast] Refinery problem, etc. Coincident with market perturbations, I think it would make sense for Mobil to have plans in place to react ASAP and capture forward sales (while drawing from finished inventory) if there is sufficient reward, and I think there will be. (emphasis added).

Another document presents a strikingly direct example of action to limit imports. According to this internal Texaco memo, Shell told Texaco that Shell would seek from the California legislature a fee or tax on imports if Texaco imported gasoline at less cost than it took Shell to refine the gasoline within the state. (See Exhibit IV.7 on page 217.) According to the

Texaco memo, ARCO also complained to Texaco about Texaco's possible plans to undercut the market with inexpensive imports.

The internal Texaco memo recounts a conversation in late 1992 between a Texaco official and Shell's California Government Relations Manager regarding their companies' respective plans for producing CARB gasoline. According to the Texaco official, Shell and the other refiners in California were "extremely concerned" because Texaco had not shared its plans regarding CARB 2 production and might import gasoline from outside the state. The Texaco official wrote,

> ***[The Shell Manager] went on to say that Shell and the other oil companies are extremely concerned about Texaco's silence and lack of activity concerning our plans toward CARB Phase 2 compliance. He said Texaco is positioning itself to be the 'wild card' on this issue and 'we are nervous about it.'*** He said Texaco or any other company could easily import compliant fuel from outside of California for considerably less cost than those companies that intend to retool their refineries. He went on to talk about the various scenarios that would occur if a company was able to import RFG for 5-10 cents less per gallon than what it would cost other companies that retooled. He said it would be virtually impossible for a company to recover their investment.
>
> He went on to say that if such a scenario was to evolve, Shell would be at the California legislature and CARB immediately asking for relief. He specifically referred to a fee, tax or penalty assessed for importing RFG. He suggested that such an approach would be necessary to 'level the playing field' thus protecting Shell's investment. (emphasis added).

"As you remember," the author wrote, "similar concerns were echoed by the ARCO plant manager from Carson at a refinery managers meeting in April."

The exchange agreements between the West Coast refiners sharing their capacity also deter new capacity and imports. There are several basic types of exchange agreements on the West Coast: an exchange of similar products between competitors in different geographic areas;

the exchange of different products between one refiner who is long on one product but short on another with another refiner who holds an opposite position; and exchanges of product currently needed in return for a commitment to deliver product needed in the future. Most exchange agreements also allow one company to draw supplies from another refiner by "mutually agreed" amounts.

Although exchange agreements can make the overall market and individual refiners more efficient by avoiding the need for additional shipments of product by pipeline, truck, tanker, or barge, and by allowing refiners to compete in markets far away from their refineries, these agreements also reduce the incentives for each refiner to import gasoline or build reserve capacity for use during supply disruptions. This was explained by Roger Noll, Morris M. Doyle Professor of Public Policy in the Department of Economics at Stanford University, the plaintiff's expert in the *Aguilar* case:

> 36. . . [W]hen one company experiences an unplanned outage, the amounts of supply it needs to make up for its long-term storage is well within the bounds of its exchange agreements. Moreover, the multiple arrangements involving many companies enable them to share the production short-fall with the company that experienced the outage. ***The effect of these sharing arrangements, which amount to a method for allocating production among horizontal competitors, is to reduce the incentive to offset the production shortfall by importing gasoline from outside the state.***
>
> 37. Because the demand for gasoline is highly inelastic (that is, not very responsive to changes in price), a relatively small shortfall in production can cause a very large increase in price. ***Hence if companies can mutually guarantee that an unplanned outage will not lead to an offsetting increase in imports that would cap the price spike at refining cost elsewhere plus transportation cost, for the duration of the outage they can expect to enjoy a very large benefit in price increases.*** For example, if one firm experiences an outage that cuts its production below its own retail sales, and it has no exchange agreements or other supply arrangements with competitors, it has a strong incentive to turn to imports to make up the shortfall. . .

* * *

> 38. This example is far from hypothetical, for it is exactly what happened in late February, 1996. An unplanned outage at a refinery in El Paso, Texas, curtailed gasoline supplies to Arizona and New Mexico. Because Los Angeles refineries are the other sources of gasoline for Arizona, the El Paso event increased the demand for Los Angeles gasoline, causing an increase in prices. Immediately, companies explored shipping in gasoline from northern California, the Pacific Northwest, and even the Far East. By reducing the incentive of the firm experiencing a shortage to import gasoline, the exchange agreements remove this price cap for the entire duration of the unplanned outage. ***Hence, during unplanned outages, exchange agreements cause a reduction in supply and an increase in price that harms consumers.***[211] (emphasis added).

- ***Exporting gasoline***

A 1996 presentation for senior ARCO managers, produced during discovery in *Aguilar*, outlines a strategy for exporting gasoline to ensure that a surplus of gasoline does not develop. (See Exhibit IV.8 on page 219.) The presentation states that ARCO (referred to in the presentation as APC, which is short for Arco Products Company) should export "when export parity threatens," which essentially means that ARCO should export in order to prevent a surplus of supply from building up in the state. Significantly, the presentation indicates that ARCO should export in order to intentionally alter the supply/demand balance within the state, and not just as a passive response to the prevailing economic conditions. The presentation states:

- APC's manufacturing profitability depends critically on maintaining export parity. . .

- Since APC is short in the Bay and short overall, APC should not export first – others should be forced to behave rationally. . .

- Most of the time, APC believes others will act rationally and ensure market balance. . .

---

[211] Declaration of Roger Noll, *Aguilar v. ARCO*, at 19-20.

- APC must monitor conditions to anticipate potential collapse to export parity. . .

- Should the market move to export parity, APC should be prepared to export to help balance the market – if others are already behaving rationally . . . and if APC's contribution may make a difference.

At other points in the presentation, mentioned strategies include "Export to keep the market tight," and "Exchange and trade selectively to preserve market discipline."

Other documents obtained by the Subcommittee provide additional evidence of this practice. One industry document states "we have observed historically that some West Coast companies will export to Gulf at significant loss to improve base business revenue and believe a bit of that could be going on."[212] Another document indicates that one company would export gasoline to the Gulf Coast, even at a loss, with the rationale that such losses "would be more than offset by an incremental improvement in the market price of the much larger volumes of mogas [motor gasoline] left behind."[213] One company's plan indicates that exporting gasoline can "improve market conditions," and that the company was willing to "take [a] hit on price to firm up market."[214]

- ***Preventing a refinery from operating***

One document produced during discovery in *Aguilar* containes a series of e-mails in February 1996 between officials in Mobil discussing how to block the proposed startup of the

---

[212] A document in Subcommittee files.

[213] A document in Subcommittee files.

[214] A document in Subcommittee files.

Powerine refinery or at least prevent its output from reaching the market, as they had done previously. (See Exhibit IV.9 on page 225.) One official projected that the restart of the Powerine refinery "could effectively set the CARB premium a couple CPG [cents per gallon] lower." The memo continues:

> ***Needless to say, we would all like to see Powerine stay down. Full court press is warranted in this case and I know Brian and Chuck are working this hard.*** One other thought, if they do start up, depending on circumstances, might be worth buying out their production and marketing ourselves. Especially if they start to market below our incremental cost of production. Last year when they were dumping RFG at below cost of MTBE, we purchased all their avails and marketed ourselves which I believe was a major reason that the RFG premium last year went from 1 CPG in Jan to 3-5 CPG thru to their shutdown. We'll have to see how this plays out, however, if they do start up, I'd seriously consider this tactic.[215] (emphasis added).

- ***Seeking to eliminate the oxygen mandate***

Other documents from *Aguilar* reflect a discussion within Texaco on whether and how to use possible changes in fuel specifications as a means for reducing supplies. (See Exhibit IV.10 on page 232.) One Texaco memo advocates that the company should support certain proposed changes in fuel specifications, because this "would serve to benefit our most critical problem on the West Coast," which the memo identifies as "surplus refining capacity." The memo notes that two of the proposed new standards "would only incrementally serve to reduce supplies, whereas large adjustments are necessary. But they may be directionally beneficial." The memo states:

> [T]he most critical factor facing the refining industry on the West Coast is the surplus refining capacity, and the surplus gasoline production capacity. (The same situation exists for the entire U.S. refining industry.) Supply significantly exceeds demand year-round. This results in very poor refinery margins, and very

---

[215] Another Mobil official responded that it was highly unlikely Powerine would ever start up again: "Bottom line: I'd bet Barry Switzer gets 'coach of the year' before Powerine restarts."

> poor refinery financial results. ***Significant events need to occur to assist in reducing supplies and/or increasing the demand for gasoline. One example of a significant event would be the elimination of mandates for oxygenate addition to gasoline. Given a choice, oxygenate usage would go down, and gasoline supplies would go down accordingly. (Much effort is being exerted to see that this happens in the Pacific Northwest.)*** (emphasis added).

The author of a background paper accompanying the above memo suggests a variety of approaches to reduce the supply of gasoline, including supporting fuel specification changes:

> Both the Texaco position and the API position currently is to fight the proposed specification changes because it will increase fuel cost and not deliver commensurate benefits to the consumers nor the environment. Thus it is not cost-effective.
>
> ***Incremental improvements to refinery margins from reducing supplies or increasing demand can be achieved in a number of ways. One way would be to promote the more restrictive mandated specification changes to reduce supply of product***; another would be to continue the poor financial performance of the industry until some weak performer dropped out: ***another would be for refiners to voluntarily reduce refinery production without incurring added costs or suffering attrition (admittedly unreasonably idealistic, but the best option).***
>
> Advocacy of a Texaco position on issues with industry groups or any regulatory agency should be consistent with those actions that will benefit TRMI vis-a-vis competition, or hurt TRMI less than competition. (emphasis added).

iii. In recent years, the California market has become "short," meaning imports are needed to satisfy demand. This market tightness is optimal from a refiner's perspective for maximizing profits.

There no longer is an excess of gasoline in California. Since the early 1990's, a number of refineries shut down, and a number of others were not upgraded to meet the new CARB requirements. Capacity upgrades have not kept pace with the closures and increased demand. In 1995, the Pacific Refining and Powerine refineries shut down, removing in the aggregate a

capacity to produce almost 100,000 barrels of gasoline per day. Other refineries, such as Paramount Refining in the Los Angeles Basin, continued operation but were not upgraded to manufacture CARB.[216] At the same time, demand in California has increased by about 1.4 percent annually, so that by the year 2000 demand was about 100,000 barrels per day greater than in 1992.[217]

As a result of fewer refineries and increasing demand, California has shifted from an overall long market to an overall short market. In 1998, California refiners produced approximately 98% of the gasoline consumed within the state, with the balance made up from imports.[218] Industry documents indicate that today, the West Coast as a whole is short gasoline by about 110,000 barrels per day, with the balance made up through pipelines and imports from outside the region.[219] Industry planning documents project the West Coast market will continue

---

[216] Keith Leffler and Barry Pulliam, Preliminary Report to the Attorney General Regarding California Gasoline Prices, 1999, at 8.

[217] U.S. General Accounting Office, California Gasoline Price Behavior, 2000, at 5. GAO Taxable gasoline sales in California have steadily risen from 13.1 billion gallons in 1993 to 14.8 billion gallons in 2000. This is an overall increase of about 110,000 barrels per day. California Energy Commission, at http://www.energy.ca.gov/fuels/gasoline/taxable_gasoline.html,

Small, incremental expansions at California refineries have added approximately 100,000 barrels per day of capacity since 1992 (a growth rate of approximately 1 percent per year). One California Energy Commission study states that future growth is not likely to exceed this rate of 1 percent. Consultant Report, MTBE Phase Out in California, at 25-27.

[218] GAO, supra. See also Verleger, *The California Conundrum*, 2000. Precise statistics on imports and exports from states and regions are difficult to obtain. Moreover, the average daily figures are imprecise because demand is higher in the summer and lower in the winter, and the market economics change from season to season.

[219] Documents in Subcommittee files.

to be short over the next several years, based on demand growth, announced refinery expansions, and the loss of gasoline volume that would occur with a MTBE phase-out.[220]

From a refiner's perspective, the current tightness in the overall supply/demand balance in California and the West Coast is optimal for profit-maximization. When a market is in tight balance or a little bit short and imports are necessary to satisfy peak demand, prices will be lifted by an amount at least equal to the cost to import marginal barrels from elsewhere.[221]

Moreover, as recent history in California (and the Midwest) demonstrates, when supply and demand are closely balanced and inventories are low, refinery or pipeline disruptions will cause immediate supply shortages. Because of the price inelasticity of gasoline, these supply shortages will lead to large increases in price and corresponding increases in refining margins. Due to the time lag for additional production to reach West Coast markets, prices may increase well above import parity. Eventually, once prices reach a sufficient level for a sufficient length of time, refiners will increase production and may selectively import gasoline to take advantage

---

[220] Documents in Subcommittee files.

[221] If a market is very long – an excess of supply over demand – spot gasoline prices will decline and refining margins will decrease. If a market is very short – a supply shortfall relative to demand – the higher prices that result may eventually attract investment in pipelines and other infrastructure to bring in additional supply to realize these higher prices, which would then decrease as a result of the additional supply. For example, the Longhorn Pipeline, is being developed to transport gasoline, diesel, and aviation fuel produced at Gulf Coast refineries to terminals at Odessa, Texas and El Paso, Texas. Gasoline prices in these markets have historically been 10 to 20 cents per gallon higher than in the cities nearer the Gulf Coast refineries. In El Paso, gasoline also may be transferred to pipelines serving Albuquerque, Tucson, and Phoenix, where prices also have been well above the national average. Some contend that the Longhorn pipeline may improve the supply/demand balance in California, as additional supplies to Arizona from Texas could "back out" the need for Arizona to import from California. Because of the barriers to entry into the California market, as discussed below, it will take a significantly greater imbalance in California than elsewhere to attract sufficient investment for any new infrastructure in California.

of these high prices and margins, which will eventually increase supplies and cause prices to fall back.[222] But, as the California situation demonstrates, if there are high barriers to imports, the price increases may be significant and may last for extended periods of time.

An examination of price data from California illustrates how refining margins have increased as a result of the increasing tightness of the California market. As the overall supply/demand balance in the West Coast became tighter, the market moved from "export parity" to "import parity." "Export parity" describes the situation in which there is an excess of supply over demand and the price of gasoline falls until it is equally profitable to export an additional amount of gasoline produced as it is to sell it within the state. "Import parity" describes the situation in which there is a shortfall of supply and gasoline must be imported to satisfy demand – in this situation the price within the state will rise until it is sufficiently high to attract imports from elsewhere. Hence, as the supply/demand balance has tightened, refiners in California stopped exporting and began regularly importing gasoline.

The transition to import parity is shown in Figure IV.1 (page240) (the difference between the West Coast and Gulf Coast spot prices for unleaded regular gasoline) and in Figure IV.2 (page 241) (the difference between the West Coast and Gulf Coast spot prices for unleaded regular prior to 1996 and CARB gasoline during and after 1996). As supply has become tighter and imports have become necessary to satisfy the demand for gasoline, the price of gasoline has risen to levels sufficient to attract those imports.

---

[222] In a market that is slightly short, individual refiners will seek to be balanced or slightly long in order to be able to sell enough gasoline to take advantage of high margins as they may arise. Thus, although a refiner may be able to maximize profits when the overall market is a bit short, it is not in any refiner's interest to be very much short in such a market. In aggregate, these interests may help keep the market in a tight balance as demand increases.

In the past several years, the price of gasoline sold within the state has been at least equal to the cost of producing and transporting marginal barrels of gasoline into the state. Figure IV.1 (page 241) indicates that the spot price of unleaded regular gasoline in Los Angeles has increasingly moved above this amount after 1996. Figure IV.2 (page 242) also indicates that the import parity price for CARB gasoline has increased in recent years. This is due to increases in the costs of the components for producing CARB gasoline as well as an increase in shipping costs.[223] As the costs of imports have increased, the price of gasoline in California has increased as well.

The cost of gasoline in California may even be higher than the actual cost to import gasoline. In light of the volatility in California gasoline prices and the time it takes for imports to reach the California market, a premium above the cost-to-import may be necessary to compensate for the risk of rapid price changes. The Consultant Report to the California Energy Commission on the MTBE Phase-Out concludes that when comparing the Gulf Coast and West Coast spot prices over the past ten years, "it is clear there is a rising trend with increasing volatility in the premium that California is paying over the Gulf Coast for its gasoline supplies. But while a price spike in 1996 was able to attract the equivalent of [50,000 barrels per day] in

---

[223] The Consultant Report to the California Energy Commission on the MTBE Phase-Out in California states that product from the Gulf Coast has become more scarce as the Gulf Coast refineries no longer have spare refining capacity and must compete with demand from East Coast states. The Report also states that Gulf Coast refiners will produce alkylate, a blending component that is particularly desirable for California refiners producing CARB, only when the value of propylene, a key component of alkylate, becomes less valuable to the chemical industry, where it also is used. According to the Report, "This means that a California importer will have to offer a premium of 20 cpg over Gulf Coast gasoline, with peaks of 30 to 35 cpg if the alternate value is determined by chemical grade demand. Including transportation from the Gulf Coast, delivered cost to California would have to be sustained in the range of 30 to 55 cpg over the price of USGC gasoline to consistent attract sufficient volumes." *MTBE Phase Out in California*, at 31.

supplies from the US Gulf Coast, subsequent sustained and higher price differentials in 2000 have not resulted in more than the equivalent of [12,000 barrels per day] to be shipped from the Gulf Coast."[224]

One industry analysis concludes that an integrated refiner's strategy for maximizing profits should be as follows:

- "In an import parity market refining has a higher contribution to integrated profits.
- "Balanced players should move towards a short position in an export parity. market. . .
- "Short players should move towards a balanced position in an import parity market."[225]

The few refiners in California thus share a common motive to maintain the current "tight" balance in the California market.

iv. In recent years, retail gasoline prices, gasoline price volatility, and gasoline refining margins in California have increased. The high degree of concentration has led to higher retail prices. Today California is one of the most profitable markets for refiners.

With respect to retail prices, "before the mid-1990s, California prices were typically within a few cents per gallon of the national average and, in many years, were actually lower."[226]

---

[224] *MTBE Phase Out in California*, at 9. See also Verleger, *The California Conundrum*. In 1999, Verleger concluded that a premium of 30 cents was necessary to attract imports. Verleger attributed the volatility in California's retail prices "directly to changes in inventory levels." *Id.* at 28.

[225] Documents in Subcommittee files.

[226] Attorney General of California Report, at 41-42.

(See Figure IV.3. on page 243) From the mid-1990s to 2001, the average annual retail price of gasoline in California increased by about 40 percent.[227] (See Figure IV.4 on page 244.)

For the most part, prices in California also have become more volatile than in the rest of the nation. According to the GAO, gasoline retail prices "spiked" seven times in California between January 1, 1995, and December 31, 1999. (GAO defines a "spike" as an increase of at least 6 cents per gallon in a 4- to 21-week period).[228] And although the GAO concluded that price spikes during this period were no more frequent in California than in the rest of the nation and that these spikes coincided with increases in crude oil prices and increases in demand during the spring and summer driving seasons, it also found that the spikes were from 3 to 31 cents higher in California than in the rest of the United States.

As a result, today California is the most attractive region in the nation for refining. Margins in California are significantly higher than in other regions of the country. One document obtained by the Subcommittee reflects a view within one oil company that the "isolated nature of the West Coast market, along with the tightest fuel specifications in the country and numerous other regulatory barriers, help keep West Coast profitability . . . above the Gulf Coast."[229] Another industry document stated that with respect to refining margins the previous week, "as is typically the case, California integrated margins were comparably

---

[227] From 1993 through 1995, the annual average retail price in California hovered around $1.22 per gallon, plus or minus one cent. In 1996, the price rose to $1.31, and then in 1997 to $1.33. In 1998, the annual average price dropped to $1.16 gallon, but returned to $1.38 the next year, in 1999. In 2000, the average price jumped to $1.79, and the average for 2001 up to September 11, 2001 was $1.73. The price rise in California over this period has been greater than the changes in the overall national average retail price.

[228] GAO, supra, at 9.

[229] Document in Subcommittee files.

stronger" than margins elsewhere.[230] Another company document states, "High West Coast margins reflect supply uncertainty associated with unique California product specifications, isolated and expensive logistics from major refining centers, and more stringent regulatory oversight. These factors have also led to higher volatility versus other U.S. regions. Longer term, we expect the West Coast to remain attractive as the factors that historically led to high margins continue."[231]

In April 2001, Valero Chief Executive Officer William Greehey painted an optimistic portrait of the refining industry's financial outlook, especially in California, where refining margins were particularly high. "I've never seen fundamentals look this strong for our industry," Greehey said.[232] The favorable fundamentals cited by Greehey were low inventories, fewer imports, and reduced production.

Several industry documents provide evidence that higher concentration in the retail market allows oil companies to charge higher pump prices for gasoline. One document from the *Aguilar* case (see Exhibit IV.11 on page 244) indicates that the "key variables" in determining retail margins (i.e. the difference between the retail price and the wholesale price) are the presence of major oil companies in the market, the presence of independents, the extent to which the major oil companies sell through their own stores or through lessee-dealers, and the average

---

[230] Document in Subcommittee files.

[231] Document in Subcommittee files.

[232] *Industry Fundamentals Point to Profits Now and in the Future*, Octane Week, April 23, 2001. Greehey presented the following numbers: "The CARB gasoline margins were outstanding this quarter, reaching $19.47/bbl [barrel]. CARB gasoline margins are averaging almost $29/bbl in April. Currently, they're about $24.50/bbl." These CARB margins were significantly higher than contemporaneous Gulf Coast margins. Gulf Goast margins were $5.76 per barrel for the first quarter and averaged around $12 per barrel in April. *Id.*

income of the local population. Thus, for example, a city like Washington, DC, in which there is a high concentration of majors and few independents, has higher retail prices than a city like Indianapolis, in which there is a lower concentration of major brands and more independents.

Another, more recent document obtained by the Subcommittee presents a similar analysis. (See Exhibit IV.12 on page 248.) Although this analysis is labeled "preliminary," it, too, indicates that "five main factors have significant influence on real margins in a market": the market share of the "new era" competitors (such as hypermarkets or convenience stores), the market share of the top four "players," the per capita income of the market, the average size of a station in the market (gallons per fueling position), and the market share of the company-owned or leased gasoline stations. Under this analysis, retail prices are higher in concentrated markets than in markets where there is more competition, such as from hypermarkets or convenience stores.

v. The high degree of vertical integration in California between refiners and marketers leads to higher wholesale prices.

The near-total integration between the refining and marketing sectors in California stifles price competition in both sectors. In markets where there are few independent *retailers*, there are few customers for the gasoline produced by an independent refiner; hence not much gasoline will be bought at a wholesale price lower than the wholesale prices set by the integrated refiners. Similarly, in markets where there are few independent *refiners*, there will not be much wholesale gasoline sold at a price lower than the wholesale price set by the integrated refiner.

A study of the effects of Tosco's purchase of Unocal's refining and marketing assets in 1997 indicates how vertical integration raises prices. Prior to the merger, Tosco operated two

West Coast refineries. In California, it operated the Avon refinery near the San Francisco Bay, which it had bought in 1976 when Phillips was required to divest its West Coast refineries. It also operated the Ferndale Refinery, near Puget Sound in Washington state, which was purchased from BP in 1993. At the time it acquired the Ferndale refinery, Tosco was a major source of gasoline for independent stations within California.

Soon afterwards, however, Tosco embarked on a program to acquire retail assets. In 1994, it acquired BP's retail outlets on the West Coast, which were mostly in the Pacific Northwest. It also acquired the Circle K convenience stores and gasoline stations, which were mostly located in Arizona, with a few stations in Nevada and Southern California . Its market share in these cities ranged from zero up to 40 percent.[233]

In 1994, at the Pacific Oil Conference, Tom O'Malley, President of Tosco, explained Tosco's business strategy in acquiring retail assets and the implications for the independents seeking gasoline from Tosco (see Exhibit IV.13 on page 249). O'Malley explained that although he forecast a potential loss of margin for some period of time following the introduction of CARB gasoline because of higher prices for CARB, "CARB gasoline will, on the other hand, increase everyone's volumes by 3% or 4% due to its low mileage characteristics." O'Malley then explained why Tosco intended to stop selling gasoline on the spot market in California:

> There also is a real potential for short term interruption of large volumes of CARB Phase II gasoline supply. If one of the big cat crackers or other key units in California goes down unexpectedly, we could see spot market price spikes of large dimension and serious short term supply difficulty. This should give anyone who relies on the spot market an incentive to tie up supply with a large refiner.

---

[233] Richard Gilbert and Justine Hastings, *Vertical Integration in Gasoline Supply: An Empirical Test of Raising Rivals' Costs*, June 2001, at 21.

> Tosco estimates . . . that it is the 3rd largest gasoline producer in PADD V and the 5th largest in California. Tosco intends to devote its PADD V supply to our retail system and customers who want a long term arrangement. We want to avoid as much as possible spot supply arrangements. ***If I were a California retailer and didn't have a widely recognized brand with a strong PADD V refining system behind it I'd be worried.*** We are here to eliminate worries!! (emphasis added).

Prior to the merger Unocal had refineries in Northern and Southern California and owned a number the Union 76 brand stations in a number of West Coast cities. Generally, Unocal's and Tosco's retail markets did not overlap.

Professors Gilbert and Hastings studied the effect of the Tosco-Unocal merger on wholesale and retail prices.[234] Their studies found "evidence in a broad panel that vertical integration matters for upstream retail prices and that wholesale prices tend to be higher in markets with large vertically integrated firms. This finding is consistent with the strategic incentive and ability of vertically integrated firms to raise input costs to downstream rivals."[235] The study also found "a positive relationship between downstream market share and the unbranded wholesale price. The coefficient implies that for every 1 percent increase in downstream market share, Tosco's price rises by 0.198 cents per gallon. For San Jose, this implies a 2.94 cent a gallon increase in the price of unbranded gasoline resulting from the acquisition of Unocal's retail outlets."[236]

---

[234] Richard Gilbert and Justine Hastings, *Vertical Integration in Gasoline Supply: An Empirical Test of Raising Rivals' Costs*, June 2001.

[235] *Id.* at 27-28.

[236] *Id.* at 27.

vi. The high degree of vertical integration in California between refiners and marketers leads to higher retail prices.

The demise of the Thrifty chain of independent retail stores in California illustrates the problem arising from the high degree of integration in the California market with respect to higher retail prices. The Thrifty case shows the impact of the loss of competition from a reduction in the number of independents and presents a good example of the high barriers to entry into the California market that help maintain the oligopoly within the state.

Up until 1997, Thrifty was the largest independent chain remaining in California, with about 260 outlets, mostly in Southern California. Thrifty owned and operated its own fuel terminal in Los Angeles County. It regularly imported gasoline from refiners outside the state, and other independents within the state bought from those supplies at Thrifty's terminal.[237]

Thrifty's main competition for low-priced gasoline in Southern California was ARCO. "Since ARCO dumped its credit card and began price-cutting like an independent in 1982, Thrifty, among all private-brand independents, did its best to undersell ARCO, or at least maintain price parity, while practically all other competitors declined to compete toe-to-toe with the aggressive major."[238] In late 1996, ARCO started a "fierce price war in Los Angeles, led by what competitors say is a sudden disposition of Arco to slash prices."[239] At the same time that

---

[237] Anne C. Mulkern, *Little Fill'er ups failing, Consumers: They're being squeezed out by market changes that have raised their fuel costs*, Orange County Register, November 28, 2000.

[238] Mark Edmond, *ARCO Takes Over Thrifty Oil, One of the Last Independents*, National Petroleum News, April, 1997.

[239] Mark Edmond, *ARCO Initiates A Retail War in Southern Calif. Market*, Platt's Oilgram News, November 4, 1996.

unbranded rack prices (wholesale prices for independents such as Thrifty) were reported to be around 65 cents per gallon, which would translate to at least a $1.09 retail price at the pump, various ARCO retail stations were offering gasoline at 99.9 cents per gallon. "ARCO moderated their prices for a while," one marketer said, "but lost a lot of market share, and they decided to get tough. With rack prices what they are, Thrifty hasn't been able to keep up."[240]

Over the next several weeks, Platt's reported, ARCO continued to pummel its competitors. "Nudged by the recent refinery fire at Texaco's Wilmington, California refinery, major oil companies are in general trying to recover from a gasoline price war in Los Angeles that saw the market leader posting pump prices as low as 97.9 cts/gal."[241] According to several marketers, most refiners had raised the dealer tankwagon prices charged to their retail outlets by up to 8 cents per gallon, but ARCO had raised the prices to its dealers by only about 2 cents per gallon. Although the dealer tankwagon prices generally stood around 66 cents per gallon, excluding federal and state taxes, ARCO's price remained at 50 cents per gallon. Unbranded rack prices stood at about 62-61 cents per gallon. Thus, ARCO was undercutting its major competitors as well as the independents by at least 10 cents per gallon, "without any sign that the company intends to relent, marketers said."[242]

According to one jobber interviewed by Platt's, ARCO's price war "stems not so much from the loss of market share, which isn't supported by available statistics, but rather from the

---

[240] Platt's Oilgram News, November 4, 1996.

[241] Mark Edmond, *ARCO Unyielding in California Price War*, Platt's Oilgram News, November 26, 1996.

[242] Platt's Oilgram News, November 26, 1996.

fact that many of its branded open dealers were switching to other major brands. Competition among majors for open dealers is fierce."[243]

It did not take very long for the Thrifty chain to fold. In early March 1997, ARCO announced it would begin to operate all of the Thrifty stations under lease from Thrifty.[244] "By leasing all Thrifty's stations, ARCO essentially retires the independent as a competitor," the press reported.[245] Following the takeover, Thrifty stations began selling gasoline made at ARCO refineries, and ARCO closed the terminal.

The loss of independent Thrifty stations led to increases in retail prices in those areas formerly served by Thrifty stations. In another economic analysis, Professor Hastings compared the changes in retail prices in local markets affected by the Thrifty to ARCO conversion with the prices in local markets unaffected by the conversion. Hastings concluded that prices increased in the areas formerly served by the Thrifty stations after ARCO assumed the leases. "Results indicate that independent competitors have a significant negative impact on retail prices. . . . When independents are replaced by branded integrated stations, competitors respond by

---

[243] Platt's Oilgram News, November 26, 1996.

[244] In its press releases announcing the takeover, ARCO stated that ARCO's purchase resulted from an opportunity that arose when Ted Orden, the owner of the Thrifty chain, decided to retire at age 75 and sell his privately-owned company. See, e.g., Justine S. Hastings, Vertical Relationships and Competition in Retail Gasoline Markets, Empirical Evidence from Contract Changes in Southern California. William C. Rusnack, President of ARCO Products Company, said that the Thrifty stations would fit well with ARCO, because the Thrifty customers "essentially match the profile of our customers." National Petroleum News, April 1997. "I predict ARCO will do very, very well with our locations," Orden said. *Id.*

[245] National Petroleum News, April 1997.

increasing prices. This suggests that the loss of independent retailers resulted in a loss to consumer welfare."[246]

One oil company's analysis considered ARCO's actions more targeted:

> In September, 1996, it became clear that ARCO had decided to target Thrifty. Our analysis indicates that ARCO decided to move the street price down dramatically in order to force Thrifty, their main competitor at the low price point, to either give up or change its street pricing policy. They drove DTW down to as much as 15 cpg below spot. Street prices were under $1.00 per gallon. As a consequence, Industry's marketing margins were extremely negative until Thrifty agreed to lease their stations to ARCO in late February/early March 1997. Then ARCO raised DTW back to profitable levels.[247]

This company's analysis projected that because the price war was now over, "Marketing margins ought to be reasonable" for the next year, especially since "ARCO now owns the low end of the market with Thrifty's demise. ARCO is now short gasoline supply, so that the profitability of any incremental sales they target will get measured against spot. This ought to provide a deterrent against aggressive pricing by ARCO."[248]

As the Thrifty example demonstrates, price volatility is particularly punishing for independents. In times of scarcity, refiners will increase their unbranded rack prices faster than their branded rack and dealer tank wagon prices in order to conserve gasoline for their contract customers. Moreover, typically there is a lag between wholesale price increases and retail increases. Thus, independents – who buy at the unbranded rack price – are particularly disadvantaged during price spikes. Although these independents can recover some of their

---

[246] Justine S. Hastings, Vertical Relationships and Competition in Retail Gasoline Markets, Empirical Evidence from Contract Changes in Southern California, http://www.nber.org/~confer/2002/iow02/hastings.pdf

[247] Documents in Subcommittee files.

[248] Documents in Subcommittee files.

margins as a result of the retail - wholesale lag that occurs when prices eventually decrease, extended price spikes may result in extended losses that are not recoverable during these decreases.[249] Hence, as one marketer said during ARCO's price war, "Unless price relationships get straightened out, it's impossible for unbranded marketers to survive. That's why so many are switching to major brands. To be unbranded in this market is suicide."[250]

vii. The high degree of vertical integration in California makes it more difficult to import gasoline into the state.

A high degree of vertical integration makes it more difficult for refiners in other markets to export gasoline into the integrated market, as integrated firms will not want to have other refiners sell gasoline into their market and lower prices through additional supply. In a highly integrated market, the number of non-integrated retailers remaining in the market may not be large enough to economically bring in imports from elsewhere. Thus, as a practical matter, in a highly integrated market the integrated refiners will be the only ones who determine whether to import gasoline into the state during price spikes, or whether to increase overall supply into the state. These barriers to imports will lead to higher prices. Indeed, the evidence shows that in both California and Arizona the high degree of vertical integration has led to higher retail prices.

The California Attorney General's Report on Gasoline Prices in California concluded that following the loss of Thrifty as an independent chain, "The independent marketers that

---

[249] It is unclear whether the retail - wholesale price lag that occurs when prices rise is symmetrical with the lag that occurs as prices decrease. See e.g., Energy Information Administration, Price *Changes in the Gasoline Market, Are Midwestern Gasoline Prices Downward Sticky?*, February 1999; EIA website at http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/price_changes_gas_market/pdf/price_change.pdf.

[250] Platt's Oilgram News, November 26, 1996.

remain in California are not large enough to import gasoline. Accordingly, they cannot provide the competitive influence that Thrifty once did, or that independents do in other parts of the U.S."[251] Because of the highly integrated nature of the California market, it is solely these integrated refiners who determine whether to import gasoline into the state during price spikes, or whether to increase overall supply into the state.

The barriers to entry into this integrated market are high. The economies of scale necessary to support the storage, marketing, and distribution of a cargo shipment (one tanker holds approximately 10 million gallons, or 50,000 barrels) is prohibitive for anyone other than an owner of a large number of retail outlets. One document obtained by the Subcommittee reports that "the arbitrage opportunity in California, even in these periods [of 40 to 70 cent per gallon price increases], is limited to those who have a large enough California marketing presence to economically take cargo-loads of gasoline."[252] An analysis obtained by the Subcommittee indicates that a retailer would have to have at least 250 standard-sized locations to

---

[251] Attorney General's Report on Pricing in California, at 46. In September 1996, World Oil, another major California independent marketer with about 250 retail outlets as well as niche wholesale distribution, signed an agreement with Exxon to carry the Exxon brand, "substantially eliminating the company from the private brand scene." National Petroleum News, April 1997. The agreement enabled Exxon to re-enter the Southern California market, which it had left four years earlier. The owner of World Oil, Bernie Roth, along with Dan Lundberg, were self-service pioneers in California. Roth built his first self-service gasoline station in 1948 and traveled with Lundberg throughout the state to convince the authorities, usually in the face of opposition from the major oil companies, that self-service was safe. Lundberg established the Serve Yourself and Multiple Pump Association, which no longer exists, as well as the Lundberg Survey, a price-reporting service, which his daughter still operates. Mark Edmond, *With World Oil, Exxon Returns to Southern California*, National Petroleum News, November 1996.

[252] Documents in Subcommittee files.

be able to import CARB gasoline economically.[253] An independent retailer with considerably fewer stations explained the scale of operations necessary to economically import gasoline:

> We believe our ability to import CARB is limited by the volume of our retail gasoline sales. To contract for delivery of imported CARB, we believe we would be required to buy entire water-borne cargoes. Cargoes delivered to California ports contain about 10 million gallons of gasoline, and we believe that terminal owners generally required that short period users turn over their terminal storage tanks within a week after delivery. To sell 10 million gallons in one week, even assuming [high] average weekly volumes, we would need a chain of stations significantly greater than our current number of stations . . . . (Storing cargo loads of gasoline for longer periods would be possible, but the costs obviously would be much higher.) In addition, the stations would need to be reasonably close to the delivery port. It would be too costly for us to truck gasoline from, for example, Los Angeles, to stations in Northern California. At the moment, we do not have sufficient sales volume to import cargoes.[254]

The volatility of CARB gasoline prices within California and the long time required to refine and transport CARB gasoline from out-of-state refineries are significant risks to anyone considering importing gasoline into the state to take advantage of then-prevailing market conditions. The absence of an established futures market for CARB gasoline also inhibits imports, as risks of price changes during production and transit cannot be hedged. By the time the imports arrive, the market conditions may have changed – such as a drop in prices – so as to defeat any expected market gains. One document obtained by the Subcommittee indicates that a refiner in California lost approximately $2 million as a result of a drop in wholesale prices during the transit of a shipment to California from the Gulf Coast.[255]

---

[253] Documents in Subcommittee files.

[254] Documents in Subcommittee files.

[255] Documents in Subcommittee files.

Moreover, if refiners in California learn of cargoes of CARB about to enter the state, they may increase local supplies or lower prices to make such imports uneconomical.[256] The knowledge that additional cargoes are about to enter the market may itself be sufficient for market prices to drop. For example, one newsletter reported, "'Everyone is expecting the market to fall off in December,' said a trader. 'There is talk of cargoes coming in, and that had everyone spooked.'"[257]

Even for California refiners, it takes a high and sustained price differential to attract imports. The volatility of the California market, together with its distance from other possible sources of CARB gasoline, create significant market risks for persons attempting to import gasoline into California. Because of the relative scarcity of imports, as well as the difficulty in obtaining relevant records, it is difficult to ascertain the exact price levels necessary for in-state refiners to begin to import gasoline. One document obtained by the Subcommittee indicates that it may take a differential of 20 cents per gallon before one of the major in-state refiners will import CARB gasoline.[258] Verleger's analysis concludes that "the largest volumes of shipments have taken place when the spread exceeded 10 cents per gallon."[259] A comparison of retail prices in PADD 5 with retail prices in the Gulf Coast (as shown in Figure IV.5 on page 267)

---

[256] During the investigation the Subcommittee staff received several allegations that this in fact has occurred. The staff was unable to either substantiate or disprove these allegations.

[257] *US West Coast: Gasoline Fizzles Out*, Platt's Oilgram Price Report, October 23, 1995.

[258] Documents in Subcommittee files.

[259] The California Conundrum, at 19.

show no appreciable increase in imports into the West Coast until the difference in retail price reached 20 cents per gallon.[260]

The net result of these market dynamics is that few imports reach California. In 1997 EIA reported, "imports are not a major supply source for PADD 5. For example, in 1996 PADD 5 gasoline imports only averaged 15 thousand barrels per day."[261] A recent report prepared for the California Energy Commission concludes, "To the foreign refiners, exports to California are only an incidental occurrence with uncertain margins given the shipping delays, the volatility of the California market, and the lack of a forward or futures market."[262] Although in 1999 and 2000 imports increased somewhat, Figure IV.6 (page 268) shows imports have still provided a relatively minimal contribution to the gasoline supply in PADD 5 from 1990-2000.

b) Other West Coast Markets

Other West Coast Region (PADD V) states are similarly concentrated and have comparably high retail gasoline prices. Figure IV.7 (page 269) shows that since 1992 the prices in PADD 5 have been the highest in the nation; Figure IV.8 (page 270) breaks out the PADD 5 prices by state; and Figure IV.9 (page 271) shows the widening of retail price differences between the PADD 5 states and Texas. In 2000, average gasoline prices in California (4-firm

---

[260] A more accurate comparison would compare West Coast and Gulf Coast spot prices, but this data is not freely available. Figure IV.5 was derived from publicly available EIA data on retail prices. Nonetheless, the difference in retail prices between the two regions can reasonably be used to approximate the differences in margins an integrated refiner can obtain by selling in one region rather than the other.

[261] Department of Energy, Energy Information Administration, *Assessment of Summer 1997 Motor Gasoline Price Increase*, May 1998, at 19.

[262] *MTBE Phase Out in California*, at 9.

ratio of 74; HHI of 1477), excluding taxes, were the fifth highest in the nation, at $1.155 per gallon. Nevada (4-firm ratio of 64; HHI of 1360) had the third highest gasoline prices in the nation, at $1.217; Oregon (4-firm ratio of 74; HHI of 1640) the fourth highest prices at $118.3; and Washington State (4-firm ratio of 75; HHI of 1528) the sixth highest at $1.155.[263]

The one other state in PADD V state – Arizona – is only slightly less concentrated (4-firm ratio of 63; HHI of 1257), but has significantly lower prices ($1.114 per gallon in 2000; twenty-first in the nation). The Arizona market, however, has pipeline access to gasoline refined in Los Angeles and gasoline from Texas, which facilitates imports.

In January, 1998, the Attorney General of the State of Arizona issued a report on competition in gasoline prices in Arizona. "[F]aced with the need to explain the fact that prices rise at all levels at once, that prices stay high even when crude prices fall and that fewer and fewer firms control bigger and bigger pieces of the retail pie," the study was intended to answer the following "fundamental question": "Are natural market forces of supply and demand at work, or is there collusion, monopoly or some other market-distorting and consumer-harming process driving prices."[264]

In the Executive Summary, the Attorney General's report stated:

> Following an exhaustive investigation, the Attorney General has concluded that "they" are not "fixing prices." However, in key markets, mergers, oligopoly market-harming supply and distribution structures have lessened competition and injured consumers. In some markets in Arizona, specifically in Cochise County

---

[263] Prices and concentration figures are from EIA. Concentration figures reflect market shares in the year 2000.

[264] Arizona Attorney General's Report, at 1.

and Pima County, the Attorney General has concluded monopoly-type conditions warrant further action. In other markets, the free enterprise is alive and well.[265]

The Arizona Attorney General's report cited several factors for the lack of competition in a number of Arizona cities: exclusive supply contracts between branded retail stations and their suppliers, the disappearance of independent suppliers, the relative parity in pricing between major oil companies, and the increased integration between refiners and retailers.

In Hawaii, the gasoline market is highly concentrated at several levels. In Hawaii there are only two refineries, owned by Chevron and Tesoro. Four firms–Chevron, Tesoro, Equilon and Tosco–account for all of the gasoline sold wholesale within the state; the HHI for the wholesale market is 2889. Equilon, which markets gasoline under the Shell and Texaco brands, and Tosco, which markets under the Unocal brand, purchase gasoline wholesale from Chevron and Tesoro. All of the gasoline sold at the retail level in Hawaii is sold at retail gas stations either directly owned by these firms or through their franchisees.

Hawaii has the second highest gasoline prices in the nation; in 2000 averaging $1.289 per gallon, excluding taxes, for regular grade unleaded.[266] From 1995 through the first half of 1998 gasoline prices in Hawaii averaged more than 30 cents per gallon higher than mainland prices.[267]

---

[265] Arizona Attorney General's Report, at 1.

[266] EIA Data provided to Subcommittee. Hawaii has the highest taxes in the nation, totaling 54.9 cents per gallon as of February 2001. API, *How Much We Pay for Gasoline*, April 2001. The highest gasoline prices in the nation, excluding taxes, are in Alaska, at $131.4 cents per gallon in 2000. Alaska is also highly concentrated–the HHI is about 2600 and the 4-firm concentration ratio is about 96. Because of its geographic isolation, Alaska can be considered a distinct market. EIA, *supra*. Taxes in Alaska, however, are the lowest in the nation, at 26.4 cents per gallon. API, *supra*.

[267] *Bronster v. Chevron, et al.*, Civil-No. 98-00792-SPK (D. Hawaii 1999) (second amended complaint for injunctive and other relief under the Sherman Act).

According to the Attorney General of Hawaii, the higher price in Hawaii can not be attributed to higher refining costs within the state or higher transportation costs to the state. The Attorney General states that over this period the price in Hawaii "exceeded the cost of buying gasoline in California and transporting it to Hawaii . . . by more than $0.20 per gallon."[268] Moreover, according to the Attorney General, the cost of transporting crude oil to Hawaii or refining gasoline in Hawaii is not higher than such costs on the mainland. The State of Hawaii attributes the higher retail prices within the state to the lack of competition within the state and the market power of the defendants.[269]

2. The Midwest

Fifteen Midwestern states comprise one of the five regional markets for petroleum products in the United States. PADD 2 consists of the following states: Indiana, Illinois, Kentucky, Tennessee, Michigan, Ohio, Minnesota, Wisconsin, North Dakota, South Dakota, Oklahoma, Kansas, Missouri, Nebraska, and Iowa.

As a region, the Midwest consumes approximately 4 million barrels of gasoline per day. Refiners in the Midwest supply about three-fourths of the region's demand. Although a small amount of the balance is imported from refineries in neighboring states, most of the additional supply is imported from the refineries along the Gulf Coast. Two major pipelines, the Explorer

---

[268] *Id.* Without any retail or wholesale outlets in Hawaii no other refiners could take advantage of these price differentials and ship gasoline to Hawaii.

[269] *Id.* The State has alleged that the refiners in the state willfully misled the state regarding the nature of the Hawaiian market and entered into a conspiracy amongst themselves to maintain high, non-competitive retail prices in the state. The lawsuit is pending.

Pipeline and the Centennial Pipeline, run from the Gulf Coast into the Midwest. A significant amount of gasoline also travels from the Gulf Coast to the Midwest by barge along the Mississippi River. It takes approximately three weeks for a shipment from the Gulf Coast to arrive in the Midwest.

A number of the markets within the Midwest are highly concentrated, although the region as a whole is not. In Michigan, 4 firms – Marathon Ashland Petroleum (Marathon), BP, Mobil, and Equilon– provide more than two-thirds of the gasoline sold within the state. Citgo, Sunoco, and Clark account for about an additional 20 percent. In Ohio, Marathon, BP, Equilon, and Sun provide about 82 percent of the gasoline sold in the state; the HHI for the Ohio wholesale market is 2099, well into the "highly concentrated" range.[270]

Many of these same firms with large market shares for the gasoline sold in the state also possess large shares of the ownership of the pipelines that transport gasoline into these regions. Marathon, Citgo, and Sunoco have major shares in the Explorer Pipeline Company, which provides, from refineries along the Gulf Coast, about 10 percent of the gasoline consumed in the Midwest.

In addition, the major marketers in Michigan own substantial pipeline and terminal assets in the state. Mobil, Equilon, Citgo, and Marathon own about two-thirds of the Wolverine Pipeline, which provides approximately 30 percent of the gasoline sold in the state.[271]

---

[270] Market share data compiled from EIA data, and documents in Subcommittee files.

[271] See FERC, Wolverine Pipeline Company, Order on Application for Market Power Determination and Establishing a Hearing, Docket No. OR99-15-000 (Sept. 29, 2000).

Marathon also owns most of the terminal capacity in the lower peninsula of Michigan. As a result of Marathon's acquisition of the Ultramar Diamond Shamrock assets in Michigan, Marathon now owns just over 60 percent of the terminal capacity in the northern lower peninsula (HHI almost 3,900), and just over 50 percent of the terminal capacity in the lower peninsula, excluding Detroit (HHI almost 3,000). For unbranded product in the lower peninsula, excluding Detroit, Marathon's share of terminal capacity is over 71 percent (HHI almost 5,500).[272] This high degree of concentration in the ownership of terminal capacity has raised concerns regarding the continued availability of supply of unbranded gasoline at competitive prices.

There are several examples of situations in which the decisions of a few of the major refiners in the Midwest with significant market shares have affected the overall supply and demand balance. These decisions served to restrict or reduce the overall amount of supply available, which has contributed to the dramatic fluctuation of prices in the Midwestern markets.

The Subcommittee's analyses of the three price spikes in the past two years reveals several common factors. Prior to these price spikes supply and demand were closely balanced; inventories were low; and in each of the price spikes supply was disrupted in some manner. Because demand for gasoline is inelastic, even a small reduction in supply in a closely balanced market will lead to large price increases.

As these price spikes demonstrate, because the domestic market is held in such a tight balance between supply and demand, it is highly vulnerable to such disruptions. Refineries are large, complex, capital-intensive industrial facilities that process large quantities of flammable

---

[272] The terminal concentration figures are based upon the Declaration of the Michigan Petroleum Association, Michigan Association of Convenience Stores, to the Federal Trade Commission.

and hazardous materials; they are expected to operate near peak capacity for much of the year. Only a few major pipelines supply large amounts of refined products to entire regions of the country. The rest of the transportation system—tankers, barges, and trucks—are vulnerable to weather, natural disasters, and man-made bottlenecks. Projections of future supply and demand are made on the basis of incomplete information about current and future conditions and trends.

As in California, but to a lesser extent, concentration and integration among the refiners in the region has exacerbated these factors. In a tight market where each refiner has a significant market share, each refiner's decisions regarding inventories and production rates can affect the overall supply/demand balance.

a) Spring Price Spike, 2000

During a three-week period in the spring of 2000, the retail price for reformulated gasoline in Chicago rose almost 30 cents (from $1.85 per gallon on May 30 to $2.13 on June 20) while the national average price for RFG rose only about 6 cents. Over the next month prices in Chicago fell 56 cents, to $1.57 on July 24, whereas over a similar period national prices slipped about 6 cents, to $1.61 per gallon. At the peak of the Midwestern spike, the wholesale price of RFG in Chicago had risen from parity with the wholesale price in Dallas to 45 cents more than the price in Dallas.[273] Similar increases were seen in other Midwestern cities.

The Federal Trade Commission's review of the spring 2000 price spike found no collusion and reported that gas prices rose "both because of factors beyond the industry's immediate control [including production problems and pipeline disruptions] and because of

---

[273] Final Report of the Federal Trade Commission, *Midwest Gasoline Price Investigation*, March 29, 2001.

conscious (but independent) choices by industry participants." The FTC found that "each industry participant acted unilaterally and followed individual profit-maximization strategies." The FTC also noted that the problems that occurred were "exacerbated because gasoline inventories in the Midwest were at or near minimum operating levels in May and June 2000." Inventories were low, the FTC said, because of the high price of crude oil at the time and the expectation that the prices would fall, the decision by the oil industry to follow just-in-time inventory practices, and pipeline problems.

The FTC also found that "the industry as a whole made errors in supply forecasts and underestimated the potential for supply shortages in the Midwest in the spring and early summer 2000." The FTC report goes on to say, "A significant part of the reduction in the supply of RFG was caused by the investment decisions of three firms. When determining how they would comply with the stricter EPA regulations for summer-grade RFG that took effect in the spring 2000, three Midwest refiners each independently concluded it was most profitable to limit capital expenditures to upgrade their refineries to the extent necessary to supply their branded gas stations and contractual obligations. As a result of these decisions, these three firms produced, in the aggregate, 23 percent less summer-grade RFG during the second quarter of 2000 than in 1999. Consequently, these three firms were able to satisfy the needs of only their branded gas stations and their contractual obligations and could not produce summer-grade RFG to sell on the spot market as they had done in prior years."[274] The FTC also found that while Marathon actually did increase its production of RFG and had excess supplies of RFG, it

---

[274] These three companies did, the FTC notes, produce more conventional gasoline in April/May/June than they had in 1999 and as a result, in the aggregate, they produced roughly the same amount of gasoline in that timeframe in 2000 as in 1999.

"limited the magnitude of its response [to the supply shortage] because it recognized that increasing supply to the market would push down prices and thereby reduce the profitability of its overall RFG sales."

EPA regulations required that a new, more complex RFG be used in the summer of 2000. Difficulties in producing the new blendstock for summer-grade RFG and economic and physical trade-offs between the production of this summer-grade RFG and conventional gasoline led several refiners to limit the amount of RFG they produced in the spring of 2000. Three refiners–Exxon-Mobil, Equiva, and Premcor–produced enough RFG to meet their branded needs only, thereby resulting in 23% less RFG than they had produced in 1999. Consequently they did not produce enough summer-grade RFG to sell it on the spot market as they had done the previous year, which helped tighten the market for RFG. Another refiner increased the production of RFG blendstock over 1999, but at the expense of a 5 percent reduction in overall gasoline production. The FTC found a number of officials in refining companies were aware of possible shortfalls in supply in the Midwest in the first quarter of 2000. For example, BP provided to the FTC documents that showed that a number of BP officials knew in January that it was likely that overall the Midwest would be short on supply of RFG in the April/May/June 2000 time frame. BP told the FTC that it wasn't until May 2000, after it actually experienced terminal outages, that it took action to increase supplies.

In January 2000, Exxon-Mobil stated in an internal company document obtained by the FTC, "Some uncertainty regarding competition's ability to meet summer gasoline requirements (sic). It is possible other refiners. . . will be in a similar situation. Consequently, can expect any refinery or supply problem this summer to have a significant market impact."

The FTC found that CITGO also had warnings of a possible shortage in the upcoming spring or summer. As it approached other oil companies early in 2000 about available supplies of RFG that CITGO could purchase for the spring/summer of 2000, CITGO learned that both BP and Exxon-Mobil would not be able to provide CITGO with any RFG, since they anticipated having only enough to supply their own dealers. Yet, according to the FTC, CITGO did not convert from winter grade to summer grade sufficiently in advance to address the upcoming shortage. The FTC reports that, in retrospect, it would have been "reasonable" for CITGO to make and store its summer gasoline earlier than April 1st, the time it began summer production. In the end, CITGO waited 4 to 6 weeks, until late May, before it ordered its Gulf Coast refineries to make RFG for shipment to the Midwest because it was uncertain as to how long the price spike would continue. CITGO told the FTC that it should have made that decision earlier, and the FTC quotes a CITGO official as saying "the industry got caught napping on this one."

The FTC found that "some firms delayed taking action to see whether the price spike was short lived or longer lasting." The FTC found that CITGO delayed producing more gasoline in its Gulf Coast refinery because it said it didn't know how long the price spike would last and didn't know whether rushing in new product would be profitable by the time it got there.

Although Koch Industries increased its production capacity for RFG in the summer of 2000 to 20,000 barrels per day (BPD), twice its projected need for serving the Milwaukee area, it produced RFG at the rate of 10,000 BPD until the price spikes of late May and June 2000. It then increased its production to 20,000 BPD, but the FTC reports that the increased level of production lasted only a few days, however, since Koch said it found the demand was insufficient for that level of production.

The FTC also found that Marathon had additional gasoline available but limited its response because "selling extra supply would have pushed down prices and thereby reduced the profitability of its existing gasoline sales." The FTC noted that, unlike a number of other refiners in the Midwest, Marathon had increased production of summer-grade gasoline blendstock by 33 percent over the previous year and had a 10-15 day reserve inventory of summer-grade RBOB[275] for its customers in Chicago and Milwaukee in the spring of 2000. At one point during the spike, BP sought to purchase some additional supply from Marathon. The price offered by BP was 13 cents lower than the then-current rack price. Marathon was unwilling to sell to BP at a price 13 cents less than it was selling to its own branded customers. According to one Marathon executive, "So the question we had was if we sell to them, essentially you are undercutting your own price. If we agreed to that price, we are undercutting 39,000 barrels a day that we sell to our customers for 13 cents."[276] Marathon also explains that it wanted to maintain its 15-day reserve throughout this period. According to Marathon, it was unsure how long the price spike would last and wanted to ensure that it had sufficient supplies for its own customers throughout any extended shortage. Thus, Marathon states it was reluctant to sell from its inventory to provide supplies to its competitors. No sale to BP ever occurred.

Marathon officials recognized that their decision on whether to put additional supplies into the market would affect the price of the entire market. In memos discussing the sale of the RFG, Marathon officials expressed concern about the "need to remember the leverage impact of any sale." In one intra-office e-mail one of the discussants of the BP offer said, "We bring the

---

[275] RBOB is the "blendstock" that is mixed with ethanol or MTBE to produce oxygenated gasoline.

[276] Document in Subcommittee files.

whole market up or down based on these spot sales." "If we cannot sell as of the RBOB we project to make it isn't my biggest concern," the Vice President of Operations Planning and Supply wrote in one e-mail. "I would rather have $.40/gallon margins of 40,000 bpd than $.10/gallon margins on 50,000 bpd." Another employee remarked that Marathon not "get to the place of being a seller to the point that we have to unload any product and trash the market."[277] Thus, concluded the FTC, Marathon had additional supplies of RFG during the Midwest price spike in the spring of 2000 but "limited its response because selling extra supply would have pushed down prices and thereby reduced the profitability of its existing RFG sales."[278]

The FTC report illustrates how the supply decisions of a small number of companies–even as few as one or two–can have a significant effect on supply and prices in a market. Most of the companies involved knew that supplies would be tight in the spring/summer of 2000, and the system was extremely vulnerable to any disruptions. Despite this impending overall vulnerability, the oil companies allowed the supply situation to remain precarious, with each company having limited incentive to bring in additional supplies prior to the price spike.

The FTC concludes based on its investigation that "similar price spikes are capable of replication." "Notwithstanding the industry's ability to respond to the short-term problem, the long-term refining imbalance in the United States must be addressed, or similar price spikes in the Midwest and other regions of the country are likely."

---

[277] Document in Subcommittee files.

[278] FTC Report, at 45.

b) Spring Price Spike, 2001

Many of the factors that led to the price spike in the spring of 2000 also contributed to the price spike in the spring of 2001. First, crude oil prices in early 2001 hovered near $30 per barrel, the same level as the same time the previous year. When crude oil prices are high, refiners will minimize their purchases of crude and draw down existing crude inventories in anticipation of lower crude prices in the future. Similarly, these refiners will sell off existing inventories of refined products when near-term product prices are high in relation to anticipated future prices. Thus, as a result of the relatively high prices for crude oil, in early 2001 stocks of both crude oil and refined gasoline again fell to very low levels.[279]

Other seasonal environmental and economic factors contributed to the low inventories of gasoline for the upcoming summer driving season. The early spring is the season in which refiners switch substantial production from home heating oil, for which demand peaks during the winter, to gasoline, for which demand peaks during the summer. In a number of urban areas, refiners also must switch from winter-grade gasoline to summer grade gasoline. Refiners will attempt to maximize the sales of winter-grade gasoline prior to fully stocking up on summer-grade gasoline, further dampening amounts of gasoline in stock throughout the spring.[280] With this background of low inventories, the stage was again set for price volatility.

---

[279] In early March 2001, stocks were more than 12% less than "normal" (i.e. the 5-year rolling average) for that time of year. In mid-April, PADD II stocks had fallen to approximately 45 million barrels, which was about 2 million barrels, or 4% lower than the lowest inventory levels in PADD II in the spring of 2000. EIA Data provide to Subcommittee.

[280] Statement of John Cook, Before the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs, House Committee on Government Reform, June 14, 2001.

Indeed, the volatility in 2001 was entirely foreseeable in light of the experience in 2000. On March 30, 2001, the EIA reported:

> [G]asoline inventories going into the driving season are projected to be about the same or even less than last year, which could set the stage for regional supply problems that once again could bring about significant price volatility, especially in the Midwest and on both coasts. With little stock cushion to absorb unexpected changes in supply or demand, regional problems can arise from temporary or permanent losses of refining capacity, or pipeline disruptions, particularly since there is no excess U.S. refining capacity available in the summer.[281]

In early April, an explosion at a Conoco refinery in England disrupted the production of about 20,000 barrels a day of gasoline for U.S. markets for about three weeks. "The market impact of Monday's fire at Conoco's Humberside refinery in England has been felt far and wide," reported the Financial Times, "and nowhere more so than the US where the spread between a barrel of gasoline and a barrel of crude oil rose yesterday to more than Dollars 15. [A senior energy analyst at Merrill Lynch] put this in historical perspective. 'In the previous 15 years before 2000, which was an exceptional year, this spread (between gasoline and crude) has only ever risen above Dollars 10 three times, and then only for a matter of weeks.'"[282] According to the Financial Times, the extraordinary margins for refined gasoline were even

---

[281] Summary Statement of John Cook, Director, Petroleum Division, Energy Information Administration, U.S. Department of Energy, before the Subcommittee on Energy and Air Quality, Committee on Energy and Commerce, U.S. House of Representatives, *The Drivers Behind Current U.S. Crude Oil and Petroleum Market Prices*, March 30, 2001.

[282] David Buchan, *Heat From Conoco Fire Felt Across World Oil Market*, Financial Times (London ed.), April 18, 2001.

leading to increased crude prices. "US gasoline prices have recently been dragging crude oil prices up more effectively than production cuts by the OPEC cartel," the paper reported.[283]

In late April, a fire at Tosco's 385,000 barrel/day refinery at Wood River, Illinois, cut the facility's ability to produce reformulated gas by approximately 50 percent for 2 to 3 weeks. "Observers say that, for a variety of reasons, including a general fear of tightening supply by wholesale buyers and distributors, prices are very unstable," the St. Louis Post-Dispatch reported. "The Tosco fire only helped to drive them higher."[284]

In response to the tight supply and demand situation, and fueled by these refinery outages, spot prices for gasoline began to rise in early April and continued to rise throughout April and May. Wholesale (rack) prices–the prices refiners charge to gasoline distributors–and retail pump prices rose shortly after the increases in the spot prices, so that the increases in the spot prices were soon passed on to the public at the gasoline pump.[285]

In mid-May, in the midst of the spring price spike, the EIA projected prices peaking between $1.65 and $1.75 per gallon and further volatility. "We are projecting continued low

---

[283] Buchan, Financial Times; On the same date the London Daily Telegraph reported "London's benchmark Brent contract for June delivery jumped by as much as 88 cents to $28.25 a barrel in early trading, although prices later dropped back to close at $27.62, up 25 cents. The move followed a similar jump in American crude oil prices on Monday after the explosion at Conoco's plant, which produces up to 90,000 barrels of gasoline a day and is one of the only European refineries to export to the US. The explosion came just days after a similar incident at a Venezuelan refinery owned by American oil company Coastal."

[284] Repps Hudson, *Refinery Fire Adds to Fears About Gas Supply; Average Price Here Could Hit $1.80 This Week,* St. Louis Post-Dispatch.

[285] EIA, *Midwest/Chicago Crude Oil and Gasoline Prices*, in Subcommittee files.

inventories, which, along with the other factors mentioned, keeps us exposed to further volatility, particularly during summer when demand peaks."[286]

On May 28, 2001, the average price in the Midwest for regular, conventional unleaded gasoline reached $1.77 per gallon while prices peaked nationally at about $1.66 per gallon.

With prices high, production and imports increased. As the supply increased, prices began to fall.[287] Within a couple of weeks prices in the Midwest had fallen by almost 15 cents a gallon and within 3 weeks by almost a quarter, to $1.53 per gallon.[288]

In a brief analysis of gas prices in Michigan during May 2001, the EIA noted that the retail prices in Michigan fluctuated more often than retail prices in other Midwestern markets. The EIA said such fluctuations "can possibly be attributed to local competitive market conditions" rather than any supply issues peculiar to Michigan or that disproportionately affected Michigan. "There is no indication of other influences, such as supply problems, affecting gasoline markets in Michigan during this period, beyond those driving overall price levels throughout the Midwest," the EIA stated.[289] The EIA did not analyze what the "local market conditions" might be. (But see Section V C 2 and V C 6, discussing the Majority Staff's analysis of pricing data in the Midwest.)

---

[286] EIA, Statement of John Cook, Director, Petroleum Division, Energy Information Administration, U.S. Department of Energy, before the Subcommittee on Energy and Air Quality, Committee on Energy and Commerce, U.S. House of Representatives, May 15, 2001.

[287] EIA, *Motor Gasoline Watch*; May 23, May 31, June 6, 2001.

[288] EIA, *Retail Gasoline Historical Prices, Midwest*, http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwrmw.xls .

[289] EIA, *A Brief Analysis of Michigan Gasoline Price Behavior During May 2001*, June 14, 2001.

Since throughout the spring of 2001 the price for crude oil remained relatively constant, the spring 2001 price spike cannot be attributed to changes in the price of crude oil. Rather, the spike can be attributed to the continuing tight balance between supply and demand and low inventories (which had been projected by the Energy Information Agency in March) coupled with actual supply disruptions and constraints on the availability of alternative supplies.

c) The Labor Day Price Spike, 2001

As supply increased and prices fell following the Memorial Day price spike, demand also increased.[290] Throughout the month of June production and imports remained at high levels and inventories continued to build.[291] In early July, the EIA reported optimistically, "As of July 4th, gasoline supplies throughout the United States appear adequate, and retail prices have been declining for the past 3 to 5 weeks in all regions. While the outlook for the remainder of the summer cannot be certain, declines to date in wholesale prices suggest further decreases at retail in the coming weeks."[292]

Indeed, by mid-July, prices in the Midwest dropped to about $1.29 per gallon.[293] Nationally, by late July prices dipped to about $1.32 per gallon.[294]

---

[290] EIA, *Motor Gasoline Watch*, June 6, 2001.

[291] EIA, *Motor Gasoline Watch*, June 13, June 20, June 27, July 5, 2001.

[292] EIA, *Midwest Gasoline Update*, July 6, 2001.

[293] EIA, *Gasoline Historical Prices, Midwest*, at http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwrmw.xls .

[294] EIA, *Retail Gasoline Historical Prices, Regular*, at http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwreg.xls .

These favorable conditions did not last. As a result of falling prices (and hence falling profit margins for refiners), in early July a number of refiners cut back on production.[295] Although demand remained strong—setting a one-week record high at the end of July—refinery cut-backs continued throughout the month. [296]

In late July, the Oil Price Information Service (OPIS) published an article entitled "Flagging Margins Spark Unseasonal Maintenance, Run Cuts," that described a number of upcoming reductions in refinery production. The article began, "With some refiners recently contending with 3-2-1 crack spreads as miserable as $1.50 bbl, several processors are taking the unusual step of scheduling mid-summer maintenance or simply reducing crude runs." According to OPIS, their "comprehensive survey" revealed "that, at some point during late July or early August, upwards of 770,000-850,000 barrels/day of refining capacity could be off line as the result of unplanned unit problems or conscious decisions to reduce crude runs or perform maintenance. That figure represents about 5.0 percent of the roughly 16 million barrels/day of total U.S. refining capacity, excluding Puerto Rico and the Virgin Islands. With many of the operations changes still pending, the 96.6 percent of capacity utilization reported in the most recent API statistics could be whittled down in the coming weeks."

"Refiners don't always announce maintenance schedules or run cuts," OPIS noted, "and there's a particular reticence to comment on cutbacks this year because of ugly publicity attached to the Spring price hike. But in discussions with refinery supply personnel, OPIS editors have arrived at a consensus estimate of 770,000-850,000 barrels/day."

---

[295] EIA, *Motor Gasoline Watch*, July 11, 2001.

[296] EIA, *Motor Gasoline Watch*, July 18 and July 25, 2001.

Refinery outages and maintenance are normally scheduled for the first and fourth quarters of the year—when demand for gasoline is low and margins typically are low as well. Normally, refiners operate their refineries at full capacity during the summer in order to keep up with demand. "Because gasoline tends to be the highest-margin product a refinery makes, particularly during the summer months, refiners generally operate to make as much gasoline as possible."[297] Thus the actions by the oil companies in the latter part of summer 2001 were a very unusual departure from their normal business practice of producing as much gasoline as possible during the peak driving season.

The OPIS report also was unusual because many refiners attempt to keep specific information about their turnarounds confidential, as they may have to purchase gasoline on the open market to compensate for their reduced production. Their competitors may be able to obtain higher prices if they know the prospective purchaser needs bulk purchases on the spot market to substitute for lost production.

During the FTC's investigation into the Midwestern price spike in the spring of 2000, one senior executive of a major oil company explained the importance of keeping information about refinery outages confidential:

> A. . . . Every company has a different policy. We do not announce turnarounds. We don't publicize turnarounds. We find that sometimes Reuters has in the past gotten to people in the refineries and got information on turnarounds, which we make great efforts to try and stop that.
>
> I won't tell you that we have been as successful as we would like to be. We don't want people to know when we are in turnaround because we feel that when we have to go out and buy all of that product, it puts us at a competitive disadvantage.

---

[297] FTC, *Midwest Gas Price Investigation.*

Other people will announce them. Citgo announced their turnaround in the Gulf Coast. And people will pick up rumors of turnaround from buying activity.
But primarily the source would be a Reuters story or a Knight-Ridder story, one of those reporters for one of those organizations pick it up and report it. Sometimes it is true. Sometimes it is not. And I know that because of the reports on our turnarounds that sometimes they are off and sometimes they are correct. We have a policy of not commenting, period.

Q. So I take it short of using our subpoena power, there is no published source that would give specifics that would be reliable in terms of industry turnarounds?

A. That's correct. That's correct. You can go to PIRA [a petroleum industry consulting organization]. We give them our turnaround information on the condition that it is kept confidential and not revealed to anybody in the sense of any kind of specifics about us. If we ever found out that they were passing that information on to anybody, I guarantee you that it would be stopped.[298]

In an interview with Majoriy staff, another senior industry executive stated "Any refinery personnel who would tell information about outages is doing a disservice to the company."

OPIS nonetheless obtained specific information about maintenance outages at a number of refineries. OPIS reported the following specific shutdowns during the late summer of 2001:

- **Koch** (38,000 barrels/day cut for 7-10 days during maintenance at Pine Bend, Minnesota refinery);[299]

- **Tosco** (maintenance at Alliance refinery in Louisiana; 40 days of maintenance at Trainor, Pennsylvania refinery, beginning in August);

- **Premcor** (10 days of maintenance at refinery at Port Arthur, Texas; "The refinery is one of the largest at the Gulf Coast, running 250,000 b/d of crude. Based on recent 3-2-1

---

[298] Documents in Subcommittee files.

[299] Koch informed the Subcommittee staff that the Pine Bend refinery was shut during the summer due to an unplanned event and the Corpus Christi refinery was shut for several days in June due to planned maintenance on the alkylation unit. Koch states that low margins did not affect the scheduling of these maintenance activities.

refinery cracks of less than $3 bbl, there is no urgency to bring units back on line, sources say.");[300]

- **Citgo** (5% cut at all six of its U.S. refineries);[301]

- **Ultramar Diamond Shamrock** (85,000 b/d off-line as a result of a fire and explosion that damaged an alkylation unit at the Three Rivers, Texas refinery; shutdown is expected to last for "some time.");[302]

- **TotalFinaElf** (5% cut at Big Spring and Port Arthur refineries in Texas);

- **Crown** (25% cut at Pasadena, Texas refinery; reduction of 25,000 b/d);[303]

---

[300] Premcor informed the Subcommittee the shutdown of its Port Arthur, Texas, refinery from July 7 to 17 was "the direct result of a lightning strike that occurred on May 12, 2001." Premcor also states that due to the high refining margins in the spring of 2001 several planned, early spring maintenance activities at the Port Arthur refinery were postponed "in order to continue a reliable supply of gasoline to the market place." Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Jeffry N. Quinn, Executive Vice President-Legal, Human Resources and Public Affairs, Premcor, September 21, 2001.

[301] CITGO informed the Subcommittee the Lake Charles, Louisiana, refinery was shut from July 29-for unscheduled maintenance to repair a leak in the Unicracker unit; the Lyondell-CITGO refinery in Houston, Texas, was shut twice during the summer due to unscheduled events–the first time from June 8-27 due to the heavy rainfall flooding from tropical storm Allison, and again from August 10-28 to regenerate the plantinum catalyst. The Lemont, Illinois, refinery was shut from July 8 - 18 to replace the catalyst in the diesel distallate Unionfiner. CITGO states that low margins did not affect the scheduling of these maintenance activities. *Answers from CITGO Petroleum Corp. to Permanent Subcommittee on Investigations.*

[302] UDS informed the Subcommittee the Three Rivers, Texas, refinery was shut from July 9 until mid-August as a result of a fire in the alkylation unit on July 9. The Wilmington, California, refinery was shut from August 18 for about nine days as a result of a loss of electricity from the Los Angeles Department of Water and Power. UDS states that low margins did not affect the scheduling of these maintenance activities. Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Jean Gaulin, Chairman, President, and Chief Executive Officer, Ultramar Diamond Shamrock Corporation, September 25, 2001.

[303] Crown informed the Subcommittee that tropical storm Allison forced the shutdown of the Pasadena, Texas, refinery from June 7 through 19. Gasoline production was again reduced by 30% from July 4 through 17 "for economic reasons." Several unanticipated

- **El Paso** (15% cut at Eagle Point, New Jersey refinery);[304]

- **Valero** (50,000 b/d cut in gasoline production and 31,000 b/d cut in distillate production at Texas City, Houston, and Krotz Springs, Louisiana refineries);[305]

- **Sun** (73,000 b/d cut at Girard Point refinery beginning on August 4, to last 3 weeks; 30-35 days of work at Pt. Breeze refinery, beginning July 20; according to OPIS this maintenance has been "accelerated" due to "poor profit margins.");[306]

---

mechanical and operational problems led to a reduction in the output of the Tyler, Texas, refinery at several times during the summer. Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Andrew Lapayowker, Deputy General Counsel, Crown Oil, September 26, 2001.

[304] El Paso informed the Subcommittee it reduced production at its Eagle Point, New Jersey, refinery on two occasions during the summer when as a result of "a decline in product pricing . . . refinery operations were losing money." Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Thomas M. Wade, President, El Paso Petroleum Markets, September 21, 2001.

[305] Valero informed the Subcommittee that needed maintenance was perfomed at the Houston refinery from August 10 through 18 and at the Texas City refinery from July 25 through 31. Valero stated that the maintenance was scheduled for this particular time because they were experiencing "negative variable margins."

[306] Sun reported to the Subcommittee that in July 2001 it "made a decision to accelerate certain of the turnarounds it had contemplated taking in the fall at its Philadelphia and Marcus Hook refineries. A press release was issued, as is our custom with major turnarounds, to inform our investors as well as our customers of our plans. . . There were many factors that led to this decision, including the fact that Northeast gasoline inventories were higher than we had originally anticipated, indicating that the region was well supplied." Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Michael Kuritzkes, Vice President and General Counsel, Sunoco, September 28, 2001.

OPIS remarked that "major refineries operated by BP Amoco,[307] ExxonMobil, [308]Chevron, and the units operated by Shell/Texaco" were "conspicuously absent," but "traders believe that these firms are also eyeing run cuts, but will keep plans close to the vest." Thus, on July 25, EIA reported "several refiners continued to cut runs and go down for maintenance due to weak margins despite the announcement of a stock draw last week."[309] On August 1, EIA again reported, "Stocks declined a fourth consecutive week as demand continues on a record setting pace."[310] By August 3, following a continued decline in stocks, high demand, and intentional refinery shutdowns, stocks declined to levels lower than the same date of the previous year.[311]

As production and inventories fell and demand continued at near-record high levels, prices began to rise again. In the Midwest, starting in mid-July prices began to climb gradually, from $1.29.1 per gallon on July 16th, to $1.29.7 on July 23rd, to $1.32.3 on the 30th, and to $1.33 on August 6th.

---

[307] BP informed the Subcommittee that there were no shutdowns or reductions in refining operations in the U.S. that resulted in any decrease in gasoline production. Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Larry D. Burton, Vice President U.S. Government and International Affairs, BP, September 21, 2001.

[308] ExxonMobil reported "There were no scheduled shutdowns of units that impacted gasoline production or reductions in crude runs at ExxonMobil refineries during this time period." Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from James S. Carter, Regional Director U.S., ExxonMobil, September 21, 2001.

[309] EIA, *Motor Gasoline Watch*, July 25, 2001.

[310] EIA, *Motor Gasoline Watch*, August 1, 2001.

[311] EIA, *Motor Gasoline Watch*, August 8, 2001. As of June 22, 2001, PADD II stocks were approximately 770,000 barrels, or about 1.5%, less than "normal" (i.e. 5-year rolling average). By July 13, stocks had dropped to about 10% less than normal. As of August 24, stocks were still about 10% less than normal. EIA Data provided to Subcommittee.

By August 10th—in the peak of one of the heaviest summer driving seasons in years—gasoline production had fallen almost 500,000 barrels per day from its level on July 20th. This level of production was "the lowest daily average gasoline production since the week ended March 30." This level of refinery production was about 250,000 barrels per day (about 3 percent) less than during the first week of August, 2000, even though demand was about 4 percent greater.[312]

With high summer demand, declining inventories, and loss of refining capacity nationwide due to "unusual" mid-summer maintenance and run cuts, the domestic market was once again ripe for a price spike.

In the second week in August, average prices in the Midwest jumped five cents, to $1.38.2 on August 13th. National prices also began to rise more rapidly in the second week of August, from $1.31.9 per gallon on August 6th to $1.34.7 on August 13th, almost a 3-cent increase.

On August 14, a fire broke out at the Citgo refinery in Lemont, Illinois. The fire and associated structural damage abruptly halted all production at the 163,000 barrel-per-day refinery. Prices rose even more rapidly following the Citgo fire, reaching $1.47 cents per gallon in the Midwest on August 20th, $1.65 on August 27th, and $1.71 on Labor Day, September 3rd. Nationally, the rise was not as steep, with prices peaking at $1.54 per gallon on Labor Day.[313]

---

[312] EIA, *Motor Gasoline Watch*, August 15, 2001. Gulf Coast production was higher than last year's levels by about 200,000 b/d; Midwest production was lower by about 50,000 b/d; East Coast production was about 270,000 b/d lower; and West Coast production was lower by about 100,000 b/d.

[313] See notes 9, 10.

A number of industry analysts observed that the Citgo fire was just one of the factors contributing to the August price increases. "The Citgo refinery is having an impact, but you can't just blame one refinery outage in Illinois," one industry analyst said. "It's the demand picture, which has been incredible. This is a pattern we've seen for the last four weeks."[314] On August 27th, Fox News reported, "The price increase was attributed to the shutdown of several refineries for repairs and maintenance, as well as a dwindling inventory of U.S. motor gasoline stocks, said analyst Trilby Lundberg. 'It's not very surprising considering the phenomenal price crash of three months duration during the time of our greatest consumption,' Lundberg said. 'It had to end sometime.'"[315]

The Majority Staff examined the "unusual" summer maintenance and run-cuts first reported by OPIS to determine whether these cutbacks in refinery operations during the peak driving season were undertaken for the purpose of reducing supplies of gasoline in order to raise prices. The companies mentioned in the OPIS article told the Subcommittee that the summer reductions were undertaken at a time when supplies were plentiful enough so that refining margins were low; they argue that such conditions are the best time to perform maintenance, since it makes more sense to cut production when supplies are plentiful rather than when they are tight.

---

[314] Mark Shank, *U.S. Gasoline Inventories Fall on Strong Demand (Update 1)*, Boomberg.com, 08/28 18:12, quoting Phil Flynn, Vice President and senior market analyst at Alaron Trading Corp.

[315] Associated Press, *Gas Prices Up 6 Cents a Gallon*, www.foxnews.com/story/0,2933,32942,00, August 27, 2001.

Although each of the refineries mentioned in the OPIS article would appear to have insufficient market power, alone, to affect prices, the cumulative effect of all the cutbacks was, according to OPIS, to cut production by about 5 percent. As a consequence of reduced production, inventories again fell well below average inventory levels for the summer, and the stage was set for another price spike.

The dissemination and publication of information about a significant number of upcoming refinery outages in the summer of 2001 appears to conflict with the competitive interests that other refiners have stated for keeping such information confidential. Although it would appear not to be in the competitive interests of any single refiner to disclose outage information, if that refiner also knew that many other refiners would be cutting back at the same time then the competitive disadvantage would be much less. Thus, it would appear that although there may be a competitive disadvantage to unilateral disclosures of upcoming shutdowns, there may well be a common anti-competitive advantage to sharing such information among many refiners.[316]

Last year's Labor Day price spike demonstrates that supply can be tight simply because refineries are not operating at full capacity. In fact, last summer's experience indicates that refiners will decrease utilization rates — leaving unused capacity even in the face of peak demand — when margins are not, according to them, sufficiently high. Thus, the problem

---

[316] The responses by the refiners to the Subcommittee's questions all stated that the decisions to reduce capacity or perform maintenance during this past summer were based solely on refinery economics–whether marginal production was justified in light of the current refining margins. This fact does not negate the benefits obtained from knowing what competitors are doing.

appears not simply of refinery capacity, but also refiners' ability and willingness to use existing capacity in light of existing market conditions.

The Labor Day price spike (40 cents between the end of July and Labor Day) demonstrates that price spikes can happen at any time of the year due to profit-maximizing operational decisions of a limited number of competitors. The cutbacks in production in the summer of 2001 were due both to unforeseen refinery problems and intentional decisions to take refineries off-line to reduce the amount of lower-margin gasoline sold to the public. There were no issues regarding how best to plan for a switchover in seasonal fuels, either in production or in tank storage; crude prices were relatively stable throughout this period.

d) Spring Price Increases to Date, 2002

An example of one oil company signaling its intent to others occurred in December 2001, as gasoline prices were falling due to the decline in oil demand resulting from the economic recession, the decline in gasoline and jet fuel use following the terrorist attacks on September 11, and the warmer-than-normal winter weather. At the "Andersen Energy Symposium" in Houston at the beginning of the month, Valero Chief Executive Officer Bill Greehey told reporters that the reduction in margins due to falling retail prices would lead to a decline in earnings for Valero, as well as cutbacks in its refinery operations. "We've cut back at a couple of the refineries," Greehey stated. "We're probably producing 48,000 or 50,000 barrels a day less gasoline than we were a couple of weeks ago."[317]

---

[317] Andrew Kelly, *Valero Cuts Gasoline Output Due to Poor Profit Margins*, Reuters, December 4, 2001.

Greehey went on, however, to state that industry margins would improve if other refiners cut back on production as well. According to one news account, "Greehey said margins could increase quickly if, as he expects, other refiners also cut back on the amount of crude oil they process and inventories of refined products held in storage start to fall." The article quotes Greehey: "You're going to see a lot of crude run cuts between now and the end of the year. As we get inventories more in balance, you'll start seeing margins improve."[318]

If this quote is accurate, it is difficult to ascertain any pro-competitive rationale for openly telling all of one's competitors how they can obtain higher prices and margins. At the very least, the Valero CEO's statements reflect one refiner's deliberate intent to raise prices through supply and inventory reductions.

Total refinery utilization already had been decreasing at the time of Greehey's statements, and it continued to decrease afterwards. Refinery utilization dropped from around 90 percent in late November 2001 to about 86 percent in March 2002. (See Figure IV.10 on page 272.) Inventories fell, too.[319]

As Greehey predicted, the reduction in capacity and inventories has helped push prices up, along with increasing crude prices and market speculation. From early February to early April, prices increased an average of just over 30 cents, with the national average price for unleaded regular gasoline jumping form about $1.10 per gallon to over $1.41 per gallon. In California, prices have risen 37 cents in 8 weeks and about 50 cents since the first of the year. In the Midwest prices have risen nearly 34 cents in 8 weeks; in Chicago they have risen almost 49

---

[318] *Id.*

[319] EIA, *This Week in Petroleum*, April 10, 2002.

cents during this period. According to the EIA, these 8-week increases are the second highest in history.

In early April, the EIA explained the reasons for this price spike:

> In our view, therefore, prices are high today, and may rise further, principally because petroleum markets are tightening, and that it is likely that within the next several weeks, total commercial petroleum inventories may actually drop below year-ago levels! In short, the market has bid up prices (especially for physical barrels) to acquire incremental supply in anticipation of potentially much tighter conditions.

Rather than build inventories, however, refiners are continuing to trim inventories so that margins will increase. It therefore appears likely that prices will continue to rise throughout the spring.

e) Company Documents

As the California situation indicates, refiners in a highly concentrated market will seek to maintain a close balance between supply and demand, including taking measures to reduce what they deem to be excess supplies. Several documents obtained during the Majority Staff's investigation indicate that refiners in the Midwest may also desire to ensure supplies are "tight" so that margins will be high. These documents do not provide any evidence whether or not these companies actually undertook any action to limit the amount of supply available, but they do provide evidence of a desire to see that supplies are limited.

An internal Marathon document from 1998 obtained by the Subcommittee illustrates a motive and desire within the company to keep supplies limited so that prices would remain high, even if that meant benefitting from a natural disaster. Titled "Summary: Short-Term Price Outlook," dated October 1, 1998, the memo begins, "As OPEC and other exporters' efforts to

rein in output began bearing fruit, Nature stepped in to lend the oil producers a helping hand in the form of Hurricane Georges, which caused some major refinery closures, threatened off-shore oil production and imports, and generally lent some bullishness to the oil futures market." (See Exhibit IV.14 on page 273.)

A 1999 presentation to BP senior executives presents a variety of strategies for increasing refining margins within the Midwest. (See Exhibit IV.15 on page 274.) The document notes that "Prices (and therefore asset value) in the Midwest/MidCon are set by the supply/demand in relation to logistics capability," and that "(s)upply/demand balances are driven by macro-economic issues such as crude prices, crude field decline rates, economic growth." It further states that "(t)here are significant opportunities to influence the crude supply/demand balance." It also notes, however, that these "opportunities" can increase Midwestern prices by 1 to 3 cents per gallon, but need to affect approximately 50,000 barrels per day to be sustainable over a 3-year period.

Two basic strategies are discussed–to reduce product supply ("product short") and to lower the cost of crude supplies ("crude long"). A variety of options are put forth to reduce the supply of gasoline in the Midwest, including shutting down capacity, "offer supply agreements in exchange for capacity shutdown," convince cities to require reformulated gas that is not readily available, export product to Canada, lobby for environmental regulations that would slow down the movement of gasoline in pipelines, ship products other than gasoline on pipelines that can carry gasoline, and provide incentives to others not to provide gasoline to Chicago. BP officials stated to the Subcommittee staff that these ideas were only part of a "brainstorming" session, and none of the options for reducing supply were adopted.

f) The Wolverine Pipeline Case.

The Wolverine Pipeline case illustrates how control over storage facilities and pipelines can be used to limit gasoline supplies and competition in a market. (F-14)

As previously noted, the major refiners also own much of the storage and transportation infrastructure in the Midwest. The Quality Oil/Wolverine Pipeline case provides a case study of the effects of concentration and integration in the ownership of pipelines and terminals on gasoline prices and supplies.

i. Background

Wolverine Pipeline is a pipeline that transports refined petroleum products, primarily gasoline and diesel fuel, from Chicago to destinations in Illinois, Indiana, Michigan, and Ohio. The pipeline is owned by Wolverine Pipeline Company. The affiliates or subsidiaries of the following companies comprise the ownership of Wolverine Pipeline Company: Exxon-Mobil (36.17%), Unocal (31.4%), Equilon (17.2%), CITGO (9.5%), and Marathon Ashland Petroleum Company (5.63%).[320]

[320]The subsidiaries or affiliates that are the owners of Wolverine are: Mobile Pipeline Company (Exxon Mobil), Midwest Pipelines Company (Unocal), Equilon (Texaco Trading & Transportation, Inc. and SPL Holdings Inc., an affiliate of Shell Pipe Line Corporation), CITGO Pipeline Investment Company (CITGO), and Marathon Ashland Petroleum Company (MAP).

Wolverine began operations as an interstate, common carrier pipeline in 1953.[321] Its main line extends from Chicago to Detroit, a distance of approximately 300 miles.[322] It also has spur lines which extend from points on the main line to Lockport, IL; Hammond, IN; Toledo, OH; Grand Haven, MI; and Woodhaven, MI. These spur lines total an additional 216 miles of pipeline. In addition, in December 1999 Wolverine acquired some 400 miles of crude and refined products pipelines in Michigan that were previously owned by Total/Ultramar Diamond Shamrock (UDS).[323]

In June 1999, Wolverine filed an application with the Federal Energy Regulatory Commission (FERC) for permission to file market-based rates for delivery services in certain market areas served by its pipeline.[324] Normally, rate changes must be approved by FERC before they can be implemented. Granting a company permission to file market-based rates allows a company to implement rates immediately upon filing.[325]

---

[321] Most pipelines operate as common carriers, which means that the pipeline owner does not take title to the oil being shipped but simply provided the transportation service. As common carriers, pipelines must be accessible to all oil that meets the pipeline's shipping specifications, regardless of ownership. Further, they are subject to government regulation concerning rates and operating practices.

[322]Wolverine's pipeline mainline system from the Chicago area to Detroit consists of one segment of 18" pipe and three segments of 16" pipe, which, in total, are almost 300 miles long.

[323]On December 13, 1999, Total/Ultramar Diamond Shamrock and Marathon completed an agreement in which Total/UDS sold its assets in Michigan including its retail stations, terminals and pipelines to Marathon. Marathon then assigned its right to purchase Total/UDS' Michigan pipeline assets to Wolverine. Wolverine acquired approximately 400 miles of crude and refined products pipelines previously serving the Total/Ultramar Diamond Shamrock refinery at Alma, MI.

[324]The markets were its origin market in the Chicago, IL, and the destination markets in Chicago, IL; Elkhart, IN ; Grand Rapids, MI; Detroit, MI; and Toledo, OH.

[325]Under 218 C.F.R. 348, if FERC determines that a pipeline does not have significant market power, that is, the area in which it operates has sufficiently competitive alternate sources

Quality Oil Company, a privately owned oil company in West Michigan, and the Michigan Attorney General and the Michigan Public Service Commission filed protests to the application, claiming that some of the markets in which Wolverine sought to file market based rates were too concentrated and lacked the degree of competition needed to serve as an effective check on rates. Quality Oil also protested the application because some of the owners of Wolverine controlled all of the terminals at one destination point (Niles, Michigan) and had used that control to limit competition in the area served by the Wolverine spur line that originates at Niles and serves the Grand Rapids area of West Michigan. The filings and findings related to this aspect of Wolverine's application reveal how oil companies can use their ownership and control of critical transportation and storage facilities to limit competition and keep prices artificially high.

ii. The Niles Terminal

The Wolverine Pipeline has two 16-inch lines running from Hammond, Indiana, to Niles, Michigan. At Niles, one of the lines terminates and the other continues on to Detroit. At Niles, Wolverine has an 8-inch, 96-mile northern spur line that transports product north to terminals in Holland and Grand Haven, Michigan (also called the Ferrysburg terminal), near Grand Rapids. Any product shipped to Holland or Grand Haven/Ferrysburg over Wolverine's lines must be

---

of supply, then the pipeline company may set its rates according to the market. "A standing Commission premise on oil pipeline rate proceedings has been that if there are sufficient alternative sources of supply, these will act to constrain a pipeline's ability to exercise significant market power in a destination market because shippers will shift their business away from the pipeline to other sources of supply. The alternative sources of supply that must be evaluated are other pipelines that enter the market, refineries located in the market, waterborne deliveries into the market, as well as supplies external to the market that can be trucked into the market." *Wolverine Pipeline Company*, Order on Application for Market Power Determination and Establishing A Hearing, 92 FERC ¶ 61,277, Docket No. OR99-15-00, Issuance 20001002-0465, at 12.

moved into tankage (called "breakout tankage") at Niles, Michigan, in order to be transferred from the 16" main lines into the 8" northern spur line. However, Wolverine does not own any tankage at Niles. The tanks located at the Nile facility have an aggregate storage capacity of approximately 750,000 barrels. All of the tanks are privately owned, and every tank owner is a partner in the Wolverine Pipeline Company: Equilon (41,900 barrels) CITGO (271,131 barrels), Exxon-Mobil (110,000 barrels), and Marathon (332,000).[326] Thus all of the breakout tankage necessary to access the northern spur was controlled by owners of Wolverine.

iii. The Grand Rapids Market

The Wolverine pipeline is a major source of supply for the Grand Rapids market. Figures provided to the FERC by Wolverine showed that the pipeline had a capacity-based HHI of 2781 with a market share of 41%, and a delivery-based HHI of 3831, which suggests that Wolverine does possess significant market power in the area.[327] (Wolverine's delivery based market share is not public because it is proprietary information.) As the Commission noted:

> Wolverine's effective delivery-based results as well as its effective capacity-based results (including external supply within as 75-mile radius of the Grand

---

[326]This data was provided to FERC by Wolverine. Wolverine obtained the data from the Oil Price Information (OPIS) Petroleum Terminal Encyclopedia, 2001. The Encyclopedia provides the capacity, but not the number of tanks, controlled by each party.

[327] "HHI . . . measures the likelihood of a pipeline exerting market power in concert with other sources of supply. . . A high HHI indicates significant concentration. This means that a pipeline is more likely to be able to exercise market power either unilaterally or through collusion with rival firms in the market. A shipment-based HHI is derived using estimated shipments based upon actual shipments that pipelines made from an origin market. A capacity-based HHI is based upon the estimated effective capacity pipelines have to move products from an origin market, thus it addresses whether there is additional capacity to move products from a market in the event of a price increase by the applicant." *Wolverine Pipeline Company*, Order on Application for Market Power Determination and Establishing A Hearing, 92 FERC ¶ 61,277, footnote 16, at pp. 5-6.

Rapids BEA) exceed Commission precedent [for a finding that a petitioner lacks significant market power] ....The figures for the delivery-based and capacity based calculations (assuming a 75 mile trucking radius) exceed the market power levels the Commission found unacceptable in *Williams*."[328]

The state of Michigan and the Michigan Public Service Commission noted:

The evidence does not support Wolverine's claim that its market share is modest in the destination market it serves and that such markets have low levels of concentration and excess supply. To the contrary, a review of Wolverine's HHI analyses, indicates that both the Grand Rapids and Detroit, Michigan, destinations markets are highly concentrated. Moreover, Wolverine's market share is substantial and there is no evidence of excess capacity in these markets.

Wolverine's HHI analyses indicates that the delivery-based HHI for Grand Rapids is 3,666. This is not a 'low level' of concentration. In fact, the 3,666 HHI is twice the 1800 level that the Department of Justice ("DOJ"), in its merger guidelines defines as "highly concentrated.

Michigan also notes that Wolverine's "capacity-based calculation" (2602) is an indication of a highly concentrated market."[329]

---

[328] *Wolverine Pipeline Company*, Order on Application for Market Power Determination and Establishing A Hearing, 92 FERC ¶ 61,277 at p. 14. Wolverine also presented the Commission with HHI capacity-based data that included external suppliers within a 100 mile radius of Grand Rapids and HHI capacity-based data based on laid-in cost analyses. Both were within the market power levels that the Commission had accepted in previous requests to charge market based rates. However, the results supplied by Wolverine were based on trucking costs that the Commission was concerned were too low, so it did not accept the figures. Therefore, the Commission ordered that a hearing be held to develop a complete record before a conclusive market power ruling could be made. *Id.* at 16.

[329] Motion to Intervene and Protest by The State of Michigan and of the Michigan Public Service Commission re Wolverine Pipeline Company under OR99–15, Submittal number 20000808-0089. The HHI figures cited by Michigan, which were lower than those reported above, were based on Wolverine's initial submittal. Wolverine subsequently revised its figures upward, to those cited earlier.

Given the dominance of Wolverine in this area, access to Wolverine's northern spur line, and therefore access to tankage at Niles, is critical to shippers wishing to compete in the Grand Rapids market.

The Grand Rapids market is served by a number of terminals - the Holland terminal, the Grand Haven/Ferrysburg terminals, the Muskegon terminal and the Marshall terminal.[330] The Holland and Grand Haven/Ferrysburg terminals are served by the Wolverine northern spur line. The Holland terminal, located in Holland, Michigan, is owned by Quality Oil, a family owned business. Approximately 25 miles north of Holland are two additional terminals in the Grand Haven/Ferrysburg area: one is owned by CITGO and Mobil; the other is owned by Equilon. The Muskegon terminal is owned by Marathon and served by a pipeline owned by Marathon. The Marshall terminal is owned by Equilon and is served by the Wolverine main line. Except for the Holland terminal, every terminal served by a pipeline in the Grand Rapids area is owned by affiliates of the owners of Wolverine, and all the owners of those terminals - except for Quality Oil, the owner of the Holland terminal - own tankage at Niles.

The northern area of Michigan has a large number of independent dealers that sell unbranded gasoline. The Holland terminal is a significant regional supplier of unbranded product.

---

[330] Of all of the deliveries made to the Grand Rapids market by the Wolverine pipeline in 1999 and 2000, the largest amount of product went to Grand Haven/Ferrysburg; the second largest amount went to Marshall, and the least went to Holland. The Marathon terminal at Muskegan is connected to the Marathon pipeline. Chart: "Deliveries Through Wolverine Terminals in Grand Rapids destination Market," "Wolverine Pipeline Company's Response to First Data Request of Quality Oil Company, Inc.," January 22, 2001, p.38

Before they merged with or were acquired by Marathon, both Ashland and Total/UDS had been significant suppliers of unbranded product to independents in West Michigan. Both had been able to access tankage at Niles. In fact Ashland owned tankage at Niles. Total/UDS gained access at Niles through exchange agreements with oil companies that owned tankage at Niles and received access to Total/UDS's terminals in other parts of the state.

Marathon has emerged as a major supplier of unbranded product to West Michigan. As noted above, it owns the pipeline that delivers product to its terminal at Muskegon, owns and controls the second largest amount of tankage at Niles, and is one of the owners of Wolverine. Marathon merged with Ashland in January 1998 and in 1999 Marathon acquired Total/UDS's assets in Michigan. This eliminated two competitive suppliers of unbranded product which could readily access Niles tankage and placed much greater control of both Niles tankage and the supply of unbranded product to West Michigan in Marathon. Marathon also owns a chain of low cost stations - Super Speedway America - which is operated as a low cost retailer and competes with independent retailers of unbranded gasoline for market share. Thus, Marathon has an interest in controlling unbranded sales and prices and in the ability to influence the amount delivered into the area.

Other owners of tankage at Niles are primarily sellers of branded gasoline that is sold through name brand stations and competes with unbranded sales. However, some do enter into contracts or supply agreements that allow other sellers of unbranded gasoline to access their tankage at Niles.

iv. Anti-Competitive Practices

The protest filed with FERC by Quality Oil in the Wolverine Market Based Rate Request identified practices employed by Wolverine and its affiliates that had the effect of 1) limiting access to tankage at Niles and 2) increasing the product and transportation costs of unaffiliated shippers (shippers of product over the pipeline who are not affiliated with the owners of the pipeline), thereby limiting the amount of competition in the Grand Rapids market.

aa. Lack of Access to Breakout Tankage

Foremost among the practices was the failure of Wolverine to provide shippers breakout tankage necessary to access its northern spur line. As noted above, all of the tankage at the Niles station is privately owned. Wolverine took the position that it did not have control over the tankage facilities at Niles and that its affiliates that owned tankage at Niles had no obligation to allow a shipper to use their tanks. Wolverine's tariff required shippers to make their own arrangements for tankage before it would accommodate any request for transportation. Thus, shippers had to make their own arrangements with the affiliates of Wolverine who owned tankage at Niles. Owners could impose any conditions they wished. The situation reduced the certainty and amount of access the unaffiliated shippers had and increased their cost of obtaining product.

Quality Oil claimed that prior to the Marathon-Ashland merger in 1998, it primarily used its terminal to store products for other companies – such as Ashland Oil and UDS/Total – that shipped unbranded product and had access to Niles tankage. After the Marathon-Ashland merger in 1998, Quality Oil began to attempt to ship its own product and it claimed then it was able to get access to Niles tankage only through Marathon, and then only under short term access

agreements. As a result, Quality Oil was unable to enter into longer term purchase commitments for unbranded product because, with only short term access contracts, it was not sure that it could accept prolonged delivery at Niles on a regular basis. As a result, Quality Oil had to engage in spot purchases for unbranded product, which are generally more costly and less firm than longer term purchase commitments.

After Marathon's acquisition of UDS/Total's assets in December 1999, "Quality found that it was unable to obtain any type of access to Niles tankage for its own product from any Niles tankage owner, despite repeated efforts."[331] In addition, Quality Oil's General Manager testified:

> I was told by a MAP [Marathon] official in May of 2000 that MAP had 'no need, want or desire' to allow Quality to use its tankage. By that time, supplies of unbranded product in Western Michigan were becoming scarce; and, at times, the price of unbranded supplies rose, even to the level where unbranded gasoline became more expensive than branded (an inverted relationship, since branded gasoline normally sells at a price premium above unbranded). Had access to Niles tankage been available, independents such as Quality would have been able to move unbranded supplies into the market place and create more competition that might have mitigated that situation.[332]

Finally, in June 2000, Marathon indicated to Quality Oil that it would be willing to enter into a one year throughput agreement. This contact from Marathon took place after the Attorney General of Michigan made inquiries of Marathon and other oil companies as part of its investigation into the causes of the spring 2000 price gasoline price spike.

---

[331]Narrative Summary and Prepared Direct Testimony of Michael D. Swan on Behalf of Quality Oil Company re Wolverine Pipeline Company under OR99-15. Submittal 20010305-0377, at p. 15.

[332]Ibid.

To alleviate some of the access problems they faced, Quality Oil and some other independent suppliers of unbranded product in West Michigan constructed a breakout tank at Niles that would enable the shippers to transport supplies of unbranded, no lead gas into the northern spur without having to use the tankage of the Wolverine affiliates. After Quality Oil and its partners threatened to file a formal complaint with FERC, Wolverine agreed to connect the tankage into its pipeline system, but at Quality Oil's expense. While this tank affords Quality Oil and other shippers access for one product (unleaded gasoline), they continue to face access constraints for other products.

In September 2000, FERC issued an order requiring a hearing to determine, among other things, Wolverine's ability to exercise market power in the Grand Rapids-Muskegon-Holland market and whether Wolverine (and/or its constituent owners) violated Sections 1(309a), 1(4) and/or 2 of the Interstate Commerce Act ("ICA") regarding the question of tankage at Niles Michigan, access to Wolverine's pipeline running from Hammond, Indiana, to Holland, Michigan, and access to the through rate applicable to that line. In its order, the Commission clearly stated that a common carrier has the responsibility to provide all essential facilities necessary for transport, including tankage, and Wolverine could not require shippers to obtain their own access to breakout facilities:

> . . .Under Section 1(4) of the ICA, Wolverine, as a common carrier, (as well as its constituent owners) must transport products 'upon reasonable request therefor' and 'it shall be the duty of every such common carrier establishing through routes to provide reasonable facilities for operating such routes and to make reasonable rules and regulations with respect to their operation ....' Transportation is broadly defined under Section (3)(a) of the ICA to include 'all instrumentalities and facilities of shipment or carriage . . . and all services in connection with the receipt, delivery . . . transfer in transit . . . storage, and handling of property transported.'

> . . .The Commission recently affirmed the duty of common carrier pipelines to transport products and 'furnish services in connection therewith, on its system upon reasonable request.' (*Lakehead Pipeline Company, L.P.*, Opinion No. 397, 71 FERC ¶ 61,338, at p.62,324 (1995), *reh'g denied*, Opinion No. 397-A, 75 FERC ¶ 61,181 (1996)).

> . . .Wolverine appears to be very similar to *Lakehead*. Like *Lakehead*, Wolverine requires that its shippers must provide their own tankage. Additionally, it appears that the tankage facilities are essential for petroleum products to be transported from Hammond, IN to the destinations of Holland and Grand Haven, MI. Wolverine has effective rates on file with the Commission to provide transportation from Hammond, IN to Holland and Grand Haven, MI, and it appears that this through transportation service is impossible to provide without tankage at Niles. As was the case with *Lakehead*, it seems that tankage is an integral part of Wolverine's transportation system and it is necessary for the performance of Wolverine's common carrier responsibility .[333]

After the Commission order was issued, a FERC staff member re-emphasized what the FERC order stated:

> The breakout tankage storage and interconnection facilities at Niles are integral to the transmission function on that portion of Wolverine's pipeline. These facilities are part and parcel of the through transportation service at issue. Wolverine cannot render that specific through rate common carrier service today in the absence of the existing tanks.

> . . .These are essential facilities, in lieu of pipe, connecting Wolverine's system upstream of Niles and downstream of Niles on the northern spur line. A significant purpose of the tankage storage can be reasonably interpreted as a service in connection with the subject transportation. . . the tankage storage falls under the broad definition of transportation stated in the ICA. It is no different than if Wolverine sold a section of its interstate pipeline to an affiliate, then

---

[333] *Wolverine Pipeline Company*, Order on Application for Market Power Determination and Establishing A Hearing, 92 FERC ¶ 61,277at pp. 20-22. In *Lakehead*,_ FERC also rejected the company's claim that it could require shippers to provide their own breakout tank facilities:

> [t]he common carrier can make reasonable and appropriate rules respecting the acceptance and transportation of traffic. However, those rules cannot be such that they vitiate the common carrier's obligation to hold out service upon reasonable request.... [That] would be unreasonable because It would render its common carrier obligation a nullity and convert Lakehead into a private carrier. . . This would violate its common carrier obligation under the ICA to provide transportation upon reasonable request.

> indicated in the tariff that shippers must provide their own "private" service between the ends of that section in order to obtain common carrier service to the end of the line.[334]

The staff member noted that this situation could have an anti-competitive effect on Quality Oil and similarly situated shippers:

> . . .Quality Oil's inability to acquire assurances to access the existing privately owned storage tanks or common carrier tankage storage, the northern spur line, and the through rate service may raise Quality Oil's costs by forcing it to seek out spot purchases for shipment on Wolverine's pipeline system which tend to be more costly and less firm than longer term purchase commitments. Other shippers that are not affiliated with Wolverine or its owners may be similarly affected.[335]

He concluded that Wolverine was not fulfilling its requirements under the ICA:

> Q. Is Wolverine doing what is required under the ICA?
>
> A. No. Shippers have been effectively precluded from taking service under the through rates because they have been unable to obtain the required common carrier tankage at Niles. . . The owners of the storage tanks are themselves shippers owning percentage shares in the joint interest Wolverine pipeline. Other shippers have to make individual arrangements with the storage tank owners, and those owners can dictate the terms and types of access arrangements for tank storage they are willing to engage in, if any. I conclude that Wolverine has not complied with the requirements of Sections 1(3)(a) and 1(4) of the ICA.[336]

Despite the language of the ICA and the more recent affirmation of the law in the *Lakehead* case, FERC staff testified that the requirement that shippers obtain their own tankage has existed in Wolverine tariffs since at least 1973.

---

[334] Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, pp. 18-20.

[335] Ibid., p. 15.

[336] Ibid., p. 20.

Wolverine, in response to requests made by Quality Oil as part of the market rate hearing, stated that as of May 2000:

> . . . no party other than Quality had ever made any inquiries of Wolverine involving the issue of tankage at Niles. Since no requests for common carriage tankage services at Niles had been made to Wolverine, Wolverine finds it difficult to understand how it could be deemed to be in violation of any law regarding the matter . . . After the issuance of the Commission's initial Order in this proceeding, Wolverine decided that if the law required Wolverine to provide tankage on a common carrier basis in the Niles, Michigan area, then it would be necessary to determine the identity of a party or parties who might seek such services and the nature of the service or services desired. The purpose of letter [sic] referenced in this request was to determine if anyone wanted tankage service, and if so, what service or services were desired. Again, the only party who had ever raised the issue of tankage at Niles with Wolverine was Quality, and Quality's needs were addressed incident to the Connection Agreement referenced above.[337]

FERC staff stated that the letter cited by Wolverine "can be viewed as nothing more than a shipper survey, at best. Wolverine has not provided information in response to data requests . . . that common carrier storage will actually be available."[338]

There is also indication that Wolverine had some understanding that shippers were interested in obtaining a way to transfer to the northern spur that was independent of the private owners of the breakout tankage at Niles. An internal Wolverine memo addresses a bypass or splitter facility that would allow continual movement of product from the mainline into the

---

[337] Wolverine Pipeline Company's Response to First Data Request of Quality Oil Company, Inc., January 22, 2001, p.8. However, as noted in footnote 13, FERC ruled in 1995 that common carriers could not require shippers to provide their own breakout tank facilities, which is what Wolverine did in its tariff. Moreover, in the same response, Wolverine identified 13 companies that had inquired about or requested transportation to destinations within the Grand Rapids market in 1999 and 2000. Three were Wolverine affiliates. The others were non-affiliates who did not own tankage at Niles. Clearly, they required tankage to utilize the northern spur.

[338] Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, p. 21.

northern spur without having to go through breakout tankage. Quality Oil's General Manager testified that Quality Oil had been seeking the installation of such a facility "since at least 1994" and had even offered to pay for the facility.[339] The internal Wolverine memo indicates that "several shippers remain interested in this project, especially Quality Oil." It concludes that the facility "would greatly expand Wolverine's ability to move incremental volume through Niles to Ferrysburg and Holland" and that even if Wolverine paid $150,000 (with Quality Oil and other parties paying $500,000), "the project would reach payout within one year of operation."[340] Even so, Wolverine decided not to go forward with the project, noting "[t]here is no significant increased revenue for Wolverine Pipeline. . . the bypass helps a couple of our shippers at Niles (shippers with no or limited tankage), but harms the remaining shippers."[341]

Testimony presented on behalf of Quality Oil by Dr. Robert C. Means, former Director of the Office of Regulatory Analysis at FERC, illustrated the fact that the constraint on access to breakout tankage at Niles caused the price of product transported over the northern spur to rise above what it would be in a competitive market. Dr. Means noted that where there is unrestricted access to transportation, the difference in the price of a commodity at two points will generally equal the cost of transporting the commodity between two points.[342] To apply this

---

[339] Narrative Summary and Prepared Direct Testimony of Michael D. Swan on Behalf of Quality Oil Company re Wolverine Pipeline Company under OR99-15. Submittal 20010305-0377, pp. 23-24.

[340] Document titled, *Niles Connection and Bypass*, Document No.WPL 000146, Ibid., Exh. No. (QOC-12).

[341] Memo from Mark D. Cline to D.H. (Dave) Welsh, *Re: Gate 1 Review for Niles Bypass*, April 18, 2000, Document No. WPL 000158, Ibid., Exh. No (QOC-13).

[342] According to Dr. Means, if the price disparity is greater than the cost of transportation there is an incentive for sellers to send more product into the higher priced area to take

to the case at Niles, Dr. Means compared the monthly rack price of unleaded gasoline in Grand Haven/Ferrysburg with the monthly rack price of unleaded gasoline at the Hammond, Indiana, terminal served by Wolverine's main line, between January 1998 and October 2000. A similar comparison was made between prices at Hammond and Jackson, Michigan – another terminal on Wolverine's main line.

According to Dr. Means, with unrestricted access to transportation, the difference between rack prices at Hammond and Grand Haven/Ferrysburg would be expected to be roughly equal to the cost of transporting product between those two points. However, the comparison of prices at Hammond with the prices at Grand Haven/Ferrysburg showed that the rack price at Grand Haven/Ferrysburg exceeded the price at Hammond, and that the difference between the two prices exceeded the transportation (and tankage) cost in almost every month, and sometimes exceeded it by a wide margin. By contrast, the comparison of the prices at Hammond and Jackson showed that the difference in prices was equal to or slightly less than the transportation cost for nearly every month studied.

Dr. Means concluded that the unexplained price difference (the portion of the price difference not explained by transportation cost) between Hammond and Grand Haven/Ferrysburg:

> indicates that there is a significant constraint on the availability of transportation to Ferrysburg...the fact that the price difference is significantly greater than the cost of transportation creates an incentive for both buyers and sellers of gasoline. It creates an incentive for sellers to shift volumes from Hammond to Ferrysburg, and for buyers to shift purchases from Ferrysburg to Hammond. The price

---

advantage of the higher price, and for buyers to purchase from the lower price area. Those actions tend to erase the disparity that exceeds transportation costs.

difference evidently persists because the transportation constraint makes it impossible for sellers and buyers to respond to the incentive.[343]

bb. Higher Transportation Rates

Wolverine's failure to provide access to breakout tankage also resulted in higher tariff rates for shippers. Under the interstate tariff filed with FERC by Wolverine, the through rate (the cost of shipping to one destination through another) from the Wolverine station at Hammond to the Holland terminal was 40.12 cents per barrel. However, the rate Wolverine charged to shippers was higher than the interstate through rate it filed with FERC. Wolverine charged shippers its posted interstate tariff rate of 21.78 cents per barrel to transport product from Hammond to Niles, and then charged shippers an intrastate rate of 22.10 cents per barrel to transport product from Niles to Holland. Thus shippers who sent product from Hammond to Holland through Niles were charged a rate of 43.88 cents per barrel, which was 3.76 cents per barrel higher than the interstate through rate that Wolverine had filed with FERC.

Wolverine's justification for charging a combined interstate and intrastate rate rather than the through interstate rate was that the transactions involved in moving product from its main line through the breakout tankage at Niles and into the northern spur line created separate transportation transactions which enabled it to charge separate rates for each segment, rather than a through rate. Wolverine affiliates, who owned and controlled the tankage at Niles used their position to impose conditions on shippers that facilitated Wolverine's ability to circumvent the interstate rate. For example, when Quality Oil was able to access Marathon's tankage at Niles, it was required to sell its product to Marathon at its Niles terminal and then buy back the

---

[343]Prepared direct Testimony and Exhibits of Robert C. Means on Behalf of Quality Oil Company re Wolverine Pipeline Company under OR99-15. Submittal 20010305-0376, p.8.

same barrels as they left Niles for the Holland terminal. As a result of these buy/sell transactions, Wolverine viewed the transportation of the product into and out of Niles as two separate shipments, rather than the same shipment. Therefore, it charged the higher interstate/intrastate rate rather than the interstate through rate posted in the tariff that it filed with FERC. In its Order requiring a hearing to resolve a number of issues related to the Wolverine request, FERC suggested that Wolverine may be violating the requirement of the ICA to charge the same rate for the same service:

> Section 2 of the ICA prohibits a common carrier from charging a different rate for a like service. In this instance, it appears that Quality Oil is paying 3.76 cents per barrel more for the same transportation service that shippers qualifying for Wolverine's interstate rate pay. However, in order to get the lower interstate rate, a shipper must have tankage at Niles, and all the tankage at Niles is owned by four of the owners of Wolverine. As a result, it appears that the owners of Wolverine receive the same service as other shippers, but at a lower price.[344]

In subsequent testimony, a FERC staff member concluded that Wolverine's two-step rate assessment failed to comply with the requirements of the ICA:

> I conclude Wolverine has not met the requirements to comply with Section 2 of the ICA with respect to the transportation rates charged to shippers. Wolverine chooses to charge separate, not through rates, for identical services, which discriminates against and disadvantages the non-affiliated shippers bound for Holland.[345]

At the same time, Wolverine used this two-step rate assessment to benefit shippers who used the Ferrysburg/Holland terminals - both of which are owned by Wolverine affiliates. The interstate through rate for transportation from Hammond to Ferrysburg/Grand Haven (which is

---

[344] *Wolverine Pipeline Company*, Order on Application for Market Power Determination and Establishing A Hearing, 92 FERC ¶ 61,277, at p. 21.

[345] Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, pp. 23-24.

25 miles north of Holland) was 45.31 cents per barrel. Yet, the combined interstate/intrastate rate that Wolverine charged shippers was 44.88 cents per barrel - a cost that is .43 cents per barrel less than the interstate through rate. While shippers who transported product from Hammond to Holland paid a rate 3.76 cents higher than the interstate through rate, shippers who transported product to Ferrysburg/Grand Haven paid a rate .43 cents less than the interstate through rate.[346]

According to Wolverine, it has employed this practice for over twenty years, even though it is proscribed by the ICA, yet it was unable to articulate the basis for its actions. In response to inquiries made by FERC, Wolverine stated:

> Currently, and for a number of years, the only rate available for outbound movements from Niles to Grand Haven and Holland have been an intrastate rate. Hence, that rate applies and has applied to such movements in all circumstances... To the best of Wolverine's knowledge and belief, this has been the custom and practice for over twenty years. Wolverine does not know what reasons giving rise to this custom and practice were. One possible explanation is that it was believed that the movement of petroleum products into proprietary, non-common carrier tankage disrupted the interstate nature of the transportation."[347]

FERC staff dismissed Wolverine's argument that all shippers were charged the two step rates, noting:

> Instead of looking only at rates that were charged, it is equally important to look at the rates that are available, but were not charged for a service for like kinds of

---

[346] The FERC staff also pointed out that shippers at Grand Haven/Ferrysburg (terminals owned by Wolverine affiliates) were better off paying the two step rate than the interstate rate, so there had been no reason for the shippers using the Grand Haven/Ferrysburg terminals to complain. However, the two step rate worked to the disadvantage of shippers who used the Holland terminal. Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, pp. 22-23.

[347] Wolverine responses to FERC data request, cited in Ibid., pp. 24.

> traffic under substantially similar circumstances and conditions. That type of differing treatment is prohibited under Section 2 of the ICA. Indeed, Wolverine could have tendered a virtually identical service using the relatively lower through rates to Holland posted in its currently effective tariff.
>
> . . .Additionally, to the extent that Wolverine simply abandons its posted through rate service to destination points at Holland and Grand Haven, Michigan, that action should be construed as an attempt to circumvent Wolverine's duties under the ICA.[348]

v. Conclusion

A FERC staff witness summarized how Wolverine and its affiliates circumvented the requirements of the ICA and impaired competition through the way they structured the ownership of the breakout tankage at Niles and applied their tariff rates:

> The lack of access to tankage is directly related to the behavior of Wolverine and its constituent owners. Although Wolverine claims it operates independently of its affiliates, together they have created a patchwork of regulated and non-regulated facilities which circumvents the intent of ICA. The use and control of tankage storage is an essential element since it drives the need for and use of many of the product transaction arrangements; e.g., exchanges, swaps, and buy/sell arrangements, which then effectively creates the need for separate transportation transactions, in lieu of using the through rates posted in the tariff. Tankage storage is used as a barrier by which Wolverine can withhold common carrier service from shippers. Wolverine, as the pipeline entity, does not claim control over all of the facilities essential for transportation movements into its northern spur line, namely, the breakout storage tanks near its Niles pump and meter station. For example, the tariff requires shippers to make their own arrangements for facilities, such as tankage storage at Niles, before Wolverine will accommodate any request for transportation to destinations (Exhibit No. S-3, page 2, Item No. 3S (b)). Also, see Exhibit No. S-2, page 4, Item No. 35(b). Wolverine relies on these practices and policies to affect the interstate movement of refined petroleum products.
>
> Q: What is the competitive effect of limited or no access to Niles storage tanks?

---

[348] Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, pp. 22-24.

A. Wolverine asserts that its owners and/or affiliates have no obligation to allow a shipper to use the privately owned tanks constructed at Niles. As a result, this lack of assurance that shippers can obtain access to tanks restricts competition. It fetters shippers' access not just to the northern spur line, but also access to the pipeline from either Hammond to Holland or Grand Haven. Wolverine's owners have an economic incentive to restrict Quality Oil and others from access to the northern spur line by using access to Niles tankage storage as an impediment. Wolverine and its owners stand to gain by lessening the competition from Quality Oil at Holland. This may allow them to drive up the product price they charge in the Grand Rapids market.

The inability to acquire some assured commitment from Wolverine to access the tankage storage precludes the use of the through rates posted in the tariff and discourages shippers not affiliated with Wolverine from entering into long term purchases of the commodity products which could lower procurement costs. This prejudice towards shippers without storage tanks disadvantages them vis-a-vis the shippers owning storage tanks, which are Wolverine's affiliates, and therefore is discriminatory. The Commission has not limited the issue of ICA violations just to Wolverine, rather as the Commission said, the issue is also relevant to its constituent owners.[349]

In June of 2001, Wolverine reached a settlement on its case. Among the provisions of the settlement, Wolverine agreed to:

– Withdraw its application for Market-based rates in the Grand Rapids market;

– Establish a new tariff that it will provide common carrier access to breakout storage at Niles and make reasonable efforts to obtain a lease for 30,000 barrels of common carrier tankage, and offer Quality Oil the use of 75% of that capacity;

– Negotiate with FERC to establish a common carrier rate for use of the Niles storage tanks;

– Establish transportation rates based on service tariffs and eliminate affiliate preferences; and

– Negotiate with FERC to establish new tariff terms and conditions to eliminate unspecific provisions identified by the staff during the proceedings.

---

[349] Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, pp. 16-18.

The case study reveals how control of supply is not the only way in which oil companies and pipelines may influence market competition. Control of critical transportation and storage facilities are a less visible and very effective way to influence cost, supplies and market competition. The laws and regulations governing access and control to such critical facilities are complicated and often not well understood - even by the parties most affected by them. Although on the surface common carriage appears to be a neutral means of transporting supplies, this case demonstrated that parties who control the transportation and storage facilities can take advantage of the complexity of the laws and regulations to circumvent the requirements of the law and limit competition in the market, at least until such practices are revealed. In this case that took 20 years.

g) Upcoming Pipeline Expansions

The Explorer Pipeline is owned by Marathon, Chevron, Shell and Sun, Conoco, CITGO and Phillips. For years, Marathon, Citgo, and Sun objected to a proposed expansion of the Explorer pipeline, effectively preventing the expansion during this period.[350] "There's plenty of capacity in the Midwest to get the products out from the Gulf Coast," a Citgo spokesman stated. "For the forseeable future, our people say we don't need it."[351] However, following a lawsuit by the minority shareholders of the pipeline, the pipeline is being expanded. When construction is completed, which is now anticipated to be later this year, it will provide the capacity for an

---

[350] As a result of a lawsuit initiated by several of the pipeline's other owners, construction has begun on the expansion, which is now expected to be completed by the end of 2002.

[351] *Explorer Pipeline Expansion Set for 2002, After Courtroom; Pipeline Company Wins Stockholder Suit*, Oil Daily, July 31, 2001. Steve Everly, *Block of Pipeline Expansion Contributes to Fuel Prices*, The Kansas City Star, Aug. 31, 2001.

additional 100,000 barrels per day to be shipped from the Gulf Coast to the Midwest. Prior to this expansion the Explorer Pipeline had a capacity of 700,000 barrels per day and was nearly always fully subscribed.

The Centennial Pipeline is owned by Panhandle Easter Pipe Line Company, a subsidiary of CMS Energy, Marathon, and the Texas Eastern Products Pipeline Company. In early April of this year, the Centennial Pipeline began operation. Initially, this pipeline has the capacity to carry 200,000 barrels a day from both Texas and Louisiana to Illinois and, from there, through connecting pipelines, to other Midwestern destinations.

This additional pipeline capacity should improve the supply/demand balance in the Midwest and help avoid product shortages. Should a shortage occur, this new capacity could also facilitate the shipment of additional gasoline into the Midwest in a more timely manner than by barge.[352] Thus, this new capacity may help alleviate price spikes once they occur.

Marathon also is attempting to get permits for the Cardinal Pipeline, which would transport gasoline from its refinery in Catlettsburg, Kentucky, to Columbus, Ohio. This pipeline would further improve the supply/demand situation in a number of Midwestern markets and could lessen the effects of supply disruptions.

---

[352] If the supply disruption is significant enough, prices still may rise to the amount at least necessary to bring in additional shipments by barge. However, with this additional pipeline capacity the amount of shipments by barge may be much less than has been the case. This would have the effect of shortening the duration of the price spike.

EXHIBIT IV.1

HIGHLY CONFIDENTIAL

III. WEST COAST MARKET FUNDAMENTALS

This section highlights, from an industry perspective, keys to success on the West Coast: crude supply, manufacturing, product supply and commercial marketing of jet fuel, diesel and coke. Section IV puts APC's situation in each of these fundamentals into perspective.

The West Coast has historically been a unique business environment for oil companies. This uniqueness stems from the isolation of the region— bordered on the west by water and on the east by mountain ranges, and with no significant pipeline access for product or crude into the region and governed by strict environmental regulations which do not apply elsewhere. For example with the important exception of the All American and Line 90 crude pipelines, ocean going tanker is the only way to move large volumes of product or crude into or out of the West Coast. As a result, the market fundamentals impacting all major aspects of the downstream business are different from those in other major refining centers.

ARC 000015428

Crude prices are at a discount to the Gulf Coast. West Coast manufacturing infrastructure is the most complex and sophisticated in the world—driven in part by high gasoline demand, limited local markets for residual fuel oil, tremendous demand for light products the relatively heavy crudes which are abundant in the region, and tight environmental regulations. The West Coast has historically been short light products leading to prices which trade at premium to the Gulf Coast. As a result, West Coast margins have historically exceeded Gulf Coast levels. Commercial and wholesale marketing on the West Coast is complicated by

HIGHLY CONFIDENTIAL

differing supply/demand balances and product specifications up and down the coast, as well as an increasingly sophisticated customer base.

In addition to geographic isolation, unique product specifications in California for both diesel fuel and gasoline create a form of product isolation. Though refiners outside of the West Coast can and do make product which meets California specifications (e.g. Neste in Finland makes CARB gasoline for export), our local specifications create additional costs for refiners trying to serve the West Coast market.

Crude Supply

ARC 000015429

West Coast refineries process 2.5 million barrels/day of crude. In 1995, ANS provided 52% of the crude slate, and California crudes 38%. Only 10% of all refinery crude runs were foreign barrels, as compared to 73% in the Gulf Coast. Chevron, Exxon, Tosco and APC provide the primary demand for ANS. Though on the West Coast ANS is often referred to as a "light" crude, from a world wide standpoint ANS is closer to a medium/sour crude. A variety of refiners, including Mobil (Torrance), Shell (Martinez), Texaco (Wilmington and Bakersfield), and Unocal (Rodeo) run primarily California heavy crudes, which are among the heaviest in the world.

The West Coast's distance from other major petroleum markets has historically kept crude prices - especially California's heavy crude prices lower than the Gulf Coast. The reason is simple: petroleum prices are set at a world level, with netbacks typically determined by the marginal (last) barrel. During the 1980s, the West Coast was crude long. Since it was

HIGHLY CONFIDENTIAL

(and still is) expensive to transport crudes to the Gulf Coast or alternative refinery centers, West Coast producers were (and are) willing to sell their production in local markets at a price which gives them a netback equal to or above their next best export alternative. In practice, this has resulted in California crudes priced attractively versus imported crudes, corrected for quality. Both ANS and California crude prices were are considered to be at "export parity".

However, as ANS declined, BP was able to drive the price of ANS toward "import parity" by exporting excess barrels to the Gulf. By 1993, ANS was pricing at parity with imported crudes from Latin America and the Middle East. In contrast, California heavy crudes continue to price at a discount because San Joaquin and OCS production still exceed local demand. The marginal barrel of California heavy crude still ends up in the mid-continent via the All American Pipeline or reaches Los Angeles by truck.

Looking ahead, the decline in ANS production will gradually drive the West Coast into a crude short position. Since ANS is already trading at parity with imported crude oil from Latin America, we do not expect ANS pricing on the West Coast to increase relative to world prices. As long as crude transportation costs remain on a level playing field, the West Coast should remain the most attractive market for ANS producers. If export transportation economics become more advantaged than they are currently, exports of ANS could begin to threaten the availability and relative pricing of ANS to West Coast refiners.

ARC 000015430

We expect the California heavy crude discount will tend to evaporate over the next few years as the region goes increasingly short of heavy crude, and

HIGHLY
CONFIDENTIAL

the amount of California heavy crude "exported" to the Gulf Coast via the All American Pipeline diminishes. Efforts to increase heavy crude pipeline capacity to Los Angeles could accelerate this trend.

An additional factor affecting West Coast crude markets is crude quality. The West Coast, and [redacted] in particular, produce a substantial volume of calcined coke for use in the aluminum industry. The ability to make this high value product is highly dependent on the quality of ANS crude. Specifically, sulfur and metals content affect the useability and value of the calcined coke to aluminum smelters. As ANS quality continues to decline over time, the amount of "trim" crudes of higher quality needed to supplement ANS in calcined coke manufacturing will gradually increase. The challenge is to identify the trim crudes which can land on the West Coast most economically. Unfortunately, many high quality calcinable crudes do not land on the West Coast at economic prices today.

Manufacturing

ARC 000015431

The West Coast has one of the world's most complex refining infrastructures. The complexity of its refineries is driven by the high demand for gasoline, the low demand for resid/distillates, the heavier crudes produced here and tight environmental rules. Of the 1.8 million barrels per day of capacity in California, for example, 1.6 million barrels per day is processed in coking refineries compares this 90% California coking conversion rate to Texas, where only 65% of 3.9 million barrels per day of refining capacity is in coking refineries.

HIGHLY CONFIDENTIAL

As a result, the West Coast's margin curve is fairly flat. There is very little marginal capacity on the West Coast because simple, high-cost refiners such as Goldenwest and Pacific Refining have already closed. In addition, there is a high degree of balance across the West Coast refinery system, which means there is marginal capacity within any of the existing complex refineries. As a result, West Coast prices can be very volatile. Excess capacity can produce intense price wars while shortages can create attractive margins.

For a refinery of any given complexity, margins are the key to profitability and return on assets. Breakeven refining margins tend to move together in much the same way as crude prices, with transportation economics between marginal product supply and demand setting prices and margins across refining centers. The Gulf Coast light/heavy product differential (expressed as the average of gasoline and diesel prices minus the price of residual fuel oil) is the key benchmark for global refining margins.

Historically this light/heavy product differential has been extremely volatile over time, typically trading in a range bounded by FCC (fluidized catalytic cracking) re-investment economics and operating cost breakeven ($5/barrel). As a result, most of the time there is limited incentive to build additional complex refining capacity, but likewise limited incentive to remove capacity from the market.

Over the last decade, light/heavy differentials have traversed the entire range from $5 to $12/barrel.

ARC 000015432

The light/heavy product differential translates into actual refining margins based on the upgrading capability being utilized and the crude being run. On the West Coast, coking margins are the best reflection of each refinery's gross financial performance. They ranged from $5.00/barrel to $11.00/barrel from 1991 to 1995, with an average of $7.50/barrel. However, since the complexity of the refining base on the West Coast is similar across refiners, differences in individual performance are not explained solely by margins. Differences in safety, reliability, cost performance, throughput increases and scale tend to determine which refineries are most profitable over time. On the West Coast, these differences lead to a substantial range of overall profitability across refineries that have essentially similar upgrading capabilities.

Product Supply

ARC 000015433

On the products side, since the Gulf Coast is the nearest source of incremental products, the marginal barrel of products barrel commands a price high enough to cover the transportation costs from the Gulf. West Coast product prices thus tend to be at "import parity". This is one of the major reasons why manufacturing margins on the West Coast are significantly higher than those on the Gulf Coast.

Historically, the West Coast has been short light product, particularly gasoline, creating a situation where prices are stable at levels 5 to 6 cents per gallon above the Gulf Coast. However, in 1991 the supply/demand balance shifted from short supply to excess, and has stayed slightly long ever since. During this transition period, West Coast light product prices fell to levels 2-3 cents per gallon below the Gulf Coast, stayed at that level

for slightly over a year. Towards the end of the time period, a significant increase in exports of light products out of the West Coast (combined with the shut down of some non-economic capacity in various West Coast refineries), has allowed supply and demand to remain in close balance. However, the West Coast light product balance remains a precarious one. The overall balance shifts seasonally, with the summer months in close balance and the excess product long in winter months. These supply/demand balance swings make the West Coast prices far more volatile than in other world markets.

Looking ahead, light product demand is expected to continue to grow at a rate of 2% per year through 2005, with the majority of this growth driven by gasoline. Gasoline demand is strongly driven by population and by vehicle miles traveled, which are expected to grow by up to 2% per year over the next decade, according to state and government forecasts. And when the impact of higher speed limits, consumer preferences for larger cars and sport utility vehicles, and a more robust economy are factored in, the demand outlook becomes even more positive.

ARC 000015434

At the same time, the West Coast's capacity to manufacture light products has recently increased due to major environmental investments to make CARB gasoline at most West Coast refineries, and it is expected to continue to grow due to ongoing capacity creep (low capital capacity increases). Historically, light product make on the West Coast has grown 2.2% annually due to capacity creep, and this level of growth is expected to continue over the next five to ten years. If demand and supply growth meet expected levels, the historical pattern of balance in the summer and length in the winter will likely continue, though any significant recession or change in

HIGHLY CONFIDENTIAL

demand growth could result in significant additional increases in West Coast product excess supply, putting pressure on both prices and margins, and necessitating additional exports

Exports from the West Coast to maintain the balance between supply and demand have historically been made by refiners who have some remaining, less economic refining capacity which could be used to cut crude runs and by refiners who have excess product and the ability to export that product economically. As the table below shows, this incentive is strongest for Chevron and Shell, though others have the excess supply to export product if necessary.

Further complicating light product supply on the West Coast is the existence of several distinct "micro-markets". Regionally, the West Coast is short on light product in southern California, long on light product in northern California and balanced to long in the Pacific Northwest. Additionally, CARB gasoline and diesel specifications reduce the fungibility of products within PADD V. As a result, we experience significant volatility of product pricing within PADD V as well as pricing versus the Gulf Coast. The existence of a handful of players with large supply positions in specific West Coast regions and/or products, such as APC's CARB diesel position in southern California or APC's high sulfur diesel position in the Pacific Northwest, add further to this volatility. Close monitoring of supply and demand within these micro-markets is needed to ensure that refiners react to imbalances and prevent wide volatility in the premiums realized for specific products.

ARC 000015435

EXHIBIT IV.2

McDonald CHEVRON
EXHIBIT
715

CHEVRON U.S.A. PRODUCTS COMPANY

STRATEGIC ASSESSMENT STUDY

TEAM

[redacted]

AGLR078529

HIGHLY CONFIDENTIAL
DO NOT DISCLOSE

Confidential
March 5, 1993

715.1

U.S. DOWNSTREAM INDUSTRY PROFILE - GENERAL

- Highly competitive, low margin commodity business.
- Non customer-driven specification changes are requiring major mandatory investments.
- Selected product reformulations such as LAD and JP8 (from JP4) offer profit opportunities for well-positioned competitors.
- Entry barriers are high restricting entrance of new competitors; however, high exit barriers encourage survival of weaker refiners.
- Industry average returns approximate cost of capital; however, the best performers earn acceptable returns, i.e. >12%.
- Industry will generate long-term, sustained cash flow, although mandatory investments will absorb much of the cash over the next few years.
- Marginal refiners/marketers recover cash costs even in poor times; however, earnings are insufficient to cover capital requirements without borrowing.
- Mogas demand is growing, although at less than historic rates.
- Continued marketing restructuring with majors retreating to core markets and independents exiting business.

AGLR078535

HIGHLY CONFIDENTIAL
DO NOT DISCLOSE

715.7

525

200

U.S. DOWNSTREAM INDUSTRY PROFILE - USGC

- Large, highly-competitive refining system with relatively high yield of higher value products (chemicals, lubes).
- Refineries linked to a large market by efficient, non-proprietary, inter-regional distribution system.
- Active spot market with ready access to offshore markets lessens need for integrated refining and marketing system.
- Significant amount of least efficient capacity has shut down.
- Refining capacity is spread over many competitors.

AGLR078536

HIGHLY CONFIDENTIAL
DO NOT DISCLOSE

U.S. DOWNSTREAM INDUSTRY PROFILE - USWC

- USWC market appears to allow better average returns than USGC. The better performers generate ROCEs greater than 12%.
- Relatively isolated market; California product specification changes may create additional import barriers and opportunities for well positioned refiners (jet, LAD).
- Refining and marketing closely linked; thinly traded spot market.
- Market is dominated by limited number of large, committed refiner/marketers whose individual actions can have significant market impact.
- Exports becoming a more important factor in balancing light product supply and demand.
- With the exception of Chevron, all major refiners process a large % of equity crude; some indication of integrated upstream/downstream economics by some California heavy crude producers.

AGLR078537

HIGHLY CONFIDENTIAL
DO NOT DISCLOSE

715.9

EXHIBIT IV.3

Energy Briefing Note

PIRA

[redacted]

January 17, 1996

CARB 2 GASOLINE: COSTLY, COMPLEX, AND TIGHT

HIGHLY CONFIDENTIAL

Summary

The deadline for California's new mandated gasoline, CARB 2, is fast approaching. The gasoline is more difficult to manufacture than Federal RFG but is designed to accomplish the same task – reduce ozone precursors and toxics emissions. California's refiners have invested over $3 billion to be ready for the program's March 1, 1996 start. Will there be enough capacity? Based on a PIRA survey, Californian capability to produce CARB2 gasoline is around 900 ±50 MB/D. This contrasts with estimated demand of around 915 MB/D. Hence, the balance appears tight. Early inventory building coupled with supplies of either finished product or components from outside the state will likely be necessary. Prices would need to increase to attract the additional out-of-state materials. The California gasoline market should witness extensive price volatility and refiners could have an opportunity to earn a return on their investment, which has rarely occurred with other U.S. refiner environmental investments. Prices 10-15 c/gal above conventional West Coast gasoline are likely, with spikes above this at times. Such a sharp increase in California's pump prices carries risks for the industry which it needs to minimize.

Introduction

The New Year is bringing with it another new fuel, California Air Resources Board (CARB) reformulated gasoline, aka CARB 2, the costliest and most complex gasoline yet. This Briefing Note outlines the program, reviews California refiners' readiness, and assesses the implications for margins. The review is based on a refiner survey that PIRA conducted by phone between September and November 1995. The results from this follow-up to our third quarter 1993 survey cover around 90% of crude distillation capacity and nearly all the upgrading units, with just one instance where PIRA had to incorporate earlier estimates, updated using other sources.

Program Timing

The CARB 2 gasoline program was adopted in November 1991 for 1996 implementation. There were significant startup problems associated with the 1993 introduction of California's special low sulfur diesel program. To avoid that happening again, CARB has been working closely with refiners as the deadline approaches, monitoring their readiness. One consequence of this is that the program has been delayed and switched to a phased-in startup that allows ample

For Confidential Use of PIRA Energy Group Retainer Clients
© Copyright 1996 by PIRA Energy Group
All Rights Reserved

time for inventories to be built. Thus, the mandated dates for the different industry segments to move to the year round CARB 2 gasoline program are now:

- Refiners: March 1, 1996 (from January 1).
- Terminals: April 15, 1996.
- Retail: June 1, 1996.

HIGHLY CONFIDENTIAL

The state has also been testing whether the new fuel will damage car components, as low "S" diesel did. So far, there have been no statistically significant problems. However, consumers only care that *their* car runs. Even a few problems, if magnified by press coverage, could present difficulties for regulators and the industry, especially in an election year.

CARB 2 Specifications

Specific Limits

CARB 2 gasoline has more restrictive quality specifications than any gasoline introduced or planned for anywhere in the world, although British Columbia (Canada) has just announced a program modeled on CARB 2 and RFG, albeit toned down and with no oxygenate mandate. California has taken the federal rules for RFG a significant step further with the substitution of specific (and generally tighter) limits for five properties that are either formula based (aromatics), performance based (sulfur, olefins, T90), or not even defined (T50) for simple model Federal RFG (Figure 1).

Figure 1

SUMMER REFORMULATED GASOLINE: CALIFORNIA IS MORE RESTRICTIVE

	U.S. BASELINE	PER GALLON LIMITS PHASE I U.S. 1995*	PHASE II CALIF. 1996
RVP, psi	8.7	7.2/8.1	7
OXYGEN, wt%	0	2	2**
AROMATICS, vol%	32	Formula	25
BENZENE, vol%	1.53	1	1
OLEFINS, vol %	9.2	'90 avg (10.8)	5
T90, deg. F	330	'90 avg (332)**	300
T50, deg. F	218		210
SULFUR, ppm	338	'90 avg (338)	40

* Winter blend
** Weighted, Lower is Possible
*** Refiner's Annual Average (Blended)

Figure 2

CALIFORNIA PHASE 2 REFORMULATED GASOLINE STANDARDS

	FLAT LIMIT	AVERAGE	CAP.
RVP, psi	7	—	7
OXYGEN, wt%	1.8-2.2	—	2.7*
AROMATICS, vol%	25	22	30
BENZENE, vol%	1.0	0.8	1.2
OLEFINS, vol%	6.0	4.0	10.0
T90, deg. F	300	290/310	330
T50, deg. F	210	200	220
SULFUR, ppm	40	30	80

* Winter

CARB has again given small refiners some compliance latitude, allowing them a two year extension, until March 1, 1998, for meeting the new sulfur, olefins, T50 and T90 specifications. Compliance on aromatics, benzene, oxygen and RVP is required at the same time for all refiners, large or small. Because of closures, there are now only two gasoline producing refineries that qualify as small: Paramount and Kern. This compliance latitude therefore has little bearing on either CARB 2 supply or on air quality.

As with RFG, companies can take an averaging approach, but the specification limits are then tightened considerably and maximum values are introduced. (Figure 2). The rolling semi-annual averaging can be applied to any or all components with the sole exception of RVP, which always retains its flat 7 p.s.i. limit.

Predictive Model Adds Flexibility

The manufacturing flexibility for CARB 2 goes beyond this averaging. The key feature of California's program is that it is emission reduction driven, with the set limits in effect a fallback option. Any gasoline that, according to CARB's mathematical model, is predicted to equal or better the emissions from a gasoline with CARB 2's specific limits becomes a complying gasoline, even if the levels of some properties deviate from the set flat or averaging limits. This approach puts California almost two years ahead of the EPA, which will not change to its predictive model for RFG, the Complex Model, until 1998.

CARB's model, developed with refiner involvement, is particularly sensitive to sulfur and T50. Lowering these can result in gasolines that are CARB 2 compliant but could have too little oxygen to be RFG compliant too, an issue in Southern California and Sacramento (see later).

PIRA Survey Results

Capital Investment

The surveyed refiners have invested a staggering $3.4 billion, or $4,000/daily gasoline barrel, to achieve CARB 2 compliance,. This total is around $500 million lower than previously expected due to aggressive cost reduction programs, with the main savings coming from the cancellation of several alkylation facilities. Companies cited the predictive model as substantially aiding their ability to make savings. This confirms the cost effectiveness of this more flexible approach. Companies continue to study how the model can help, so further reductions in operating costs or future capex are likely.

Investment levels were quite disparate among companies, varying from as little as $100 million to as much as $1 billion, depending on the type and number of new process units required. Companies at the high end of the cost range were extensively modifying their refinery(ies), including adding new alkylation, isomerization, and/or coking, and generally going beyond simple CARB 2 compliance. In the survey as a whole, process unit choices included:

- Fractionators for naphtha feed, reformate, T90 control, cat naphtha or RVP control.
- Benzene saturation.
- Alkylation and/or C_5/C_6 isomerization.
- Hydrotreating for one or more component streams, in some cases accompanied by hydrogen units and even sulfur recovery units too.
- Oxygenate capacity.

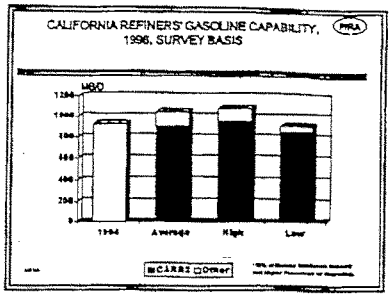
In addition, utility and offsite improvements were necessary in many cases, as were more sophisticated blending operations

Another reason for the range of investment levels is the difference in the percentage of gasoline targeted to be CARB 2. This varied from 50 to 100% with an average of around 85%. California will still have conventional gasoline for markets outside the state.

CARB 2 Supply Potential

The surveyed California refiners should be able to produce around 900±50 MB/D of CARB gasoline, (before allowing for turnarounds or accidents) with the variation depending upon relative economic incentives to produce different refined products, operational constraints or requirements, and the performance of new units (Figure 3). This estimate is based on the survey participants' plans for oxygenate concentration and includes baseload volumes of components, such as MTBE, from outside the state. It excludes three possible additional sources of CARB 2 supply. Firstly, supplies from California refiners not surveyed. Secondly, contingency in-system volumes that California refiners could supply from outside the state. Thirdly, finished spec gasoline or components from non-Californian refiners. Supplies from these latter two categories are dependent on there being an economic incentive to compensate for their costly movement. PIRA has not performed a detailed analysis of all these additional sources but estimates they could expand CARB supplies by around 15-50 MB/D, at a price. Offsetting this increment are accidents and planned turnarounds, which have not been allowed for in what is really a stream day estimate.

Figure 3



There will be seasonal variations in the supply potential. Higher RVP and oxygenate standards in the Winter result in 5-10 % more supply capability then versus the summer. However, because of RVP limitations, winter grade material cannot be stored for summer use.

Conventional Gasoline Supply Holds Steady

The surveyed refiners should be able to produce around 1050 ± 40 MB/D of gasoline in total in 1996, an increase of around 80 MB/D from their pre-RFG 1994 capacity levels. Thus, investments have been designed to make up for the volumes lost due to recent refinery closures and allow for demand growth.. Subtracting the planned RFG volumes shows conventional gasoline capability of 140±10 MB/D. Adding in an allowance for non-surveyed refiners raises this to around 150 MB/D. These volumes confirm that refiners plan on maintaining their out of state market position either directly or via exchanges. In one widely publicized long term arrangement, Chevron will supply Tosco with 30 MB/D of CARB 2 in exchange for an equal volume of conventional gasoline.

Demand Growth

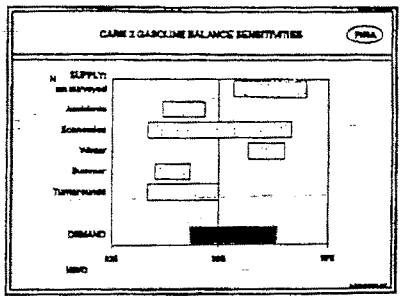
California's economy is bouncing back after a long slump. Rapid growth is occurring in entertainment, advanced technology and trade oriented industries. This has offset most if not all, of the massive employment decline resulting from the downsizing of the military and other sectors. The pace of outward migration of the middle and upper middle class has abated. According to various analysts, the state's economic growth should outpace the nation's in 1996. The state has also just raised speed limits.

Offsetting these growth positives are efforts to reduce vehicle use for environmental reasons, growth in telecommuting, and higher retail prices resulting from the use of the costlier CARB2 gasoline. Nonetheless, the net result is growth. PIRA estimates Californian gasoline demand will be around 910 MB/D in 1996, 1% higher than in 1995. As is the case elsewhere in the States, demand is summer peaking.

A Tight CARB 2 Balance

The CARB 2 gasoline market will be tight. Our survey indicates the market is balanced on a steady state basis (Figure 4). However, refiners will need to produce in the upper half of the range of their capabilities and/or out of state supplies will be needed in the summer, (which in California starts in March/April and extends to the end of October), during turnaround seasons, or when there are refinery problems. The tightness of the balance suggests that turnarounds will never be planned for the summer.

Figure 4



To overcome potential problems in the introductory phases, refiners will need to build inventories during the phase-in period and hope that all units function without problem. The spring turnaround season (see PIRAFAX on U.S. Refinery Turnarounds, Jan-June 1996) should be largely completed around the time the program starts, so should not further complicate CARB 2's introduction.

Supplying Conventional Gasoline

California refiners have played a key role in supplying Arizona, Nevada and Oregon, conventional gasoline markets that have little or no indigenous supply. Around two-thirds of Arizona's supply (65-70 of 110 MB/D) and nearly all of Nevada's (50 MB/D) comes from California. The balance of Arizona is supplied by Santa Fe Pacific Pipeline from El Paso, Texas, fed by New Mexico and west Texas refiners. Recently, Diamond Shamrock started a new

pipeline from Mckee, Texas (Panhandle) to El Paso. Also, Longhorn plans to reverse an Exxon crude oil pipeline and put it into product service by 1997 and extend it to El Paso, enhancing Gulf Coast refiners' ability to ship west. There will inevitably be more competition in the Arizona market, but indications are that California refiners are not ready to cede this nearby market. This implies downward pressures on conventional gasoline, particularly from next year on, with the fortunes of the Californian and Gulf Coast refiners more closely tied together.

What If Something Goes Wrong? ... Variances

What happens if a refiner has a problem supplying CARB 2? Many CARB officials now believe that the market place should be the final arbiter to the extent possible, i.e., if a company has a supply problem, it should attempt to obtain complying gasoline from others first. This might work in an oversupplied market, but what happens if the market is steady state balanced? Supply disruptions result in price spikes that the public, and ultimately politicians, react negatively to. Yet allowing non-complying supplies to be used raises issues of equity and fairness to those companies that make investments, follow the rules and are ready to supply complying product. This is the same dilemma refiners, marketers and CARB confronted during the introduction of CARB diesel in October 1993.

CARB's response has been to propose a variance procedure that will likely be finalized soon. Variances, if granted, would be for a very specific time period and volume and cost 15c/gal; 10c for CARB's estimate of the highest relative production cost of CARB gasoline plus a 5c penalty. Under the proposal, a variance to supply non-complying gasoline would only be granted if:

- The supply problem is due to conditions beyond a company's reasonable control.
- The company has explained its reasons, publicly and privately, established when it will be able to supply complying material, and submitted a detailed compliance plan. Indications are that the burden of proof will be quite rigorous.
- The economic consequences for the company and the public outweigh the air quality effects.

Situations where the need for a variance is not immediate and emergency situations due to accidents or other "physical catastrophes" are treated differently. The former would involve sufficient notice (10 days) to interested parties, and public hearings, while the latter, theoretically, could be accomplished within 24 hours through conference calls with affected parties.

The Largest Oxygenate Market

With CARB gasoline, California's oxygenate use will rise by around 35%, to some 100 MB/D of MTBE equivalent. This enhances California's position as the largest U.S. oxygenate market, (it is also the largest gasoline market), raising its market share to almost one quarter, with its share of the MTBE market even higher. With CARB 2, the California oxygenate market will also move from winter to summer peaking because year-round use becomes statewide instead of just applying in southern California, as has been the case since the introduction of

RFG at the beginning of 1995. For over two years prior to that, the market was highly winter peaking due to the October 1993 start of the oxy-gasoline program.

This estimate of oxygenate demand is based primarily on the survey responses on concentration. Potential health effect issues are still overhanging the whole U.S. ethers market, implying some downside risk to the estimate. Additional downside risk comes from the question of whether the oxygen requirements for RFG in California will continue to be mandated.

MTBE has been the dominant oxygenate. With little local capability, most is imported, primarily from the Gulf Coast and Canada. Ethanol also plays a role, especially in the north, but it is mainly suitable for winter use due to its high volatility. Although several companies have installed ether capability in preparation for CARB 2, imports will continue to predominate

Oxygen Content - Can The Rules Change?

While the state, via CARB, has authorized the use of a predictive model which, theoretically, makes it possible to manufacture a complying gasoline without the need for an oxygenate, there are other applicable rules that take precedence. For example, during the winter carbon monoxide (CO) control periods, a 1.8-2.2 wt% oxygen level, equal to the nominal CARB spec, will continue to apply. These periods are:

- Oct. 1 - Feb. 28: Los Angeles area and Ventura County
- Oct. 1 - Jan. 31: Northern California
- Nov. 1 - Feb. 28: San Diego and other Southern and Central areas.

In addition, Federal RFG rules mandate oxygenate use in Southern California and are scheduled to apply to Sacramento too, due to its growing ozone problem. The refining industry and CARB are trying to get this RFG oxygenate standard lessened to voluntary from mandated. EPA does not believe it has the authority to make this change but it has received a legal brief from the Western States Petroleum Association (WESPA), justifying why it could. EPA is now in the process of evaluating this, but the possibility of a decision before the start of the CARB gasoline program is receding, in view of the government's recent shutdown.

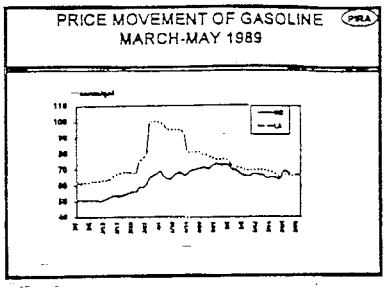
Some refiners already plan to cut the concentration of oxygenates in CARB gasoline in the summer in the region north of Sacramento, where RFG is not required. This again underscores the scale of the economic benefit offered by the Predictive Model since the additional grade makes distribution complex. Should EPA agree that the oxygen limit in RFG is voluntary in relation to CARB 2, PIRA expects other refiners to cut back too. Refiners will not stop using oxygenates since they provide multiple benefits through their quality – high octane, no sulfur, no olefins and favorable T50 blending, – and their potential as volume extenders. These potential oxygenate reductions further raise the probability of CARB 2 tightness.

Margin Implications

Will California refiners achieve something that has rarely been seen in the U.S.- a reasonable return on new capital investment related to environmental programs? Generally, the U.S. refining industry has overbuilt, whether for oxygenates, low "S" diesel or RFG. This time may

be different. The CARB 2 balance appears to be tight in California. Add in the remoteness of the California market, the unique characteristics of CARB 2, the requirement for domestic shippers to use higher cost Jones Act shipping, and the small number of companies involved, all of whom share a motivation to recoup costs and not undermine the market. The implication is that prices on average will do quite a bit more than cover marginal costs, which will mainly comprise the incremental oxygenate cost, although not during the extended phase-in period. Will companies raise pump prices before June 1st?

Figure 5



The market is not without options, at the right price. There is a steady trade of MTBE from the Gulf that would be used for incremental supply. Likewise a price spike would attract either finished product or components from unexpected places. Remember what happened to California gasoline prices after the Valdez oil spill in the Spring of 1989 closed the port and refiners could not quickly obtain alternative crude supplies. Spot gasoline prices jumped to around $1/gallon, when the Gulf Coast was trading around 65c/gallon. Sufficient incentives were created to attract product from new locales, quickly eroding prices (Figure 5). Thus the combination of variances and market forces will act to dampen a price spike but nevertheless leave those Californians able to supply complying product amply remunerated.

Could all this be too good to be true for refiners? Possibly. CARB's expectations seem to be for a CARB 2 gasoline differential to non-RFG averaging around 8c/gal. Differentials of that magnitude when RFG was introduced contributed to the wave of opt-outs, yet CARB believes they would be manageable in a Californian context. However, CARB's assessment of the differential between CARB 2 and conventional gasoline looks conservative. A 10 to 15c gal difference is likely, with the spread wider at times. Even if conventional gasoline prices soften, this implies a sharp increase in Californian pump prices in an election year. The industry's P.R. machine needs to be ahead of the curve on this issue so that there is an appreciation of the benefits and not just the cost of CARB 2 gasoline.

Note: *Additional coverage of gasoline and oxygenate related issues can be found on PIRA Online.*

EXHIBIT IV.4

COMPETITOR INTELLIGENCE INFORMATION
FOR THE DECEMBER 14 EL SEGUNDO REGIONAL COORDINATION MEETING

Note: This information is gleaned from industry publications and employee contacts with outside companies and may not be entirely accurate. (All of this month's data is sourced from OPIS unless otherwise noted.)

General

- **Refining/Marketing/S&D**: A senior energy analyst at the recent API convention warned that if the U.S. petroleum industry doesn't reduce its refining capacity, it will never see any substantial increase in refining margins, pointing out the recent volatility in refining margins over the past 12 months. U.S. average refining margins were sitting at the break-even point of $3/bbl in March, surged to $6/bbl in May, then dropped to 50cts/bbl in September before crawling up to the present margin of $2/bbl. In the last nine months, gasoline demand has been healthy and inventories have remained close to record lows, factors that should normally lead to higher prices. However, refining utilization has been rising, sustaining high levels of operations, thereby keeping prices low. *Implication: in what alternate modes can the refinery operate given low-margin economics?*

Unocal

- **RefiningMarketing**: Unocal is exploring sale of three refineries and 1,441 gasoline stations in California due to low West Coast refining margins and high capital expenditures required to comply with stringent environmental regulations. Unocal is also exploring introduction of an unbranded mogas supply to move incremental mogas from their refineries. They would provide this to existing branded jobbers who now turn to suppliers like Ultramar, Tesoro and Tosco for supplemental mogas supply.

Ultramar

- **Marketing/S&D**: Ultramar approached our S&D traders to see if we would give them CARB PUL in exchange for CARB RUL and a differential. We told them that we cannot commit to any deal until we have experience manufacturing CARB mogas. *Implication: this could be a profitable way to use any excess octane strength at El Segundo.*
- **Marketing**: Ultramar announced on Sep 12 that they plan to spend $125 million to add 125 company-owned outlets to their existing 146 in California, according to Platt's. This growth plan will leverage off their refining strength, where they have excess production capability compared to branded sales volume.

Tosco

- **Marketing/S&D**: Tosco will attempt to increase market share and expand into new retail markets over the next three years, according to a Tosco report given to financial anlaysts. They will invest $200 million to build 50 new state-of-the-art retail outlets on the West Coast by 1998, and upgrade 350 existing West Coast sites with 'pay at the pump' card readers, car washes, new imaging, and C-stores.

Tomen-Pacific

- **Marketing/S&D**: Tomen-Pacific, once a very large presence in the West Coast (WC) cargo market, is planning to shut its WC operation by the end of the year. Evidently, poor WC economics, coupled with decreased cargo activity from the Pacific Rim and the WC have prompted their decision. Tomen is the latest in a series of high-profile companies to retreat from the WC (e.g. Wickland, EOTT, Tosco, Powerine, and Pacific Refining). *Implication: consolidation of trading offices could reduce spot market liquidity and affect pricing. Also, weak West Coast margins may continue to force industry rationalization.*

EXHIBIT IV.5

212

To: [redacted]ke

From: [redacted] Tim

Date: May 16, 1995

Subject: CARB Outlet Strategy Meeting

Attached are several background items and a couple of in-progress spreadsheets regarding outlet opportunities for CARB mogas. I thought you might want to review the data prior to our meeting Thursday. I would like to use our meeting discussion to expand / complete the spreadsheets for management review.

The CARB Mogas Outlet spreadsheet identifies CARB production, existing contract commitments and remaining avails. It also lists a number of potential outlets for the available barrels and attempts to capture positive and negative sensitivities about each outlet. For our discussion, I would be interested if you have ideas on any additional outlet opportunities or additional sensitivities.

The Strategy Cases spreadsheet is mostly incomplete at this stage, however, what it attempts to depict is how we would prioritize our outlet opportunities in various market scenarios. I am not necessarily convinced that we will have drastically different outlet strategies , however, I think we should consciously address how we would want to react in various markets. I attempted to fill in some data that seemed obvious but its all up for discussion at the meeting.

Look forward to seeing you Thursday, thanks.

TOWER
250 KBM - Tower
250 KBM - Shell N/S - rock
100 KBM - Trade/Sell

Tesoro CARB in SFB?
Seatown on W. Coast Ships

EXX00001625

CONFIDENT

Supply Operations - West Coast
CARB Mogas Outlet - DP&A Outlook
Discussion with [redacted] 5/15

Overall Supply / Demand Balance

- California net short of CARB mogas / components
- Price outlook driven by cost of imports from Carib basin; outlook +10¢ versus current conventional (16¢ versus future conventional due to conventional price drop)
- California producability roughly in balance but unbalanced component makeup

Inbound	Outbound
CARB Mogas	Conventional mogas
ALK8	T-90
MTBE	

- Full investment in conversion of capacity would make California balanced
- CARB will likely come in from the PNW since marginal economic performers there (Shell Anacortes, Tosco Ferndale) will press to find ways to squeeze margins up; may be as much as 30-35% producability without impact to their statutory baselines

SFB Supply / Demand Balance

- SFB remains net long in mogas - both CARB and conventional
- **BE** likely to be primary spot market producer based on investment and marketing strategy of other SFB players
  Chevron - significant investment - net long; balanced with sale to Tosco
  Unocal - balanced to slightly short
  Pacific - no investment, no known outlet
  Tosco - permits received with no investment progressing; entered into 30kBD purchase from Chevron; outcome of Arco processing deal in doubt
  Arco - Appears very short in SFB; may have done N/S trade with Shell but still shopping for a large barrel SFB deal; may be leverage - still has option on Tosco processing agreement
  Shell - long SFB but balanced overall on WC - may have traded with Arco although probably still short in LA

Conventional Mogas Valuation

- Conventional mogas will go north, likely from SFB, to backfill CARB mogas brought in from PNW; not likely to be 1 for 1 since PNW net long mogas when in full conversion; marginal conventional mogas price will fall to its export value (-6¢ versus current conventional)
- SFB is likely to be lowest value market, as it currently is, caused by greatest length; expect current price to drop to Far East export but North / South price relationships should remain (SFB -3¢ vs LA/PNW)

EXX00001626

CONFIDENTIAL

General Strategy Considerations

- Should not do deals that supports other's importing barrels to West Coast
- Desire to build ALK8 for contingency should be weighed against market revenue factor impact from ALK8 sales if end up with ALK8 length (ALK8 sales = + CARB mogas)
- Purchase marginal strategy may not be beneficial if we already dominate spot market supply; we would essentially chase self
- Strategic benefit from long-term participation in LA market; stronger chance LA will experience periods above transportation parity; shrinks SFB market; creates alternate price basis for some barrels; establishes ongoing infrastructure to capture price run-up opportunities; serve to minimize on-going presence of Carib basin refiners
- Outlet of T-90 onto West Coast would have same impact as plus mogas; export to Far East would help overall West Coast mogas market although naphtha markets weak in Far East versus distillate; strongest value for T-90 may be to HCU with backed out LCCO combined into a higher value distillate for Far East export

CONFIDENTIAL

EXHIBIT IV.6

HIGHLY CONFIDENTIAL

From: [redacted] CCFXGTW1
Date: 5/26/95 8:58 AM
Priority: Normal
Receipt Requested
TO: [redacted]
TO: [redacted] at [redacted]
TO: [redacted] at [redacted]
TO: [redacted] at [redacted]
TO: [redacted] at [redacted]
TO: [redacted] at [redacted]
Subject: CARB GASOLINE
---------- Message Contents ----------

To: [redacted]
cc: [redacted]

FROM: [redacted]
Subject: CARB GASOLINE
Got [redacted] of the Business Optimization Team working up a spec sheet. Will forward when that's done.

However, believe that most economic import will be alkylate. We expect that the USWC will be long conventional gasoline and that alkylate imports could work to blend those components to CARB. Have been talking to Fairfax about avails ex Beaumont and Yanbu.

Wow More Customers, Have More Fun
[redacted]
Team Mobil West Supply & Logistics
Torrance [redacted]
*** Forwarding note from [redacted] 95/05/23 18:51 ***

From: [redacted] 1995/05/23 18:51
cc: [redacted]
cc: [redacted]
Subject: CARB GASOLINE
To: [redacted]
cc: [redacted]
---------- Message Contents ----------
[redacted]

From : [redacted] Subject: CARB GASOLINE Roger,
any chance you could fax a spec sheet or whatever you have on CARB gasoline qualities...we're looking to see if Coryton could help out in any way!

Regards
[redacted]
MEC Manufacturing,Room [redacted].
[redacted]

==========REPLY==========

[redacted]

Through the various conversations, I think the message has gotten a little confusing between what we saw as a current opportunity for CHM or BMT CARB diesel, and possibly a future opportunity for CARB Gasoline components. I will elaborate for a few paragraphs and probably tell you more than you want to know.

To my mind, the discussion is really this:

Depending upon the S/D balance, it probably will NOT make sense to import finished CARB into what has historically been an isolated, near balanced/long market. As you probably know, US West Coast margins are on average more attractive than most other US regions. Flooding the market and depressing margins on the base volume we market would likely be a big hit and not in Mobil's interest.

However, since there is uncertainty about CARB supply/demand in the market, and

MOB 02378

216

HIGHLY CONFIDENTIAL

We will soon have unique fuels formulations, I anticipate a high probability of market upsets when there is a HC Refinery problem, etc. Coincident with market perturbations, I think it would make sense for Mobil to have plans in place to react ASAP and capture forward sales (while drawing from finished inventory) if there is sufficient reward, and I think there will be.

As opposed to importing finished CARB, I would think a strategic plan to relocate key components (namely alkylate) MAY make sense, particularly if we ca identify an economic backhaul. If the logistics of such a plan work and make sense on a low volume/infrequent basis, we could be set to react if the market dictates, both to cover our committments in case we are the ones with the Refinery/Supply problem, or quickly lock up any lucrative opportunities when th market is upset.

CARB SPECIFICATIONS

As to the CARB specifications, there is still uncertainty but I think it will work as follows:

Here in Torrance, we will have flexibility within the CARB model to vary/trade-off some of the components based upon equations in the model. Basically, the model predicts/controls VOC's, Toxics, NOx, O3, and CO. Because we will produce lower Sulphur and Benzene we should be able to have some flexibility in our benzene, MTBE and T90 and stay within the model. We are working on understanding all of that now.

However, for fuel not produced within California, it is likely the regulations will impose a more strict standard. Current thinking is that the limits for imports will be as follows:

RVP, (max, psi)	7.0
Sulphur, (max ppm)	40
Benzene, (max vol%)	1.0
Aromatics,(max vol%)	25.0
Olefins, (max vol%)	6.0
Distillation (max deg F)	
T90	300
T50 (min/max)	170/210
Oxygen, (wt%)	
min	1.8
max	2.2

Having said all of this, I am happy to hear all ideas, but really depend upon our S&I folks in Torrance to work the issues. We have discussed here a number of times and they clearly feel accountability for covering our marketing demand and being prepared for any openings the market gives up. Therefore, I am copying this note to Messrs [redacted] in Torrance as I know they are currently identifying and considering options. Also, if I have misstated any of the facts I will ask Dave to make the necessary corrections an clarify our understanding.

In order for this to make sense for both parties, one of the keys (and pehaps a show-stopper) is that there needs to be an economic backhaul arrangement to defray part of the transportation expense. That may not be feasible, but should be explored.

[redacted]

EXHIBIT IV.7

DEC 23 '92 10:45 TEXACO SACRAMENTO- P.1 217

Texaco

WESTERN REGION
Manufacturing & Marketing
Action:
X Handle DEC 03 '92
✓ Read
[redacted]
Final Handling ☑ File ☐ Destroy

DATE: December 3, 1992

TO: [redacted]
Universal City

FROM: [redacted]
Sacramento

SUBJECT: CARB Phase 2

This letter is a follow up to our phone conversation of last week where I briefed you on a recent conversation I had with Shell's California Government Relations Manager.

His comments centered around Shell's intended $1.8 billion investment to modernize their Martinez refinery. He indicated this expenditure is necessary to comply with the 1996 CARB Phase 2 RFG requirement. You indicated that the $1.8 billion was inordinately high for RFG compliance and that the figure likely included other necessary improvements and modernization projects at the refinery.

Who?

He went on to say that Shell and the other oil companies are extremely concerned about Texaco's silence and lack of activity concerning our plans toward CARB Phase 2 compliance. He said Texaco is positioning itself to be the "wild card" on this issue and "we are nervous about it". He said Texaco or any other company could easily import compliant fuel from outside of California for considerably less cost than those companies that intend to retool their refineries. He went on to talk about the various scenarios that would occur if a company was able to import RFG for 5-10 cents less per gallon than what it would cost other companies that retooled. He said it would be virtually impossible for a company to recover their investment.

He went on to say that if such a scenario was to evolve, Shell would be at the California legislature and CARB immediately asking for relief. He specifically referred to a fee, tax or penalty assessed for imported RFG. He suggested that such an approach would be necessary to "level the playing field" thus, protecting Shell's investment.

I am not certain what CARB's authority is relative to levying an assessment on imported fuel. However, if necessary, a piece of legislation could be introduced to provide CARB with the necessary authority. Such legislation would likely be actively supported by oil companies which intend to refine RFG in California, and opposed by those that plan to import. No doubt the labor unions would support the proposal because of potential construction jobs.

[redacted]
December 3, 1992
Page 2

Currently, ARCO, Chevron, Shell, Exxon, Tosco and Ultramar have either announced plans to modernize their refineries for clean fuel projects or have begun taking steps to secure the necessary permits to retool their refineries.

I brought this to your attention because of the specific reference to Texaco, and because I am convinced that at least Shell intends to address this issue if necessary. As you remember, similar concerns were echoed by the ARCO plant manager from Carson at a refinery managers meeting in April.

We will keep you abreast on any further developments on this matter and will closely monitor new bill introductions which begin the first week of December. If you should have any questions, please don't hesitate to contact me.

[redacted]

[redacted]

cc: [redacted]

EXHIBIT IV.8

APC MUST BECOME AN ACTIVE MARKET PLAYER, PREPARED TO EXPORT WHEN EXPORT PARITY THREATENS

- APC's manufacturing profitability depends critically on maintaining import parity—APC and Chevron have the most to lose from a price war
  - $8 million/week for APC manufacturing
  - Potential retail overflow
- Since APC is short in the Bay, and short overall, APC should not export first—others should be forced to behave rationally
- Most of the time, APC believes others will act rationally and ensure market balance
- APC must monitor conditions to anticipate potential collapse to export parity
- Should the market move to export parity, APC should be prepared to export to help balance the market
  - If others are already behaving rationally ...
  - ... and if APC's contribution can make a difference
- From time to time, APC may need to endure brush fires to discipline the market

HIGHLY CONFIDENTIAL

ARC 000011672

THE ALTERNATE APPROACH WOULD BE TO PUSH THE MARKET TO RATIONALIZE

- Since APC has high margins and relatively low cost, APC can endure a sustained spot price war
- APC should use this winter as an opportunity to enhance market discipline
  - Drive down spot prices to export levels
  - Produce resid to the detriment of marginal players
- As the market stays at export parity levels, others will be forced to rationalize
  - Chevron, Shell, Texaco Anacortes, and Tosco will cut runs
  - Exxon, Tosco, Chevron, Shell, Mobil and Texaco will export
  - Tosco NW and Shell NW will evaluate closure
- However, we believe that the cost of driving rationalization could easily top $300MM
- Moreover, since the market understands APC's incentive to export, they may take the fight to the street before they comply

ARC 000011673

HIGHLY CONFIDENTIAL

WE BELIEVE THIS APPROACH IS TOO EXPENSIVE AND OFFERS TOO LITTLE LIKELIHOOD OF SUCCESS TO PURSUE.

APC WILL ALSO NEED TO BE AN AGGRESSIVE MARKET PLAYER AT THE MICRO-MARKET LEVEL

- Focus barrels in strategic micro-markets
  - Product: e.g. CARB diesel, high sulfur diesel, CARB gasoline
  - Geographic: e.g. south vs. north, specific supply points, etc.
- Manage local supply/demand balance on an integrated basis to maximize APC profitability
  - Channel selection
  - Price/volume trade-offs for region
  - Optimal product slate to fit strategic market view
- Create/capture opportunities across markets
  - Move product between markets to capture or maintain uplift
  - Move product between refineries to manufacture uplift
- Exchange and trade selectively to preserve market discipline

ARC 000011674

HIGHLY CONFIDENTIAL

APC SHOULD APPROACH THE SPOT MARKET STRATEGICALLY

Spot Trading Guidelines

- APC may profitably sell into the spot when majors are short due to disruptions in normal supply and when the market is net short
- We should look for the price to move 1-2 cpg above import parity before we act
- In these cases, APC should trade the barrels into the market gradually to capture upside
- APC should also use these opportunities as leverage during winter months, balancing barrels at attractive differentials
- APC can also take advantage of discrepancies across markets, to the extent manufacturing flexibility allows
- APC should participate in the market in ways that limit pure trading play
- We should develop performance measures to evaluate both trading effectiveness and market impact

ARC 000011675

HIGHLY CONFIDENTIAL

SPECIFICALLY, PRODUCT SUPPLY HAS A ROLE TO PLAY IN MONITORING AND MAINTAINING BALANCE IN THE WEST COAST

MONITOR SUPPLY / DEMAND	TRACK COMPETITOR ACTIVITY / BEHAVIOR	TAKE ACTION
• Track pricing trends and movements • Understand competitors market position (i.e., who is long / short in specific products) and strategies • Forecast changes in market supply and demand	• Monitor export activity • Understand trading behavior	• Export to keep the market tight • Execute appropriate spot sales if APC is long in tight market

HIGHLY CONFIDENTIAL

ARC 000011676

PRODUCT SUPPLY WILL ALSO NEED TO DEVELOP THE ABILITY TO TRACK AND MANAGE MICRO-MARKETS

CAPABILITY	DESCRIPTION
• Competitive Intelligence	• Manufacturing volumes by product spec • Turnaround activity • Barrel movement tendencies (spot, retail, unbranded rack, etc.)
• Export Activity	• Exports by product / grade • Who's exporting and why? • Volumes • Product movement timing
• Import Activity	• Imports by product / grade • Who's bringing it in and why? • Prices • Who moves the product locally?
• Demand	• Track product disposition by grade • Stay abreast of demand levels and changes

ARC 000011677

HIGHLY CONFIDENTIAL

EXHIBIT IV.9

HIGHLY CONFIDENTIAL

Author: Charles R. Morgan at TORMFG-P01
Date: 2/3/96 3:20 PM
Priority: Normal
TO: Carolin A. Keith
Subject: Re[2]: POWERINE CARB SMALL REFINER STATUS
---------- Message Contents ----------

Carolin.....Good response. Just one small correction- the small refiner can only get a max of 2 years exemption- one year at a time. Must meet all CBG specs by March 1998.

Chuck

---------- Reply Separator
---------- Subject: Re: POWERINE CARB SMALL REFINER STATUS
Author: Carolin A. Keith at TORMFG-P01
Date: 2/3/96 3:09 PM

Anne,
We were wrong in our explanation regarding the small refiners exemption. If a small refinery is granted a 3-year exemption, it will still be allowed to produce AND sell in California. It must meet 4 of the 8 exemptions and then it can be sold in California along with the CBG. Regarding testing of CBG...most of the enforcement will take place on the refinery end of things. If, however, a station is tested and their product exceeds the cap (there is an allowance for averaging gasoline produced, so a cap has been set to determine a point above which a gasoline cannot go and stay within the CBG averaging allowances), they and their producer/provider will have to show a papertrail on the product to determine if any of the "exempted" refineries's product explains for exceeding the cap.

To date, none of the small refineries have been exempted....we should know within the next week or two if any are granted.

And, all refineries can still produce non CBG to sell in other markets (e.g., we will not sell CBG in Phoenix).

I plan to correct this and answer a few other questions in a followup mime that will go out to all briefing attendees sometime between now and the 15th..

QUESTION: I will be providing "camera" ready pieces for both mailings to SBC and dealers. Who should I deal with in your department for copying and distribution? Also have the pocket cards now and suggest that they be included in the SBC mailing. Marie Mull suggested that Denise Sofka was looking for additional work...but that's entirely your call. Don't want to get in the way of your plans there. I could probably get someone started now if they had time and then feed them the pieces as they get finalized. Let me know what you think.

Thanks!
CAK

Author: Anne M. Fetsch at TORMFG-PO1
Date: 2/6/96 10:53 AM
Priority: Normal
TO: Carolin A. Keith
Subject: Re[2]: POWERINE CARB SMALL REFINER STATUS
---------- Message Contents ----------

Carolin,

Thanks for the update...Denise can work on that for now. Thanks for your assistance. Anne

Anne,
We were wrong in our explanation regarding the small refiners exemption. If a small refinery is granted a 3-year exemption, it will still be allowed to produce AND sell in California. It must meet 4 of the 8 exemptions and then it can be sold in California along with the CBG. Regarding testing of CBG...most of the enforcement will take place on the refinery end of things. If, however, a station is tested and their product exceeds the cap (there is an allowance for averaging gasoline produced, so a cap has been set to determine a point above which a gasoline cannot go and stay within the CBG averaging allowances), they and their producer/provider will have to show a papertrail on the product to determine if any of the "exempted" refineries's product explains for exceeding the cap.

To date, none of the small refineries have been exempted...we should know within the next week or two if any are granted.

And, all refineries can still produce non CBG to sell in other markets (e.g., we will not sell CBG in Phoenix).

I plan to correct this and answer a few other questions in a followup mime that will go out to all briefing attendees sometime between now and the 15th..

QUESTION: I will be providing "camera" ready pieces for both mailings to SBC and dealers. Who should I deal with in your department for copying and distribution? Also have the pocket cards now and suggest that they be included in the SBC mailing. Marie Mull suggested that Denise Sofka was looking for additional work...but that's entirely your call. Don't want to get in the way of your plans there. I could probably get someone started now if they had time and then feed them the pieces as they get finalized. Let me know what you think.

Thanks!
CAK

---------- Forward Header
---------- Subject: Re: POWERINE CARB SMALL REFINER STATUS
Author: Jim E. Horner at TORMFG-PO1
Date: 2/3/96 2:44 PM

Mark,

We've got some sources pretty familiar with the goings on over at Powerine. Despite what the press has been

HIGHLY CONFIDENTIAL

reporting, our sources believe that Powerine's chances of restarting this year (or ever) are very low for the following reasons:

1) The refinery process units and equipment is still under contract to Vas Kenyan whose intentions were to ship it to India. The group that bought the refinery land must first buy the equipment back from Kenyan before it gets on a boat. Kenyan may already have contracts in India that may not be broken or are more valuable than a sellback to the new Powerine group.

2) They estimate the start up expenses to be rather high ~$20MM; sounds steep but even at half that, it's a big number. There are serious doubts that financing can be acquired for the startup plus any low margin periods.

Even if they restart and they get a 7cent exemption, with current conventional refining margins so bad, the exemption may not be enough to make money for them on an operating basis. When we looked over their books last year, their operating expenses were about 5cpg of G&D higher than ours so they don't have alot of comfort zone if they have any operating problems in the restart.

Alot of big if's need to come through for Powerine to restart.

Bottom line: I'd bet Barry Switzer gets 'coach of the year' before Powerine restarts.

Jim

Reply Separator
Subject: POWERINE CARB SMALL REFINER

STATUS
Author: Mark J. Dizio at TORMFG-P01
Date: 2/3/96 2:06 PM

JIM, ANY COMMENTS AS TO WHETHER POWERWINE WOULD EVEN STARTUP? REGARDS MARK

LUCILLE,
IF POWERINE RE-STARTS AND GETS THE SMALL REFINER EXEMPTION , I BELIEVE THE CARB MARKET PREMIUM WILL BE IMPACTED. COULD BE BY AS MUCH AS 2 -3 CPG.

AS BACKGROUND, WE HAVE BEEN PROJECTING THE CAL CARB POSITION TO BE BALANCED TO
SHORT IN THE SUMMER AND LONG IN THE WINTER. THE POTENTIAL SUMMER SHORTFALL WOULD PROBABLY BE MET VIA GULF COAST ALKYLATE IMPORTS WHICH WE ESTIMATE WOULD EQUATE TO CARB PLUS A 10-12 CPG PREMIUM TO CONVENTIONAL. IN THE WINTER, WE WOULD EXPECT THE CARB PREMIUM WOULD BE NO LESS THAN THE REFINERS INCRMENTAL COST OF PRODUCTION , OR ABOUT 7-8 CPG. ON AVERAGE , WITHOUT ANY SUPPLY DISRUPTIONS THIS WOULD MEAN AN AVERAGE CARB PREMIUM OF ABOUT 9-10CPG VERSUS CONVENTIONAL.

MOB 17684

THE RE-START OF POWERINE , WHICH RESULTS IN 20-25 TBD OF GASOLINE SUPPLY AT A COST OF ONLY 4-5 CPG VERSUS CONVENTIONAL (COST OF MTBE BLENDING), COULD BACK OUT SUMMER ALKYLATE IMPORTS AND EFFECTIVELY SET THE CARB PREMIUM A COUPLE CPG LOWER (ADVANTAGE OF 6-8CPG VERSUS IMPORTS). IN THE WINTER , THE POWERINE INCREMENTAL COST IS 2-3 CPG LOWER THAN OTHER REFINERY INCREMENTAL COSTS. REGARDING THE OTHER TO SMALL REFINERS , KERN AND PARAMOUNT, I DONT SEE ANY REAL IMPACT . EACH REFINER CAN PROBABLY SUPPLY MAX 5TBD, AND KERN IS UP NORTH.

NEEDLESS TO SAY, WE WOULD ALL LIKE TO SEE POWERINE STAY DOWN. FULL COURT PRESS IS WARRANTED IN THIS CASE AND I KNOW BRIAN AND CHUCK ARE WORKING THIS HARD. ONE OTHER THOUGHT, IF THEY DO START UP, DEPENDING ON CIRCUMSTANCES , MIGHT BE WORTH BUYING OUT THEIR PRODUCTION AND MARKETING OURSELVES. ESPECIALLY IF THEY START TO MARKET BELOW OUR INCREMENTAL COST OF PRODUCTION. LAST YEAR WHEN THEY WERE DUMPING RFG AT BELOW COST OF MTBE , WE PURCHASED ALL THEIR AVAILS AND MARKETED OURSELVES WHICH I BELIEVE WAS A MAJOR REASON THAT THE RFG PREMIUM LAST YEAR WENT FROM 1 CPG IN JAN TO 3-5CPG THRU TO THEIR SHUTDOWMN. WE'LL HAVE TO SEE HOW THIS PLAYS OUT , HOWEVER, IF THEY DO START UP, I'D SERIOUSLY CONSIDER THIS TACTIC. REGARDS MARK

Please develop response. Thanks.

_____ Forward Header
_____ Subject: POWERINE CARB SMALL REFINER STATUS
Author: MCCOOL/RJ (NECCVMD.RJMCCOOL) at CCFXGTW1
Date: 2/2/96 2:39 PM

To: LJCAVANA--TOR1 LJ CAVANAUGH
cc: GWBERRY --NECCVMA GW BERRY MDDIMEZZ--NECCVMD MD DIMEZZA

From: Bob McCool
Subject: POWERINE CARB SMALL REFINER STATUS
if they get ok, what impact
bob

_____Bob
*** Forwarding note from RJMCCOOL--NECCVMD 02/02/96 13:41 ***
To: EARENNA --FFX1 EA RENNA
cc: DMSHERMA--FFX1 DM SHERMAN

From: Bob McCool
Subject: POWERINE CARB SMALL REFINER STATUS
fyi
bob

_____Bob
*** Forwarding note from BMHARNEY--FFX7 96/02/02 14:31 ***

From: Brian M. Harney at FFXMFG-PO1 1996/02/02 14:31
To: MCCOOL/RJ (NECCVMD.RJMCCOOL) at CCFXGTW1
cc: Charles R. Morgan at TORMFG-PO1, Randy T. Smith at FFXMFG-PO1
Subject: POWERINE CARB SMALL REFINER STATUS
To: Lucille J. Cavanaugh at TORMFG-PO1
cc: Vickie S. Jones at FFXMFG-PO1

MOB 17685

---------- Message Contents ---------- ---------- Forwarded with Changes ---------- From: Charles R. Morgan at TORMFG-PO1

229

Date: 2/2/96 8:41AM
To: Randy T. Smith at FFXMFG-P01
cc: Brian M. Harney at FFXMFG-P01
cc: Vickie S. Jones at FFXMFG-P01
Subject: POWERINE CARB SMALL REFINER STATUS
---------- Forwarded
---------- From: John F. Faulstich at TORMFG-P01
Date: 2/1/96 6:52AM
To: Charles R. Morgan
To: Joseph V. Waldinger
cc: Jim E. Horner
cc: Wee T. Yee
cc: HACKETT/DJ* (NECCVMA.DJHACKET) at CCFXGTW1
cc: MERGOTTI/GA (NECCVMD.GAMERGOT) at CCFXGTW1
*cc: #Business Leadership Team
Subject: POWERINE CARB SMALL REFINER STATUS

FYI-We vigorously opposed the small refiner exemption when it was proposed back in 1993. We also participated in a law suit with other majors to oppose the exemption.

While the exemption was adopted and the law suit was not successful, Chuck Morgan was able to get some significant requirements put into the regs that had to be met before an exemption could be granted.

Chuck and Randy are working the issue of these applications now with CARB and we're contacting our lobbyist to see what else can be done. WSPA is not involved because of antitrust issues.

Brian

Forward Header
Subject: POWERINE CARB SMALL REFINER STATUS
Author: Charles R. Morgan at TORMFG-P01
Date: 2/2/96 8:41 AM

CARB DECISION ON POWERINE WAIVER WON'T COME UNTIL NEXT WEEK

96-01-31 14:31:07 EST
CARB DECISION ON POWERINE WAIVER WON'T COME UNTIL NEXT WEEK
A decision from the California Air Resources Board (CARB) on whether
or not to grant a small refiner waiver to Powerine won't come until next week, say CARB officials. A board of ARB members is still weighing whether or not to grant the waiver not only to Powerine, but also to Kern and Paramount as well.
If the ARB grants the waiver to Powerine, it would have considerable
effect on the market. It would mean that for one year, Powerine could produce a fuel that would have only four of the eight properties that CARB mandates be in all gasoline produced after March 1, 1996. That means as much as 7ct gal price advantage for Powerine, versus other L.A. refiners such as Chevron and Texaco. In addition, if the waiver is granted, Powerine would also have the right to reapply for another one-year waiver.
Sources on the West Coast note that the market is less concerned about the Paramount and Kern applications, since neither of those

refiners are big shippers on the SFP pipeline system. Powerine, if they resume operations, would be a big shippers into the L.A. basin,

WUD 17596

CONFIDENTIAL

and into San Diego.

Officials with the ARB tell OPIS that a decision on Powerine's 230 application should arrive sometime next week.

-- Scott Berhang

Copyright 1996, Oil Price Information Service.

POWERINE Oil Company

12354 Lakeland Road, P.O. Box 2108
Santa Fe Springs, California 90670-3857

(310) 944-9861
(310) 944-6111

TLX No. 4720404
A/B Powerine
Facsimile (310) 944-3522

April 24, 1996

Mr. M. R. Diaz
General Manager, Supply & Distribution
Texaco Refining and Marketing, Inc.
10 Universal City Plaza, 6th Floor
Universal City, CA 91608

Dear Mr. Diaz:

Powerine Oil Company is attempting to restart its Santa Fe Springs, California, refinery which has been down since last July. We plan to resume a limited operation in May 1996, with the refinery back in full production by summer. When the refinery is in full production, Powerine plans to produce 20,000 barrels per day of CARB reformulated gasoline and 20,000 barrels per day of CARB and EPA diesel fuel and jet fuel.

In order to ease the current tight supply of gasoline, we propose accelerating our restart by offering your company a portion or all of Powerine's refinery production capacity under a processing agreement arrangement with terms and conditions that I believe you will find very favorable. Powerine is aware that the introduction of CARB reformulated gasoline combined with refinery operating problems in California has resulted in product demand not being met by the California refiners. This situation is forcing the industry to import product into California from refining centers outside the West Coast. A processing arrangement with your company would enable Powerine to resume full production much sooner, contribute to meeting CARB product demand and ensure that CARB reformulated gasoline standards are upheld. In addition, a processing arrangement with Powerine would provide your company with additional products to meet your marketing requirements.

If you are interested in discussing a processing arrangement with Powerine, please contact me as soon as possible. Powerine is prepared to meet with your company immediately to negotiate a processing arrangement with mutually agreeable terms for a portion or all of Powerine's refinery production. Powerine will enter into a processing agreement with the first company willing to proceed on acceptable terms.

I look forward to your timely response to our offer.

Very truly yours,

A. L. Gualtieri
Chief Operating Officer

ALG/mjs

TRMI S&D			
APR 2 7 '96			
MRD		RJP	
RJG		WST	
JDM			
		DEC	
DUE DATE			
FOLLOW UP			
FILE			

SPEC 2 TX 000566

EXHIBIT IV.10

Texaco

TRMI REFINING
ACTION:
X Handle
✓ Read
MAR 11 '96

CTW	✓	RSH	
ASA		RFM	
CAF		CAR	
DRH		VMP	
RCS		RAC	
DKG		JAA	
JCC		RHM	
		MAR	

TRACE DATE:
Final Handling ☐ File ☐ Destroy

DATE: March 7, 1996

TO: Messrs. J. F. Boles
C. T. Walz
P. W. Tomlinson
A. S. Abay
C. A. Flagg
D. R. Hall
R. C. Sheffield
R. A. Pourciau

FROM: L. D. Hopkins

SUBJECT: FUTURE GASOLINE SPECIFICATIONS

There is a fuels issue of national significance which continues to gather momentum. The issue, being doggedly pursued by the American Automobile Manufacturers Association (AAMA), is one of: 1) altering ASTM gasoline specifications, and 2) finding a more 'efficient' process for making changes to fuel specifications.

From a long-range perspective, it appears that the AAMA are seeking benefits of tighter fuel standards that will come from: a) reducing the variability in gasoline that motorists purchase, and b) restricting key fuel parameters that are perceived to be costly or troublesome to vehicle control systems. Although perhaps presumptive, one could conclude that if the auto companies had their wish, gasoline would be defined as having a very narrow boiling range, be of constant density, be of constant energy content, and not contain any non-hydrocarbon compounds. In this manner, it is alleged, vehicle systems could be designed, built and operated at lowest cost and maximum emissions benefits, notwithstanding the fact that the gasoline suppliers would incur unbearable costs that the Auto's had avoided.

The natural instincts of fuel suppliers (API) to the above issue is a strong, unified defensive posture of taking action to see that the burden of 'fixing' a vehicle problem is not shifted to the oil industry. However, given the trend in recent years and the global drive for cleaner fuels, it is inevitable that the gasoline industry will continue to be regulated and/or pressured toward tighter gasoline specifications. Some suppliers may even voluntarily accede to the desires of the Auto's if they perceive a niche opportunity for competitive advantage.

The above situation was discussed at a Puget Sound Plant strategic planning meeting in January. From those discussions it became clear that this was not the most critical strategic challenge facing PSP. It was not even determined definitively to be a 'negative', given the business environment on the West Coast as discussed below.

As observed over the last few years and as projected well into the future, the most ciritcal factor facing the refining industry on the West Coast is the surplus refining capacity, and the surplus gasoline production capacity. (The same situation exists for the entire U. S. refining industry.) Supply significantly exceeds demand year-round. This results in very poor refinery margins, and very poor refinery financial results. Significant events need to occur to assist in reducing supplies and/or increasing the demand for gasoline. One example of a significant event would be the elimination of mandates for oxygenate addition to gasoline. Given a choice, oxygenate usage would go down, and gasoline supplies would go down accordingly. (Much effort is being exerted to see that this happens in the Pacific Northwest.)

Within this context, the question was raised as to whether any parts of the AAMA fuel specification proposal (see 'Attachment 1' of the attached letter) would serve to benefit our most critical problem on the West Coast. For example, on the surface it would appear that a reduction in T90 maximum would serve to reduce gasoline supplies since it would drop the heavy end of gasoline down into the distillate pool (as one solution). But such a proposal raises many questions concerning the over-all impact on the refining markets, on Texaco and Star Enterprise, and on our competitive posture. In addition, the two examples used here would only incrementally serve to reduce supplies, whereas large adjustments are necessary. But they may be directionally beneficial.

The attached paper is a response to this issue raised during the PSP strategic planning session. It gives more in-depth treatment to the technical issues than it does to the business issues, but both require a lot more analysis, discussion and consensus-building before a conclusion can be reached for TRMI or Star Enterprise.

I would appreciate your review of this issue and advice as to whether you think we should put together a small work-group to assess the issue, identify opportunities, and develop a consensus on the proper position for Texaco/TRMI/Star Enterprise. From your responses, I will provide further direction. Please provide your reply by March 22, 1996.

LDH:

Copies for information: MDRedemer,GTJones

TEX 0018676

HIGHLY
CONFIDENTIAL

SPEC-TX 011238
CONFIDENTIAL

Texaco

DATE: February 14, 1996

TO: Mr. Keith Kraft

FROM: L. D. Hopkins

SUBJECT: PSP STRATEGY TEAM ASSIGNMENTS

Attached herewith is a report that addresses the issue to which I was assigned concerning the effect of gasoline specification changes on the supply of gasoline in the West Coast market.

I am assuming you will make copies of this report available to the PSP personnel as you see fit. Note that I have copied staff in UCP.

Please give me a call if you have any questions.

LDH:

Copies: RSHancock, RFMillar, BBoldt, MAColby

IMPACT OF FUTURE GASOLINE SPECIFICATION CHANGES

BACKGROUND

The American Automobile Manufacturers Association (AAMA) has for over a year been proclaiming to the oil industry that ASTM fuel specification changes were not keeping pace with the needs of the automobile systems as tighter and tighter vehicle emissions standards were being implemented. The oil industry, through API, argued for continuing the present ASTM process as the forum for establishing fuel standards that address the needs of all constituencies. After some unsuccessful attempts by the AAMA to get distillation and driveability index changes through the ASTM process, they began to criticize the slow, cumbersome ASTM process as being unresponsive to our mutual customers' needs. About mid-1995, the AAMA surfaced a draft set of gasoline specifications they referred to as 'national unleaded gasoline specifications'. That list of specifications has been slightly modified several times since then. The current list of specifications proposed are as shown in Attachment 1. A more detailed listing is shown as Attachment 2.

During this time of discussions, API developed an industry position on the procedures for setting gasoline standards. This policy position is shown as Attachment 3.

Because of a lack of interest by the oil companies to consider the AAMA proposal, the AAMA companies have recently threatened to publish the proposed specifications in owners' manuals and the name of marketers who have agreed to provide fuels meeting those specifications. They claim that some companies are already meeting or very close to meeting these specs. Ward's Automotive published a listing of branded gasoline qualities developed from AAMA's national gasoline survey program (Attachment 4). This may be a bold 'divide and conquer' strategy being deployed by the AAMA against the oil companies. If this is successful, it is unlikely that API could maintain its current consensus policy position on this issue.

Ford recently presented a paper calling for a new procedure for setting gasoline standards, referred to as the 'cowboy' approach. The way this approach would work is that the auto manufacturer would place a specification into immediate use while the document is routed through the formal standards-setting system (ASTM/CRC). They argue that this will greatly accelerate the standards-setting process and be more responsive to global demands. How to address the inevitable disagreements that will occur was not discussed.

More recently, the Auto/Oil Steering Committee, represented by five oil companies and the three domestic automakers, agreed to form an *ad hoc* team with members from the auto and oil companies to study the options for streamlining the ASTM standards-setting process and report back to the Steering Committee. Subsequently, the API Downstream Committee, representing all API companies, agreed to the proposed joint study, notwithstanding the strong API position on maintaining the existing process.

SPECIFICATIONS THAT MAY CHANGE

As shown in Attachment 1, the most significant specification changes being proposed are as follows:

Sulfur, wt % max	1000 ppm —>	TBD
T50 max	250 F ——>	220 F
T90 max	374 F ——>	350 F
Driveability Index *	none——>	1200 max

* Driveability Index (D.I.) = 1.5 x T10 + 3 x T50 + T90 ; an adjustment for the presence of oxygenates is under development.

SULFUR: The information in Attachment 5 has been reviewed and still presents a valid scenario on the issue of sulfur in gasoline. *(Note: It has been suggested that the recent Memorandum of Agreement (MOA) negotiated between CARB and individual auto companies, which contains a requirement that the auto companies will introduce a national LEV no later than model year 2001, may change the timing of the scenario. This is not the case because, in my scenario, the national LEV was not the main driver for low sulfur gasoline since the Autos and EPA have both acknowledged that no special fuel will be required for the national LEV. The Autos state that the current limit is too high, and they will be looking at experimental results to justify a lower spec at a later date. Accounting for years for the regulatory and/or standard-setting process to occur and a four year lead time for refinery construction, 2003 - 2004 still seems reasonable to me.)*

T50 MAX: The Autos agrue that the T50 max of 220 is technically feasible since CARB Phase 2 has a 200 - 210 F range. Further, they state that if a D.I. of 1200 max is met, then the T50 will likely be below 220 F. Also, it is likely that by lowering the T90 (following) that the T50 will automatically be reduced to some extent.

T90 MAX: Not many gasolines exceed the 350 F max currently, and T90 values are expected to be considerably less when the D.I. spec of 1200 max is met. In addition, heavier components in the gasoline are more difficult to combust and more readily form carbonaceous deposits. Thus, the lower T90 can help reduce the deposit forming tendencies of gasolines. In addition, the Auto/Oil research identified a T90 reduction as generally a

positive step in reducing tailpipe emissions of both hydrocarbons and Nox, and therefore ozone formation.

DRIVEABILITY INDEX: The Autos claim that a number of studies have determined that the number of customers dissatisfied with the driveability of their vehicle increases as the DI exceeds 1200. Current experiments are underway that the Autos believe will provide additional evidence to support their claim. A DI offset for oxygenates is considered to be very important to the Autos, but the specific adjustment has not been quantified. The Oil industry does not agree that the research evidence identifies 1200 as the maximum level for customer satisfaction. This issue will continue to be debated between our industries, but the Autos are not likely to relent.

IMPLICATIONS OF THE PROPOSED SPECIFICATION CHANGES TO TEXACO

The impact that the above specification changes would have on TRMI if implemented has to be evaluated within the context of the effect on the industry at-large. This is beyond the scope of this paper. However, it is appropriate and instructive to look at the effect these specification changes may have on the supply and/or demand for product on the U. S. West Coast. From that view, it may be possible to deduce some findings on the directional effect on PSP's financial health.

1. Any of the proposed spec changes would increase the cost of manufacturing gasoline. (If it didn't, refiners would already be doing it.)

2. A marginal increase in cost, if recovered, will have a marginal downward effect on demand (elasticity).

3. From a theoretical standpoint, an increase in refining cost will make marginal supply uneconomical, thereby incrementally reducing supply volumes.

4. With the possible exception of sulfur, all other proposed specification changes will result in a reduction in gasoline supply from the refineries, and results primarily from removing the heavier-ends through distillation. This is the single largest impact and the largest potential benefit to improving West Coast margins. *(Note: The effect on mogas production from PSP can best be estimated by the refinery. No attempt is made to do that here.)*

5. One result of 4. is that there will be additional Avjet/middle distillate produced, thereby adding to supplies of these products.

6. The proposed changes will affect each refinery differently. To illustrate, Attachment 6 is included to show the DI scatter on samples obtained from the Southwest Research Institute's monthly retail surveys in 1994, both for Texaco gasolines and the entire industry gasolines. It is true that many of these samples could be from fungible product supplies, but the variability is still quite significant.

7. As for RVP, it is not apparent that summer RVP max levels will go much lower, if any. There is no motive at this time. Lowering winter-time RVP's could occur in certain metro areas, especially desert cities such as Phoenix, Las Vegas, etc. The auto companies seem to be concerned by lowing RVP much lower as it would begin to increase driveability problems, especially cold start problems.

8. On a separate but related matter, a reiteration of TRMI's fundamental policy on oxygenates is that we oppose mandated oxygenate useage where the environmental benefits are not commensurate with the cost. For example, the use of oxygenates to reduce ozone in non-attainment areas is not cost-effective; the use of oxygenates to reduce CO emissions in non-attainment areas is cost-effective. Further, there should be no biases favoring any specific oxygenate over another, but use should be based on performance criteria and free-market economics. This policy also serves to remove the oxygenate swell from the gasoline supply pool where it is not needed and not economical.

SUMMARY

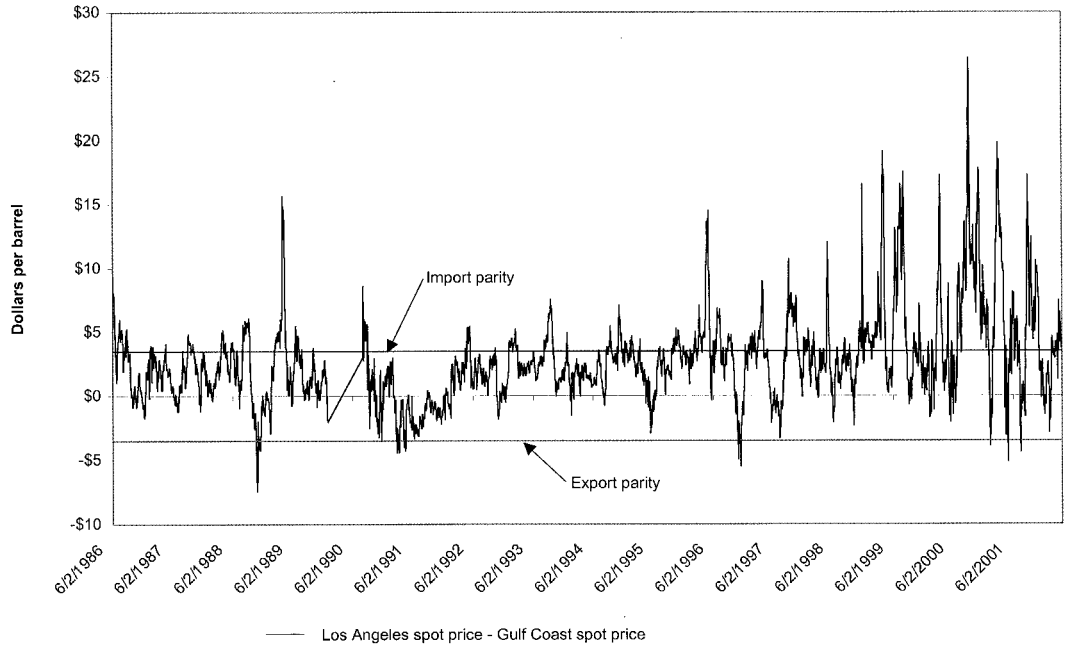
Both the Texaco position and the API position currently is to fight the proposed specification changes because it will increase fuel cost and not deliver commensurate benefits to the consumers nor the environment. Thus it is not cost-effective.

Incremental improvements to refinery margins from reducing supplies or increasing demand can be achieved in a number of ways. One way would be to promote the more restrictive mandated specification changes to reduce supply of product; another would be to continue the poor financial performance by the industry until some weak performer dropped out; another would be for refiners to voluntarily reduce refinery production without incurring added costs or suffering attrition (admittedly unreasonably idealistic, but the best option).

Advocacy of a Texaco position on issues with industry groups or any regulatory agency should be consistent with those actions that will benefit TRMI vis-a-vis competition, or hurt TRMI less than competition.

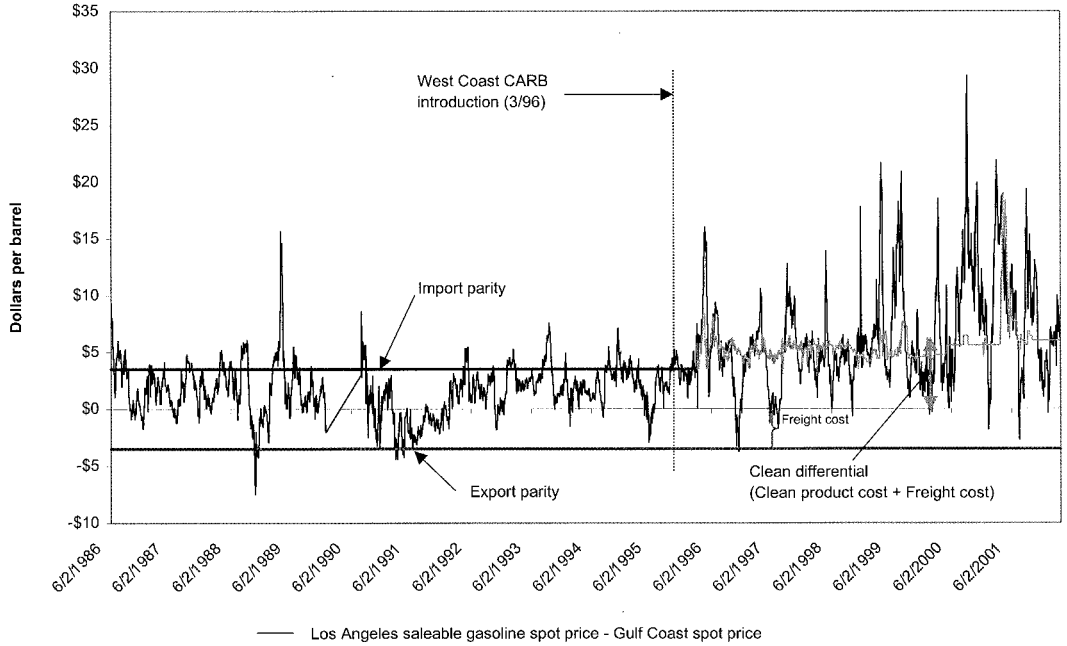
If after careful consideration the PSP strategy team decides to recommend support for more restrictive fuel specifications such as those proposed by AAMA to help reduce the surplus supply of product on the West Coast, it should be brought to the attention of TRMI Headquarters Refining and EH&S Fuels staff for discussion within TRMI and the corporation.

Figure IV.1: West Coast to Gulf Coast Conventional Gasoline Spot Prices, June 1986 - March 2002



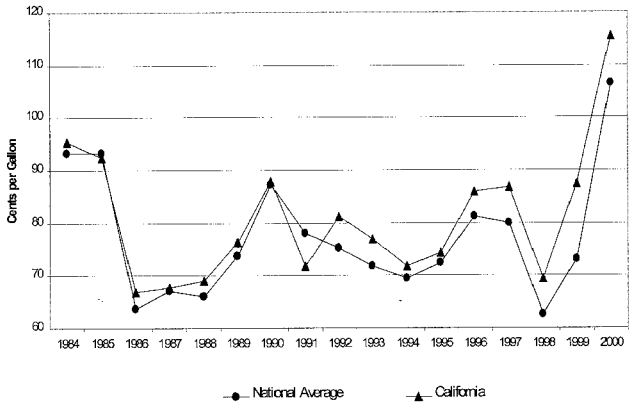
Source: DOE/EIA and Document in Subcommittee files.

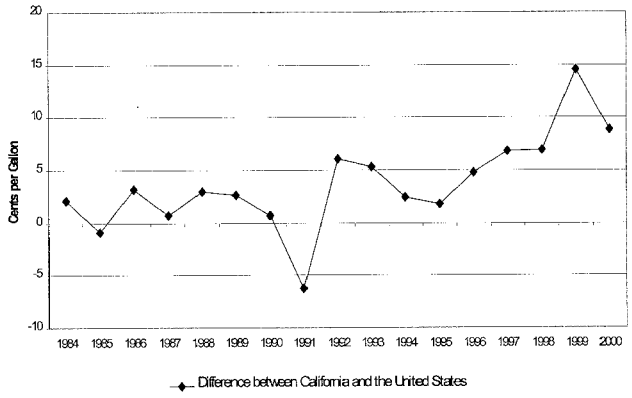
Figure IV.2: West Coast to Gulf Coast Saleable Gasoline Spot Prices, June 1986 - March 2002



Source: DOE/EIA and Document in Subcommittee files.

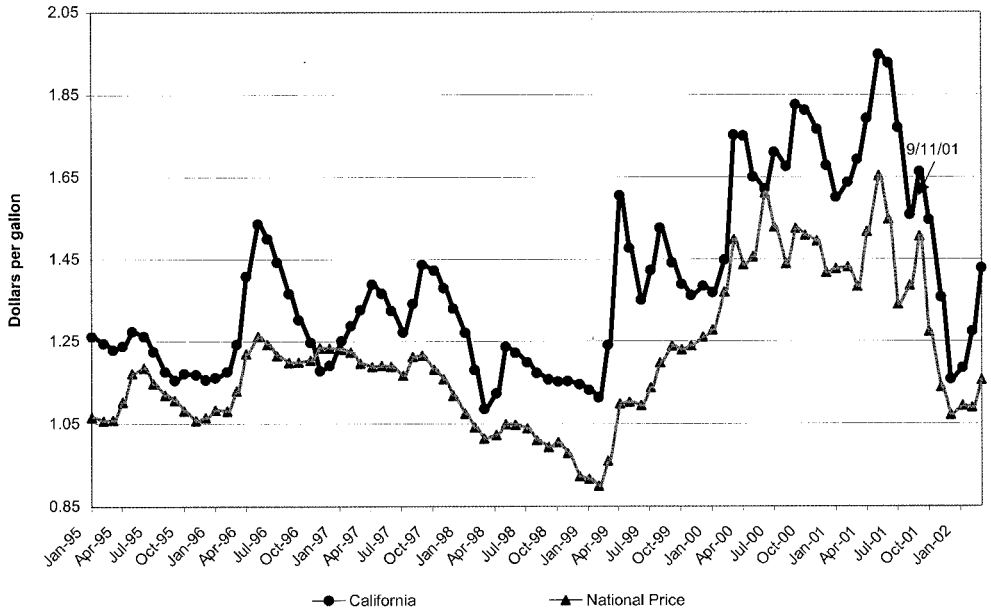
Figure IV.3: Annual Average Retail Gasoline Prices for California and the United States, 1984-2000





Source : DOE/EIA.

Figure IV.4: Retail Gasoline Prices -- California Compared to United States Average, January 1995 - March 2002



Source: DOE/EIA.

EXHIBIT IV.11

HIGHLY
CONFIDENTIAL

WEST COAST PRODUCT
PRICE FORMATION

ARC 000009263

HIGHLY CONFIDENTIAL

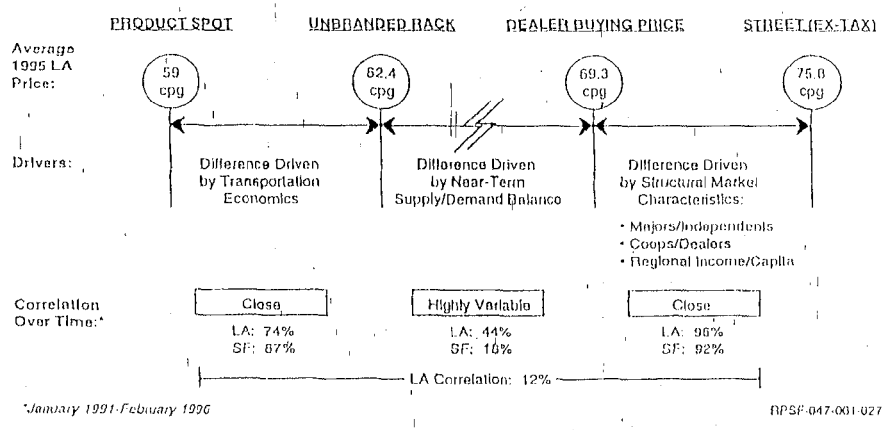
THE OVERALL WEST COAST PRODUCT SUPPLY/DEMAND BALANCE HAS MAJOR IMPLICATIONS FOR MARKETING MARGINS

Executive Summary

- The West Coast is unique – supply/demand balance oscillates between net short and net long
- When West Coast supply exceeds demand, pricing moves to export parity; when demand exceeds supply, pricing is driven to import parity
- Export parity in the spot market can compress margins all the way to the street
- The key is to strike the right balance both at the wholesale and retail level
  - Maintain spot balance versus the Gulf
  - Preserve competitive position on the street

HIGHLY CONFIDENTIAL

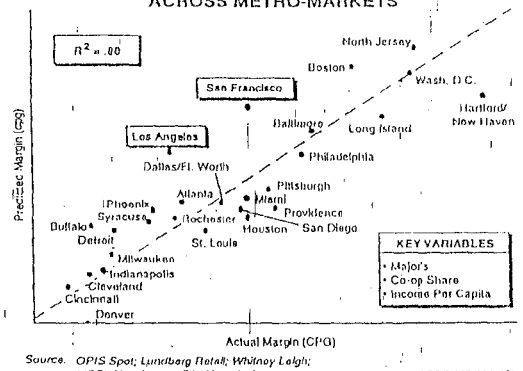
CHANGES IN THE SUPPLY/DEMAND BALANCE HAVE AN IMPACT ON SPOT TO STREET MARGINS IN THE WEST COAST



HIGHLY CONFIDENTIAL

IN OTHER MARKETS, THESE MARGINS ARE DRIVEN BY STRUCTURAL FUNDAMENTALS

CORRELATION OF RACK-STREET MARGINS ACROSS METRO-MARKETS



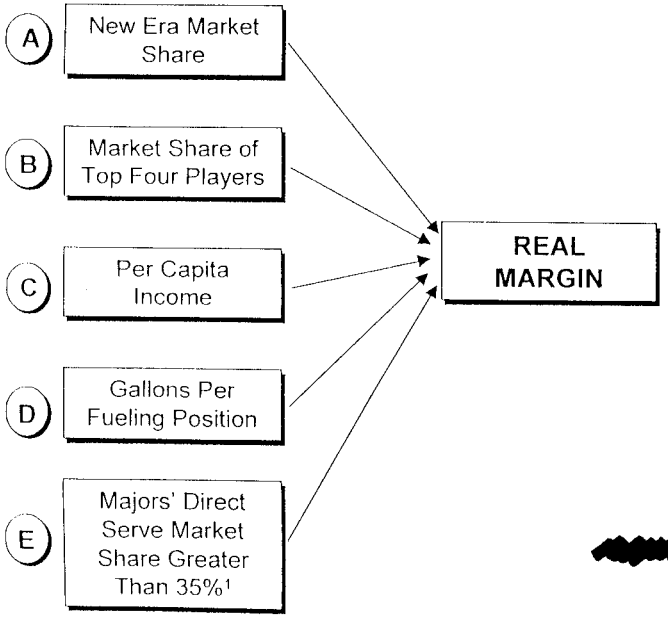
Source: OPIS Spot; Lundberg Retail; Whitney Leigh; MPSI; New Image; BA&H analysis

RPSF-047-001-028

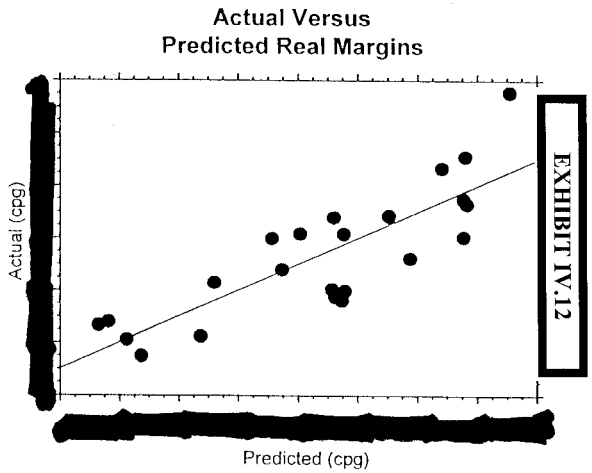
THUS, IN MOST MARKETS, SPOT AND UNBRANDED RACK ACTIVITY DOES NOT IMPACT RETAIL MARGINS

EXHIBIT IV.12

Preliminary analysis suggests five main factors have significant influence on real margins in a market



1. Major Direct Serve = Major COCO, CODO, and DODO



[redacted]

EXHIBIT IV.13

File Poc Speech TOO

TOSCO SLIDE

THANK YOU FOR THE FLATTERING INTRODUCTION. I'M PLEASED TO BE HERE TODAY REPRESENTING TOSCO CORPORATION.

I'VE TRIED TO STRUCTURE MY PRESENTATION SO IT'S RELEVANT TO WHAT THE PACIFIC OIL CONFERENCE IS ALL ABOUT AND WHAT YOU'RE INTERESTED IN. I'LL LIMIT MY REMARKS TO ABOUT 25 MINUTES THUS LEAVING PLENTY OF TIME FOR QUESTIONS.

MY DEFINITION OF RELEVANCE REVOLVES AROUND PROFIT AND I SUSPECT IT'S NOT FAR FROM ANY BUSINESS PERSONS MIND. WHILE MY REMARKS ARE WELL RESEARCHED, THEY SHOULD BE TAKEN AS THE OPINION OF TOSCO AND TOM O'MALLEY. OTHERS WILL UNDOUBTEDLY RELY ON DIFFERING INPUT AND MAY COME TO DIFFERENT CONCLUSIONS. I'M GOING TO TALK ABOUT CRUDE OIL PRODUCTION REFINING AND MARKETING, PARTICULARLY AS THEY RELATE TO PADD V AND TOSCO.

LET'S START OFF WITH A BRIEF DESCRIPTION OF TOSCO.

OIL REFINING SLIDE

WE'RE A REFINER WITH OVER 500 MBD OF CAPACITY LOCATED ON BOTH THE EAST AND WEST COASTS OF THE USA.

WHOLESALE MARKETING SLIDE

WE'RE A WHOLESALER OF PETROLEUM PRODUCTS WITH EXTENSIVE TERMINAL OPERATIONS ON BOTH COASTS.

RETAIL MARKETING SLIDE

WE'RE A RETAIL MARKETER ON THE WEST COAST WITH THE EXCLUSIVE RIGHT TO USE THE BP BRAND IN A 9 STATE REGION.

WE EXPECT TO HAVE SALES EXCEEDING $6 BILLION IN 1994 WHICH WILL PUT US IN THE FORTUNE 100.

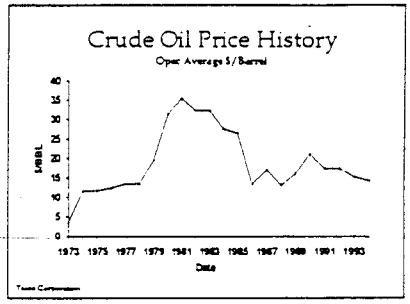
BASED ON OUR POSITION IN THE INDUSTRY, I BELIEVE WE'RE QUALIFIED TO REVIEW ITS PROSPECTS OVER THE BALANCE OF THE CENTURY.

LET'S START WITH THE BASE RAW MATERIAL.

CRUDE OIL IS WHERE THE CYCLE STARTS. WE ENTERED THE OPEC ERA IN ABOUT 1973 AND ULTIMATELY PUSHED PRICES OVER $36 / BBL. OPEC

HAD A GREAT ASISST FROM US GOVERNMENT REGULATIONS WHICH KEPT PRICES ARTIFICIALLY HIGH THROUGHOUT THE 2ND HALF OF THE 1970'S. RONALD REGAN TOOK OFFICE IN JAN OF 1981, REMOVED PRICE CONTROLS IN FEB OF 1981 AND SINCE THEN THE LAWS OF SUPPLY AND DEMAND AS OUTLINED BY ADAM SMITH OVER 200 YEARS AGO TOOK OVER.

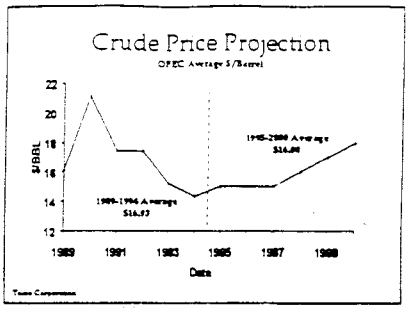
SLIDE 1: SHOWS THE AVERAGE OPEC PRICE HISTORY SINCE 1973 AND THE START OF PRECIPITOUS DECLINE IN 1981.



THE LATE 80's AND EARLY 90's, WITH THE EXCEPTION OF THE GULF WAR, WERE A PERIOD OF RELATIVELY DECLINING CRUDE OIL PRICES.

TS0013423

07860

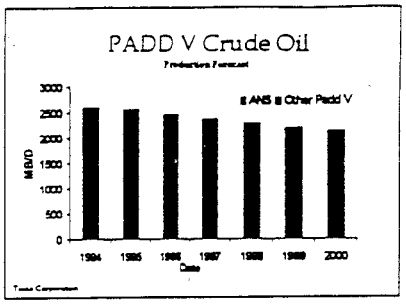


THE SLIDE SHOWS THE LAST 6 YEARS PLUS OUR PROJECTION FOR THE 2ND HALF OF THE 90's. WE ONCE AGAIN USE OPEC AVERAGE PRICES. WE THINK THE YEARS 95 THRU 98 WILL BE STABLE AROUND TODAY's LEVELS AND THEN WE PROJECT ESCALATION AT $1 YEAR THRU THE END OF THE CENTURY. REGRETFULLY, I HAVE TO TELL YOU THERE IS NO SUCH THING AS AN ACCURATE LONG TERM CRUDE OIL PRICE PROJECTION. MANY THINGS COULD HAPPEN BUT SHORT OF A MAJOR WAR IN THE MIDDLE EAST, IT'S HARD TO SEE A LONGER TERM PRICE SPIKE.

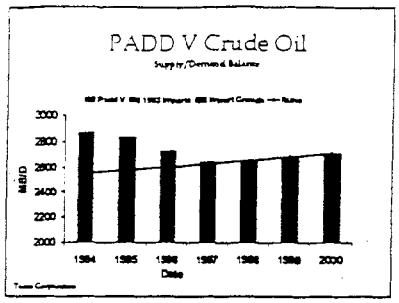
CRUDE OIL PRICES WILL BE MAINLY DRIVEN BY THE SUPPLY DEMAND BALANCE. THE STRONG PACIFIC BASIN ECONOMIES WILL PROBABLY PUT A FLOOR UNDER THE PRICE SINCE WE EXPECT WORLDWIDE OIL PRODUCT CONSUMPTION GROWTH TO AVERAGE 1,500,000 BBLS PER DAY PER YEAR. THE WORLDWIDE SYSTEM IS RELATIVELY WELL BALANCED NOW BUT WE STILL HAVE AN OVERHANG IN IRAQ. WE THINK THIS IRAQI PRODUCTION WILL START TO COME TO

MARKET DURING THE 2ND HALF OF 1995 AND THAT IT WILL TAKE 2 TO 3 YEARS TO ABSORB IT.

LET'S FOCUS FOR A MINUTE ON PADD V, THE WESTERN U.S.:



THIS SLIDE SHOWS ANS PRODUCTION IN BLUE AND OTHER PADD V PRODUCTION IN RED. PADD V HAS BEEN SURPLUS SINCE NORTH SLOPE PRODUCTION CAME ON STREAM. THE NORTH SLOPE HAS DECLINED ABOUT 300 MBD SINCE IT REACHED ITS PEAK IN THE MID 80's AND IS EXPECTED TO CONTINUE TO SLOWLY DECLINE BY A TOTAL OF ABOUT 400 MBD IN THE 6 YEAR PERIOD THRU THE YEAR 2000. CALIFORNIA PRODUCTION WILL PROBABLY FALL OFF BY 50 MBD IN THE SAME TIME PERIOD. PADD V REFINERS, WILL BE IMPORTING MORE FOREIGN CRUDE IN THE FUTURE. HIGHER FREIGHT COSTS AND DIFFICULT PORT CONDITIONS, PARTICULARLY IN THE SAN FRANCISCO BAY AREA, WILL CAUSE PADD V CRUDE OIL COSTS TO ESCALATE EVEN MORE THAN THE WORLD MARKET.



THIS SLIDE SHOWS THE PADD V PRODUCTION DECLINE IN BLUE, PRESENT IMPORTS AS A CONSTANT IN RED AND IMPORT GROWTH STARTING IN 2 OR 3 YEARS IN YELLOW. IF I WAS TO GUESS, HIGHER CRUDE IMPORTS AND EXPENSIVE TRANSPORTATION WILL ADD ANOTHER 2 CENTS / GAL TO THE COST OF PADD V PRODUCTS.

SUMMARIZING THE VIEW TOSCO HAS ON THE CRUDE OIL OUTLOOK IN THE WORLD AND PADD V TELLS US 2 THINGS:

1. CRUDE PRODUCERS WILL HAVE TO LIVE WITH LOW PRICES FOR SEVERAL MORE YEARS.
2. CRUDE OIL COSTS SHOULD NOT CAUSE SIGNIFICANT INFLATION IN THE VALUE OF OIL PRODUCTS.

TOSCO CURRENTLY HAS NO CRUDE OIL PRODUCTION AND PRESENTLY HAS NO PLANS TO ENTER THIS BUSINESS.

TS0013426

LET'S NOW SWITCH OVER TO THE NEXT STEP IN THE CYCLE REFINING. TOSCO HAS A GREAT INTEREST IN THIS SINCE WE OWN 500, BPD OF REFINING CAPACITY IN THE UNITED STATES. I'M GOING TO CONCENTRATE TODAY ON CALIFORNIA WHICH WILL IN ESSENCE CHANGE FROM A COMMODITY REFINING MARKET TO A SPECIALITY CHEMICAL BUSINESS DETACHED TO A GREAT DEGREE FROM REFINING IN THE REST OF THE US, AND TO AN EVEN GREATER DEGREE, FROM THE REST OF THE WORLD.

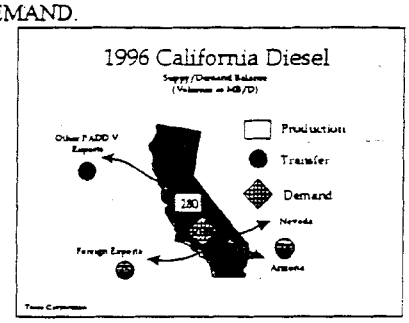
WE ARE EXPERIENCING AND WILL CONTINUE TO SEE INFLATION IN THE COST OF OIL PRODUCTS AS A RESULT OF NEW GOVERNMENT REGULATION.

CALIFORNIA, BY FAR THE LARGEST CONSUMER OF PRODUCTS IN PADD V, HAS PUT IN PLACE SPECIFICATIONS FOR DIESEL AND GASOLINE THAT ARE DIFFERENT THAN ANYWHERE ELSE IN THE WORLD. OTHER STATES, AND EVENTUALLY COUNTRIES, MAY FOLLOW, BUT I DOUBT IF ANYONE WILL IMPLEMENT CALIFORNIA SPECS MUCH BEFORE THE YEAR 2000.

THE CALIFORNIA AIR RESOURCES BOARD, BETTER KNOWN AS CARB ESTABLISHED SPECIFICATIONS FOR DIESEL WHICH RESULTED IN A PRICE INCREASE OF 5 TO 9 CENTS/GAL SINCE INCEPTION IN OCT OF 1993. I'M, OF COURSE, OMITTING THE BRIEF START UP PERIOD WHEN WE SAW VERY HIGH PREMIUMS OR 30 TO 40 CENTS / GAL.

CARB DIESEL NOW TRADES AT A PREMIUM OVER REGULAR GRADE IN THE 5 TO 8 CENTS RANGE. I THINK

THIS PREMIUM WILL STAY IN PLACE AND COULD GROW SUBSTANTIALLY IF WE EXPERIENCE A MAJOR LONGER TERM UPSET AT ONE OF CALIFORNIA'S LARGE DIESEL REFINERIES. TOSCO IS CALIFORNIA'S 3RD LARGEST DIESEL PRODUCER. WE MAKE UP TO 55 MBD OF THIS TRANSPORTATION FUEL AND SUPPLY ABOUT 25% OF CARB DEMAND.

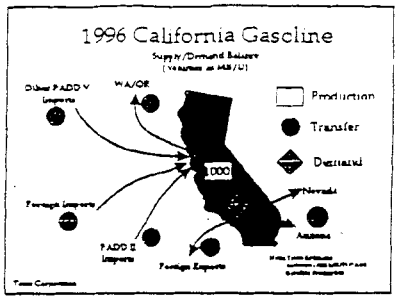


170

THIS SLIDE SHOWS CALIFORNIA DIESEL BALANCES. ACCURATE STATISTICS ARE DIFFICULT TO OBTAIN. WE BELIEVE ~~CARB~~ CONSUMPTION IS ABOUT ~~190~~ MBD AND ~~THAT~~ PRODUCTION IS VERY CLOSE TO THAT NUMBER. THIS IS AN INSTANCE WHERE THE INDUSTRY COULDN'T ECONOMICALLY CONVERT 100% OF THEIR PRODUCTION TO THE NEW SPECIFICATION AND HAD TO EXPORT. THIS RESULTED IN A FIRM CARB DIESEL PRICE. WE MAY SEE THE SAME SITUATION IN GASOLINE.

CARB PHASE II GASOLINE IS DUE TO ARRIVE IN APRIL OF 1996, I.E. ABOUT 1-1/2 YEARS FROM NOW.

TS0013428



THIS SLIDE SHOWS WHAT WE THINK GASOLINE FLOWS IN CALIFORNIA WILL BE STARTING IN MARCH OF 1996. REMEMBER THESE ARE TOSCO ESTIMATES AND OTHERS MAY HAVE A DIFFERING VIEW.

AT THE RIGHT PRICE THERE WILL BE ENOUGH CARB GASOLINE. WHY PREFACE THE SUPPLY ISSUE WITH PRICE? WELL, WE BELIEVE THE CALIFORNIA REFINING INDUSTRY WILL NOT MAKE SUFFICIENT CARB GASOLINE TO FULLY SUPPLY CALIFORNIA CONSUMPTION IN 1996. OBVIOUSLY ANY PROJECTION NEEDS A DEMAND FORECAST. OUR CALIFORNIA DEMAND ESTIMATE OF 945,000 BBL's PER DAY GASOLINE CONSUMPTION IS BASED ON A 1.5% PER ANNUM AVERAGE DEMAND INCREASE FROM 1993 TO 1996. WE ALSO INCLUDE THE IMPACT FROM LOWER MILEAGE FROM CARB PHASE II GASOLINE. RESEARCH RESULTS PUBLISHED BY THE SOCIETY OF AUTOMOTIVE ENGINEERS INDICATES MILEAGE DEGRADATION OF ABOUT 4% WHEN COMPARED TO CONVENTIONAL NON OXY GASOLINE TODAY. WE ESTIMATE THERE WILL BE

A SHORT FALL OF OVER ~~140~~ 150 MBD WHICH WILL HAVE TO BE IMPORTED.

IMPORTS WILL COME EITHER FROM OTHER U.S. REFINERIES OR FROM OFFSHORE. ALMOST ANY COMPLEX REFINERY CAN MAKE SOME QUANTITY OF CARB GASOLINE. THE COSTS, HOWEVER, OF SEGREGATING HIGH QUALITY COMPONENTS, THUS IMPACTING THE QUALITY OF THE BALANCE OF THE REFINERS GASOLINE POOL ARE SUCH THAT NON CALIFORNIANS WILL NEED A REAL FINANCIAL INCENTIVE TO PRODUCE CARB GASOLINE. HOW MUCH? I WOULD GUESS MINIMUM 4 CENTS / GAL FOR THE MOST COMPETITIVE GROUP. THIS NUMBER ONLY DEALS WITH THE MANUFACTURING COST. THERE IS ALSO THE QUESTION OF FREIGHT TO CALIFORNIA. WE THINK THE MINIMUM FREIGHT COST IS 2 CENTS / GAL WHICH WOULD BE TODAY'S LOWEST COST FROM THE NORTHWEST. MORE DISTANT IMPORT SOURCES WOULD CARRY A FREIGHT COST OF 4 TO 6 CENTS / GAL. THE COMBINATION OF QUALITY AND FREIGHT TOTALS MINIMUM 6 CENTS / GAL. THIS EXCLUDES OXYGENATES FOR THE GASOLINE. CARB GASOLINE MUST BE OXYGENATED YEAR ROUND AND MEET AN RVP LIMIT OF 7.2 IN THE SUMMER. WE ESTIMATE THAT THE COMBINATION OF OXYGENATE AND LOWER RVP WILL ADD ANOTHER 4 CENTS / GAL TO THE COST OF CALIFORNIA GASOLINE. THIS EXTRA 4 CENTS WILL BE A YEAR ROUND FACTOR IN SOUTHERN CALIFORNIA STARTING IN 1995 WHEN FEDERAL REFORMULATED GASOLINE KICKS IN. IT'S A COST THAT OTHER AREAS OF THE COUNTRY WILL HAVE TO PAY IF THEY ARE DESIGNATED NON ATTAINMENT AREAS. THIS

PREMIUM IS BASED ON TODAY'S OXYGENATE PRICES IT WILL SHRINK OR EXPAND DEPENDING ON WHAT HAPPENS TO OXYGENATE PRICES.

LET'S EXAMINE FOR A MOMENT THE REASON WHY TOSCO THINKS THERE WILL BE A NEED TO IMPORT GASOLINE INTO CALIFORNIA. THE SITUATION IS SIMILIAR TO WHAT WE HAVE SEEN ON CARB DIESEL. THE COST OF MANUFACTURING CARB GASOLINE GOES UP AS THE % OF CARB GASOLINE TO A REFINERIES TOTAL GASOLINE PRODUCTION INCREASES. THUS THE FIRST 50% OF CARB PHASE II COSTS X, WHILE EACH ADDITIONAL 10% IS X PLUS UNTIL YOU GET TO THE LAST 10% WHICH MAYBE 2 X. THE X WILL DIFFER FOR EACH REFINERY BUT I DOUBT IF ANYONE HAS AN X MUCH BELOW 4 CENTS/GAL. WE THINK THIS RISING COST FACTOR WILL RESULT IN THE INDUSTRY CONVERTING ONLY 80% OF ITS CURRENT GASOLINE TO CARB QUALITY WITH THE BALANCE OF 20% MEETING CURRENT SPECS. THE 80% FACTOR LEADS US TO THE DATA SHOWN ON THIS SLIDE, I.E. IMPORTS OF 145,000 MBD AND EXPORTS OF 200 MBD. THERE WILL BE SOME SEASONAL SWING WITH HIGHER CARB PRODUCTION IN THE WINTER AND LOWER IN THE SUMMER. THE PRIME FACTOR FOR THIS SWING IS HIGHER RVP IN WINTER.

Possible Scenario

California S/D Balance 1994
(Volumes in MB/D)

Production 1000

Imports		Exports	
PADD V	25	PADD V	30
PADD III	60	NV and AZ	140
Foreign	60	Foreign	30
Total Imports	145	Total Exports	200

Demand 945

THIS SLIDE SHOWS CALIFORNIA PRODUCTION AND CONSUMPTION IN TABULAR FORM.

MARKET FORCES WILL SET THE PRICE FOR CARB GASOLINE AND THESE FORCES WILL INVOLVE AN INTERESTING MIX OF CAPITAL INVESTMENT ECONOMICS AND IMPORT INCENTIVE. FROM OUR PERSPECTIVE, EXCLUDING OXYGENATE COSTS, WHICH HAVE SEPARATE MARKET DYNAMICS, THE TWO SEEM TO BE COMING TOGETHER AROUND THE 6 CENTS / GAL MARK. IF A REFINER CAN'T MAKE A REASONABLE PROFIT AT THAT NUMBER, WE FEEL THE INVESTMENT MAY NOT WORK OUT WELL.

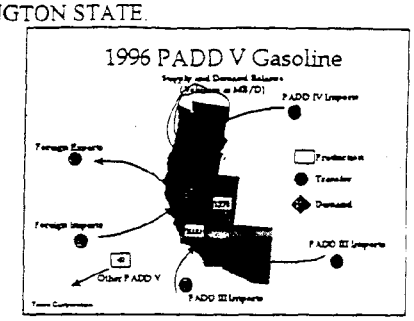
OUR PROJECTIONS ON INCREASED PRICES FOR THE NEW CALIFORNIA GASOLINE OF 6 CENTS FOR MANUFACTURING AND 4 CENTS FOR OXYGENATE ARE REASONABLY IN LINE WITH CARBS PROJECTIONS BUT BELOW LEVELS INDICATED BY OTHERS IN THE INDUSTRY THERE IS AN IMPORTANT QUALIFICATION, THIS IS A VERY FINELY BALANCED SYSTEM.

IF ANY OF THE LARGE REFINERS IN CALIFORNIA EXPERIENCES AN UNPLANNED SHUTDOWN, THE PREMIUM OF 6 CENTS COULD EASILY BE TWO OR THREE TIMES THAT NUMBER FOR SOME PERIOD OF TIME. ALSO, THE 1ST MONTHS OF OPERATION WILL PROBABLY SEE LARGER PREMIUMS AND SUMMER DUE TO LOWER PRODUCTION AND HIGHER CONSUMPTION WILL BE TIGHTER THAN THE WINTER.

WHAT WILL TOSCO DO?

TOSCO WILL MAKE LESS THAN 100% OF OUR CURRENT PRODUCTION INTO CARB PHASE II GASOLINE. WE EXPECT TO START OFF WITH SOMEWHAT MORE THAN 50% OR OVER 50,000 MBD ON AN ANNUAL BASIS. WE'RE INVESTING ABOUT $100,000,000 TO REACH THIS PERCENTAGE. WE'RE CONFIDENT, BASED ON OUR SUPPLY ANALYSIS, AND THE PREMIUMS WE MENTIONED EARLIER, THAT THIS WILL PROVE TO BE A REASONABLE INVESTMENT FOR TOSCO. ADDITIONALLY, YOU MAY HAVE SEEN OUR PRESS RELEASE YESTERDAY WHERE WE INDICATED WE'VE MADE ARRANGEMENTS WITH CHEVRON TO SWAP, FOR MINIMUM 7 YEARS, 30 MBD OF REGULAR GASOLINE INTO CARB PHASE II. THUS TOSCO WILL HAVE ABOUT 80% OF ITS CURRENT GASOLINE PRODUCTION AVAILABLE IN APRIL OF 1996 AS CARB PHASE II. IF THERE IS AN ECONOMIC INCENTIVE THAT GIVES US A BETTER PROFIT THAN OUR SWAP, WE MAY MAKE FURTHER INVESTMENTS TO INCREASE OUR PROCESSING CAPABILITY BUT FOR NOW WE'RE TAKING A WAIT AND SEE CONSERVATIVE APPROACH.

LET'S NOW TALK ABOUT THE BALANCE OF PADD V REFINING CAPACITY, WHICH IS PRIMARILY WASHINGTON STATE.



THIS SLIDE SHOWS GASOLINE FLOWS THRUOUT PADD V.

TOSCO's, FERNDALE, WASHINGTON, REFINERY, HAS NO PLANS AT PRESENT TO MAKE CARB GASOLINE. WE SELL ALL THE GASOLINE MADE AT FERNDALE IN WASHINGTON AND OREGON THROUGH OUR RETAIL SYSTEM. WE CURRENTLY SELL AN ADDITIONAL VOLUMN AT WHOLESALE THAT IS USUALLY EXCHANGED TO THE NORTHWEST. WE INTEND TO CONTINUE TO SUPPLY THESE OUTLETS WITH NON CARB GASOLINE, PROBABLY NOT VIA EXCHANGE BUT THROUGH ACTUAL SHIPMENT TO THE NORTHWEST. WE DON'T THINK THE MARKET CAN RELY ON THE NORTHWEST FOR SIGNIFICANT VOLUMNS OF CARB GASOLINE. WE DON'T KNOW OF ANY NON CALIFORNIA PADD V REFINER WHO HAS ANNOUNCED PLANS TO MAKE CARB PHASE II GASOLINE. IN SPITE OF NOT HAVING SPECIFIC INFORMATION, WE HAVE SHOWN 25

MBD OF CARB PHASE II GASOLINE FLOWING FROM THE NORTHWEST TO CALIFORNIA ON OUR ANALYSIS.

NOW THAT WE'VE DISCUSSED CALIFORNIA CARB PHASE II, LET'S SPEND A MINUTE ON REFINING IN GENERAL. IF, AS WE EXPEXT, PRODUCT CONSUMPTION ON A WORLD WIDE BASIS GROWS FASTER THAN THE ADDITION OF NEW REFINING CAPACITY, REFINING WILL BECOME A BETTER BUSINESS. ADDING A LITTLE EXTRA DIMENSION IS THE PROBABILITY THAT SMALL, INEFFICIENT REFINERS WILL CONTINUE TO CLOSE DOWN.

SUMMARIZING MY REMARKS ON REFINING:

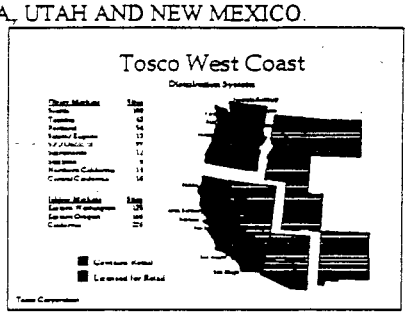
1. COSTS FOR CARB OXYGENATED GASOLINE WILL ESCALATE BY A TOTAL OF MINIMUM 10 CENTS / GAL.

2. REFINERS MAY SEE BETTER PROFITS IN THE 2ND HALF OF THE 90's. BUT WE WILL CONTINUE TO SEE VERY COMPETITIVE MARKETS.

3. WE CONTINUE TO BELIEVE SMALL REFINERS, I.E. 50 MBD OR LESS, CAN'T SURVIVE IN THE LONG TERM.

LET'S MOVE ON TO TOSCO'S CURRENT GROWTH AREA - RETAIL. WE HAD NO RETAIL OUTLETS UNTIL 9 MONTHS AGO, WHEN WE TOOK OVER BP's SYSTEM IN THE NORTHWEST.

I THINK ALL OF YOU KNOW WE PROMPTLY EXPANDED BY ACQUIRING BP's CALIFORNIA SYSTEM ON AUG 1, 1994. WE CONTRACTED AT THE SAME TIME FOR THE EXCLUSIVE RIGHT TO MARKET UNDER THE BP BRAND FOR THE NEXT 12 YEARS IN CALIFORNIA, WASHINGTON, OREGON, ARIZONA, NEVADA, IDAHO, MONTANA, UTAH AND NEW MEXICO.



This and the wholesale marketing system

THIS SLIDE SHOWS TOSCO's BP BRAND SYSTEM AS IT EXISTS TODAY.

WE ARE CURRENTLY SELLING ABOUT 2.6 MILLION GALLONS OF GASOLINE PER DAY AT RETAIL UNDER THE BP BRAND. THIS REPRESENTS OVER 43% OF TOSCO's PADD V PRODUCTION. TOSCO HOPES TO ADD TO ITS BP BRAND SYSTEM OVER THE NEXT FEW YEARS. WE'RE INTERESTED IN JOBBER AND DEALER EXPANSION AND WE'RE ALSO IN THE MARKET TO BUY OIL COMPANY, JOBBER OR DEALER SITES. WE WOULD ADDITIONALLY CONSIDER LEASES OF SUCH FACILITIES ON A VERY LONG TERM BASIS. TOSCO WANTS TO EXPAND IN RETAILING SO OBVIOUSLY WE FEEL A PROFIT CAN BE MADE. WE DON'T, HOWEVER, BELIEVE

WE'RE ENTERING A PERIOD OF FAT MARGINS.WE BELIEVE THE TREND OF THE LAST 20 YEARS WILL CONTINUE, I.E. LARGER AND FEWER STATIONS WILL SERVICE A SLOW INCREASE IN VOLUMN. RETAILING IS A MAJOR LEAGUE BUSINESS WHERE INDIVIDUAL UNITS THAT CAN SURVIVE IN THE LONG TERM HAVE A VALUE OVER $1,000,000 WITH ANNUAL FUEL AND CONVENIENCE SALES OVER $5,000,000. THIS IS SIMPLY NOT A MOM AND POP BUSINESS ANYMORE!

AS WITH EVERYTHING ELSE, THERE WIL BE A DIFFERENCE BETWEEN CALIFORNIA AND THE OTHER STATES IN PADD V. THE PRICE INCREASE IN CALIFORNIA IN APRIL OF 1996 COULD CAUSE ERROSION OF MARGINS AT RETAIL FOR SOME PERIOD OF TIME. CARB GASOLINE WILL, ON THE OTHER HAND, INCREASE EVERYONE'S VOLUMNS BY 3% OR 4% DUE TO ITS LOW MILEAGE CHARACTERISTICS. THERE IS ALSO A REAL POTENTIAL FOR SHORT TERM INTERRUPTION OF LARGE VOLUMNS OF CARB PHASE II GASOLINE SUPPLY. IF ONE OF THE BIG CAT CRACKERS OR OTHER KEY UNITS IN CALIFORNIA GOES DOWN UNEXPECTEDLY, WE COULD SEE A SPOT MARKET PRICE SPIKES OF LARGE DIMENSION AND SERIOUS SHORT TERM SUPPLY DIFFICULTY. THIS SHOULD GIVE ANYONE WHO RELIES ON THE SPOT MARKET AN INCENTIVE TO TIE UP SUPPLY WITH A LARGE REFINER.

Current Gasoline Production

(Tosco Estimate)

Company	PADD V	California
ARCO	215	135
Chevron	210	195
Tosco	140	100
Texaco	135	70
Shell	130	80
Union	125	125
Exxon	105	105
Mobil	95	95
Ultramar	50	50

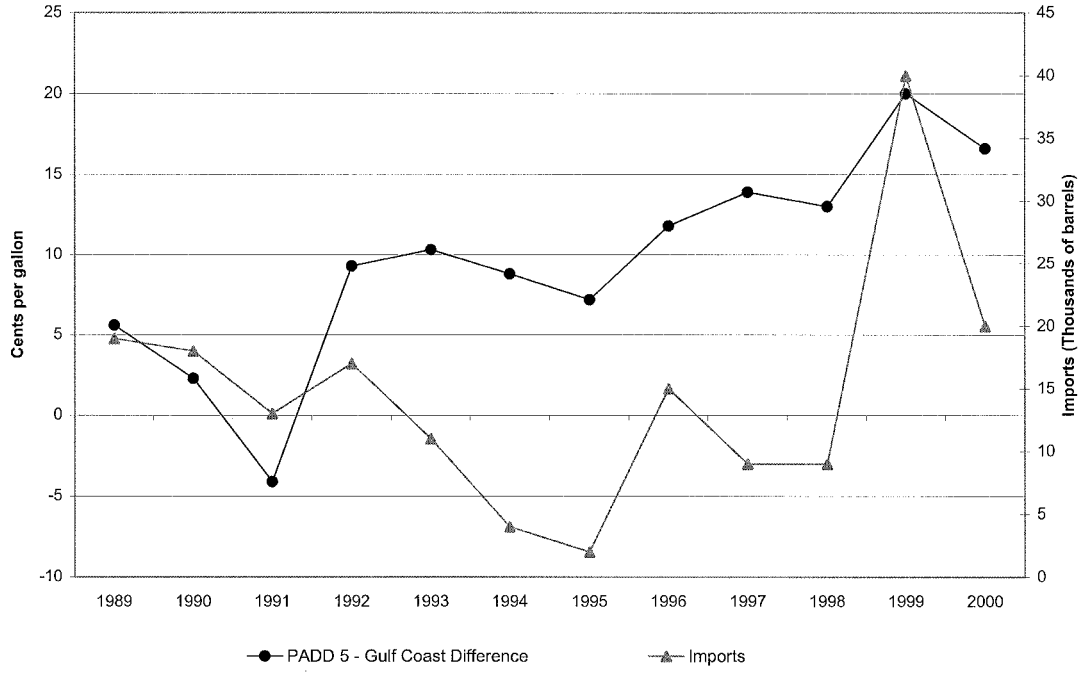
Tosco Corporation

TOSCO ESTIMATES PER THIS SLIDE THAT IT IS THE 3RD LARGEST GASOLINE PRODUCER IN PADD V AND THE 5TH LARGEST IN CALIFORNIA. TOSCO INTENDS TO DEVOTE ITS PADD V SUPPLY TO OUR RETAIL SYSTEM AND CUSTOMERS WHO WANT A LONG TERM ARRANGEMENT WE WANT TO AVOID AS MUCH AS POSSIBLE SPOT SUPPLY ARRANGEMENTS. IF I WERE A CALIFORNIA RETAILER AND DIDN'T HAVE A WIDELY RECOGNIZED BRAND WITH A STRONG PADD V REFINING SYSTEM BEHIND IT I'D BE WORRIED. WE ARE HERE TO ELIMINATE WORRIES!!

ON THAT NOTE, I'LL BE HAPPY TO ANSWER YOUR QUESTIONS.

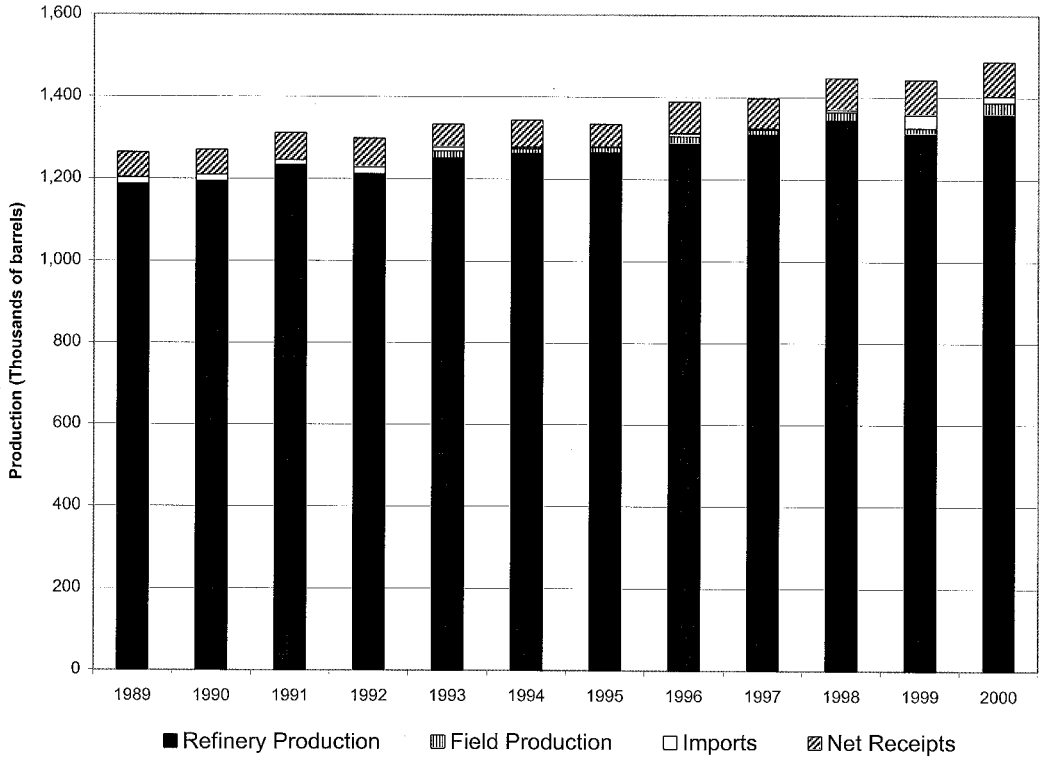
TS0013438

Figure IV.5: West Coast - Gulf Coast Price Differences and West Coast Foreign Imports, 1989 - 2000



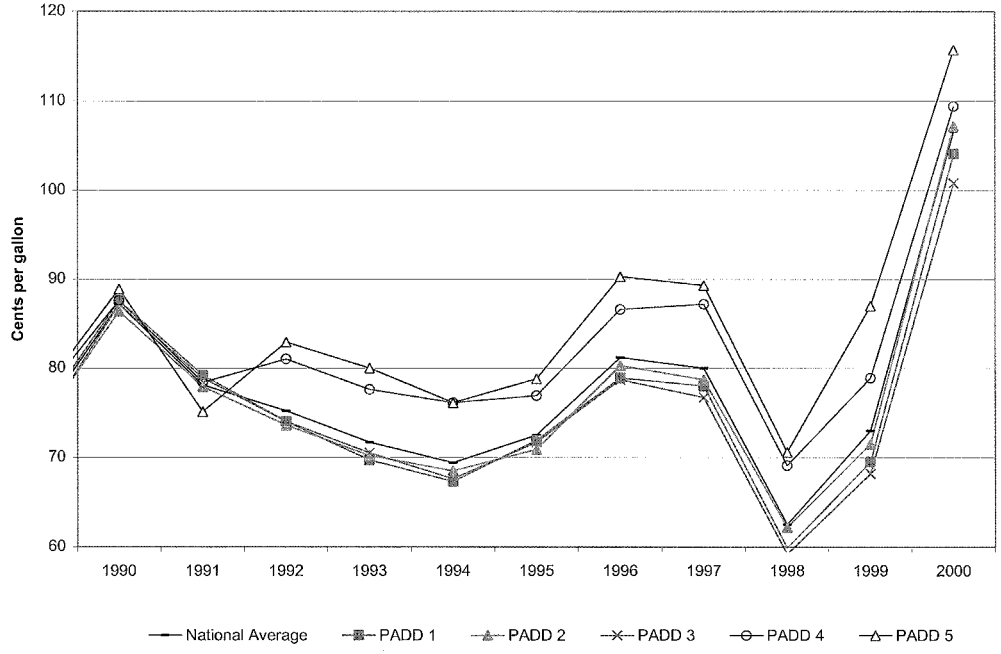
Note: Gulf Coast price difference based on average retail price in Texas.
Source: DOE/EIA.

Figure IV.6: PADD 5 Gasoline Production



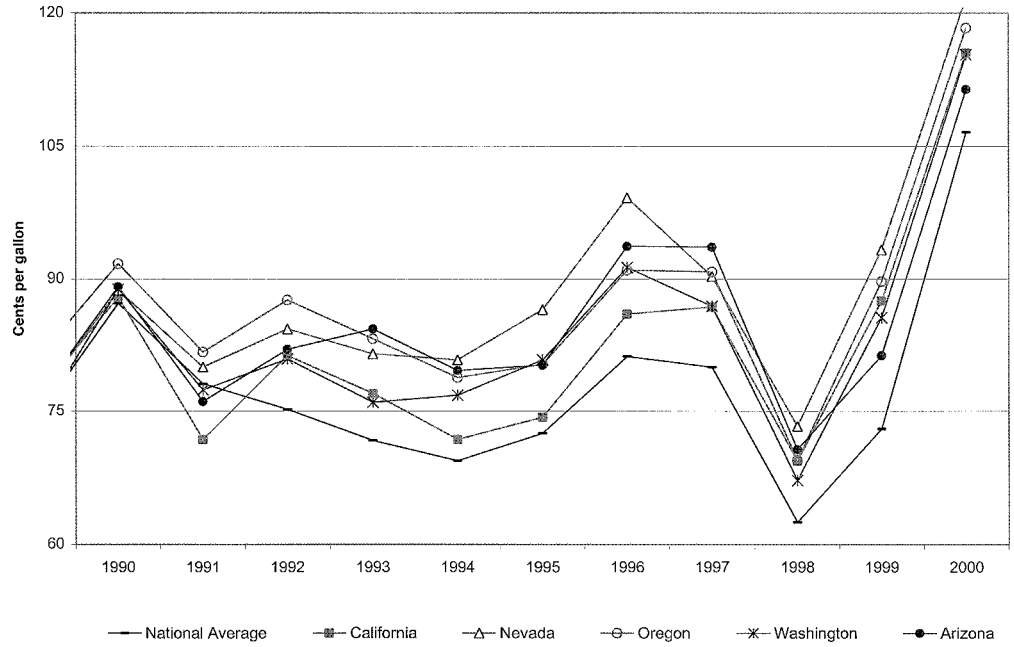
Source: DOE/EIA.

Figure IV.7: Average Annual Price Net Federal and State Taxes by Petroleum Administration for Defense District (PADD), 1984 - 2000



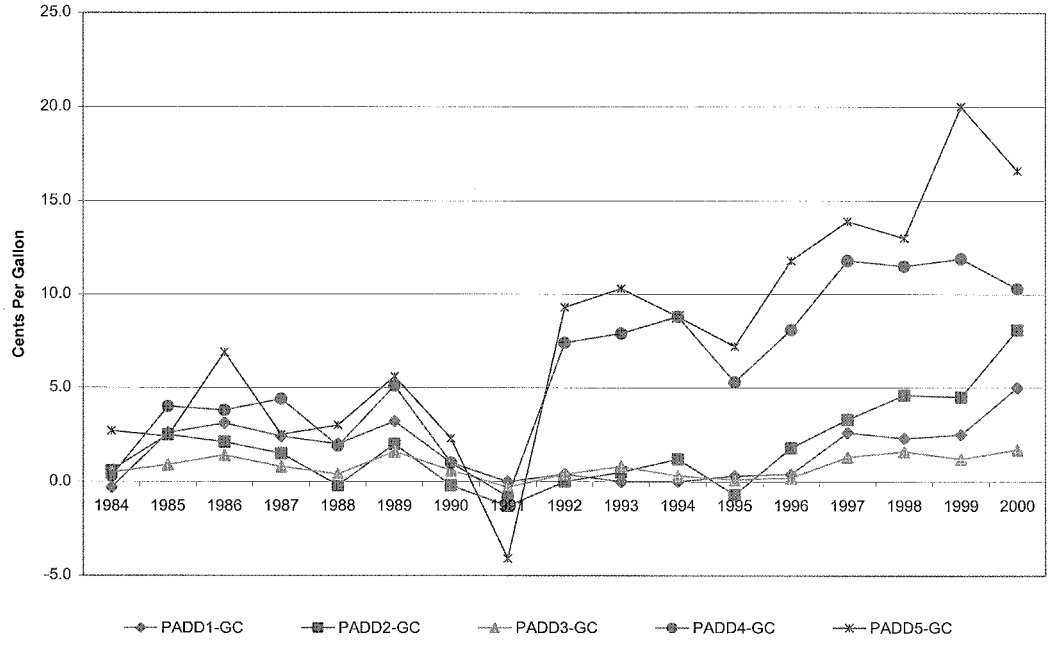
Source: DOE/EIA.

Figure IV.8: PADD 5 Gasoline Prices Net Federal and State Taxes, 1990 - 2000



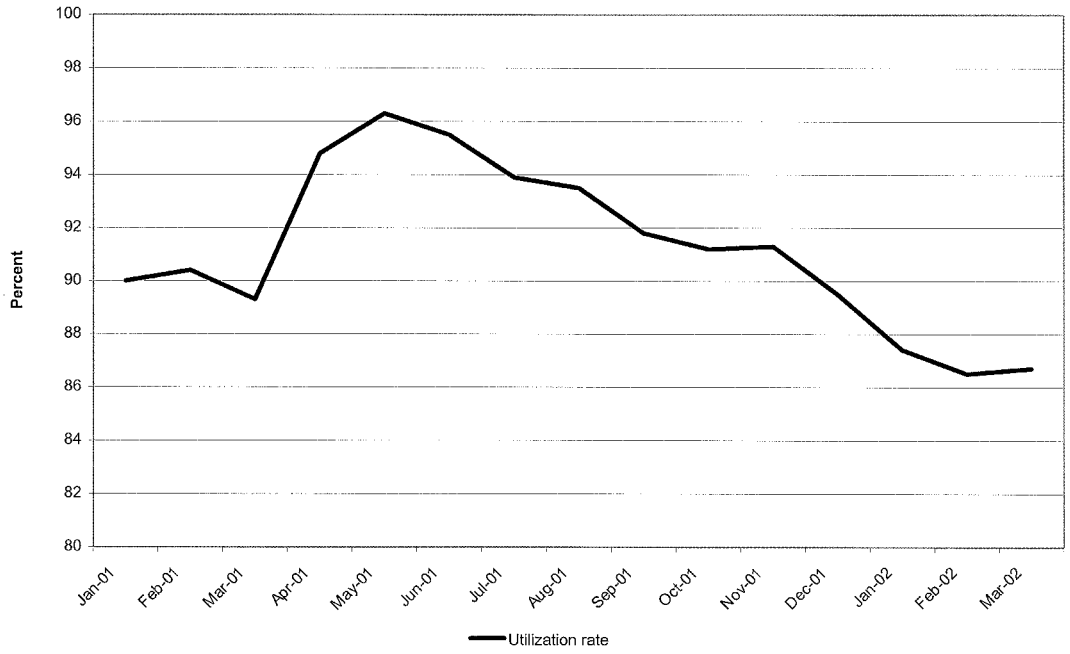
Source: DOE/EIA.

Figure IV.9: U.S. Regional Differences in Prices (Net Taxes) for Regular Unleaded Gasoline, 1984 - 2000



Note: Gulf Coast price reflects average retail price in Texas.
Source: DOE/EIA.

Figure IV.10: Refinery Capacity Utilized, January 2001 - March 2002



Source: EIA

EXHIBIT IV.14

SUMMARY: SHORT-TERM PRICE OUTLOOK

Marathon Oil Company *Economics*

As OPEC and other exporters' efforts to rein in output began bearing fruit, Nature stepped in to lend the oil producers a helping hand in the form of Hurricane Georges, which caused some major refinery closures, threatened off-shore oil production and imports, and generally lent some bullishness to the oil futures markets. However, this storm induced optimism is likely to prove temporary, leading to some pullback in prices prior to the heavier worldwide demands for crude in late Fall and early Winter.

OPEC compliance with the agreed reductions in output this year have been estimated in a range of 80% to 85%, which means the organization is acting as much like an effective cartel as it ever has. A $2 per barrel price increase in the first half of last month is the result of their resolve, but also a demonstration of the remaining bearishness and demand-side weakness in the market. In more typical times, the price reaction to a removal of over 2 million b/d from the world oil market would have been more significant.

Growth in U.S. oil demand remains favorable, with gasoline up almost 2 %, year-do-date, when upward revisions to data from the second quarter are included. Distillate and residual fuel demands are likewise well ahead of a year ago, with only kerojet among the major products suffering from inexplicable weakness. Other oil demand suffered from a warm first quarter, weakening in the petrochemical industry, and the delay in the reauthorization of the Intermodal Surface Transportation Efficiency Act, which has now been signed into law. Final figures are likely to show healthy growth in U.S. demand this year, but this cannot make up for the loss of oil demand growth from East 'a, and the market remains skeptical that exporters have reduced sales sufficiently after their monumental ..calculation early this year.

The onset of heavier world-wide crude runs in the fourth quarter in preparation for the Northern Hemisphere winter should tighten crude supplies noticeably, lifting the WTI spot price to $16.50 per barrel in January and February, after the initial post-storm pullback.

Year-over-year gasoline demand growth in August is reported to have been 4.3%, and has not slowed much in September. Gasoline stocks do not appear to have begun an upward climb, as they can do at a time of seasonally lower demand and rising output potential with the advent of higher allowable RVP, which facilitates greater NGL blending. Indeed, the difference of the gasoline stock level over last year has now narrowed to 14 million barrels. Turnarounds and other refinery shutdowns have not had their expected impact on gasoline output as yet, but there is normally a lag between the two, and output should slide soon even with higher NGL input. Hence, we expect little additional weakening of gasoline relative to crude until December, when runs pick up once more. Gulf Coast spot unleaded regular gasoline is forecast to average 41cents per gallon this month, rising less than crude to 42 cents in December. The price differential for 93 octane gasoline over regular has narrowed to 3.5 cents per gallon, and should remain close to this value through the forecast. The differential for RFG will average under 2 cents a gallon through February.

Distillate demand is preliminarily reported to have settled down to a more sustainable 3% growth rate in September, after the 12% of August. Because of unusually heavy demand last October, it is even conceivable that distillate demand will be lower this month than a year ago. Nonetheless, distillate demand continues strong, which together with an imminent decline in output due to refinery shut-downs, offsets the impact of inventories that remain 'bout 17 million barrels above last year. Assuming normal weather, distillate prices are forecast to increase only ghtly relative to crude oil, with the Gulf Coast spot high sulfur distillate price averaging 41cents per gallon in October, and rising to a high of 45 cents in January. The price premium for low sulfur diesel is expected to contract from just over 2 cents per gallon recently to about 1 cent per gallon around year end, as the market's focus turns toward heating oil.

MAP-375873
CONFIDENTIAL

EXHIBIT IV.15

BP Amoco

Midwest / Mid Continent Strategy

Meeting with BULs

1st June 1999

CONFIDENTIAL
TREATMENT REQUESTED
BP-USS 0014038

BP Amoco

Agenda

- Introductions
- Events leading to today's meeting
- Today's objective
- What we know
  - BUL interviews - common and divergent views
  - brief recap of 4/30 presentation
  - other initiatives underway/Market threats
  - market levers
- Case study [redacted]
- Value creation
- The way forward
  - process
  - terms of reference - deliverables

CONFIDENTIAL
TREATMENT REQUESTED
BP-USS 0014039

[PAGES DELETED]

BP Amoco

Recap of 4/30 presentation -

Key learnings on niche structure

We can influence niche value (1-3cpg) but our actions need to be significant (>50 mbbl/d) to be sustainable (3 years+)

- There are several drivers which work together to determine the value of the niche :
  - Prices (and therefore asset value) in the Midwest / MidCon are set by the supply / demand in relation to logistics capability
  - Supply / demand balances are driven by macro-economic issues such as crude prices, crude field decline rates, economic growth
- When the niche is not present, Midwest refiners need to be able to compete on a cost and operational basis with the GC refiners.
- Opportunities exist for differentiation by improving business outside mainstream fungible products. [redacted]
- There are significant opportunities to influence the crude supply / demand balance
- Good market intelligence is critical to understanding market behavior

CONFIDENTIAL
TREATMENT REQUESTED

BP Amoco

Recap of 4/30 presentation -

Niche characterization - summary

Historical Observations :

- **Products**
  - In the summer (May thru Sept), MW / MC product prices are set by incremental barge economics.
  - A barge-related price is not sustainable - pipeline capacity can / will increase over time
  - In the winter, local refinery economics set product prices
- **Crudes**
  - In the winter, heavy Canadian crude costs into the MW / MC tend to be lower than GC crude plus transportation
  - Costs of heavy Canadian crude in the summer, and other crudes year-round, are likely to be rational with GC crude costs plus transportation in a low crude cost environment
  - Canadian heavy crude production is sensitive to overall crude price levels (with recent months an example of production cutbacks)

CONFIDENTIAL
TREATMENT REQUESTED
BP-JSS 0014045

BP Amoco

Recap of 4/30 presentation -

Summary

- Niche value potential varies widely over time. It is reasonable to expect that incremental value can be extracted by BP Amoco in the future.
- Markets are not constant. There are numerous supply / demand balance dislocations within an environment of finite transportation options. We can benefit by pro-actively managing our response to dislocations in real time.
- Creating value through market "knowledge" and integrated market actions is consistent with our desire to move to a knowledge based organization. Additional value creation may be independent of capital employed.

CONFIDENTIAL
TREATMENT REQUESTED
BP-USS 0014046

[PAGES DELETED]

BP Amoco

Market levers - product short (1)

- **Shut down niche internal supply**
  - Offer supply agreements in exchange for capacity shutdown
  - Purchase capacity and shut it down
  - Lobby for elimination of oxygenates/tax breaks for same
  - Seasonal (winter)idling of capacity/corresponding winter import of product
    - Firms winter market AND secures large summer import volume
  - Low sulfur product requirements reduce production.
    - Eliminate exemptions for small Refiners.
    - Patent formulations to make niche production more expensive re: CARB fuels
  - Compliment shutdown of internal niche supply with investment in import pipeline
- **Increase product demand**
  - Lower prices
  - Convince swing cities on Gulf Coast supply to require reformulation that is not readily available from Gulf Coast
  - Incent "boundary" areas to buy supply from niche
    - Sell out western V system by using Milan line.

CONFIDENTIAL
TREATMENT REQUESTED

BP Amoco

Market levers - product short (2)

- **Export products from Midwest niche**
  - Create "Koch" style fly wheel markets
    - Kansas City, Pittsburgh, St.. Louis, Indianapolis
  - Move product into southern Ontario
  - Use Xylene line or others to move product south or out of area
- **Fill import logistics**
  - Ship crude substitutes and/or intermediates/blendstocks on product lines
    - Condensate, naphtha, light gasoil, BTX, oxygenates, raffinate, alkylate, etc.
  - Don't incent pipeline conversions to products
    - Threat of swing or seasonal production to deter
  - Incent Koch not to ship into Chicago market??
  - Lobby for elimination of DRA for environmental reasons
- **Change behavior of shippers to support niche uplift**
  - Implement market based tariffs.
  - Raise tariffs
- **Reduce product inventory in niche**

CONFIDENTIAL
TREATMENT REQUESTED

V. HOW GASOLINE PRICES ARE SET

- **Oil companies do not set wholesale (rack) or retail prices based solely upon the cost to manufacture and sell gasoline; rather wholesale (rack) and retail prices are set on the basis of market conditions, including the prices of competitors. Most oil companies and gasoline stations try to keep their prices at a constant price difference with respect to one or more competitors. As a result of these interdependent practices, gasoline prices of oil companies tend to go up and down together. (F-9)**

- **In Michigan and Ohio, these interdependent and parallel retail pricing practices have led to sharp daily increases in retail prices across the states. (F-10)**

- **Oil companies use zone pricing to charge different prices for gasoline to different station operators, some of which are in nearby geographic areas, in order to confine price competition to the smallest area possible and to maximize their prices and revenues at each retail outlet. (F-11)**

- **For the many stations owned or leased by the major oil companies, it is the major oil company rather than the local dealer that determines the competitive price position of the local station and that benefits from higher prices and profit margins. (F-12)**

- **The "hypermarket" is rapidly expanding as a highly competitive format for selling gasoline. (F-13)**

The price of gasoline that is paid by consumers at the gasoline pump reflects the cost of crude oil that is purchased by the refiner; the refiner's processing and distribution costs and profits; the retail distribution, marketing and station operating costs and profits (and sometimes losses); and federal, state, and local taxes. On average, in 2000, the percentage of each of these components of the retail price of a gallon of regular grade gasoline was:

- Crude oil: 46 percent;
- Refining costs and profits: 14 percent;

- Retail distribution, marketing, and station operations: 12 percent; and.
- Taxes (not including county and local taxes): 28 percent.[353]

(See Figure V.1 on page 325.)

Although retail prices can be broken down into these various components, neither refining nor retail prices are established on a cost-plus-profit basis. The wholesale price a refiner can obtain for refined gasoline is determined largely by the factors influencing the then-current supply and demand situation, including the market's outlook for the future. Competitors' prices also are considered. Similarly, the price a retailer will charge for gasoline on any given day will reflect prevailing market conditions, including the retail prices of nearby competitors. Thus, the profit margin a refiner or retailer obtains depends on the current market conditions.

A. The Crude Oil Market

The price of crude oil is determined by the supply and demand conditions in the global oil market and reflects many transactions between buyers and sellers taking place around the world. Three types of transactions are common in oil markets. Contract arrangements cover most of the oil that is purchased. Oil is also sold through spot market acquisitions, which are cargo-by-cargo arrangements. There also is a very active futures market for crude oil. Futures markets are designed to distribute risk among participants (buyers and sellers) and are rarely

---

[353] DOE/EIA, *A Primer on Gasoline Prices*, at http://tonto.eia.doe.gov/FTPROOT/other/petbro.html. Federal excise taxes are 18.4 cents per gallon and state excise taxes average about 20 cents per gallon. Also, some states levy additional state sales taxes, some of which are applied to the federal and state excise taxes. Additional local county and city taxes can have a significant impact on the price of gasoline. Energy Information Administration, "Weekly Petroleum Status Report",October 19, 2001, Table S1.e

used to deliver physical volumes of oil.[354] Prices in the spot and futures markets serve as daily indicators of the overall conditions in the marketplace, including the current and future levels of supply and demand for crude oil and petroleum products. As a result, spot and futures prices are often used as references for crude oil and petroleum product contracts.[355] Generally, spot and futures prices for all crude oils are based on the prevailing prices for certain grades of crude oil produced in the U.S. Gulf Coast, Northwest Europe, or Dubai in the Middle East.

1. Crude Oil Contract Purchases

Much of the world's crude oil is supplied under contract. Contracts specify the volumes to be delivered for the duration of the contract and state the price to be paid.[356] Contract prices are flexible, usually tied to the spot and/or futures market.[357] For example, most of the crude oil contract prices are based on a formula: a base price, usually based on one of the three types of crude oil used as a pricing benchmark, plus or minus a quality adjustment. Thus, for example, crude oil delivered into the U.S. Gulf Coast is priced against the base price of West Texas Intermediate crude oil (WTI), a benchmark for crude oils bought and sold in North and South America. The price of Brent – crude oil produced in the North Sea – is used as the benchmark price for most European and African crudes. The price of crude oil produced in Dubai (called "Fateh") is used as a benchmark for crude oil bought and sold in Asia. Alaskan North Slope oil

---

[354] Energy Information Administration, Oil Market Basics, at http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/oil_market_basics/default.htm

[355] GAO/RCED-93-17, 28.

[356] The US General Accounting Office found a wide variance in the length of these supply contracts – from one month to five years.

[357] GAO/RCED-93-17, 38-39.

is sometimes used as a benchmark. The quality adjustment is a negotiated amount reflecting the difference in quality between the oil being purchased and the quality of the benchmark oil.[358] Credit and delivery terms – such as where delivery is to be made and the time at which the benchmark price is to be calculated – also affect the price calculation.[359]

Contracts can cover a period as short as one shipment of oil or last as long as one year. Contract terms may also specify different amounts to be delivered at different times in the contract period.

In the United States some domestically produced crude oil is sold at a "posted price." Refiners "post" the prices they are willing to pay to the producers of crude oil. Posted prices generally apply to a crude oil "stream," a crude oil or blend of oil of a standardized quality, with quality adjustments when the oil varies from the posted standard. Posted prices closely reflect changes in the spot and futures markets, but posted prices fluctuate less because they are not widely disseminated and transactions may not occur daily. Companies may also add a temporary premium to a posted price to account for short-lived market conditions or for specific delivery terms.[360]

2. The Crude Oil Spot Market

The spot market is not a formal exchange like the New York Stock Exchange but rather an informal network of buyers and sellers. A spot market transaction is an agreement to buy or

---

[358] The value of a crude oil is based on the ease with which it can be refined into high value products. Usually, a denser crude oil with a higher sulfur content would be worth less than a lighter, low sulfur one.

[359] Energy Information Administration, *Oil Market Basics*.

[360] Energy Information Administration, *Oil Market Basics* and GAO/RCED-93-17, 39.

sell one shipment of oil at a price negotiated at the time of the agreement.[361] The spot market provides a market to dispose of or buy the incremental supply of crude oil not covered by contractual agreements at flexible prices in response to the market's current supply and demand conditions. Rising prices on the spot market indicate that more supply is needed, and falling prices indicate that there is too much supply for the current market's demand level. The spot prices of the four benchmark crudes – WTI, Brent, Dubai's Fateh, and Alaskan North Slope oil – thus serve as indicators for all of the crude oils bought and sold on the spot market.[362] The spot price is typically guided by references to the prices quoted on the New York Mercantile Exchange (NYMEX) for WTI or on the International Petroleum Exchange (IPE) in London for North Sea Brent for futures contracts which specify the earliest upcoming date of delivery. Since the middle of the 1980's, more and more crude oil has been bought and sold on the worldwide spot market.[363]

A number of industry publications and reporting services track and report prevailing prices on the spot market. These publications report the prices of transactions their reporters are able to learn from traders.

---

[361] There are also forward contracts, which have features of both the spot and the futures markets. A forward contract is a one-time agreement between a buyer and seller to deliver a certain quantity of a particular type of crude oil at a specified future date. The price may be agreed upon in advance of or on the date of delivery of the oil.

[362] One energy information service told us that Alaskan North Slope crude oil spot prices are a benchmark only for California crude oil sales, but it is not a particularly strong benchmark. One oil company told us that they do not consider Alaskan North Slope crude oil a spot market benchmark.

[363] Before 1979, only 1-3 percent of all crude oil traded worldwide was delivered on the spot market. By 1989, it was estimated that about 33 percent of all crude oil was traded on the spot market. (GAO/RCED-93-17, 37; Platt's Oilgram Price Report, November 28, 2001; and DOE/EIA).

3. The Crude Oil Futures Market

While spot markets involve the trade of physical barrels of oil, futures markets are paper markets where contracts for crude oil and some petroleum products are bought and sold.

A futures contract is an agreement by a buyer to accept and a seller to deliver a given quantity of a standardized commodity at a specified place, price, and time in the future. On the NYMEX, all crude oil contracts specify 1,000 barrels of West Texas Intermediate crude oil to be delivered at Cushing, Oklahoma, as a standard.[364] West Texas Intermediate crude oil is a light sweet (low sulfur) crude oil. Light, sweet crude oils are preferred by refiners because of their relatively high yields of high-value products such as gasoline, diesel fuel, heating oil, and jet fuel.

A single futures contract can be traded many times before the actual delivery date specified on the contract, each time at a new price as the market's supply and demand situation is reevaluated. Therefore, the futures price should approach the spot (market) price as it gets closer to the delivery date.

Futures prices act as a barometer of the actual supply and demand and the expectation about market conditions in the future. The two primary economic functions of the futures market are to: (1) transfer risk and (2) "discover" prices. The first function occurs as producers and consumers pursue a financial strategy that transfers the risk inherent in volatile prices to those parties most willing to bear it. (Risk is transferred from hedgers to speculators.) Crude oil

[364] The contract actually provides for the delivery of several grades of domestic and internationally traded foreign crudes, although the seller will receive either a per barrel discount or premium based on the specific foreign crude the seller delivers. The light sweet crude contract lists the specifications of the deliverable grades of oil with the discounts and premiums delineated.

producers and refiners are most likely to use the futures market for hedging by locking in the prevailing price for future deliveries. For example, an oil producer can establish a sales price for oil that will be produced later by selling a futures contract. Then, if a drop in market price causes the value of the oil to decline, this loss will be borne by the holder of the futures contract. Similarly, a refiner may want to fix the price that must be paid for crude oil that will be needed in the future by buying a futures contract. If the price of crude oil increases in the cash market, the refiner would not have to pay this higher price because he holds a futures contract with a lower price for delivery. By limiting the uncertainty over future costs, the hedge allows companies to offer fixed price arrangements to its customers for its products and to plan and budget for the future without having to bear all of the risks of price changes.[365]

The second function of futures markets occurs as the free flow of information in a futures market provides a means for buyers and sellers to determine the market prices. The futures market includes geographically dispersed sellers and buyers, thus minimizing regional biases in pricing. Also, the participants in the futures market utilize a substantial amount of information to form their opinions about supply and demand and ultimately, the price of oil. As a result, prices change frequently, as market participants revise or reevaluate their expectations on the basis of new information.

The NYMEX is the leading futures market for trading energy futures in the world. Petroleum futures are also traded at the IPE in London and at the Singapore International Monetary Exchange ("SIMEX"). Futures trading of crude oil on NYMEX began in 1983. Crude oil is the world's most actively traded commodity, and the NYMEX's light, sweet crude oil

[365] Of course, a hedger is not able to benefit by favorable price changes either.

futures contract is the world's largest volume futures contract trading on a physical commodity. For example, in 2001 over 37.5 million crude oil futures contracts – each for 1,000 barrels of crude oil – were traded on the NYMEX.[366] Since the futures market is largely used as a means to hedge against future price changes or speculate on these change rather than buy or sell oil, less than one-tenth of 1- percent of these oil futures contract results in the actual delivery of crude oil. Over the 7 years that the December 2001 NYMEX light sweet crude oil contract was traded – 5 billion barrels were traded, but only 31,000 barrels were actually delivered on those contracts.[367] Also, many more contracts are traded than oil is produced. The total volume of crude oil accounted for in open NYMEX light sweet crude oil contracts is approximately 110 times the daily production of all crude grades deliverable under the contract.[368]

Each time a transaction is completed on the floor of the exchange, the exchange records the pairing of buyers and sellers and reports the transaction price. These prices are available throughout the day from the exchanges via the Internet[369], are published in specialty trade publications and daily newspapers, and are reported on a weekly basis by the Department of Energy's Energy Information Administration (EIA). The timely availability of contract prices helps "price transparency," the ability of any market participant to see the prevailing price level,

---

[366] Data obtained from NYMEX.

[367] Information provided to Subcommittee staff. The light, sweet crude oil contract traded may be dated any month during the 30 month period (2 ½ years) prior to the date of delivery. There are also long-dated futures dated 3, 4, 5, 6, and 7 years prior to delivery. (http://www.nymex.com.

[368] Data obtained from NYMEX.

[369] http://www.nymex.com.

and makes futures market contracts a price reference for negotiations in the spot and contract markets.[370]

Several additional factors are important in determining the price of crude oil. Most of the world's crude oil is located within the geographic boundaries of the Organization of Petroleum Exporting Countries (OPEC), and OPEC has nearly all of the world's estimated excess production capacity. As a result, members' decisions (or their influence on other crude oil producing country's decisions) about the supply of oil can have a significant impact on world oil prices. Also, crude oil producers realize that there are few substitutes for petroleum products in the near-term, and the price of crude oil reflects this lack of substitutes.[371] Finally, the level of supply is also indicated by the level of inventories. When inventories are high, they represent incremental supply immediately available, so prices tend to decline, while lower inventories will be reflected by rising prices to indicate that more supply is needed.[372]

B. The Gasoline Wholesale Market

Following the purchase of crude oil, gasoline goes through multiple levels of additional pricing as it refined and distributed. Refined gasoline, like crude oil, is bought and sold in large quantities at the wholesale level in three markets: contract, spot, and futures. Integrated refiners use these markets not only to sell the gasoline they produce at a refinery, but also to purchase gasoline from other oil companies if their own production is inadequate to meet their contractual

---

[370] DOE/EIA-0545(99), "Petroleum: An Energy Profile: 1999," July 1999, 54-55, Energy Information Administration, *Oil Market Basics*, GAO/RCED-93-17, 34-37, NYMEX website, at http://www.nymex.com, and information provided to Subcommittee staff.

[371] GAO/RCED-93-17, 4-6.

[372] Energy Information Administration, *Oil Market Basics*.

commitments to supply gasoline. Wholesale prices of gasoline, like crude oil prices, are determined by the amount of supply and demand, inventory levels and the futures market.

1. Most wholesale gasoline is sold by contract.

Most of the gasoline sold at the wholesale level is sold under contract – prearranged agreements between refiners and jobbers or other oil companies to provide a specified amount of gasoline at a specified price, usually using a prearranged pricing formula. Under a contract, the buyer pays a premium (higher price) for the security of having a guaranteed supply of gasoline. Contracts can cover a period of from one day to one year, although they often allow an option to extend the contract. Refiners and oil companies view their contract obligations as a priority and ensure they produce or purchase enough gasoline to meet these obligations.

Contract prices are determined using either a flat rate or a formula based on gasoline prices in the futures or spot markets. As with contracts for the purchase of crude oil, these rates may be adjusted based on the time, manner, and place of delivery.

2. Exchange agreements are used to transfer gasoline between refining companies.

Exchange agreements are a common method for a refiner to get product to a market it serves far from its refineries or to a location where it does not have space at the local terminal. In an exchange, refiner A obtains gasoline from refiner B in a particular location, and refiner A provides its product at another location for refiner B. Refiners may exchange different grades or types of gasoline needed for a specific market and then make "differential" payments to account for the product, transportation, or market differentials. These agreements may be changed over time due to market conditions and are reevaluated regularly to determine if the current

agreement is the most cost efficient. All of the major oil companies we interviewed have established refined product exchanges with other refiners. On occasion, exchange agreements are negotiated to cover for an unexpected event causing a shortfall in supplies.

During the investigation, the Majority Staff asked one company official why a company would agree to supply gasoline to a competitor in the event the competitor had a shortfall in production and thereby forego an opportunity to increase market share at the expense of the competitor with the shortfall. The company official explained that even the best refineries are susceptible to unexpected outages, and therefore if a company refuses to supply its competitors when it experiences problems, that company would not be able to secure supplies in the event it has a problem:

> Although we believe we can operate our refineries very reliably and efficiently, because they are such complicated systems, we don't believe we can eliminate all risks that something might go wrong. There is not enough certainty to go-it-alone. The other players are very large. You don't want to poke them in the eye. You may need them someday. It's just not worth it for what may be a relatively small gain.[373]

3. The spot market reflects current market conditions.

The spot market is used by wholesalers to purchase gasoline not covered by contracts or exchange agreements. It provides a readily available channel to sell and buy gasoline for immediate delivery in response to the prevailing demand and supply. Participants in the wholesale market typically use the spot market when faced with surpluses or shortages that may arise from their contractual transactions. Refiners use the spot market to sell gasoline that they produce above the level needed to fulfill contracts or to purchase gasoline when their contract requirements exceed their supply. On the spot market, the buyer is free to shop around for the

[373] Documents in Subcommittee files.

lowest price but has no guarantee of supply. The spot market doesn't have a specific location; it is an informal network of buyers and sellers who carry out individual sales and purchases of gasoline.

The spot price can vary significantly day to day. It is typically guided by references to the prices quoted for future contracts, particularly those closest to maturity or those specifying the earliest upcoming date for delivery. Changes in the spot prices for crude oil are quickly and almost completely reflected in the spot prices for wholesale gasoline.

The spot market generally offers the lowest price for wholesale gasoline under normal market conditions, because there is no binding, ongoing supply contract between buyer and seller. Despite the apparent advantage the spot market offers in having the lowest prices during normal market conditions, most gasoline distributors and dealers prefer the security that contractual arrangements offer over the risk that the supply available on the spot market may be inadequate or may cost more, especially during a market shock.

4. The futures market provides critical price information for both the contract and spot markets.

The futures market for gasoline operates in the same manner as the futures market for crude oil. As with crude oil, the futures market is largely used as a means to hedge against future price changes or speculate on such changes rather than to buy or sell gasoline. Also, gasoline futures prices are available almost instantaneously from a variety of sources. Therefore, daily movements in the wholesale prices for gasoline on the futures market serves as the basis for price negotiations for gasoline in the spot and contract markets.

The NYMEX began unleaded gasoline futures trading in 1984.[374] The New York Harbor unleaded gasoline futures contract is based on delivery at petroleum products terminals in the Harbor, the major East Coast trading center handling a substantial share of imported and domestic shipments. Domestic shipments can come from refineries in the New York Harbor area or from the Gulf Coast refining centers via pipeline. The contract specifications conform to industry standards for Phase II Complex Model Reformulated Gasoline.[375] In 2001, approximately 9.2 million unleaded gasoline futures contracts were traded, about 1/4 of the number of crude oil contracts traded at the NYMEX during the same year. Less than one-half of one percent of these futures contracts results in the actual delivery of gasoline.

Because of the variety of fuel specifications in the United States, the unleaded gasoline futures contract does not always match the commodity being hedged. The market for a particular boutique fuel may or may not be highly correlated with the market for unleaded RFG. This segmented gasoline market causes uncertainty as to how closely the gasoline futures price will follow the spot price of the gasoline being hedged. There may be no direct relationship due to regional supply and demand differences. NYMEX unleaded gasoline futures contracts, though, are still used as a market benchmark in many companies' gasoline purchase and sales transactions. Additionally, some major types of fuels, such as California's CARB, do not have an established exchange for futures contracts as a result of the divergence between the market for CARB and the market for unleaded regular gasoline in the rest of the United States.

---

[374] Leaded gasoline futures were traded on NYMEX from 1981 to 1986. (DOE/EIA-0545(99), 55).

[375] For a description of reformulated gasoline, see section III E.

5. Rack price

The rack price refers to the price of gasoline charged by wholesalers at their refineries or company terminals to jobbers or independent dealers. The rack price is not available to dealers who are supplied directly by an oil company. Rack prices can be either contract or non-contract prices, but commonly are the former. Typically, rack prices are set daily by refiners and are generally influenced by prices in the spot and futures markets, as well as the extent of competition among refiners within a particular market. Rack prices for the same brand of gasoline may differ from terminal to terminal. Rack prices are communicated to jobbers or independent dealers electronically. Many refiners use a satellite communication system called the Data Transmission Network ("DTN"), operated by a private company in Omaha, Nebraska, to communicate rack prices. Some oil companies set the daily rack price at all of their terminals from one central office. In other companies, regional offices set the prices for the terminals in that region.

Rack prices tend to track the spot prices. As with contract prices, rack prices include a certain premium associated with the relative certainty of the supply and their stability in comparison to spot prices. Therefore, average rack prices are generally higher than spot prices under normal market conditions. But quoted rack prices may be higher than the actual price paid by purchasers, because suppliers may offer actual purchasers rebates and discounts.

There are two types of rack prices – branded and unbranded. The branded rack price is the price paid by jobbers or independent dealers for gasoline purchased using the trademark of a major oil company such as "Shell" or "Exxon." The unbranded rack price is the price paid for gasoline that does not carry a trademark name purchased from branded or independent refiners.

(Unbranded gasoline, if purchased from a branded refiner, will not contain the additive that marks the gasoline as associated with a specific brand.)

Unbranded rack prices tend to be lower than branded rack prices, because (a) the unbranded gasoline is generic gasoline while the branded gasoline includes a premium reflecting a recognized brand name, and (b) branded gasoline is usually sold under a long term contract where delivery is guaranteed, while unbranded gasoline may or may not be sold under contract and may or may not be available. Thus branded rack prices also include a premium for this additional security of supply. Therefore, a purchaser of unbranded gasoline may not be guaranteed a secure supply or lower prices, particularly during a market shock. In addition, branded prices generally include costs for using brand trademarks, credit cards and advertising resulting in a higher cost for branded rack than unbranded rack.[376] One major oil company stated that it provides the following nine services to its branded jobbers that make it worthwhile for a jobber to pay the premium to purchase branded gasoline: (1) a wider variety of grades of gasoline than unbranded, which leads to higher gross profit margins,[377] (2) access to oil company credit card at no fee, (3) oil company third party fee discount for VISA and MasterCard, (4) "subsidies" in the form of soft loans and investments, (5) marketing assistance, (6) rebates based on incremental volume, (7) training and support on how to run a profitable gasoline station, (8) technical support and station startup design, and (9) security of supply.[378]

---

[376] DOE/EIA, *Motor Gasoline Assessment, Spring 1997*, p. 33.

[377] Oil company officials told the Majority Staff that the amount of gross profit increases as the grade of gasoline increases. Regular grade gasoline sales have the lowest level of per gallon profit margin while premium grade gasoline sales include the highest per gallon profit margin.

[378] Document in Subcommittee files.

Another oil company was planning on expanding its limited sales of unbranded gasoline, but was very concerned about the impact of marketing unbranded sales on the sales of its branded product. The company decided that it needed to develop a capability to market unbranded gasoline because the unbranded market was growing, i.e. the growth of unbranded gasoline retailers such as supermarkets and convenience stores, which sell gasoline with a generic additive. As a result, the company decided to test the marketing of unbranded product in two markets. To protect its branded sales and to assure sufficient product for its branded customers (the company's system was short gasoline overall), the company decided that the marketing of its unbranded gasoline would be a purchase-for-resale business (could only be sold to retail outlets or jobbers and not to other refiners). Also, the unbranded product would be offered at the rack on an "as available" basis, and there would be no contractual sales of unbranded product.[379]

Refiners' rack pricing strategies are highly interdependent. Most refiners have contractual commitments to sell certain volumes of gasoline; their refining, distribution and marketing systems are designed to move a certain amount of volume through their refining and distribution system on a daily basis. Because of the lead time necessary to acquire crude oil, refine gasoline, and distribute it to other wholesalers and to retail marketers, fluctuations in throughput volumes can be inefficient and costly. Accordingly, rack pricing strategies usually are designed to maintain the refiner's share and niche of the market. Thus, the rack prices a

[379] Document in Subcommittee files.

refiner sets are frequently established by using other rack prices as benchmarks. In this manner a refiner maintains its throughput volumes and market share relative to the other refiners.

In fact, refiners are as averse to gaining market share through rack pricing as they are to losing market share. If a refiner prices a product too high too frequently, jobbers may complain and seek to switch to other brands when their term contract with the refiner expires. If a refiner prices a product too low, jobbers may seek to lift additional volumes and the refiner may run out of product prematurely, leaving other distributors with insufficient supplies. Hence, branded rack prices tend to move together and stay within the same relative price differences.

As explained in Section IV, refiners used to talk directly with each other to facilitate the setting of rack prices. After the Supreme Court held that such direct communication was prohibited, the refiners relied on public postings of rack prices to learn of each others' rack prices.[380] After the U.S. Court of Appeals for the Ninth Circuit ruled that public posting was prohibited, the refiners increased their reliance on trade publications and data services to ascertain the prices of competitors.[381] Multi-branded jobbers and distributors also pass along comparative price information to the refiners as part of their strategy to obtain the lowest rack price possible for their purchases.

6. Gasoline spot prices do not necessarily reflect crude oil prices, but they are reflected almost immediately in rack and retail prices.

The Majority Staff analyzed the Department of Energy's Energy Information Administration's (EIA) crude oil spot price data and regional gasoline spot price data, and the

[380] *United States v. Container Corp. of America*, 393 U.S. 333 (1969).

[381] *In re Coordinated Pretrial Proceedings in Petroleum Products Antitrust Litigation v. Standard Oil Co.*, 906 F.2d 432 (9th Cir. Cal. 1990)

Oil Price Information Service's (OPIS) rack and retail price data for five states – Michigan, Ohio, Illinois, California and Maine. (The methodology the Majority Staff used can be found in Appendix 1 on page 337; the figures referred to in this section can be found in Appendix 2 on page 339.)

Rack and retail prices moved closely with gasoline spot prices. In 2000, when gasoline prices began to rise in the five states during the spring price peak, the margins between gasoline spot and rack prices and between rack and retail prices was small. (See Figures A2.1-A2.5 on pages 340-344.) Notably, in California, during the March and September price spikes, the daily gasoline spot price level was higher than either rack or retail price in the state for at least a week. With relatively stable crude oil prices in 2001 gasoline spot prices in all three regions increased – earlier in Los Angeles than in Chicago and New York. (See Figures A2.6-A2.10 on pages 345-349.) The rack and retail prices in the three Midwest states and Maine largely moved in relationship with the gasoline spot price. When the prices were going up, gasoline spot, rack and retail were very close; when the prices were going down, the margins between these prices were larger. Notably, California's rack and retail prices continued to increase for a number of months as the gasoline spot price fell in 2001.

7. Dealer Tank Wagon (DTW) price

The DTW price is the price paid, pursuant to contract, by those dealers serviced directly by a major oil company for branded gasoline delivered to their outlets.[382] Some oil companies set the DTW prices for all of their company-owned and operated stations across the nation from one central office, while others set the prices from regional offices. Price changes are

[382] Both lessee and open dealers who are directly serviced by the refiners pay a DTW. Jobbers who own or lease out their own branded stations do not pay a DTW.

communicated to the retail outlets electronically or by facsimile. DTW prices are less volatile and normally are higher than spot and rack prices. Oil companies set their DTW prices using the futures and/or spot prices for gasoline as a reference, as well as the retail prices at other gasoline stations in the market area.

Even though the gasoline is the same and the transportation costs comparable, oil companies routinely charge different DTW prices to retail outlets in neighboring geographic areas. Dealers in the Washington, D.C. metropolitan area told the Majority Staff that this is one of the most vexing problems they face. (See discussion of zone pricing at Section V C 3.) The contractual agreement between the oil company and the dealer generally stipulates, among other things, an exclusive supply arrangement and a minimum purchase, which usually allows the dealer no flexibility to shop around for lower prices. Dealers pay the premium attached to DTW prices in exchange for the security of the supply, the use of the brand trademark, promotional support, such as credit cards and advertising, as well as the higher price that a brand may command at the retail level. Quoted DTW prices may be higher than the actual prices paid by an individual dealer because of rebates and discounts offered by suppliers.

During a market shock, such as a supply disruption, wholesale prices may rapidly rise (particularly spot prices) because the market anticipates that with less supply than normal, the region may end up short of gasoline. As a result, the branded rack price may end up being higher than the DTW price paid by lessee dealers supplied with gasoline directly by refiners. In times of shortages, unbranded rack prices also may be greater than the branded rack prices, as refiners seek to conserve gasoline for their contractual and branded customers. When the unbranded rack price is higher than the branded rack price, it is termed an inversion. As the

supply and demand balance in many markets has tightened, inversions have become more frequent. These inversions have severely affected the independents as they cannot maintain their normally competitive low-cost position without suffering a loss of margin.

8. Rebates and discounts given to branded outlets may help them compete with low priced retailers.

Many refiners provide either rebates or discounts to jobbers and retail outlet owners. These discounts off of posted rack or DTW prices are used to help the outlets maintain a reasonable profit margin and compete with the increasing number of retail outlets that price their gasoline with little or no margin, such as hypermarkets. In addition, some companies institute these discounts because other branded companies in the same sales area provide these discounts to their jobbers and retailers. The companies providing these discounts have found that they can maintain sales volume or recoup volume by offering these discounts.

Oil companies that seek to remain competitive in areas where hypermarkets have penetrated the retail gasoline market may suggest street prices to their branded gasoline retailers that are the same as or only slightly above those of the hypermarkets. Without a discount or rebate in the rack or DTW price, there would be little or no margin for the dealers. These rebates and discounts are usually temporary and may be withdrawn at any time, often with little notice. When provided to jobbers it is done directly one-on-one; these discounts do not show up on the rack purchase invoices. Thus, the oil company's branded rack price will not be affected by the

discounts.[383] This allows the refiner to provide allowances to specific retail outlets without affecting the rack price charged to others.[384]

The level of the price rebate is based on the company's determination of a price level that will enable the jobber (and the dealers supplied by that jobber) to post a price that is competitive with the low priced retailer and still maintain an adequate profit margin as determined by the company. These discounts often are reviewed on a daily basis. A number of oil companies have enabled a number of their jobbers to remain competitive with hypermarkets and other low priced competitors through this type of support.[385]

With respect to rebates or allowances for dealers that are charged a DTW price, the oil company will either charge a lower DTW price so the dealer can obtain a determined margin or provide a rebate or a reimbursement from the invoiced DTW price. The margin guarantee may apply either to all grades of gasoline or only to unleaded regular.

C. The Retail Gasoline Market

1. How retail prices are set.

Two-thirds of all gas stations are associated with a brand.[386] About one-quarter of these branded stations are company-owned and operated. Federal and state law provide that oil-

---

[383] For retail outlets supplied by jobbers, the oil company assumes that these discounts will be passed on to the retail outlets.

[384] Jobbers and retail outlet owners may receive longer term discounts off of rack or DTW prices. Some oil companies provide fixed discounts over 2-10 years (depending on the contract terms) if the jobber will build a new station under the oil company's brand name or if a dealer will convert an existing station to the oil company's brand.

[385] Documents in Subcommittee files.

[386] National Petroleum News, *Market Facts*.

company owned and operated stations are the only stations for which the oil company may set the retail price. Even though the oil companies cannot set prices for stations they do not own and operate, the oil company directly affects the retail price the branded open dealers or lessee dealers charge through the DTW price it sets. The DTW price is generally developed by the oil company based on the company's determination of an appropriate margin (depending on the company) for a specific retail outlet or outlets in a region/zone. The "margin" is the difference between the DTW and the retail price that the dealers receive for each gallon of gas that they sell. Retail prices will generally not fall below a certain level, because a station must, at a minimum, cover its costs and taxes. Also, retail prices will not go much higher than the nearby competition to ensure that the station maintains a certain volume of sales. During interviews with gas station owners and operators, the Majority Staff found that generally the branded dealers' margins ranged from a few cents per gallon to 8 -10 cents per gallon.[387]

---

[387] Some state laws require that oil companies charge a DTW price that enables dealers to achieve a fair return. In *Wilson v. Amerada Hess*, 168 N.J. 236, 773 A.2d 1121, 2001 N.J. LEXIS 681 (2001), the Supreme Court of New Jersey held that although the agreements between defendant Amerada Hess and its lessee dealers gave Hess the sole authority to determine the DTW prices charged to the lessee dealers, the covenant of good faith and fair dealing "is implied in every contract in New Jersey." Hess, therefore did not have the authority to set the DTW at a price that would not allow the dealers to cover operating expenses and achieve profit. "A party exercising its right to use discretion in setting price under a contract breaches the duty of good faith and fair dealing if that party exercises its discretionary authority arbitrarily, unreasonably, or capriciously, with the objective of preventing the other party from receiving its reasonably expected fruits under the contract." 168 N.J. at 239. The New Jersey Supreme Court noted that in some other states, such as Illinois and South Carolina, the courts have found no such restrictions on the DTW that could be charged. See, e.g., *Abbott v. Amoco Oil Co.*, 249 Ill.App. 3d 774, 619 N.E.2d 789, 795-6, 189 Ill.Dec. 88 (Ill.App.Ct. 1993) ("the dealers cannot complain when Amoco merely exercises the discretion the dealers allowed Amoco to possess."); *Adams v. G.J. Creel and Sons, Inc.*, 320 S.C. 274, 465 S.E.2d 84, 85 (S.C. 1995) (there can be no breach of the implied covenant of good faith and fair dealing where a party to the contract has done what the provisions of the contract allow).

Oil companies often "suggest" a retail price to all of their dealers.[388] Usually these suggestions are given verbally by oil company representatives sent out to counsel lessee and open dealers on how they should price the branded gasoline. There has been at least one instance when an oil company put these suggestions in writing. In 1999 this oil company sent all of its branded dealers, regardless of class of trade, a daily facsimile with recommended retail prices for all grades of gasoline. The company stated that it was doing this to offer customers consistent pricing across the brand within a competitive price zone. The company included a disclaimer stating that "this recommendation was not a guarantee that performance under this recommendation will result in a specific outcome." The note ended with the reiteration that "any dealer is an independent business person who makes the final decision as to the retail prices that will be set."[389]

Most oil companies focus their retail pricing policies on the retail pricing of their competitor's outlets. In years past, companies would know or could ascertain the DTW price their competitors would charge and would use those DTW prices as benchmarks for their own prices. Today, however, not all competitors' wholesale prices are available from price reporting services, and even the wholesale prices that are available may not reflect rebates and discounts jobbers and station owners receive. It is easier to obtain competitors' retail as opposed to wholesale prices, since they are posted on the street. So companies collect the data themselves or purchase the information from a price reporting or consulting service. Exhibit V.1 (page 326)

---

[388] Compilation of information obtained from Subcommittee staff interviews with gasoline retail outlet owners and lessees.

[389] Documents in Subcommittee files.

illustrates one company's frustration with trying to use reported DTW prices "to know if our prices are competitive," and its rationale for moving to retail-based pricing.

Each company's formula for determining an appropriate retail or "street" price is different, but companies rely on a system of identifying which competitors are market drivers for a particular price zone. One type of pricing system prices directly against a specific market driver, usually a low priced competitor, such as Company X's price + 3 cents per gallon. Another method for pricing is to price at the average of the prices of all major market drivers. Sometimes the price is determined using a combination of both methods. [390] For example, one company decided that its stations in a Los Angeles zone should price the lower of (1) ARCO stations + 6 cents per gallon, or (2) the average price of major branded drivers in the zone.[391] Once the recommended retail price is determined, the DTW is "backed-out" by taking this estimated recommended retail price and subtracting both the taxes (federal, state, and local) and the company's level of support (margin) for the region.[392] Other companies may price their stations at a predetermined relative position to a set of identified key competitors, rather than pricing against one specific market driver station. The particular strategy adopted will depend on the particular market conditions and competitors. Both strategies, however, use the street prices of the competitors in a particular area and place and maintain the oil company's dealers at a certain level within that pricing structure.

---

[390] Document in Subcommittee files.

[391] Document in Subcommittee files. For years, ARCO has been recognized as a low-price leader on the West Coast.

[392] Document in Subcommittee files.

In the late 1980's one oil company described its pricing strategy for the Metropolitan Washington, D.C. area. This description demonstrates how pricing strategies are established for specific markets and that those strategies involve a relationship among the particular competitors.

"Baltimore

Very high direct refiner presence (including Crown) and all dealer (by law)...only 4 key brands...Crown, Amoco, Shell, and Exxon...very little price segment except when Crown provides. There is more...jobber etc. as one moves out into Maryland...but Baltimore dictates all Maryland prices due to uniform price change law...so big price decision.

"Very high rack to retail margins, rack of no consequence. [DTW] strategy is to set [DTW] as high as reasonable given overall industry conditions, and interface problems with surrounding states. We will initiate upward, we will follow Amoco, Shell quickly..we will be slow to come down in a dropping market...but will respond to Amoco, Shell, or Crown if they seek to gain ad edge. Unlike in [New Jersey] etc. Amoco will not sit high in this market.

"High prices set by Baltimore may create problem in Salisbury...where [REDACTED] jobbers have from time to time served direct dealers.

"D.C.

Similar to Baltimore in that majors dominate the market. Key difference is that Amoco has almost half the market and we have almost half the remainder...there is no Crown and Shell is less dominant. Strategies are similar to Baltimore. Boundary conditions are a problem since as one goes over to [Northern Virginia] and as one goes south conditions are more competitive...and prices have to be lower.

"Northern [Virginia]...Fairfax, etc.

A hybrid market or area...between the high priced [Maryland]/D.C...the low priced [Pennsylvania] and the low priced South [Virginia]/[North Carolina]. Tends to be major brand refiner direct dominated...rack to retail margins have been high...rack prices not too significant. Exxon and Shell are neck and neck, followed by Amoco, Texaco, Mobil, Crown...the last tends to take up the price segment...although a few independent stores surface.

"[DTW] strategy...price as high as reasonable, watch retail for way price segment is moving and how low they are sitting...adjust if needed to stay competitive further south. We will initiate upward but when conditions are right we are usually already high versus the southern [Virginia] and that market is usually not quite ready. Our [DTW] position over time is usually in line with Amoco, Mobil, Shell."

Because many oil companies and gasoline retailers set their retail price on the basis of the prices of their retail competitors, prices in each specific market tend to go up and down together. Moreover, most oil companies and retailers will try to maintain a certain price position in a particular market – namely a fixed price difference with respect to one or more other retailers. Hence, it will often appear that, over time, gasoline prices in that market move together in a "ribbon-like" manner – so that as a brand moves up and down it nonetheless remains at a constant differential with respect to the other brands. Figures A2.38 (page 377) (Illinois: June 2001); A2.56 (page 395) (California: January - August, 2001); and A2.57 (page 396) (Maine: January - August, 2001) illustrate this effect.

All of the companies interviewed consider their pricing strategies confidential, business sensitive information. Many companies also are concerned that public discussion of these policies may be "misconstrued" as facilitating parallel pricing. The companies interviewed by the Majority Staff generally stated their policy was to charge prices that would allow them or their dealers to obtain a fair return and to remain competitive with the other retailers they considered the main competition. Some admitted, privately, that on occasion, depending on the market conditions, they set their prices based on a differential from one or more competitors; others would not state that they ever used such policies.

Exhibit V.2 (page 327) illustrates how a public communication of a pricing policy may not fully reflect a company's actual policy. In an initial e-mail that appears to have been generated to reflect one company's pricing strategy, the listed strategies include the following. "Use Chevron and Aloha as benchmarks." "Price on a site by site comparative basis, not on price alone." "Optimize profitability by avoiding price wars and undercutting prices unnecessarily."

"Optimize profitability and margins by pricing gasoline at the highest achievable price to volume point." As a result of concerns expressed in response to that e-mail over the appearance of "conscious parallelism," all references to specific competitors and avoiding price wars were deleted from the next draft of the written strategy, although the response stated that "The oral discussions of this strategy can go into greater detail."[393]

Because most companies determine the DTW by backing it out from the recommended retail price with a fixed margin, most branded dealers receive a fixed margin, regardless of the retail price they charge. The net result of this practice is that the oil company rather than the dealer captures most of the profits in times when prices rise.

Several branded lessee dealers told us if they tried to increase their margins over that "recommended" by the oil company, the increase would be reflected in their next DTW price, calling into question the degree to which the price is actually recommended.

During the summer of 2001, as wholesale prices were dropping following the spring price spike, members of the public believed retail gasoline dealers were price-gouging when they failed to lower the retail prices to match the declines in the wholesale prices. "Dealers say they're frustrated;" OPIS reported in early August, "they're accused of highway robbery by motorists who've heard about the plunge in global gasoline values, and those customers don't

[393]As the California courts noted in *Aguilar*, concscious parallelism does not violate the antitrust laws, as long as the market participants are acting independently. "Uniform pricing is most frequently seen in oligopolistic industries producing standardized goods. Often, the industry leader will set a price which is consciously followed by its competitors. Absent any additional factors, the resultant price uniformity throughout the industry does not constitute an antitrust offense, even though the effect is the same as if price fixing had been involved. Conscious parallelism, i.e., a pattern of following the industry leader in pricing, continues to be recognized as unilateral and hence lawful behavior." Von Kalinowki on Antitrust, §13.05, at 13-24.

understand that DTW prices have been virtually disconnected from sweeping trends in the big bulk markets. Motorists inaccurately calculate that dealers are reaping record margins; if street prices have dropped by only 10-20 cents per gallon, then somebody must be pocketing the additional 30-50 cents per gallon decline that has been witnessed in spot markets."[394]

As the OPIS article correctly notes, refiners generally set the wholesale price of gasoline they will charge one of their lessee dealers by calculating an appropriate competitive retail price for the dealer–which is done by surveying the competitive prices in the retailer's local market–and then subtracting a fixed margin, usually between 7 and 10 cents per gallon.[395] Although retail prices fluctuate, the dealer's margin stays fixed. As retail prices rises or falls, it is the refiner, rather than the retailer, that receives either the profit or the loss.

Figures V.2 (page 329) - V.5 (page 332) show how retail-wholesale margins have varied in the United States and a number of markets over the past three years.[396] These charts demonstrate that the retail-DTW margins, which are the margins realized by lessee and some open dealers, have exhibited the least volatility over the past three years. Although there has been some fluctuation of a few cents per gallon during periods of extreme volatility, the retail-DTW margins have remained within a relatively narrow band throughout this period. In California, for example, although retail-rack differentials have fluctuated by as much as 35 cents,

---

[394] OPIS, *Gasoline Dealers Battle Market Disadvantage and Angry Public*, July 2001.

[395] Jobbers, or distributors, generally purchase branded gasoline at the branded rack price, which is set by the refiner in relation to other wholesale prices.

[396] EIA Data.

the retail-DTW margin has stayed within a narrow band of 5 to 10 cents for the entire period, with an average margin of about 7 cents.

Most of the focus on retail pricing is for regular grade (usually 87 octane) unleaded gasoline. Approximately three-fourths of all gasoline sold by retail outlets is regular grade.[397] Each company determines if its target price for mid-grade and premium grades of gasoline will be priced by a fixed differential compared to its regular grade gasoline or a floating differential based on what competitors are charging. Some companies use a mix of both methods depending on the region being priced. For example, the retail price spreads between regular, midgrade, and premium for one company's stations in Northern Virginia were fixed: midgrade = regular + 6 cents per gallon and premium = regular + 13 cents per gallon. The same company had a floating differential for these premium grades in the Richmond, Virginia, area because the company recommended pricing all grades against the prices charged for those grades by a private brand (such as Sheetz, Wawa, or RaceTrak). The general company rules for pricing premium grades against a private brand are:

- intermediate = private brand's intermediate price + 5 cents per gallon, and
- premium = private brand's premium price + 5 cents per gallon.[398]

Regional factors also affect the retail price of gasoline. First, the retail price is affected by the distance between the retail outlet and the source of its supply of gasoline. For example, the further the station is from the nearest terminal, the higher the cost of transportation, which is

---

[397] DOE, Energy Information Administration, Petroleum Marketing Monthly, March 2002 (DOE/EIA-0380(2002/03), 19-20.

[398] Document in Subcommittee files.

passed on to the consumer. Second, disruptions in the regional supply of gasoline, such as breaks in a pipeline that serves the local terminal, will usually increase prices temporarily. The prices will not decline until alternative supply can be brought into the region or the problem with the supply delivery system can be fixed. Third, state or local regulations may adversely affect the ability for new stations to enter the market to increase competition or for current stations to increase their size to become more cost efficient. Fourth, differences in operating costs affect retail prices. Land costs or lease payments may differ based on the location of an outlet. Urban areas tend to have higher real estate costs than rural areas, and these higher costs are passed on to the consumer. One oil company official stated that a station's DTW price may take into account that the outlet's lease rate from the company for the station's property may not give the company an adequate return on the property. The DTW price then may include some return element for the property.[399]

As explained in Section IV, the nature and extent of the competition significantly affects retail prices, too. Generally the greater the degree of competition, the lower the rack-retail margin.

The retail pricing strategies of jobbers and independents also are interdependent with other retailers. Jobbers and independents will try to establish a particular niche in the marketplace – be it as a location with brand value or as a low-cost high volume independent outlet – and price relative to the competition in order to achieve such objectives.

---

[399] Document in Subcommittee files.

2. Retail price trends vary by region with the Midwest experiencing a high degree of price volatility.

The Majority Staff analyzed the Oil Price Information Service's (OPIS) rack and retail price data for five states – Michigan, Ohio, Illinois, California and Maine – from January 2000 to August 2001. (The methodology the Majority Staff used can be found in Appendix 1 on page 337; the figures referred to in this section can be found in Appendix 2 on page 339.) During this time period, retail price trends varied by region for both 2000 and 2001, with retail prices for regular unleaded gasoline experiencing significantly more fluctuations in the Midwest than in California or Maine.

The fluctuations in price for regular unleaded gasoline in Illinois, Michigan, and Ohio (referred to in this analysis of OPIS data as the "Midwest") generally followed the same patterns. The price trends for both Maine and California (referred to in this analysis of OPIS data as the "Coasts"), while different than the Midwest, generally followed patterns somewhat similar to each other.

The Midwest: In both 2000 and 2001, the Midwest experienced one significant price spike in the spring/early summer. (See Figures A2.11-A2.16 on pages 350 - 355.)

– In 2000, Midwest prices started to rise at the beginning of May and peaked mid-June.

– In 2001, Midwest prices started to rise in March and peaked at the end of May.

– In 2001, Michigan's retail prices began to rise 1 ½ weeks earlier than Illinois or Ohio and kept increasing 1 ½ weeks longer.

The Coasts:

– In 2000, both California and Maine prices peaked in mid-March, early July, and in the middle of September. (See Figures A2.17 on page 356 and A2.18 on page 357.) While California's prices gradually dropped after the September peak, Maine's prices stayed fairly even at the peak until December. Just prior to the September peak in California, the average rack prices were significantly higher than the state's average retail prices.

– In 2001, prices remained relatively high in both California and Maine, peaking during May, and then falling through the beginning of August. (See Figures A2.19 on page 358 and A2.20 on page 359.)

In the Midwest the retail price of gasoline rose from 20 to 35 cents per gallon from January 2000 to August 2001; on the Coasts, the increase was 10 to 15 cents per gallon.

The Midwest experienced greater volatility in retail prices than either California or Maine during the period of time reviewed by the Majority Staff. During 2000, retail prices in the Midwest varied from 60 to 70 cents per gallon as compared to a 50 cent per gallon variation in California and a 30 cent variation in Maine. In 2001, the retail prices in the Midwest ranged from about 85 cents per gallon to over $1.40 per gallon, a variation of approximately 55 cents. Maine's retail prices in 2001 ranged from 90 cents to $1.20 per gallon, a variation of 30 cents, while California's retail prices fluctuated from $1.05 to $1.45 per gallon or a variation of 40 cents.

Although the variation in prices in 2001 was smaller than in 2000 in the Midwest, the prices consumers paid each week for gasoline in 2001 varied more frequently. Particularly noteworthy are the weekly mini retail price spikes in the Midwest in 2001. In 2001 in most

weeks in Michigan and Ohio, and to a lesser extent in Illinois, retail prices were pushed up significantly (7-10 cents per gallon) over 1 or 2 days, only to fall over a slightly longer period of time. (See Figures A2.14-A2.16 on pages 353 - 355.) These mini price spikes are not evident with respect to the rack prices.

In Michigan, although rack prices had 4 major price spikes as seen in Figure A2.21 (page 360), with the price trend heading up by the end of August 2001, there were 4 times as many significant price increases in retail prices than rack prices. These mini price spikes can be seen in Figure A2.22 (page 361). Speedway (owned by Marathon) was the price leader in most cases, bringing retail prices up every one to two weeks. (See Figures A2.23-A2.25 on pages 362 - 364.)

– In Ohio, retail price volatility was even greater. Like Michigan, Ohio rack prices had 4 major price spikes in 2001, but Ohio's branded retail prices had 5 times as many retail price peaks. (See Figures A2.27-A2.28 on pages 366 - 367.) Speedway was not only the price leader for these short price spikes, but Speedway usually ended up with the highest and then the lowest prices for each significant price fluctuation interval. (See Figures A2.29-A2.31 on pages 368 - 370.)

– Illinois's price volatility was not as great as either Michigan's or Ohio's, nor was price leadership apparent. Illinois had half as many branded retail price spikes as Ohio, but Marathon has only about 9 percent of the retail gasoline market in Illinois, as compared to 14 percent in Michigan and 26 percent for Ohio. Retail price spikes in 2001 were still greater than the 4 peaks in rack prices for the state. (See Figures A2.33-A2.37 on pages 372 - 376.)

The only time in 2001 where this weekly volatility didn't appear was in June when prices fell from the May peak, and retail margins were approximately 12-24 cents per gallon. This Midwest retail price volatility can most easily be seen by comparing the rack-to-retail margins for the Midwest (Figures A2.39-A2.41 on pages 378 - 380) to the margins on the Coasts (Figures A2.42 and A2.43 on pages 381 and 382).

Section IV of this report discusses the effect of concentration in the market in determining retail price margins.

3. Zone Pricing

Most oil companies follow the practice of grouping their retail outlets into geographic or market zones and charging retail outlets in different zones different DTW prices for the same brand and grade of gasoline. This practice is called "zone pricing."[400] Companies create zones, they told the Subcommittee, to account for differences in such factors as demand for their product and competition. Almost all of the companies interviewed by the Majority Staff

---

[400] In 1936 Congress amended the Clayton Antitrust Act by passing the Robinson Patman Anti-discrimination Act, which makes it illegal to "discriminate in price between different purchasers of commodities of like grade and quality . . . and where the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly in any line of commerce, or to injure, destroy, or prevent competition . . ." 15 U.S.C. 13(a). The Act allowed, however, price differentials that "make only due allowance for differences in the cost of manufacture, sale, or delivery," that result from "changing conditions affecting the market for or marketability of the goods concerned," or that were established "in good faith to meet an equally low price of a competitor." 15 U.S.C. 13(a),(b).

One company explained the effect of this Act on its zones. "The Robinson-Patman Act prohibits discrimination in price to competing resellers of the same product. Therefore, when a district proposes new or adjusted price zones, the district must check to see that price zone boundaries for each market are drawn so that (brand name) stations that receive DTWs do not compete with each other...The question is, will a DTW differential across any zone boundary create significant competition between any two (brand name) stations in different zones? If yes, then the zone boundary must be adjusted to include the competing locations (or the differential reduced)." Document in Subcommittee files.

indicated they employed some form of zone pricing so they could respond to local competitive conditions.[401]

Each company has its own zones. The number of outlets in a zone, the shape of a zone and the number of zones in a particular area vary from zone to zone and company to company. Zones can be very small; some contain only one retail outlet. According to the Connecticut Attorney General, in 1997 representatives of Mobil Oil testified that the company had 46 zones in Connecticut.[402] A Maryland task force report on zone pricing reported that in Maryland refiners appeared to have at least 10 but not more than 200 zones per company.[403] One Maryland refiner indicated that it typically had 5 to 8 outlets in a zone.

Some companies employ independent firms to help establish the parameters used to define zones and identify the outlets that belong in the defined zones.[404] Complex computer models and techniques are sometimes used to design zones. Factors such as location, geographic characteristics, traffic volume, population, strength of demand for a product and competition are considered.

---

[401] The companies contend that by pricing according to market areas or zones that group together outlets facing similar local conditions and/or competitive environments (that differ from conditions confronting outlets in another area) they can be more responsive to the particular conditions of each area and therefore more competitive. Critics of zone pricing maintain that the practice does not increase competitiveness, but rather it impairs the ability of some outlets to compete with other outlets and enables companies to confine the areas in which they establish competitive prices and to set higher prices in nearby areas that aren't as competitive.

[402] Statement of the Honorable Richard Blumenthal, Attorney General, State of Connecticut. Hearings on "Solutions to Competitive Problems in the Oil Industry." The Committee on the Judiciary, House of Representatives, Friday, April 7, 2000. Serial No. 127.

[403] Document in Subcommittee files.

[404] Document in Subcommittee files.

In a recent trade publication, an official from the most widely used industry consultant on the creation of pricing zones, MPSI, Systems, Inc. (MPSI), explained MPSI's approach to zone pricing:

> Pricing has been looked at as an art in the petroleum industry; something you determine by gut feel reacting to what everybody else is doing, "said Don Spears, MPSI managing director, pricing systems and consulting. "If you raise or lower prices, it's usually a couple of cents across the board for all grades of gasoline. However, with technology you can begin to look at pricing as a science and get greater returns for your efforts."
>
> The concept is based on gasoline sales forecasting and price elasticity, which is the price range a specific customer will accept for his or her favored grade of gasoline before he or she looks elsewhere.
>
> "The majority of people can figure out that if they are buying 12 gallons of gas, at one cent extra, the fill up will cost them an extra 12 cents," says Spears. "How convenient is it to find that 12-cent savings and how much gasoline will they burn trying to find it?
>
> In general, Spears said there are three types of customers: pricers, who will switch for a penny difference; switchers, who will do the same for two to three cents' difference; and loyalists who follow the same patterns and may not even look at price.
>
> People exhibit specific pricing behaviors linked to the grade of gasoline. . . MPSI has researched to find out the point at which customers start to react to a higher price for a specific grade of gasoline. Although it varies by site, in a typical elasticity curve a 1 percent change in price will result in a 6 percent loss in volume for regular, a 4.5 percent loss in volume for mid-grade, and a 3 percent loss for premium. Spears notes gasoline is not as elastic as people think, even for regular grade.[405]

---

[405] Keith Reid, National Petroleum News, *Which Price is Right?* February 2000. In a 1997 presentation before the Society of Independent Gasoline Marketers of America (SIGMA), Spears explained that MPSI's "Price Optimization Model" calculates a variety of elasticity curves for different grades of gasoline at a particular filling station (the volume gain or loss that results from a change in price), and the cross elasticity of supply (how much a competitor will gain from that change in price). The Price Optimization Model then calculates the equilibrium range – "a range in price where consumers will buy the same volume." According to MPSI, a

In its promotional materials, MPSI states, "To maximize profits, you need to establish a large number of price zones. To maintain good dealer relationships, you need objective zones that can be successfully defended against legal challenges. Finally, you need to actively manage the pricing process for these zones." MPSI states its models will allow price managers "to set DTW prices to each zone without adversely affecting dealers in neighboring zones. You will be able to charge more in areas that can support higher prices and separate the areas of heavy competition."[406]

Similarly, companies may apply many of the factors and modeling techniques that are used to determine the size and shape of a zone to determine how to price the DTW in each particular zone.[407] Studies have shown that the DTW price for the same brand and type of

---

dealer's goal should be to set prices in the upper end of the equilibrium range. Presentation by Don Spears, MPSI, *Improve Profits While Maintaining Sales Volumes!*, 1997 Sigma Annual Meeting.

[406] Documents in Subcommittee files. MPSI's Price Tracker, Equilon Documents.

MPSI claims that its model is flexible enough to allow for multiple price changes in one day, depending on the market conditions at those times. "The theory is simple. During the two daily rush hours, commuters will be less conscious of cost and more conscious of convenience. These customers can be charged more because they are less likely to shop around. In between the rush hours, the stay-at-home population is less rushed and more price-conscious. Prices should be lower to keep volume up. In overnight hours, when the station may be the only place open for miles, the price can be much higher." *Which price is right?*, supra.

However, it is reported, this concept "is approached with extreme caution due to the potential emotional backlash among local consumers over the perception of 'price-gouging.' This is particularly the case with the after-hours increase. . . . In October, 1999, Coca-Cola announced it was considering deploying a vending machine that adjusted the price for soft drinks based on outside temperature – the hotter the day, the higher the price. This casual disclosure generated considerable media coverage, mostly negative." *Id.*

[407] Sometimes the result of the modeling is not a fixed number, but a formula based on a relationship to other zones. For example: "the price in zone 42 should be set at 3 cents above the price for zone 41."

gasoline may vary by as much as 10 cents per gallon between zones. As previously stated in setting DTW prices, companies regularly track the prices charged by competitors. Some companies contract with firms to survey competing prices up to 2 or 3 times per week. Other refiners use their own employees to survey the competition on a daily basis.

Companies regard information about the configuration of their zones, the criteria used to establish zones, the criteria used to establish prices in the different zones and the price differentials between zones as proprietary. They do not inform their dealers of zone configurations or the factors used to define zones or set zone prices. Zone assignment and pricing can have a significant affect on consumers and on the competitiveness and income of retail outlets, particularly outlets that are located near other outlets of the same brand but are in a different zone and are charged a different DTW price. For example, a retailer in one zone may be charged a higher DTW price than a nearby retailer who is in a different zone, even though both are purchasing the same type and brand of gasoline. The retailer who pays the higher DTW will likely have to charge customers a higher price to maintain the same margin as the competitor who pays a lower DTW. The retailer charging the higher price may lose customers to the nearby retailer charging a lower price. Interviews with refiners and representatives of companies that assist in establishing zones indicate that the zone modeling process takes into account the strength of demand for a particular brand, the impact of price differentials on sales volume, and the level of competition in the particular zone.

The Majority Staff interviewed several retailers in the Washington, D.C., area who felt they were not able to compete with other stations due to their zone positioning. Several dealers spoke of their frustration that in the zone system, a dealer must pay the DTW set for him/her

according to zone pricing, with the result that a dealer in the same area – maybe just across the street – selling the same brand of gasoline has a lower DTW price, because that dealer is in a different zone. Dealers felt they could not be as competitive as they want to be, because of the limitations on DTW prices according to zones. [408] One dealer stated, "In a perfect world, there would be no zoning" and an entire state would have one price of gasoline.[409]

4. How retail prices are changed.

There are a number of different explanations of how retail prices change. At the most basic, qualitative level, however, the descriptions of how prices change are very similar. Because retail prices reflect interactions in at least three different markets – crude oil, wholesale gasoline, and retail gasoline – it is not surprising that retail prices change almost daily and, in times of high volatility, may change several times per day. Because prices at all levels within the market are based on the market conditions at that instant, rather than costs for production or delivery, price changes can occur very quickly, as both retailers and their suppliers, including refiners, continually monitor market conditions at all levels of the market and have sophisticated data transmission systems to pass along price changes electronically.

Changes in the price of crude oil, for example, are not always transmitted directly to the pump, but pass through the intermediate pricing stages of the gasoline spot market and the branded and unbranded rack or DTW before they are reflected in the pump price. In some cases there is a slight "lag" in each step of the process as these price changes are transmitted up the pricing chain: first, wholesale gasoline spot prices change, then rack prices change, and then

[408] Document in Subcommittee files.

[409] Document in Subcommittee files.

retail prices change.[410] According to this view, as wholesalers and retailers are reluctant to increase prices too quickly, lest they lose market share, or too slowly, lest they run out of product, market participants will not respond immediately to price changes; rather they will change prices slowly, in step with each other. In this view, it may take several days before changes in the price of crude oil are fully felt at the pump. As a result of the time lag between rack price changes and retail price changes, retail-wholesale margins are compressed as wholesale prices rise. (See Figure V.6. on page 333.)

However, the converse is true as crude prices decline. As crude prices fall and margins expand, marketers and retailers will be reluctant to lower their prices and lose the opportunity to at least recapture the revenue lost as prices were rising. Retail-wholesale margins will then expand as wholesale prices decline.[411]

Another explanation notes that price changes are not necessarily passed through the distribution change on a penny-for-penny basis: as one moves up the distribution chain these changes in price are "flattened out." (See Figures V.7 and V.8 on pages 334 and 335.) Thus, it is not necessarily a time lag that leads to the compression and expansion of margins, but rather the fact that as one moves up the distribution chain the price cycles are less pronounced. The

---

[410] See, e.g. John Cook, *Energy Information Administration, Factors Impacting Gasoline Prices and Areas for Further Study*, FTC Public Conference, August 2, 2001 ("retail price changes lag spot prices").

[411] It is unclear whether the retail – wholesale price lag that occurs when prices rise is symmetrical with the lag that occurs as prices decrease – i.e. whether gasoline prices "go up like a rocket and down like a feather." See e.g., Energy Information Administration, *Price Changes in the Gasoline Market, Are Midwestern Gasoline Prices Downward Sticky?,* February 1999; Borenstein, Cameron, and Gilbert, *Do Gasoline Price Respond Asymmetrically to Crude Oil Price Changes?*, Quarterly Journal of Economics, February 1997.

resulting "stratification" of price cycles thus produces the same result as does the time-lag explanation.[412]

In other cases, price changes along the pricing chain for gasoline can be instantaneous. One industry executive interviewed by the Majority Staff stated that the spot and futures markets for gasoline are "immediately" affected by any changes in crude oil markets. These changes are immediately reflected in rack price changes and in retail price changes at company-owned stores, as well as in DTW prices.

Of course, not all price changes are precipitated by changes in the price of crude oil. A pipeline disruption or a refinery outage will alter the perception or reality of the supply/demand balance and therefore affect prices. The mechanism by which these events alter the retail price is no different from the mechanism by which crude oil price changes alter the retail price, but it starts further downstream. Thus, a significant refinery outage or other supply disruption will immediately affect the spot price of gasoline in the affected area. The changes in the spot price will then affect rack and DTW prices in the same manner as previously discussed.

5. Midwestern retail gas prices changed quickly and often in 2001.

The day-to-day changes in retail prices in Michigan, Ohio, and Illinois during 2001 can be seen in Figures A2.44-A2.55 (pages 383 - 394).[413] These charts show the day-to-day changes in retail price by brand for selected weeks in each of the three Midwest states. Michigan's, Ohio's, and to some degree Illinois', weekly price increases were led by Speedway, but other brands increased significantly as well. Speedway's big price increases usually occurred in one

[412] These hypotheses are not mutually exclusive; elements of both explanations may be accurate.

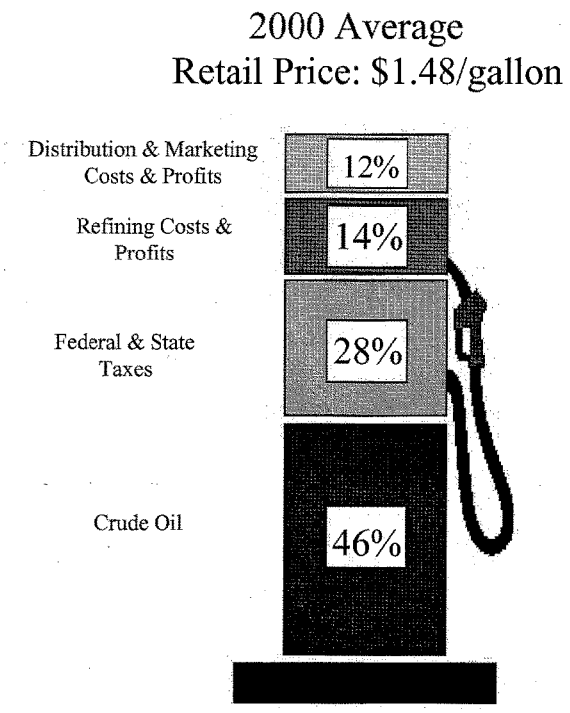
[413] The figures referred to in this chapter can be found in Appendix 2.

day (sometimes two), while the other brands' increases took at least two days. For example, as seen in Figure A2.44 (page 383), in Michigan, Speedway's average retail price increased by over 16 cents per gallon between March 27th and 28th. During the two-day period of March 27th and 29th, Shell and Marathon's average prices increased by about 12 cents and BP's and Mobil's average retail prices increased over 9 cents. These rapid price jumps usually occurred on Wednesday or Thursday, followed by a slower decline in prices. This pattern was typical for these brands in the Midwest in 2001.

The declines in retail prices, even for these small price peaks, were more gradual than the preceding increases, taking 4-5 days as the overall price trend continued its steady climb upward, or up to two weeks when prices were relatively stable. For example, in Ohio, Speedway's average retail price increased about 7.5 cents per gallon between April 18th and 19th, with a small increase the following day of 2 cents. Afterwards, prices fell for 8 consecutive days. All of the competing brands – BP, Marathon, Shell and Sunoco – had price increases over the same two days, followed by 7 or 8 days where the price either declined or remained the same. By May 2nd, all of the retail prices were about to peak again.

Officials at one oil company told us that Speedway/Marathon believes that the rack-to-retail margins in the Midwest (where most of their operations are concentrated) are too low. According to this official, in an effort to increase these margins, Speedway/Marathon tries to lead the competing brands up in price by increasing its prices in the hope that the competition will follow their lead. This official also stated that the market did not support most of these substantial price increases, because the prices fell shortly after they were increased.

Figure V.1: Costs Included in the Retail Price of Gasoline



Source: DOE/EIA.

EXHIBIT V.1

JUNE 18, 1991

PRIVATE & CONFIDENTIAL

FROM: [redacted]

TO: [redacted]

SUBJECT: [redacted]

Our current information system for pricing [redacted] is rapidly becoming obsolete. The wholesale prices reported by Lundberg do not reflect actual prices to dealers because of the increasing number of rebates, TVA's and special retail programs. Some competitors no longer publish their wholesale prices to price reporting services. The net result is, it is very difficult to know if our prices are competitive. The [redacted] report, which takes Lundberg wholesale prices and adjusts them to be comparable to [redacted] price basis, is no longer a viable tool for pricing. The wholesale prices and adjustments required can no longer be monitored with any degree of certainty.

It is now necessary to set up a new information system for gathering competitive price data so that we can meet competition on the wholesale and retail level. Rather than attempt to collect wholesale prices and then monitor all the adjustments that come and go, the new system will collect competitive street prices which already include the effects of all special pricing programs and are readily apparent to anyone driving down the street. The attachments give a brief overview of a new price analysis system along with a proposed action plan.

We will begin development and testing immediately with a target completion date of August 24. Final review and approval is targeted for August 25 to September 15.

[redacted]

Attachments

[redacted]

[redacted]

EXHIBIT V.2

[redacted]

From: [redacted]
To: [redacted]
Subject: FW: Pricing Strategy
Date: Friday, December 05, 1997 11:42AM
Priority: High

[redacted] let's discuss on Monday.

From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: Pricing Strategy
Date: Friday, December 05, 1997 11:18AM
Priority: High

I took a look at the Pricing Strategy statement from [redacted] and also ran the list past [redacted]. Here are some comments:

The theory of "conscious parallelism" among competitors is a type of circumstantial evidence that may be used to infer the existence of a conspiracy among competitors to fix prices. Unfortunately, it is an amorphous area of antitrust law with no clear-cut guidelines for assessing when parallel conduct or acts facilitating parallel prices are illegal. As a result, we must be sensitive to generating documents which would need to be produced in any pricing investigation, and may be misconstrued.

If you want to articulate our pricing strategy in writing that will not be privileged, I recommend that you consider the following that deletes any reference to areas of conscious parallelism. The oral discussions of this strategy can go into greater detail.

1. ~~Maximize profit, not volume.~~

2. Offer product at a retail price that is fair, competitive and consistent with our value proposition.

3. Price for long term profitability, not short term increase in market share.

4. Optimize profitability and margins by pricing product at the highest achievable price to volume point.

5. Price on a location-by-location basis with consideration of all competitive factors for that specific location.

Please let me know if I can be of further assistance.

[redacted]

From: [redacted]
To: [redacted]
Subject: Pricing Strategy
Date: Monday, November 17, 1997 2:24PM

1. ~~Use Chevron and Aloha as benchmarks.~~ w/consid of all co-p factors for their specific loc.
2. Price on a ~~site~~ site-by-~~site~~ site ~~comparative~~ basis~~, not on price alone.~~
3. ~~Optimize profitability by avoiding price wars and undercutting prices unnecessarily.~~
4. Optimize profitability and margins by pricing ~~gasoline~~ fuel at the highest achievable price to volume point.
5. Offer ~~gasoline~~ fuel at a retail price that is fair, competitive and ~~supportive of~~ consistent with our value proposition.
6. Price for long term profitability, not short term increase in market share.
7. ~~Adjust price down when diminished volume is sustained, unexplainable and likely to not be followed by major competitors.~~
8. ~~Separate retail and fleet volumes and monitor on an individual as well as combined basis.~~

– Max. profit, not volume.

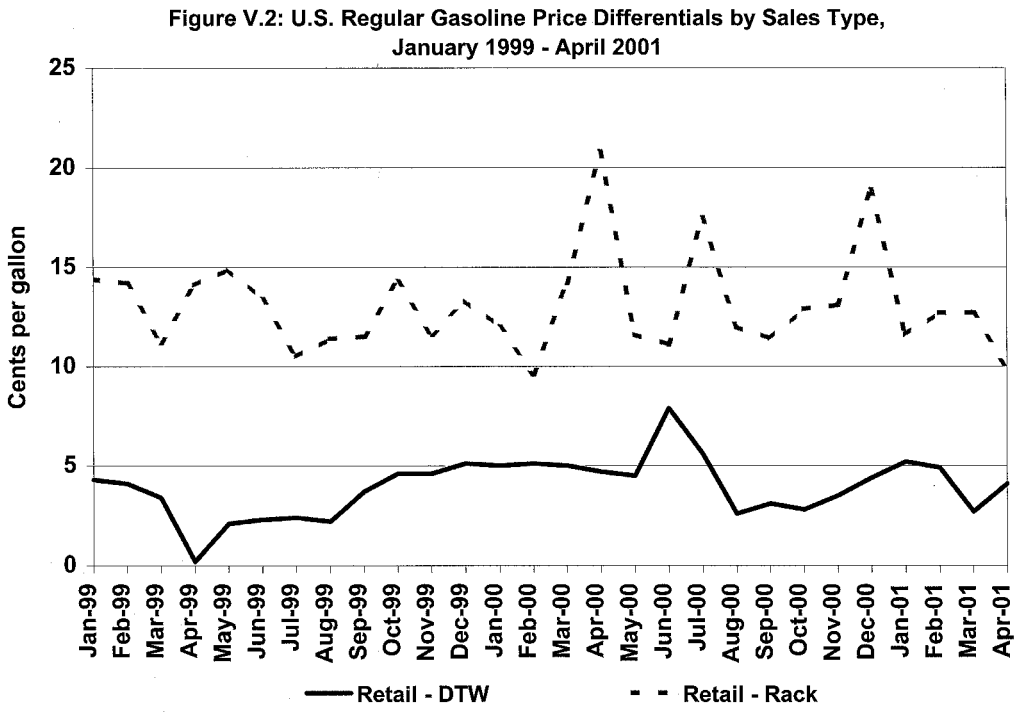
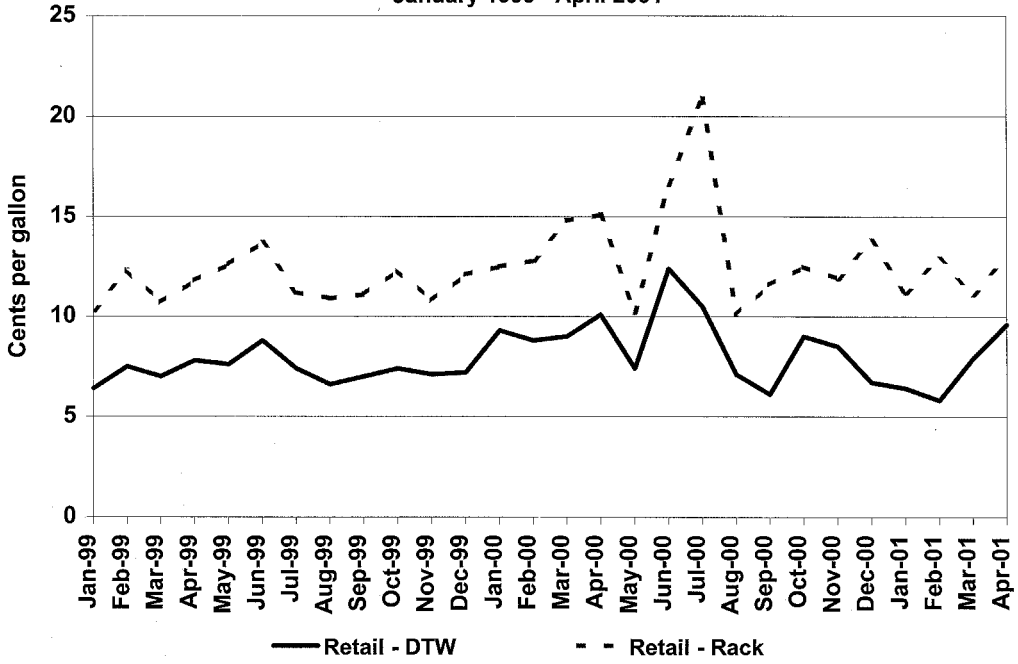


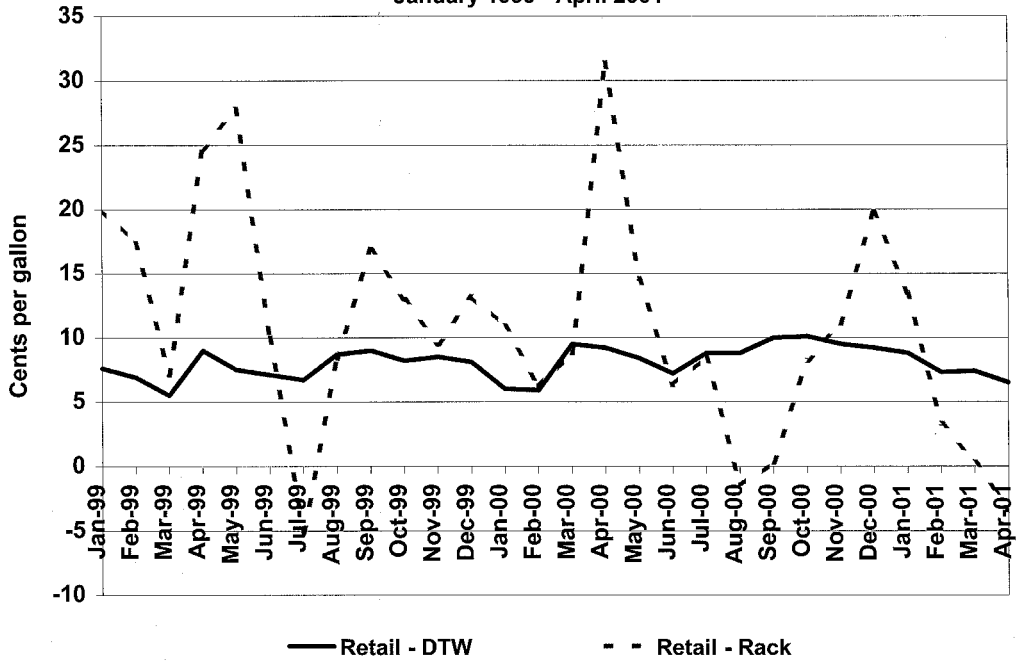
Figure V.2: U.S. Regular Gasoline Price Differentials by Sales Type,
January 1999 - April 2001
Cents per gallon
25
20
15
10
5
0
Jan-99
Feb-99
Mar-99
Apr-99
May-99
Jun-99
Jul-99
Aug-99
Sep-99
Oct-99
Nov-99
Dec-99
Jan-00
Feb-00
Mar-00
Apr-00
May-00
Jun-00
Jul-00
Aug-00
Sep-00
Oct-00
Nov-00
Dec-00
Jan-01
Feb-01
Mar-01
Apr-01
Retail - DTW
Retail - Rack

Figure V.3: Michigan Regular Gasoline Price Differentials by Sales Type, January 1999 - April 2001



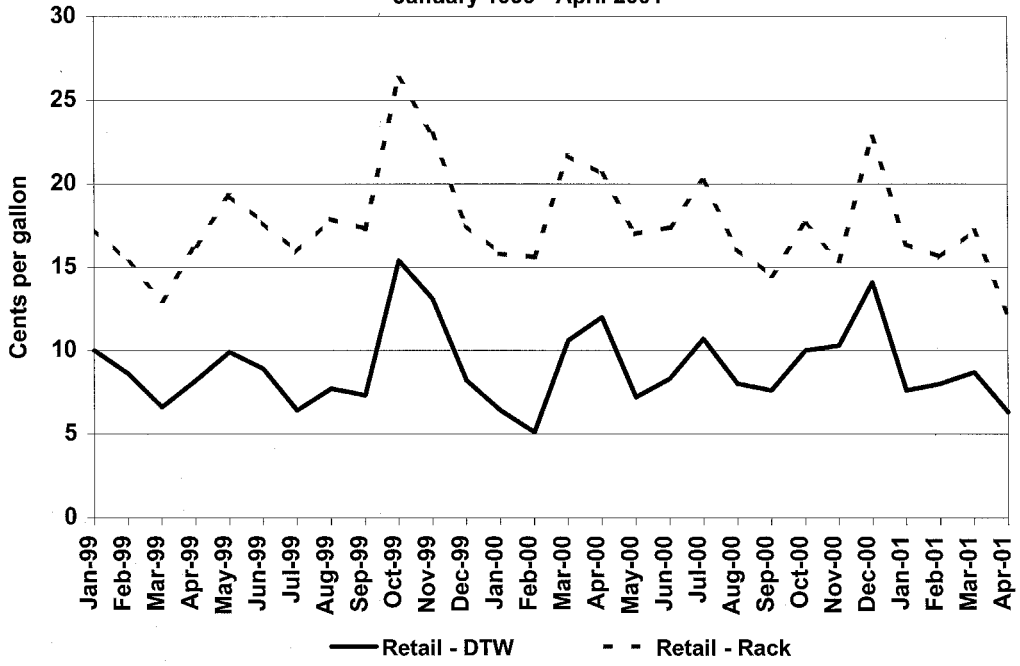
Source: DOE/EIA.

Figure V.4: California Regular Gasoline Price Differentials by Sales Type, January 1999 - April 2001



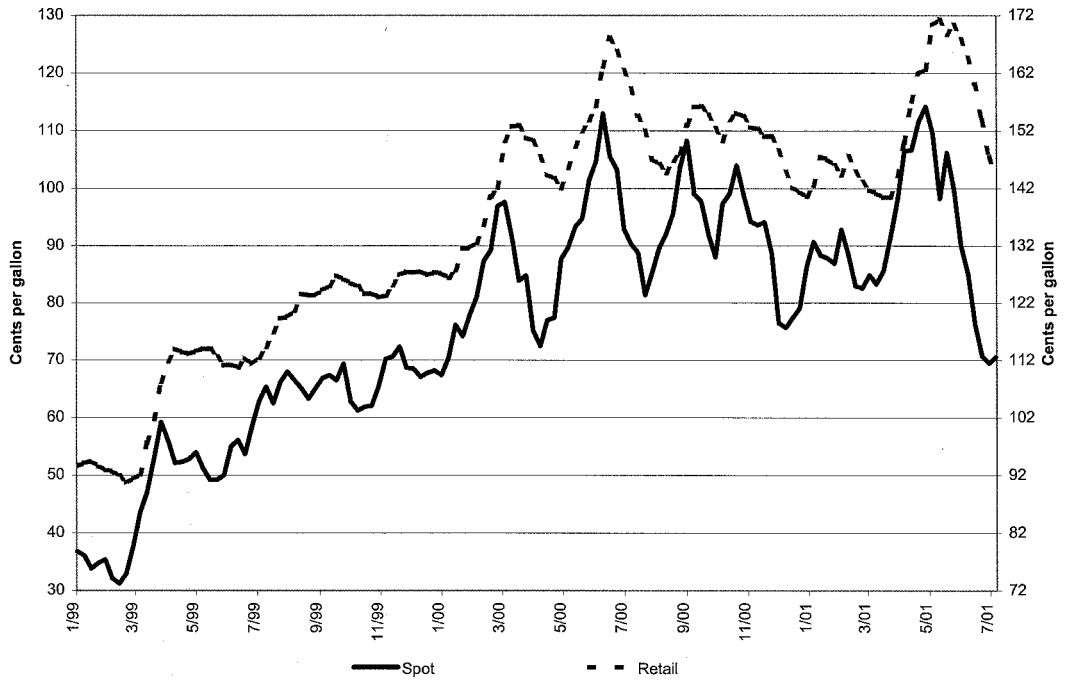
Source: DOE/EIA.

Figure V.5: Maine Regular Gasoline Price Differentials by Sales Type, January 1999 - April 2001



Source: DOE/EIA.

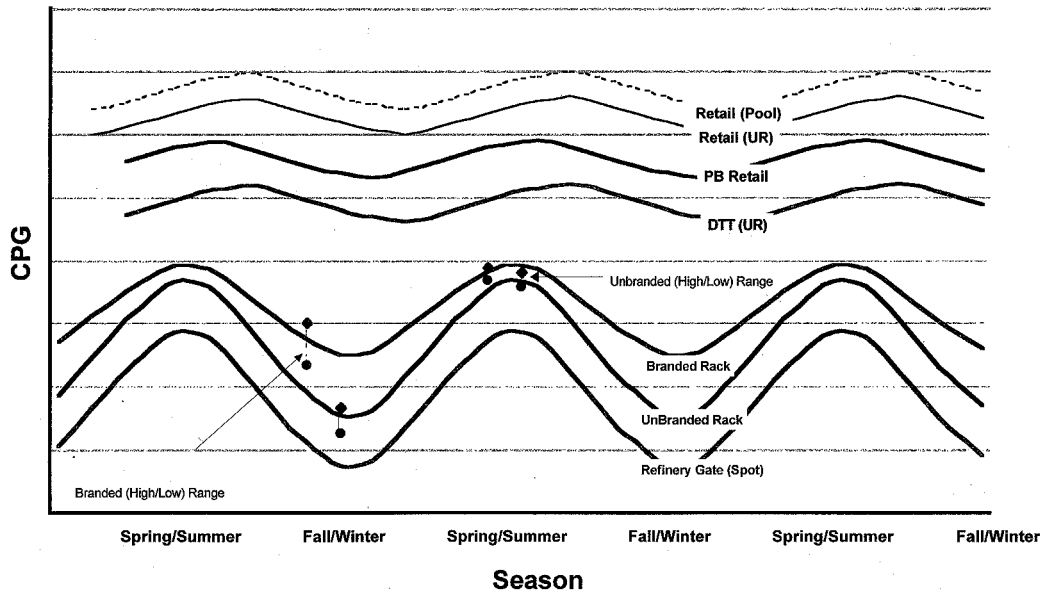
Figure V.6: Retail Prices Lag Spot Prices



Source: DOE/EIA.

Figure V.7:

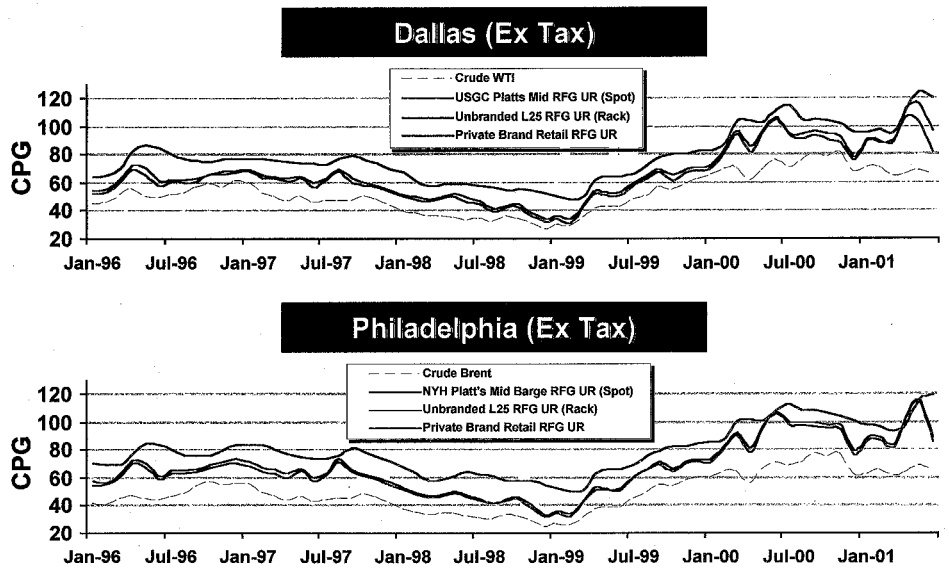
Pricing Simplified, Price Cycles, Stratifications



Source: Document in Subcommittee files.

Figure V.8A:

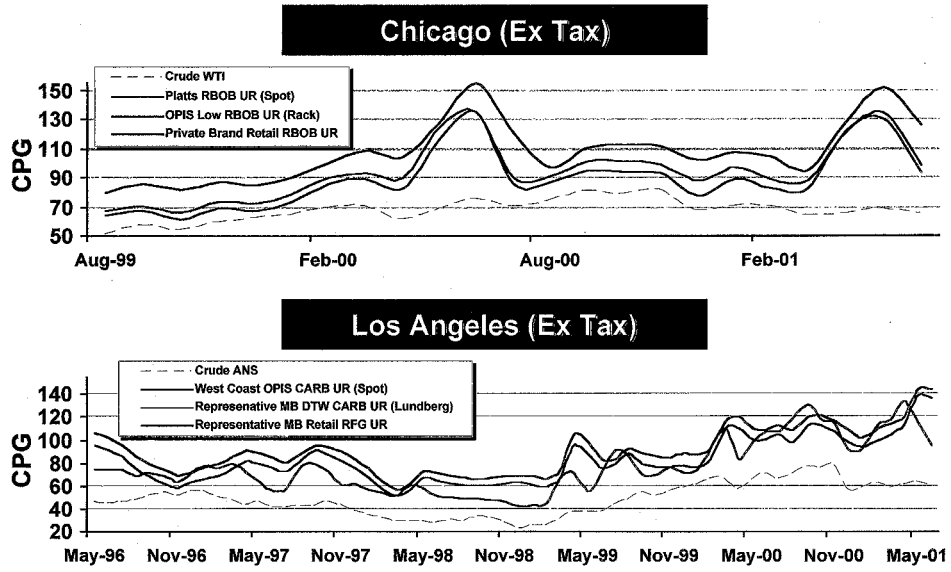
Examples of of How Gasoline Prices Respond to Market Conditions



Source: Document in Subcommittee files.

Figure V.8B:

Examples of of How Gasoline Prices Respond to Market Conditions *(Cont.)*



Source: Document in Subcommittee files.

APPENDIX 1.

METHODOLOGY USED FOR ANALYSIS OF WHOLESALE AND RETAIL PRICE DATA

The Subcommittee purchased from the Oil Price Information Service (OPIS) rack (wholesale terminal) price and retail price data for regular unleaded gasoline. The Subcommittee obtained daily data for all of 2000 and the first eight months of 2001 (January 1-August 23) for five states – California, Illinois, Maine, Michigan, and Ohio. The Majority Staff completed analyses of state average rack prices, state average retail prices (net of federal and state taxes), and the resulting rack-to-retail margins for both 2000 and 2001. The Majority Staff also compared branded average rack prices and branded average retail prices (net of federal and state taxes) for each of the five states for 2001. Finally, the Majority Staff reviewed the daily branded retail price changes in Illinois, Michigan, and Ohio for selected weeks in 2001. The brands the Majority Staff chose to compare in each state varied based on which brands generally had the largest market shares in each state.

OPIS obtains its rack prices each day from all of the major jobbers in each region where there is a terminal. To calculate a state's daily average rack price, OPIS averages all of the rack prices in all of the terminals in the state each day. The branded rack prices for each state are developed by weighting the daily regional rack prices for each brand based on the number of times the Wright Express LLC fleet card[1] is swiped for each brand in each region in a state. For example, if on a specific day, Wright Express fleet cards are swiped at Brand X rack terminals only in 3 regions of a state -- 5 times in region A, 3 times in region B, and one time in region C, the following calculation would be made. Brand X's rack price in region A would be added 5 times, Brand X's rack price in region B would be added 3 times, and Brand X's rack price in region C would be added one time, and then the final amount would be divided by 9 to get the "weighted average" rack price for Brand X in that state.[2]

OPIS collects the retail price data using the Wright Express LLC fleet card as well. Each morning OPIS gets an electronic transfer of actual per gallon transactions for up to 85,000 individual gasoline stations across the country from transactions that occurred over the previous few days. The OPIS database will only accept data that comes from transactions where the fleet card was swiped either inside the store at a register or at a filling pump. The fleet card separates gasoline purchases from all other purchases at a gasoline station (such as purchases of soda and snacks), so OPIS is assured that the price per gallon data is not skewed. The OPIS database is run through a "scrubbing program" that removes any price data that is 30 percent higher or lower than the average prices of other retail outlets in its zip code.[3]

---

[1] Wright Express LLS is the largest fleet card provider in the United States. (OPIS website: www.opisnet.com)
[2] Teleconference with Fred Rozell, OPIS, November 6, 2001.
[3] OPIS website and discussions with Fred Rozell, OPIS, November 6 and 8, 2001.

The Majority Staff also compared the rack and retail prices for each state to the daily regional conventional gasoline spot prices and the national crude oil spot prices to see how the wholesale and retail prices of gasoline were affected by changes in the spot market. The Majority Staff obtained these spot market prices from the Department of Energy's Energy Information Administration's the web site, www.doe/eia.gov. The Majority Staff used the Chicago conventional gasoline spot price for the analyses of Illinois, Michigan, and Ohio; the New York conventional gasoline spot price for Maine; and the Los Angeles conventional gasoline spot price for California.

The table below shows which brands the were used for brand prices comparisons in each of the five states the Majority Staff reviewed. These brands the were chosen largely on the basis of our information on which brands had the leading market shares in each state. When the market shares for each brand are summed, the Majority Staff's analyses of rack and retail data cover approximately 50 percent of the market, except for Maine.[4] The Majority Staff had to remove Mobil from the retail brand price analysis in California, Illinois, and Maine because the Mobil retail data the Subcommittee received from OPIS was not representative of the brand's prices across the state. Speedway brand was used only in the retail price analyses because all of the outlets are company owned and operated by Marathon Ashland LLC, and therefore the brand was not sold at terminals.

Table 1. Brands Used in Analysis of State Branded Rack and Retail Prices

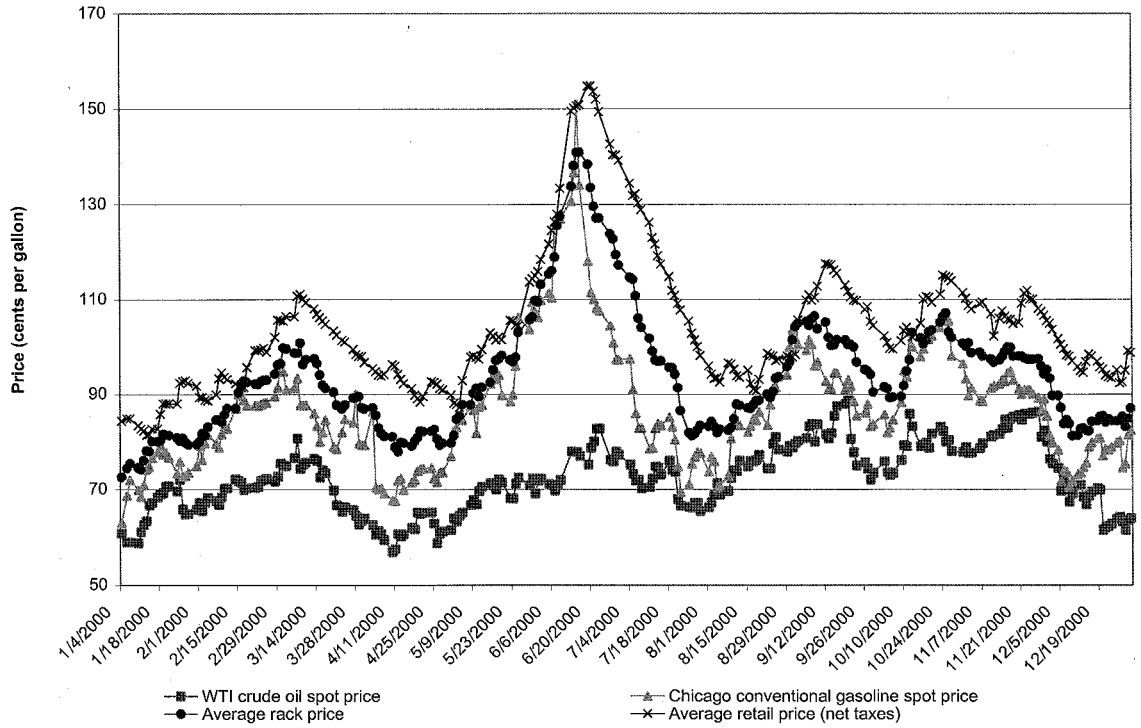
California	Illinois	Maine	Michigan	Ohio
BP	BP	Citgo	BP	BP
Chevron	Citgo	Gulf	Marathon	Marathon
Shell	Marathon	Mobil (rack only)	Mobil	Shell
Texaco	Mobil (rack only)	Texaco	Shell	Speedway (retail only)
	Shell		Speedway (retail only)	Sunoco
	Speedway (retail only)			

[4] Mobil maintains over ¼ of the market share in Maine, so when it is removed in our analysis of retail pricing by brand, the remaining brands constitute approximately 30 percent of the market.

APPENDIX 2.

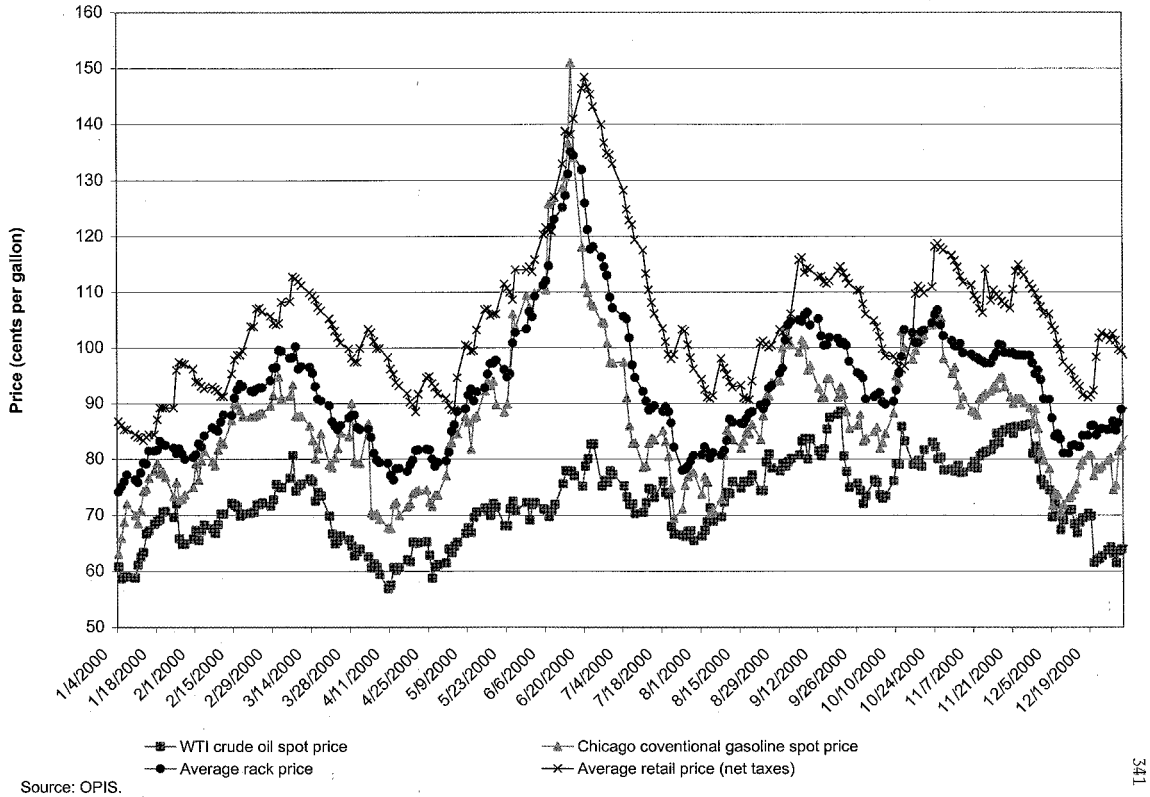
FIGURES RELATING TO MAJORITY STAFF ANALYSIS OF WHOLESALE AND RETAIL PRICES REFERRED TO IN SECTION V

Figure A2.1: Michigan Retail, Rack, and Spot Market Prices, January - December 2000



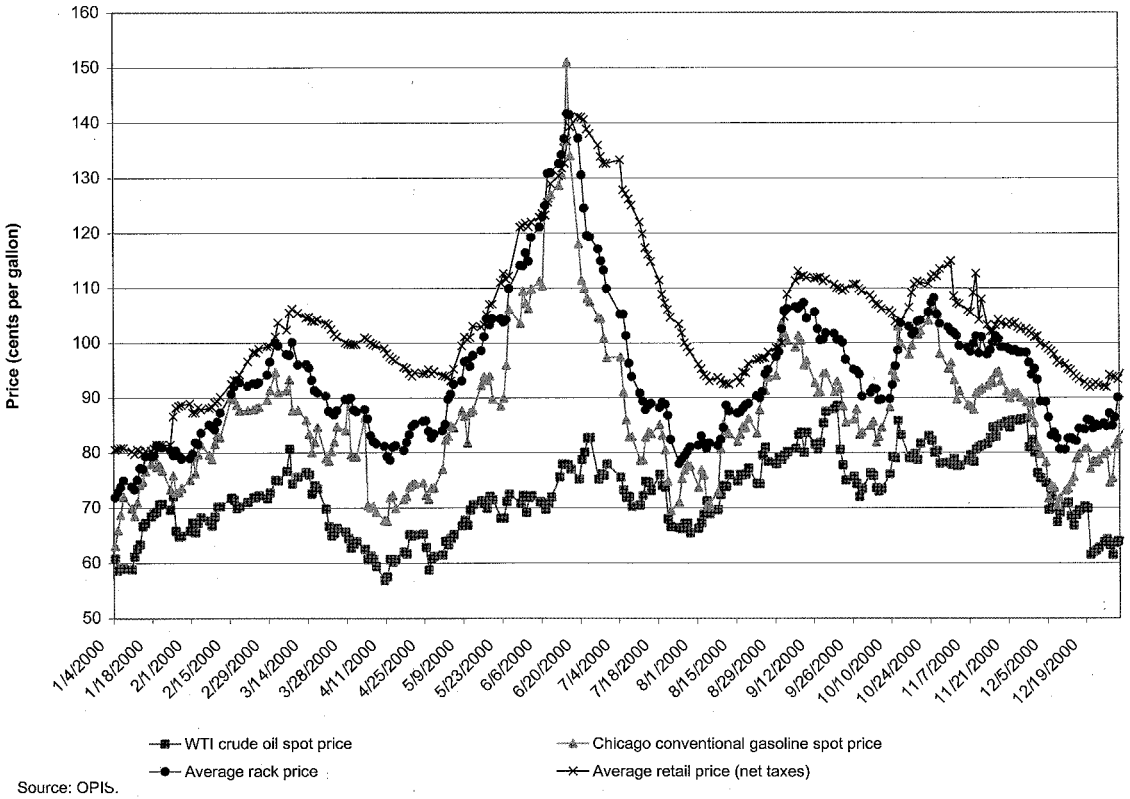
Source: OPIS.

Figure A2.2: Ohio Retail, Rack, and Spot Market Prices, January - December 2000



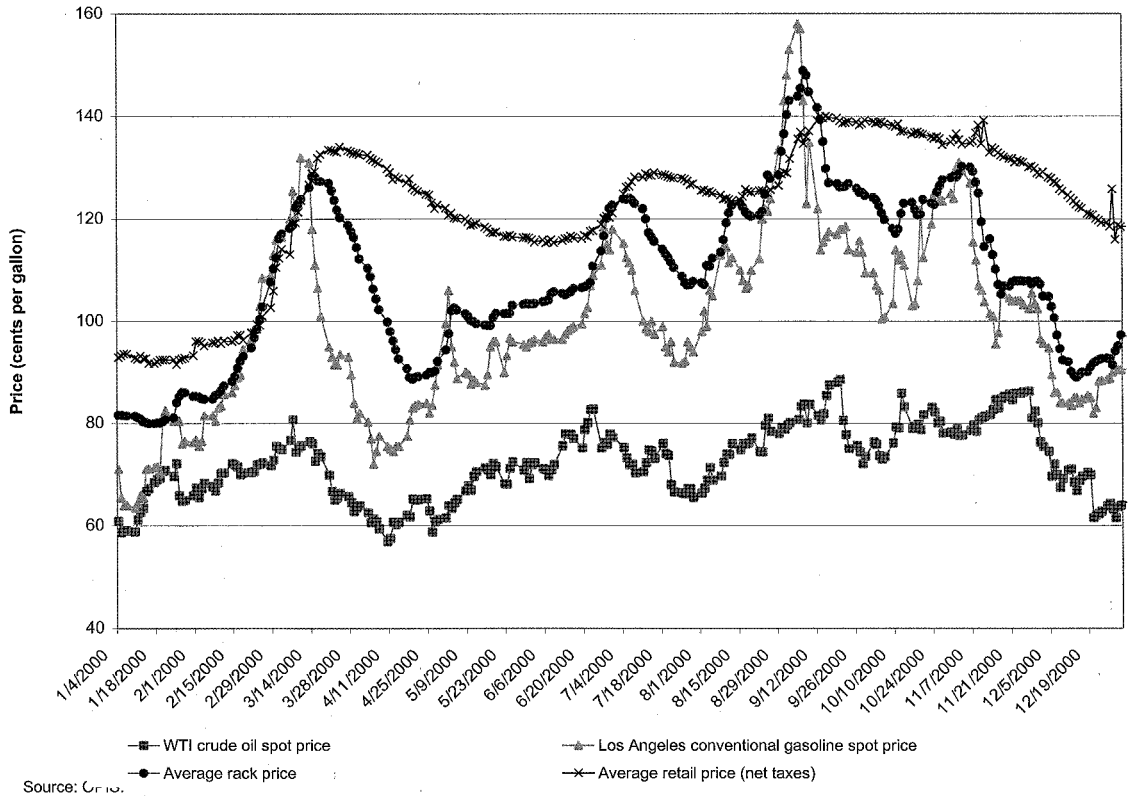
Source: OPIS.

Figure A2.3: Illinois Retail, Rack, and Spot Market Prices, January - December 2000



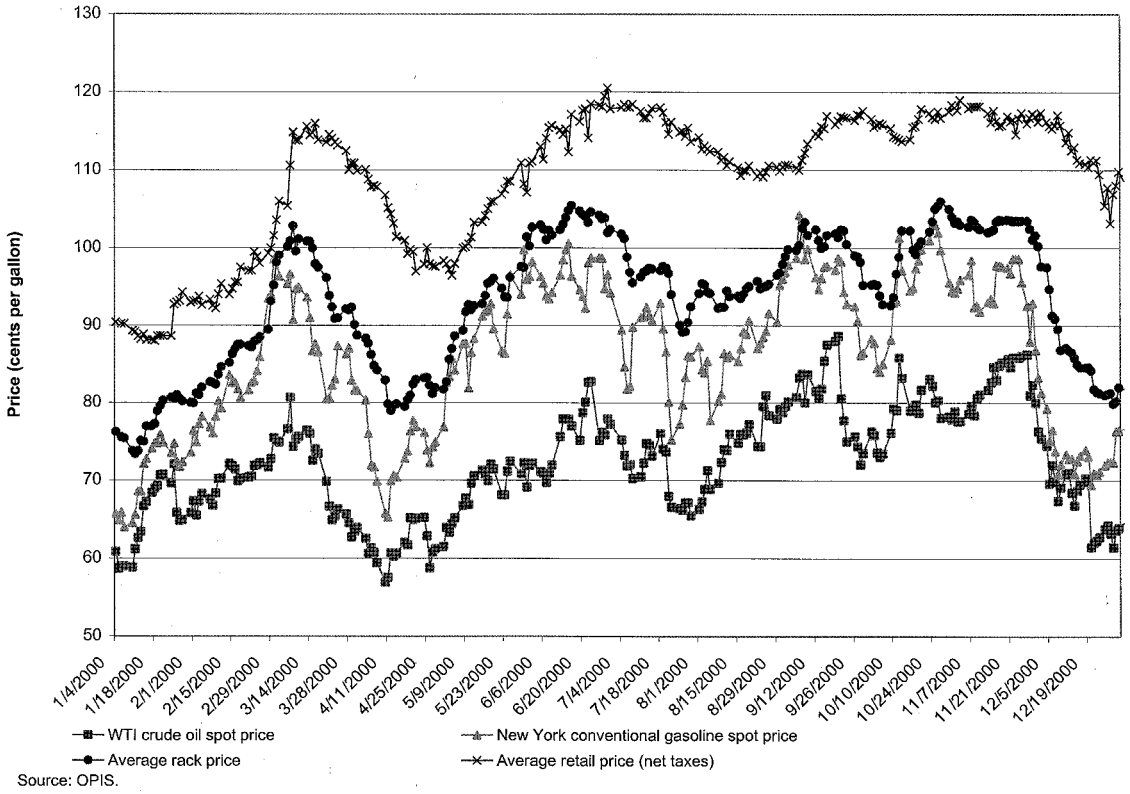
Source: OPIS.

Figure A2.4: California Retail, Rack, and Spot Market Prices, January - December 2000



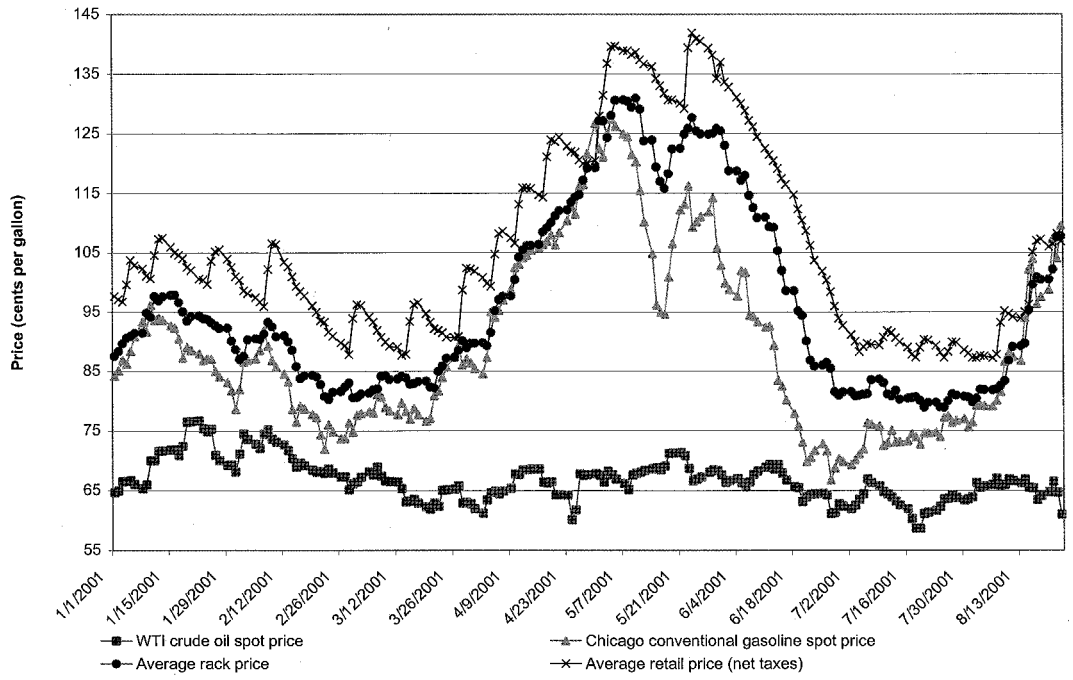
Source: CPIS.

Figure A2.5: Maine Retail, Rack, and Spot Market Prices, January - December 2000



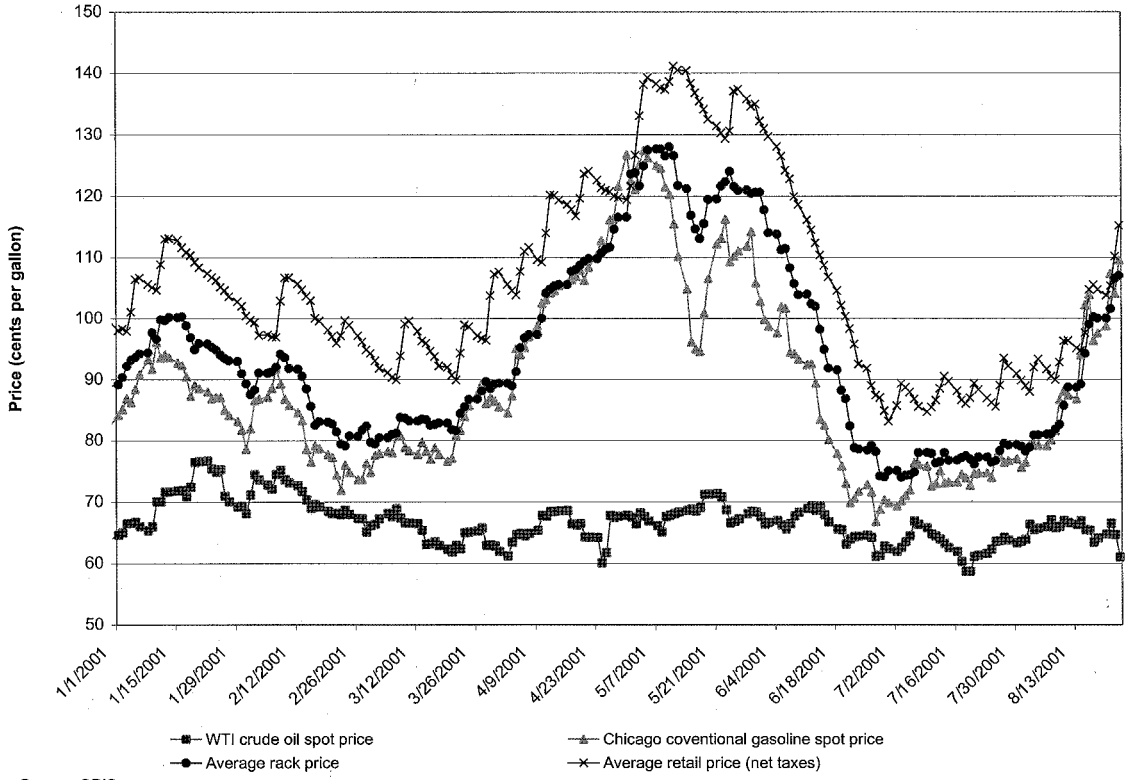
Source: OPIS.

Figure A2.6: Michigan Retail, Rack, and Spot Market Prices, January - August 2001



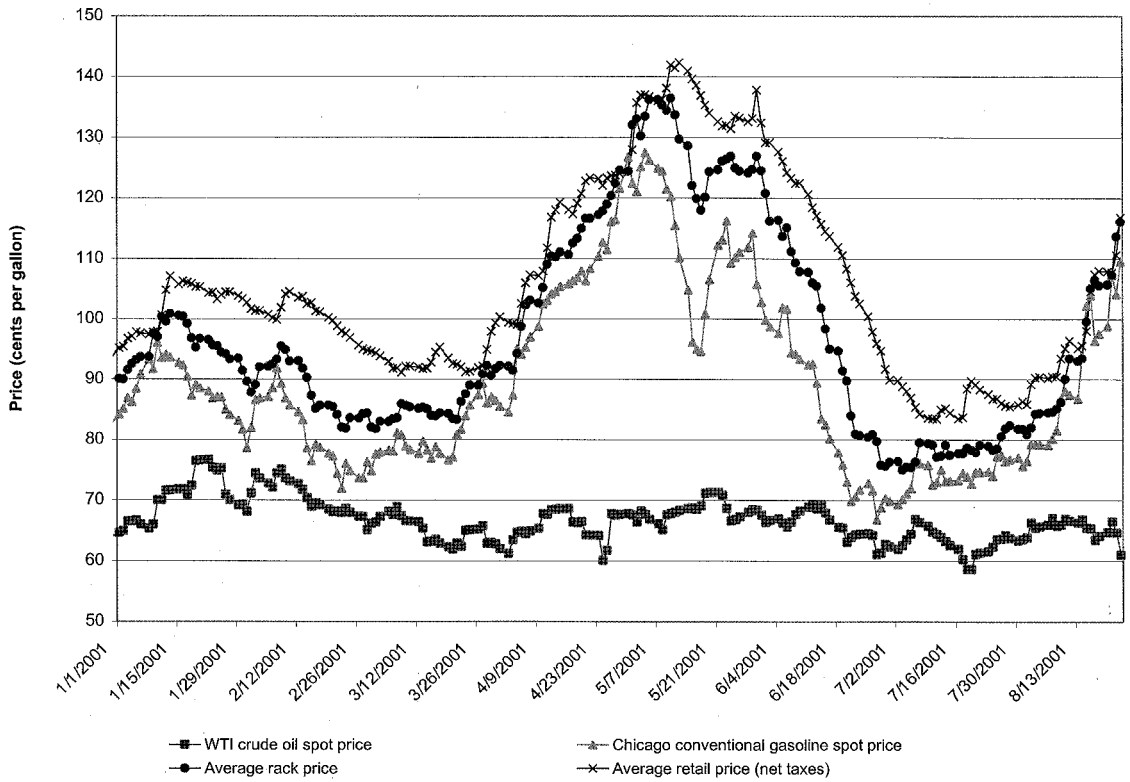
Source: OPIS.

Figure A2.7: Ohio Retail, Rack, and Spot Market Prices, January - August 2001



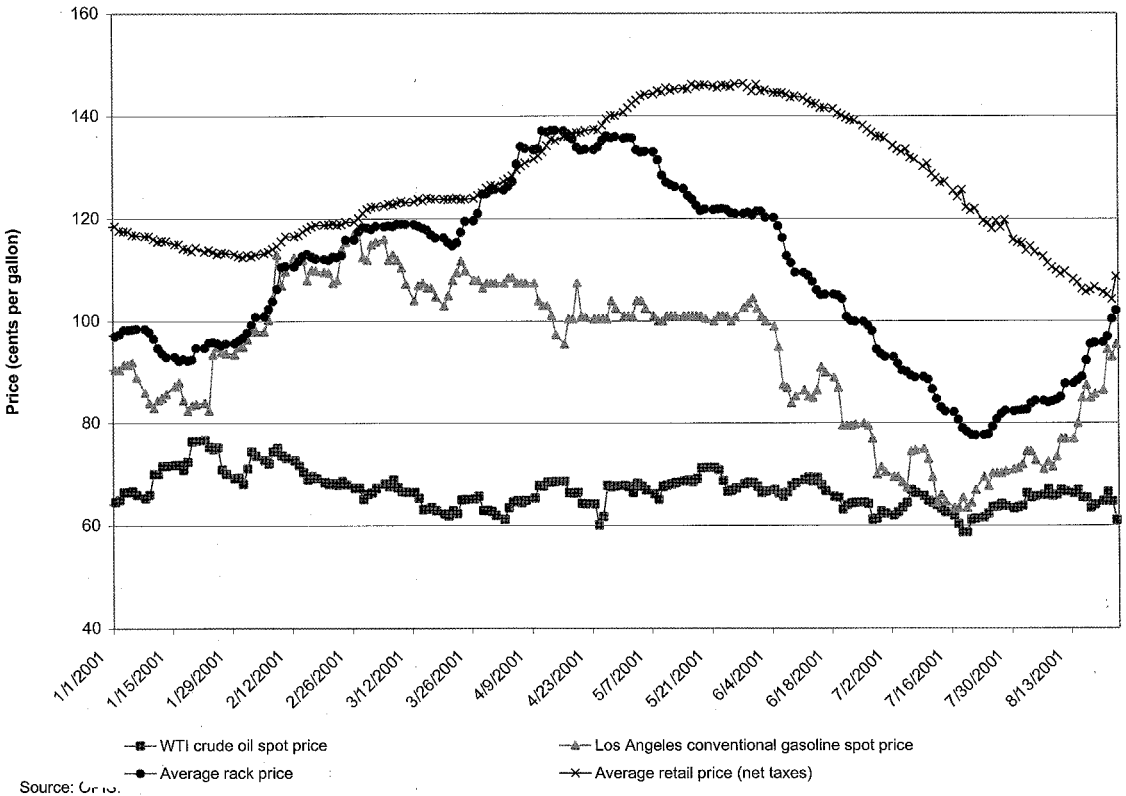
Source: OPIS.

Figure A2.8: Illinois Retail, Rack, and Spot Market Prices, January - August 2001



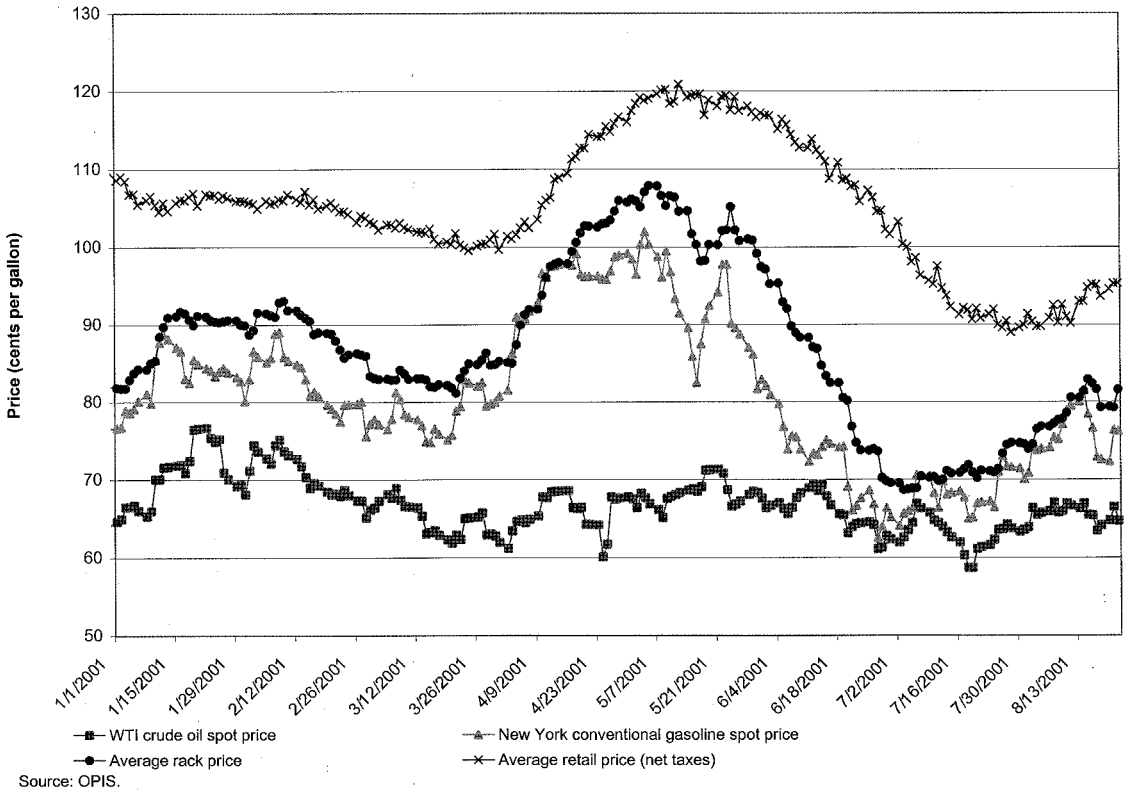
Source: OPIS.

Figure A2.9: California Retail, Rack, and Spot Market Prices, January - August 2001



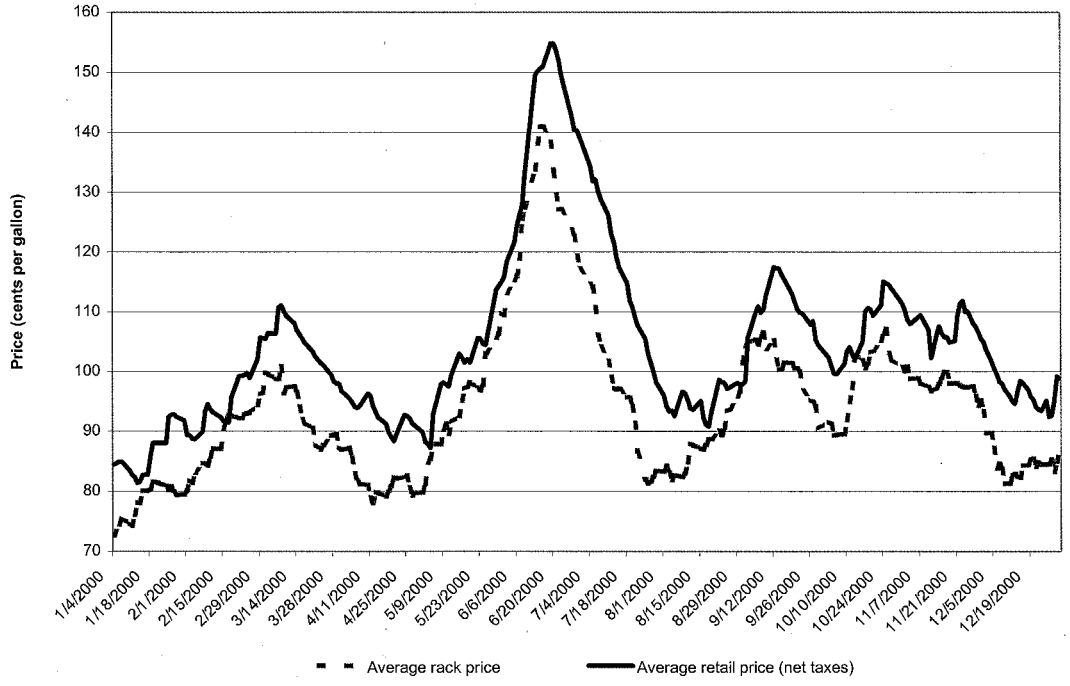
Source: CPIS.

Figure A2.10: Maine Retail, Rack, and Spot Market Prices, January - August 2001



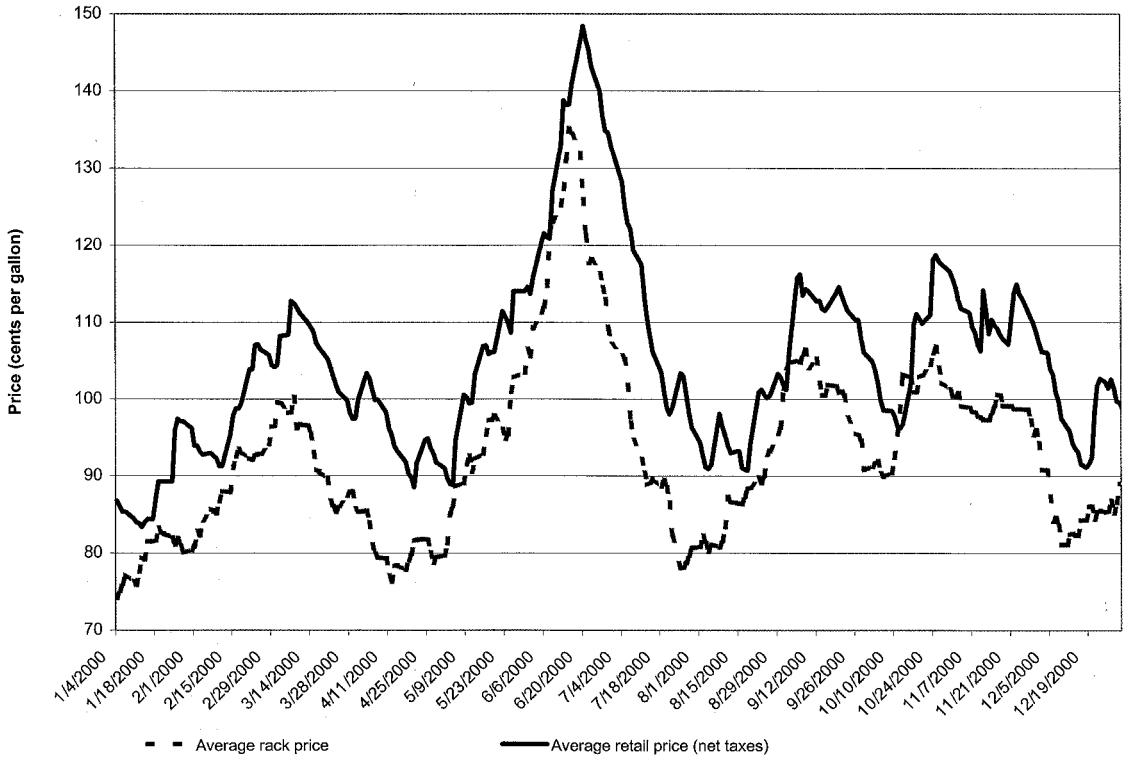
Source: OPIS.

Figure A2.11: Michigan Retail and Rack Prices, January - December 2000



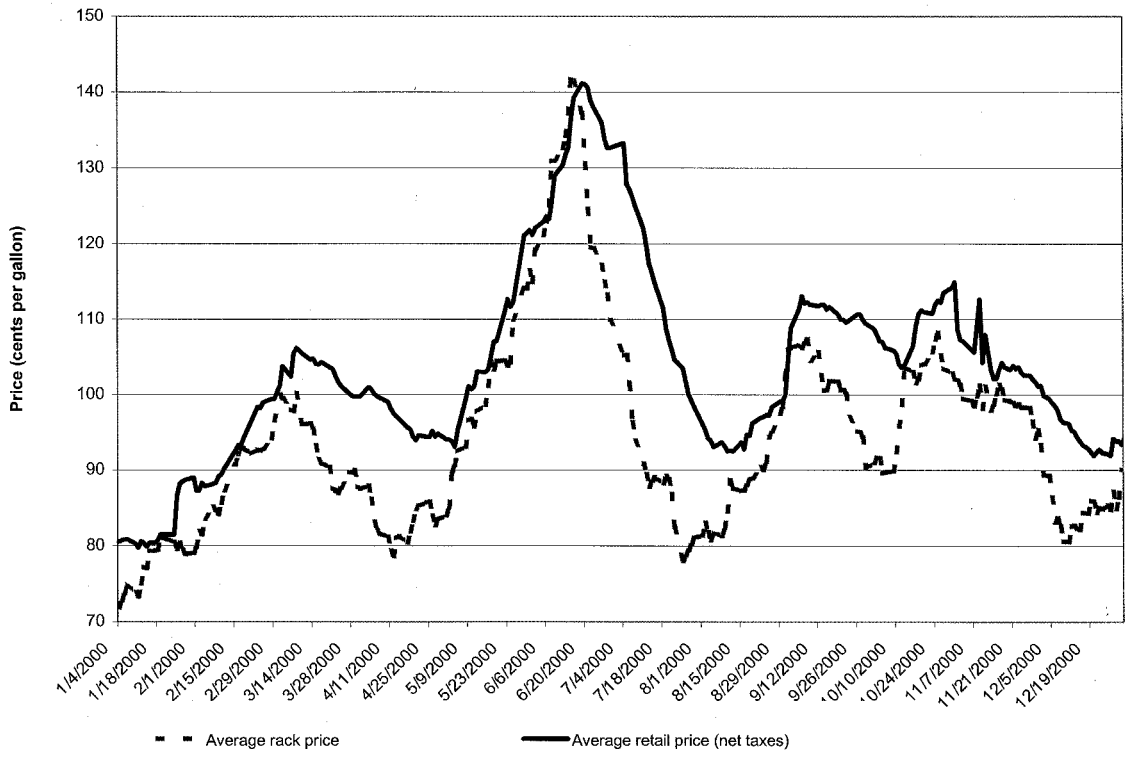
Source: OPIS.

Figure A2.12: Ohio Retail and Rack Prices, January - December 2000



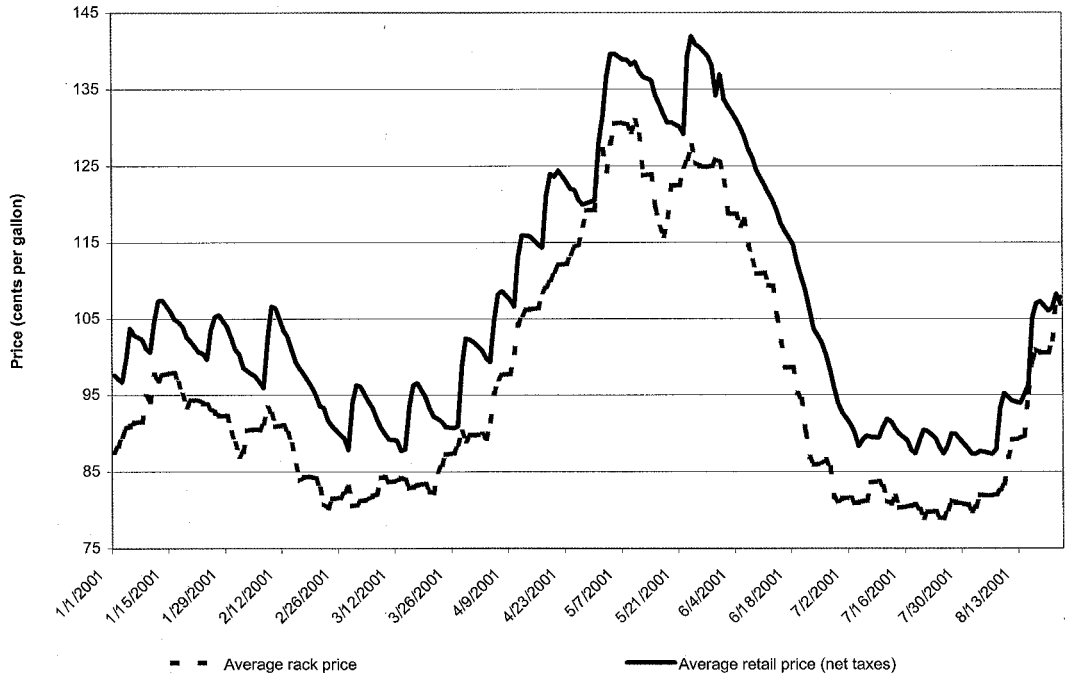
Source: OPIS.

Figure A2.13: Illinois Retail and Rack Prices, January - December 2000



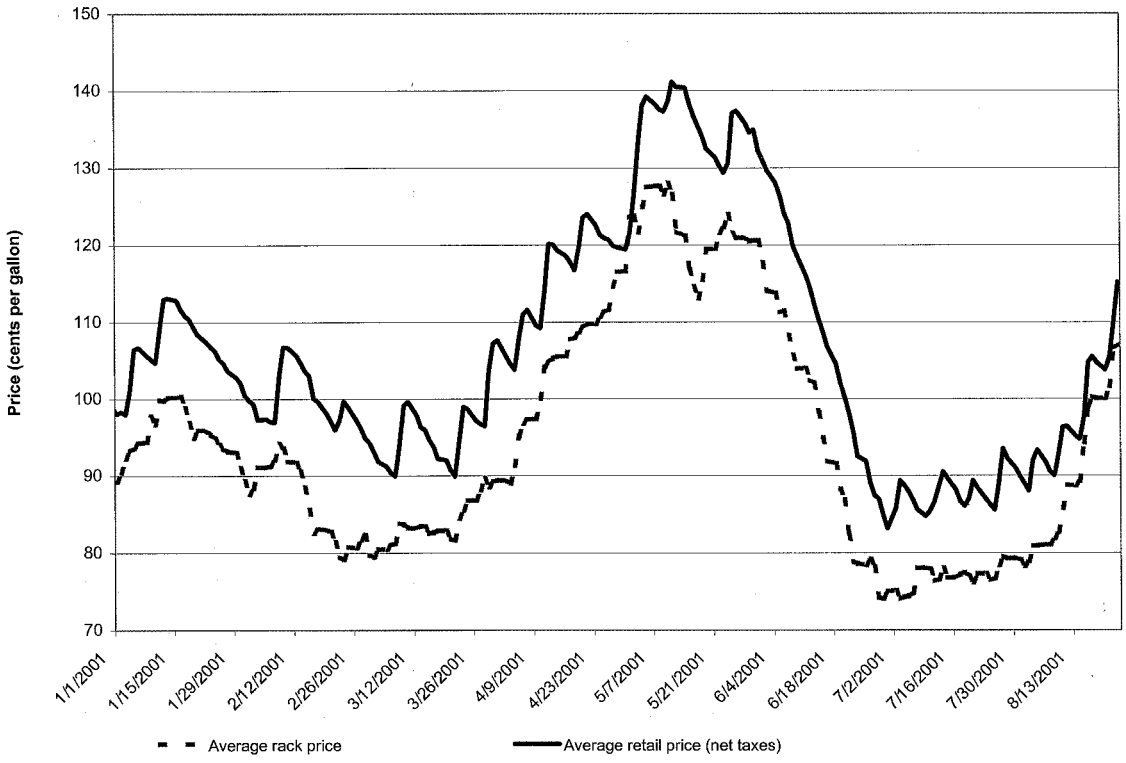
Source: OPIS.

Figure A2.14: Michigan Retail and Rack Prices, January - August 2001



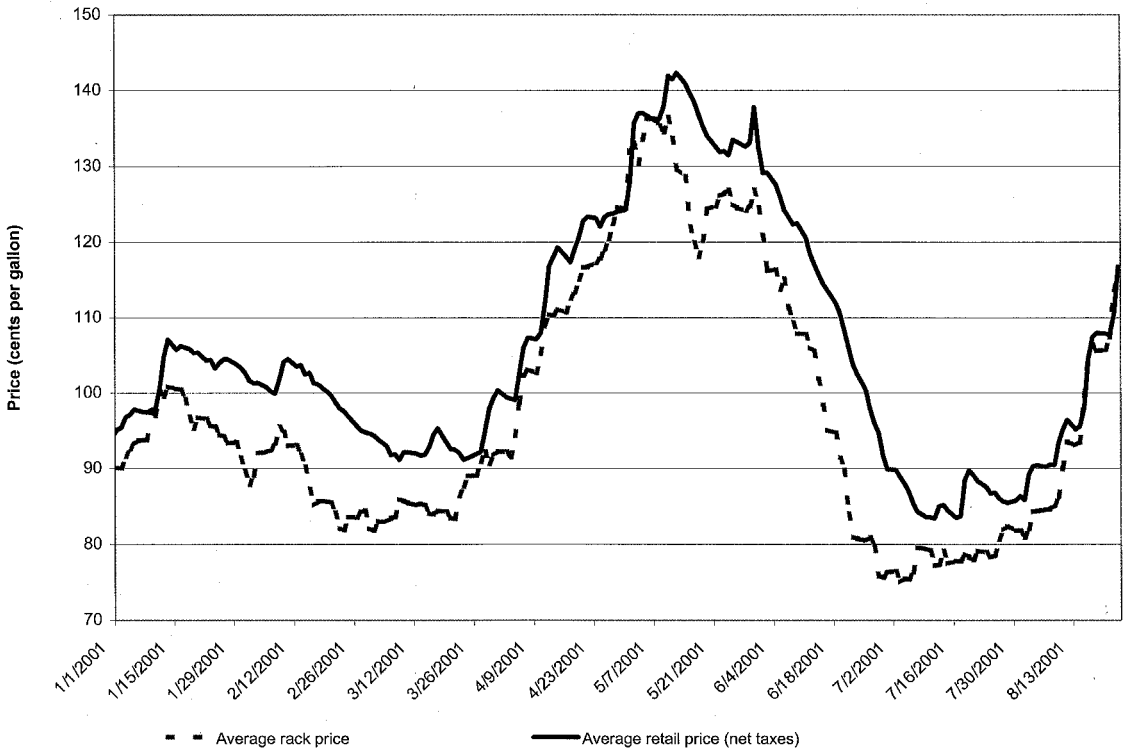
Source: OPIS.

Figure A2.15: Ohio Retail and Rack Prices, January - August 2001



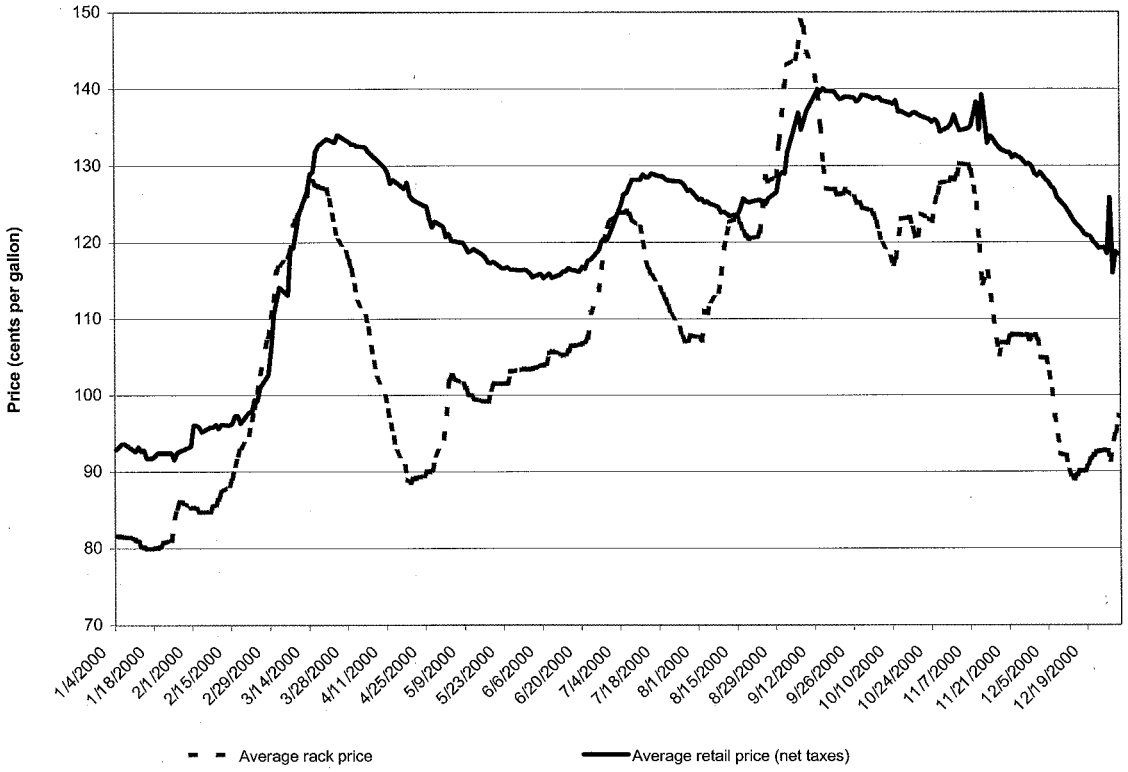
Source: OPIS.

Figure A2.16: Illinois Retail and Rack Prices, January - August 2001



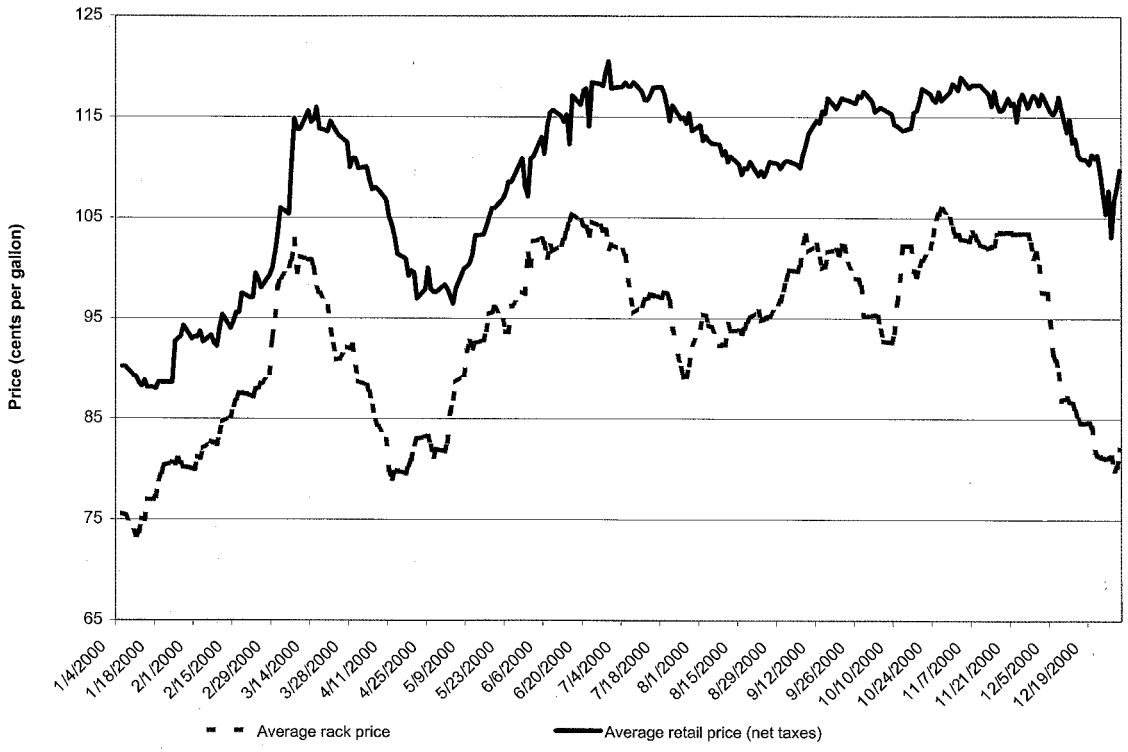
Source: OPIS.

Figure A2.17: California Retail and Rack Prices, January - December 2000



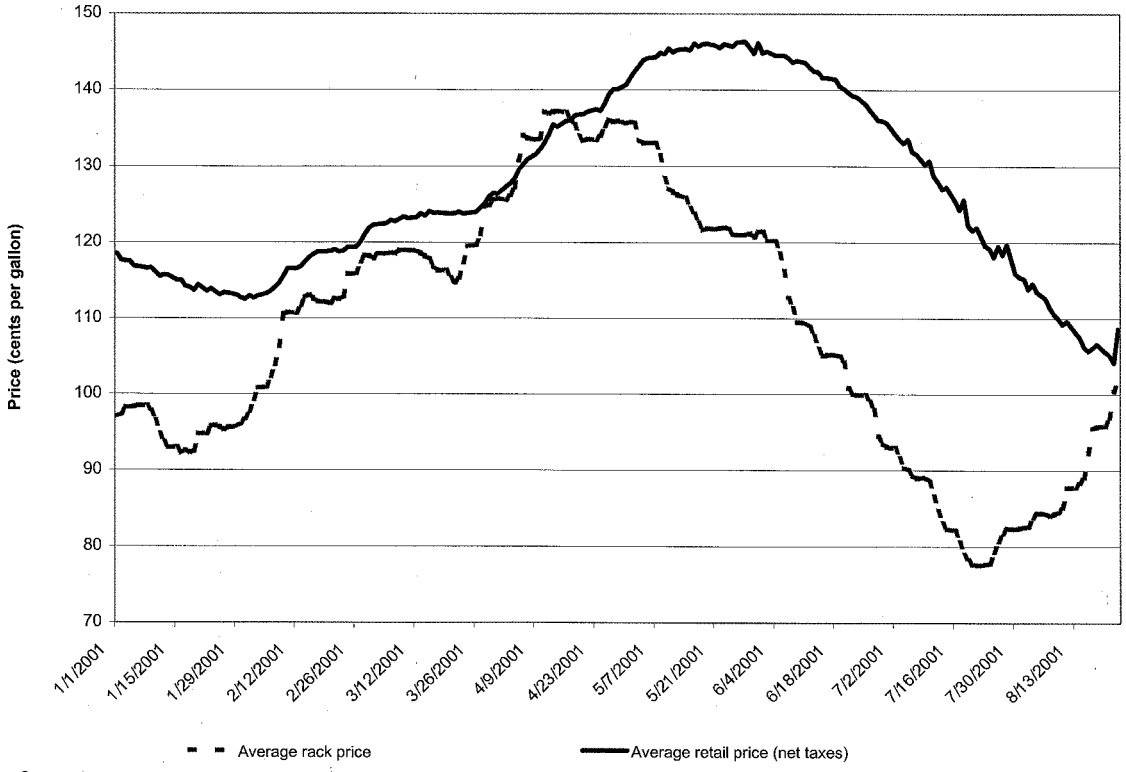
Source: CPS.

Figure A2.18: Maine Retail and Rack Prices, January - December 2000



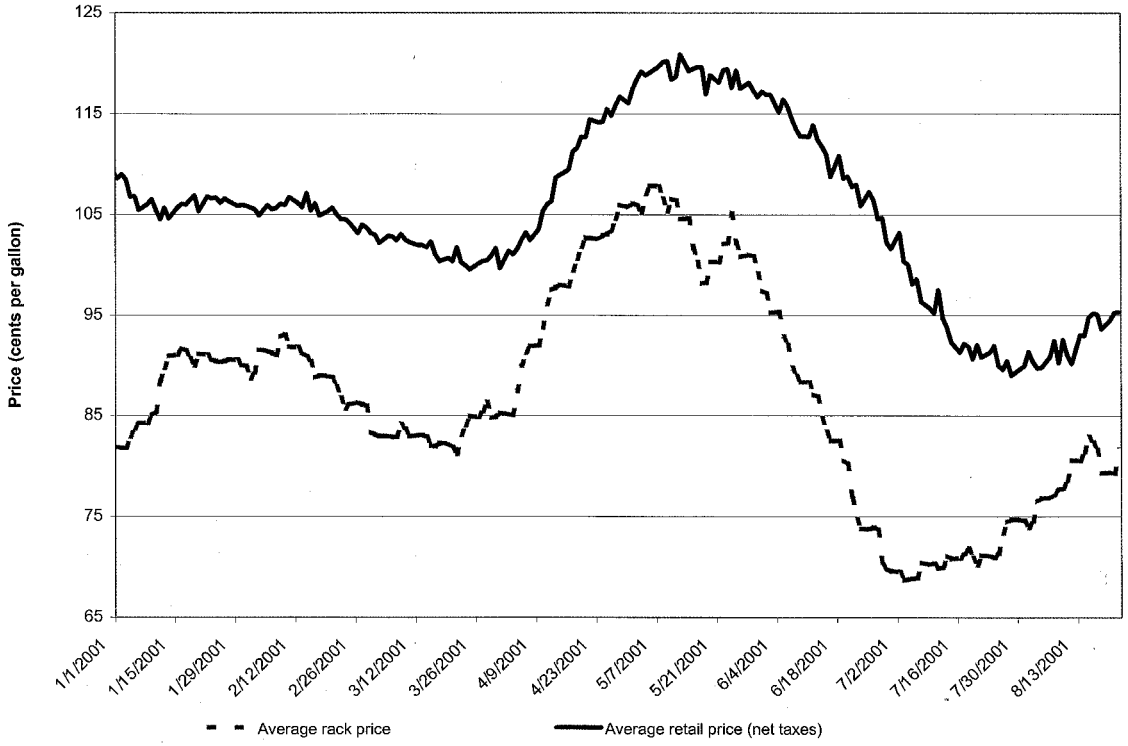
Source: OPIS.

Figure A2.19: California Retail and Rack Prices, January - August 2001



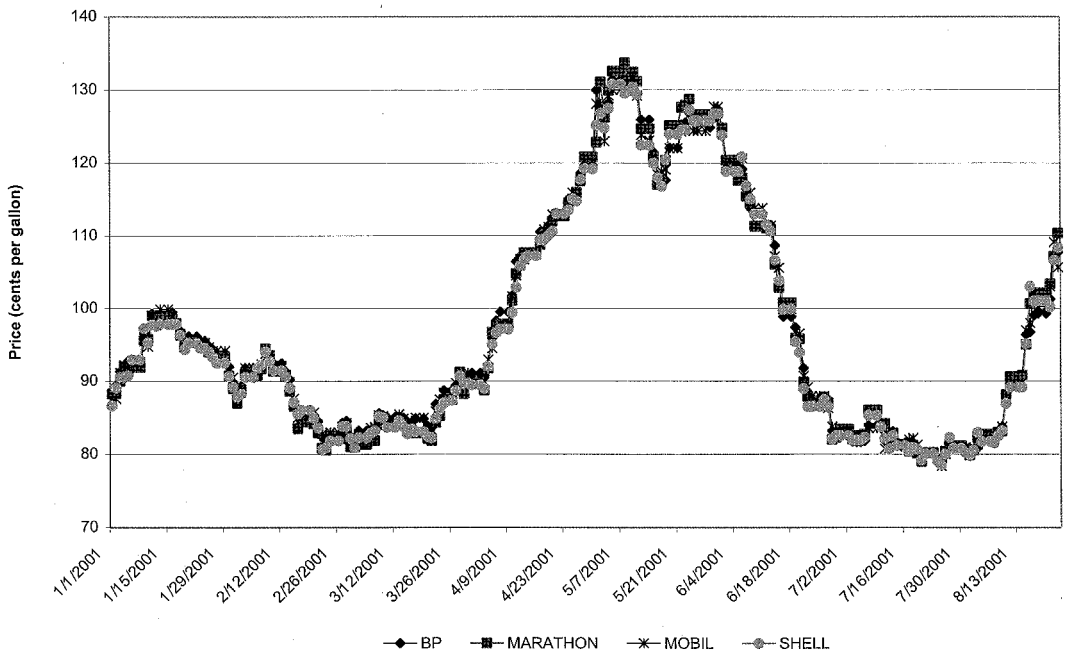
Source: C[illegible]

Figure A2.20: Maine Retail and Rack Prices, January - August 2001



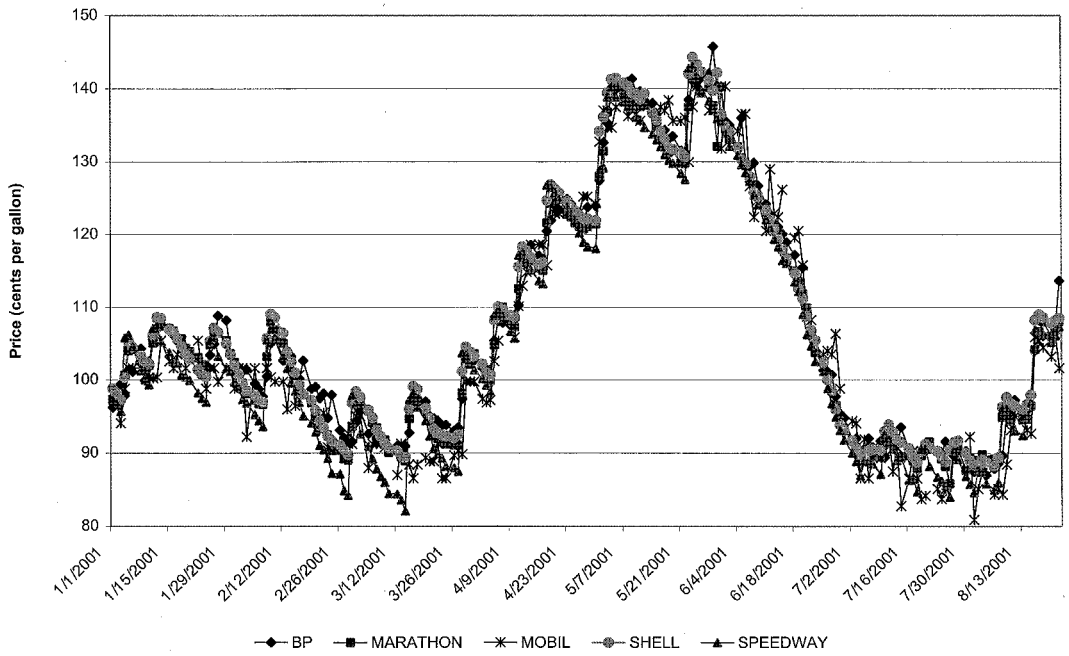
Source: OPIS.

Figure A2.21: Michigan Rack Prices by Brand, January - August 2001



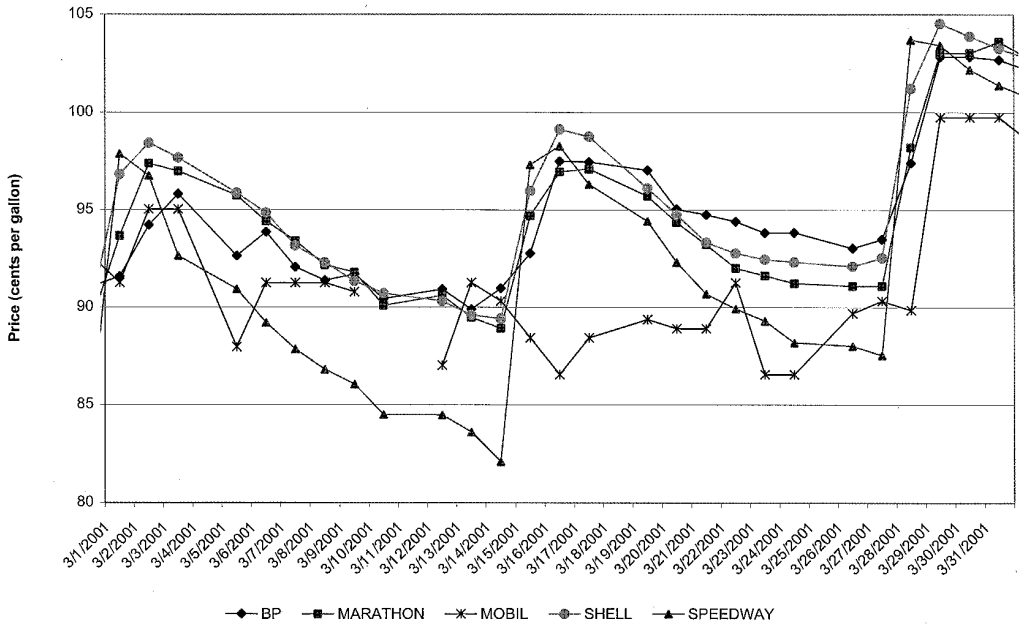
Source: OPIS.

Figure A2.22: Michigan Retail Prices (Net Taxes) by Brand, January - August 2001



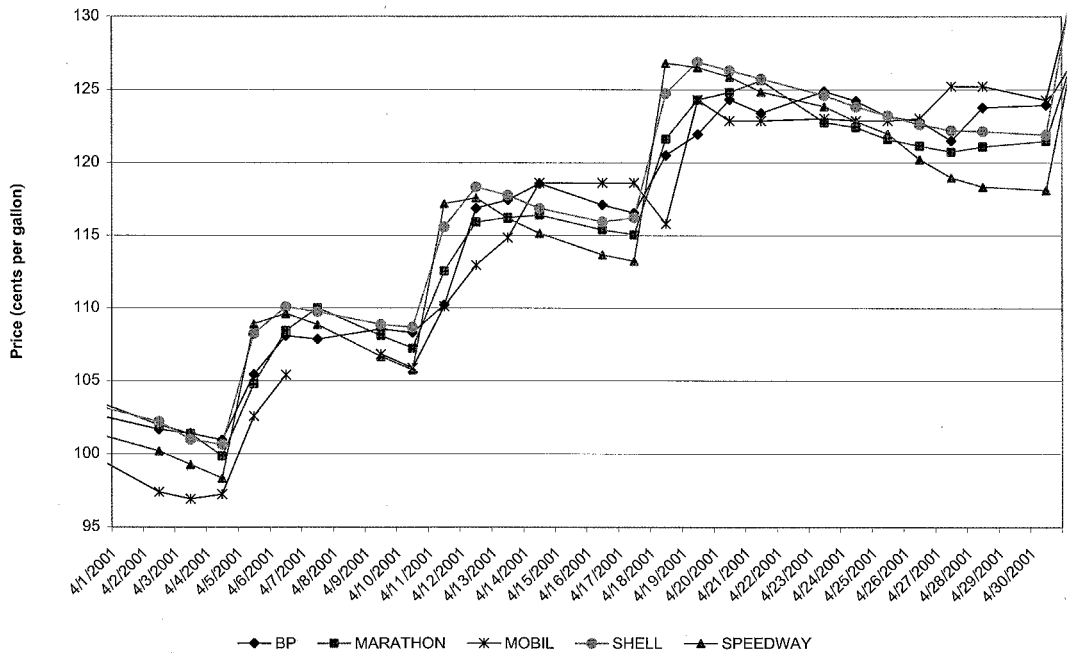
Source: OPIS.

Figure A2.23:Michigan Retail Prices (Net Taxes) by Brand, March 2001



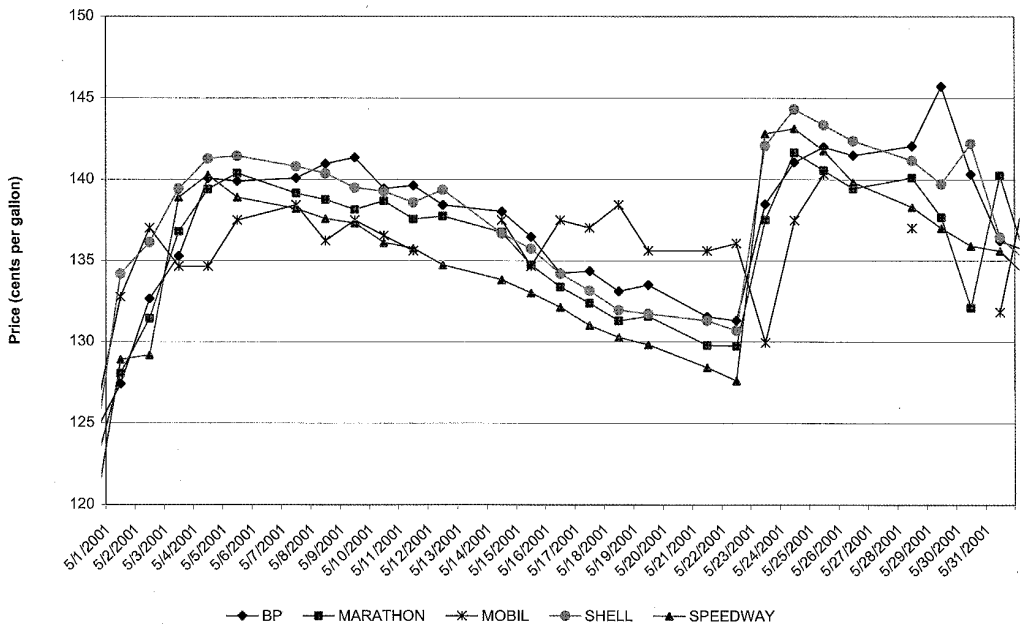
Source: OPIS.

Figure A2.24: Michigan Retail Prices (Net Taxes) by Brand, April 2001



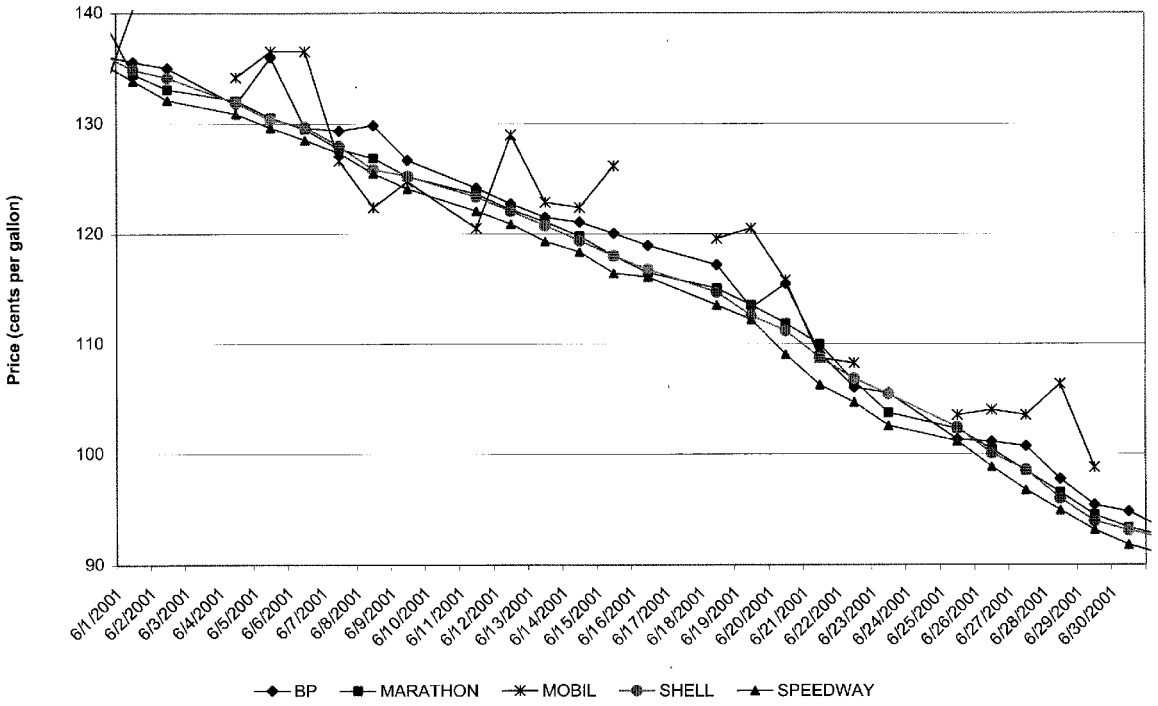
Source: OPIS.

Figure A2.25: Michigan Retail Prices (Net Taxes) by Brand, May 2001



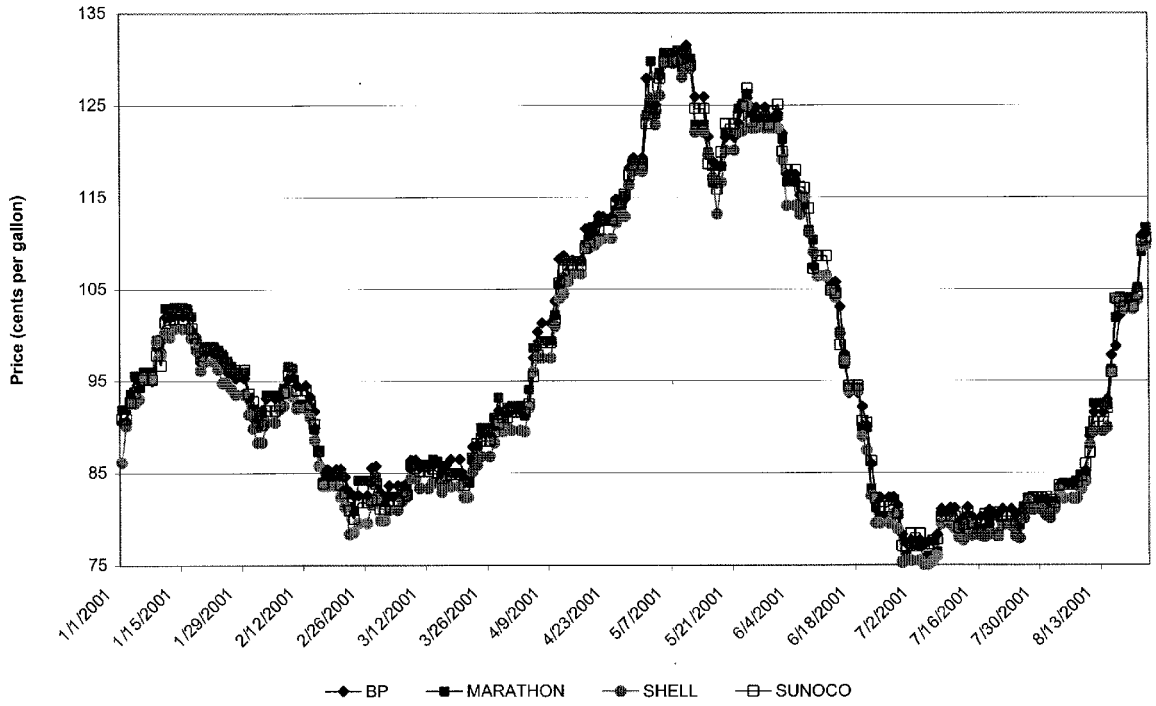
Source: OPIS.

Figure A2.26: Michigan Retail Prices (Net Taxes) by Brand, June 2001



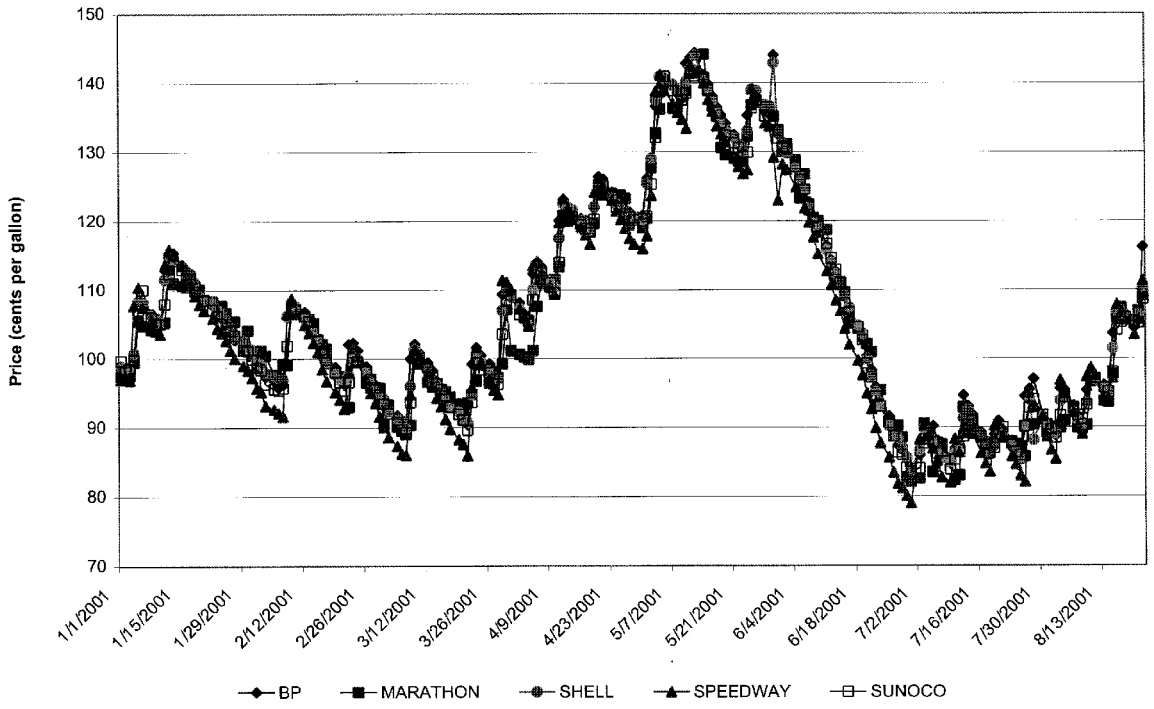
Source: OPIS.

Figure A2.27: Ohio Rack Prices by Brand, January - August 2001



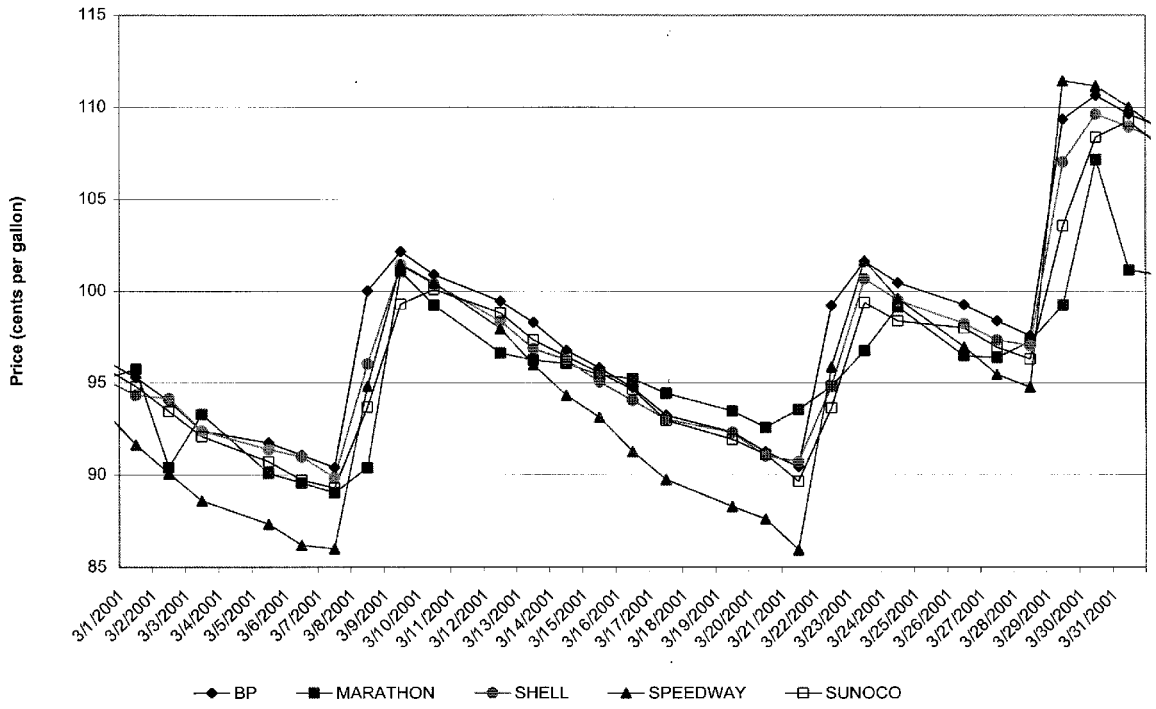
Source: OPIS.

Figure A2.28: Ohio Retail Prices (Net Taxes) by Brand, January - August 2001



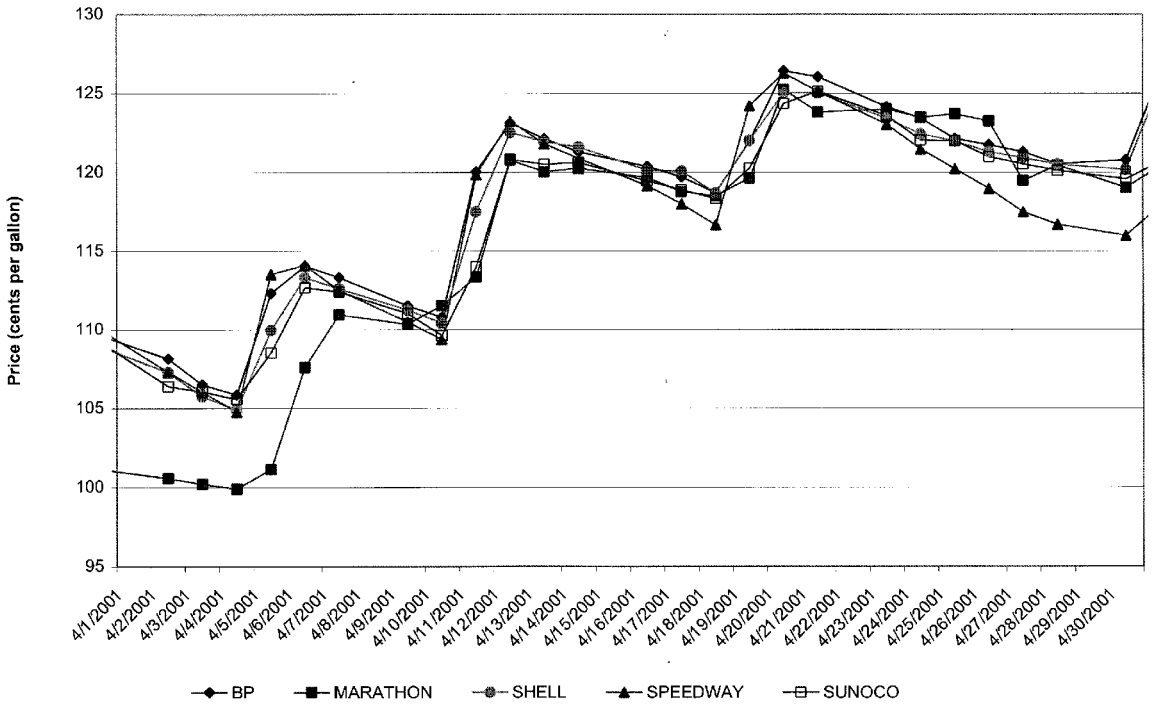
Source: OPIS.

Figure A2.29: Ohio Retail Prices (Net Taxes) by Brand, March 2001



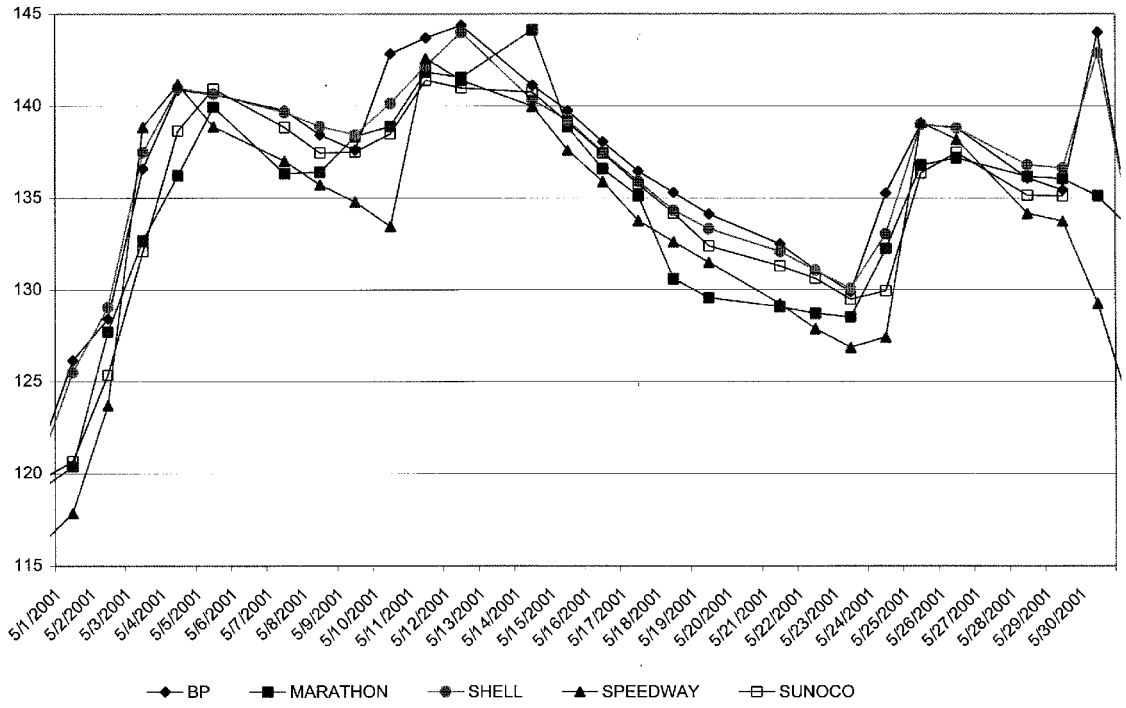
Source: OPIS.

Figure A2.30: Ohio Retail Prices (Net Taxes) by Brand, April 2001



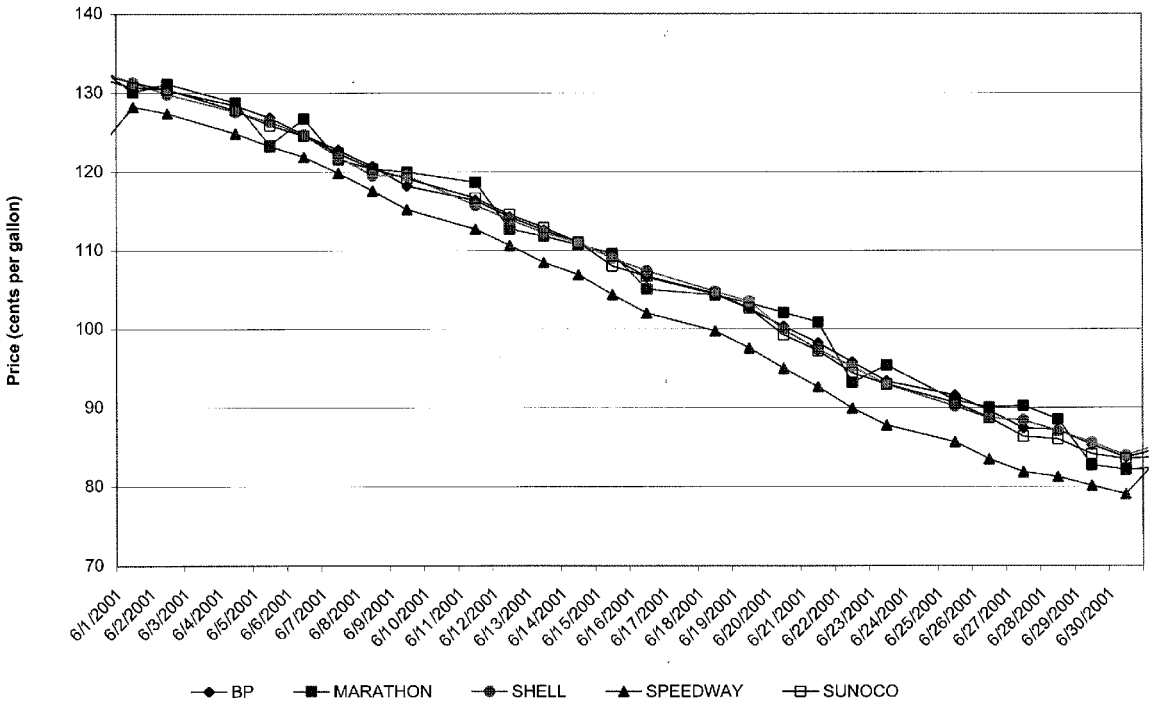
Source: OPIS.

Figure A2.31: Ohio Retail Prices (Net Taxes) by Brand, May 2001



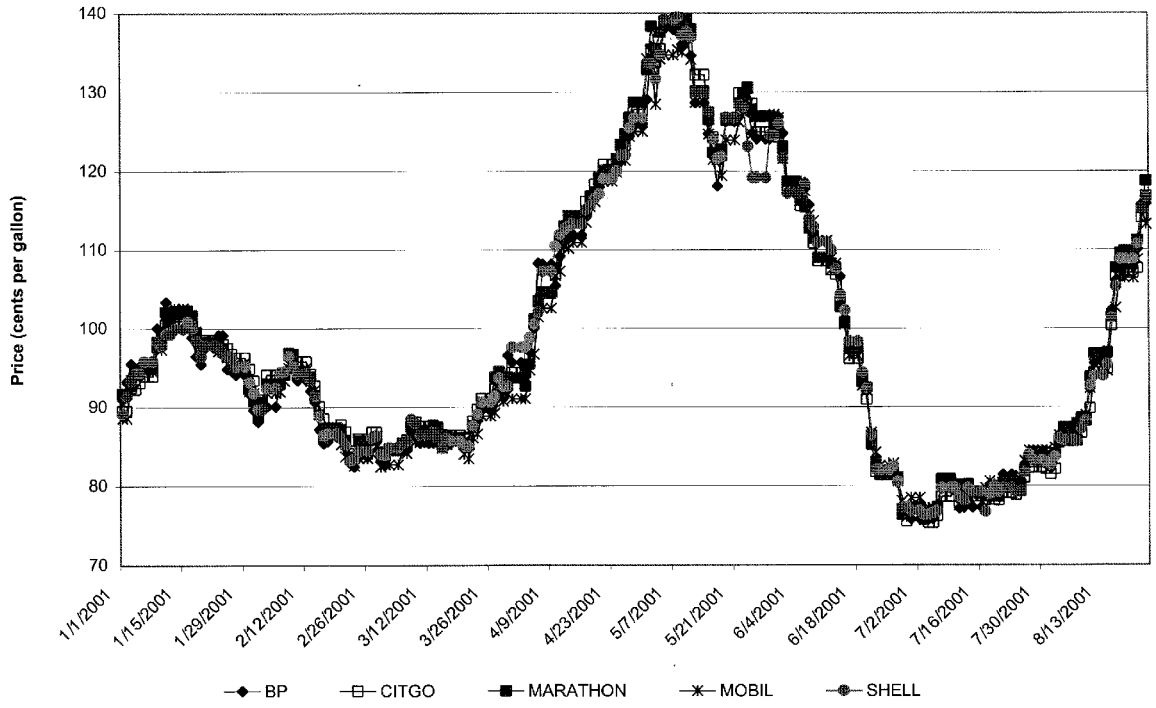
Source: OPIS.

Figure A2.32: Ohio Retail Prices (Net Taxes) by Brand, June 2001



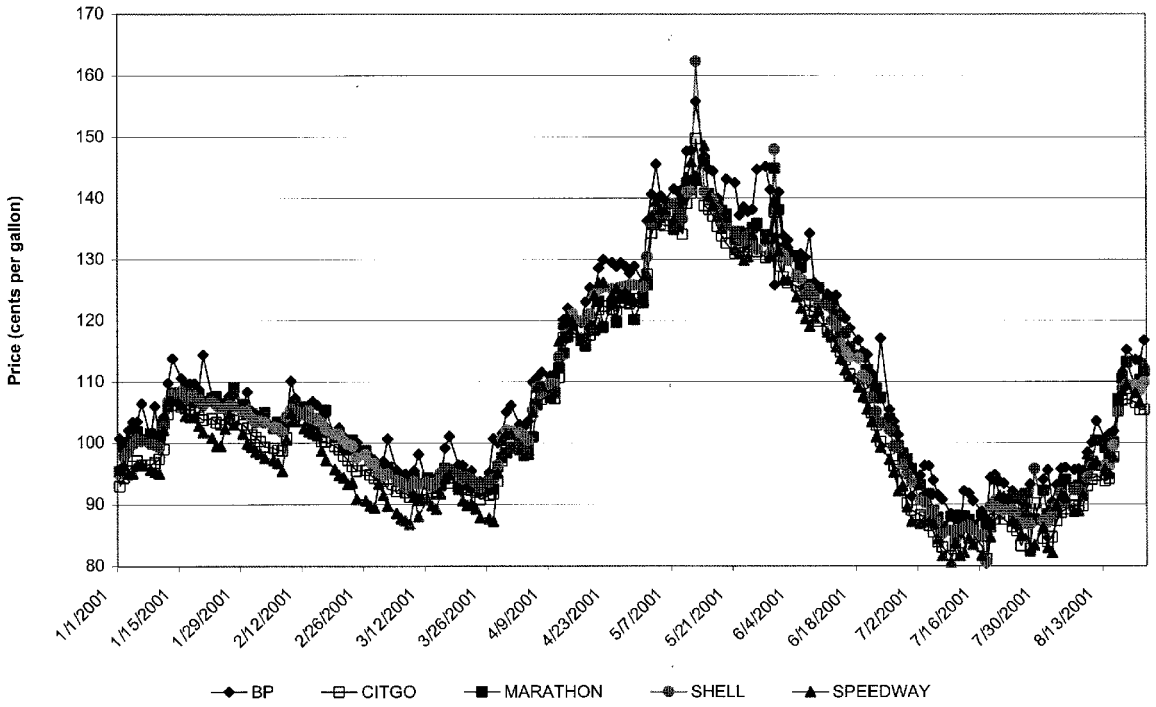
Source: OPIS.

Figure A2.33: Illinois Rack Prices by Brand, January - August 2001



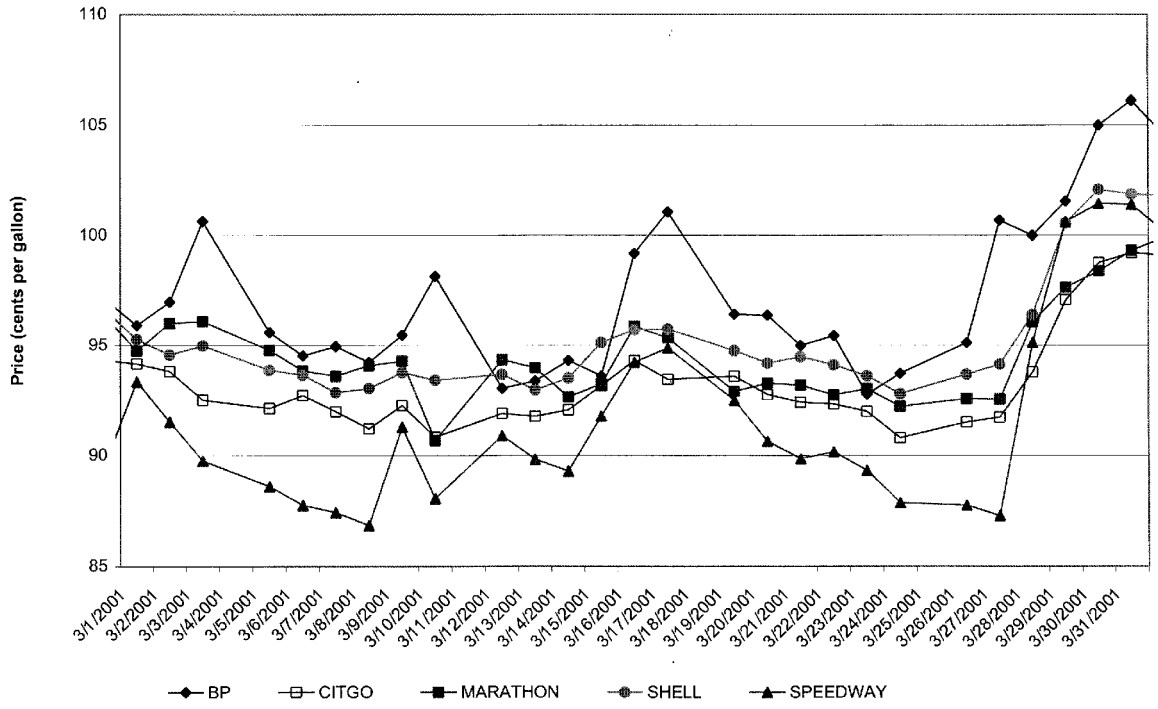
Source: OPIS.

Figure A2.34: Illinois Retail Prices (Net Taxes), January - August 2001



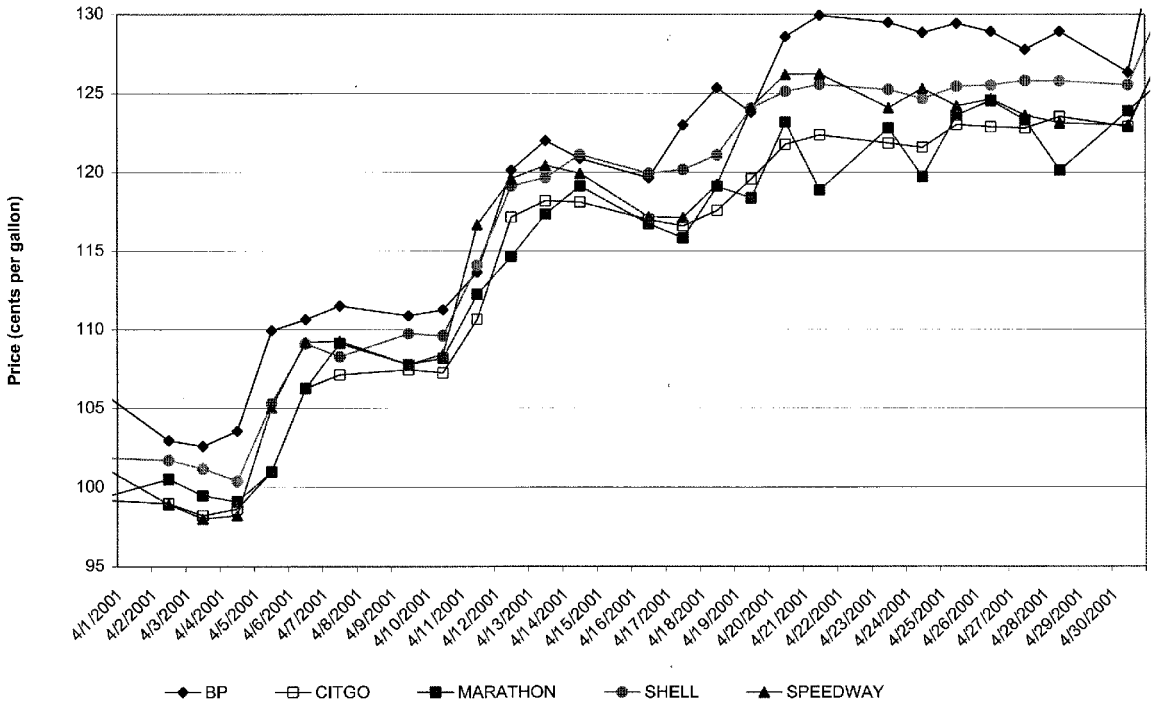
Source: OPIS.

Figure A2.35: Illinois Retail Prices (Net Taxes), March 2001



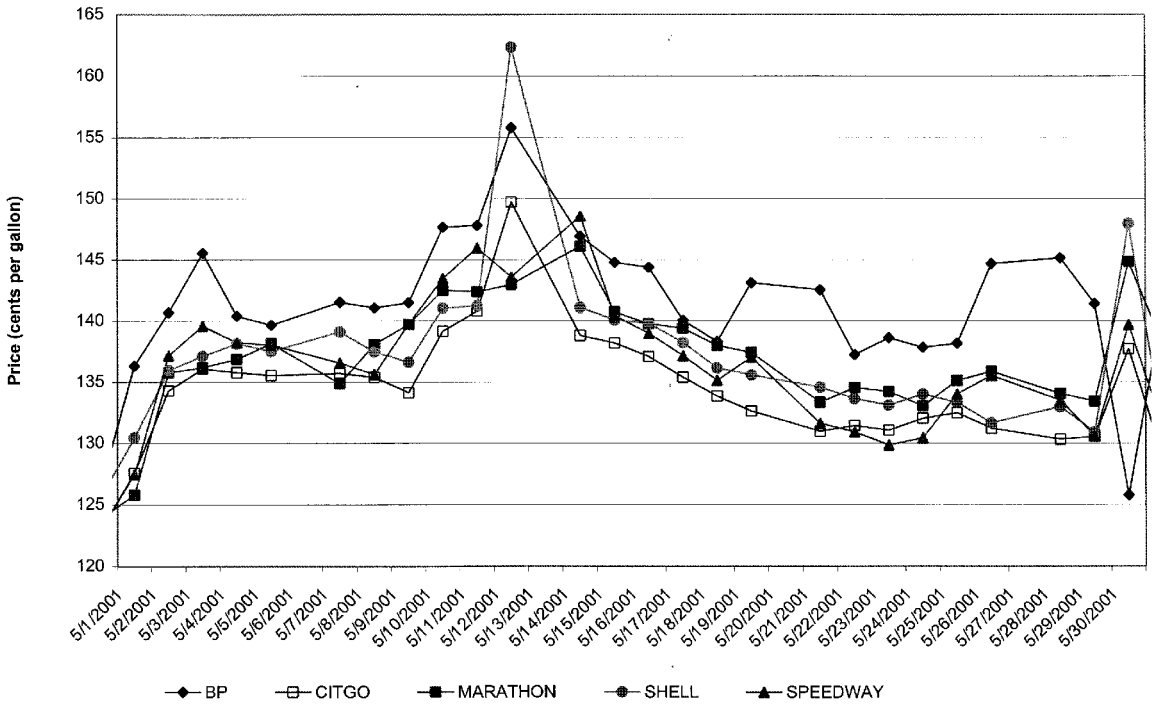
Source: OPIS.

Figure A2.36: Illinois Retail Prices (Net Taxes), April 2001



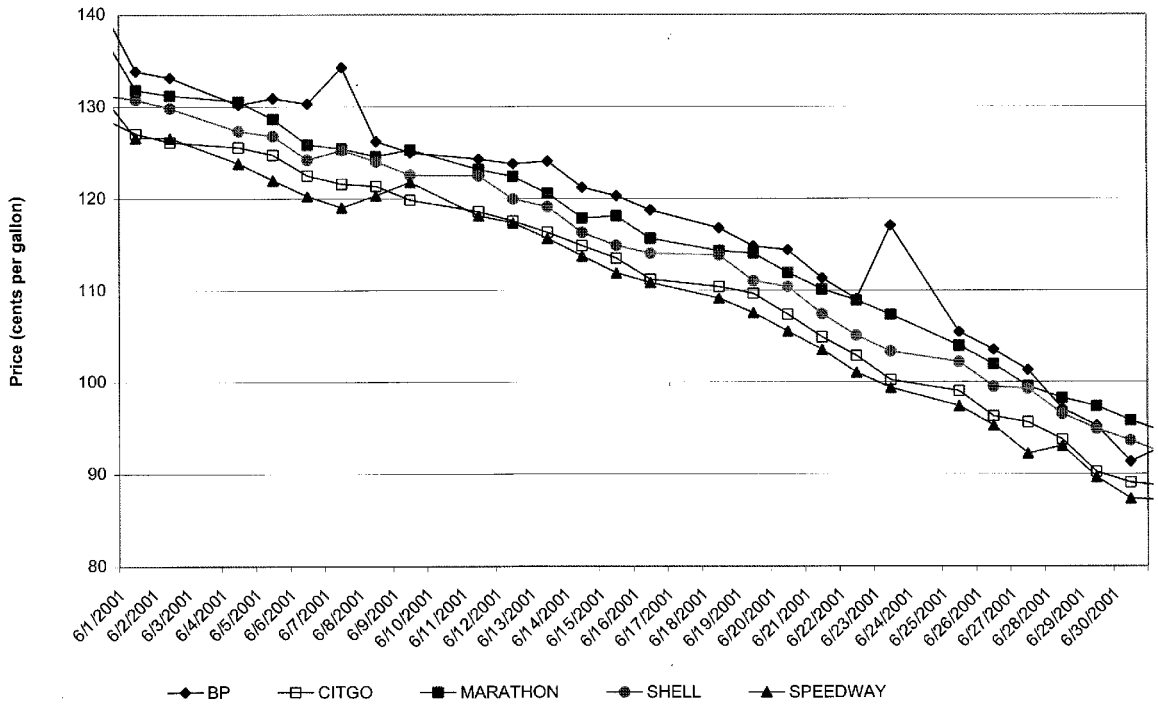
Source: OPIS.

Figure A2.37: Illinois Retail Prices (Net Taxes), May 2001



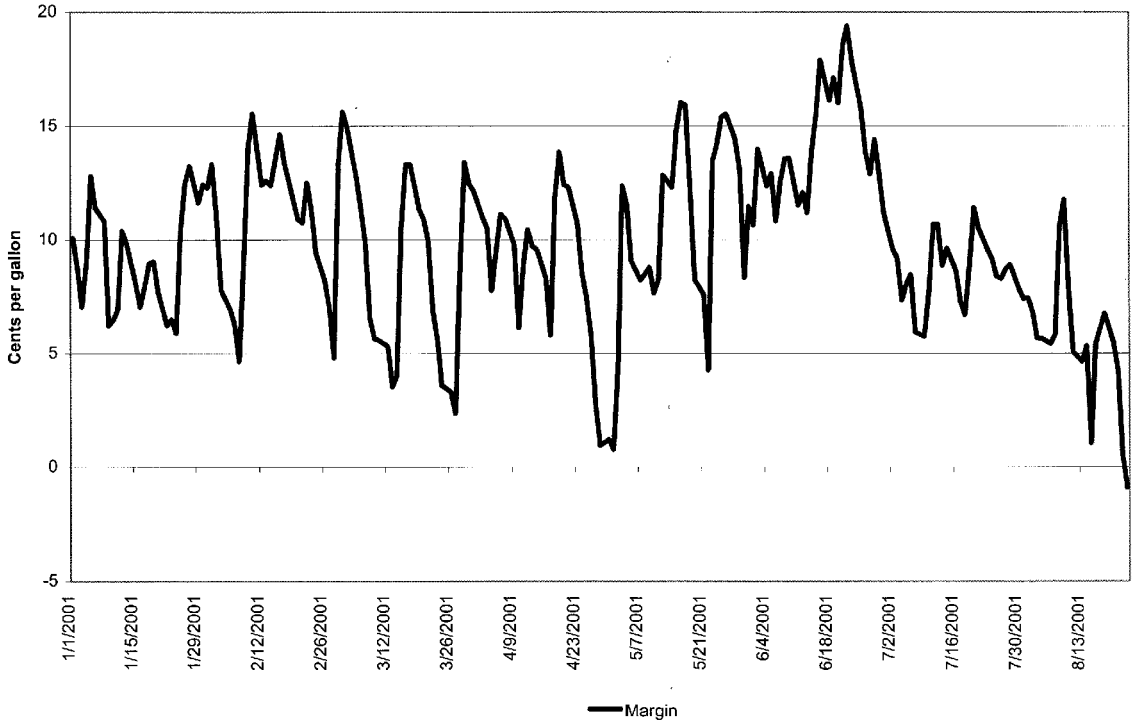
Source: OPIS.

Figure A2.38: Illinois Retail Prices (Net Taxes), June 2001



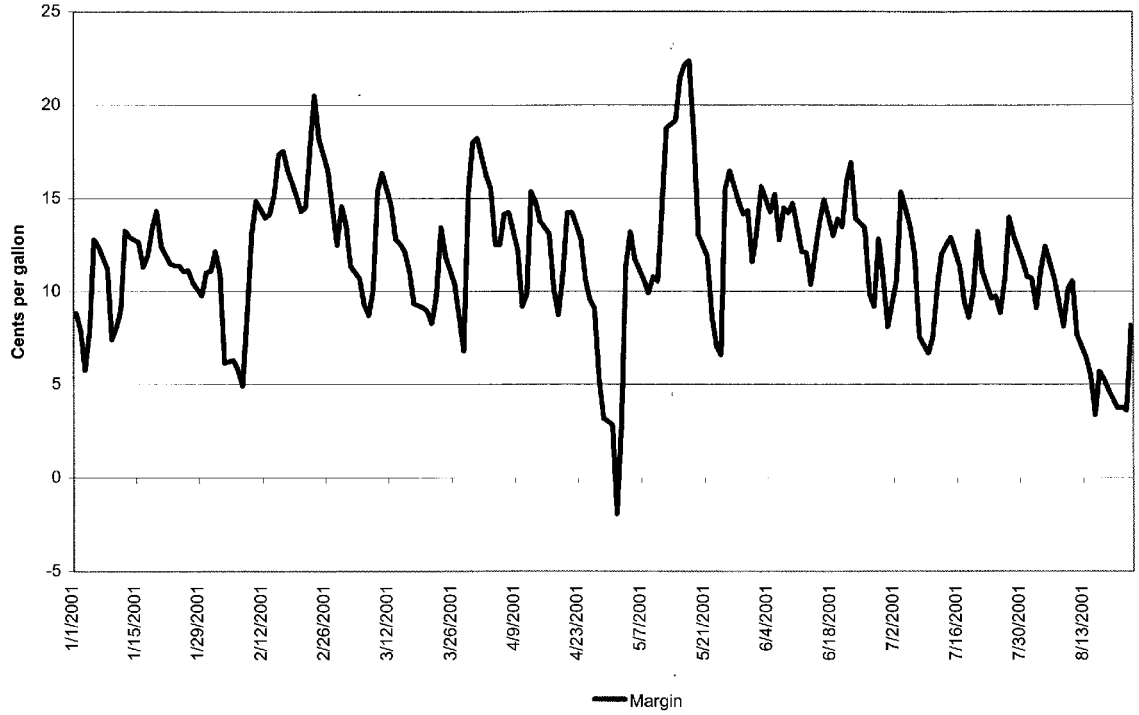
Source: OPIS.

Figure A2.39: Michigan Retail-Rack Price Margins, January - August 2001



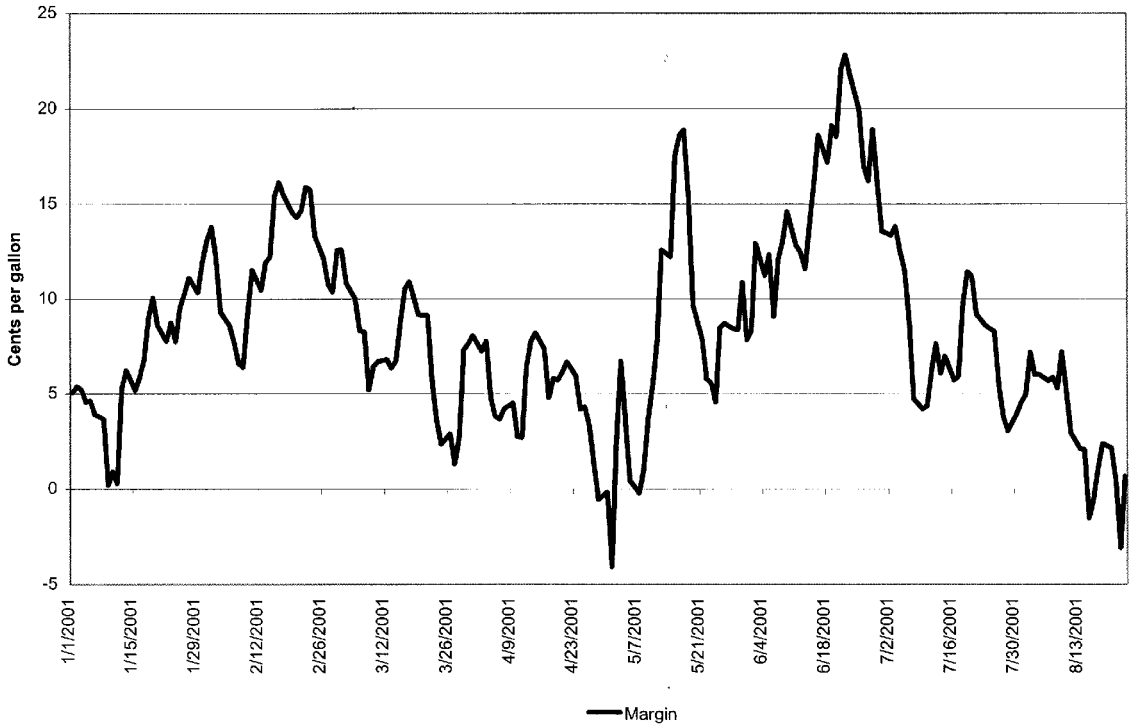
Source: Analysis of OPIs data.

Figure A2.40: Ohio Rack - Retail Price Margins, January - August 2001



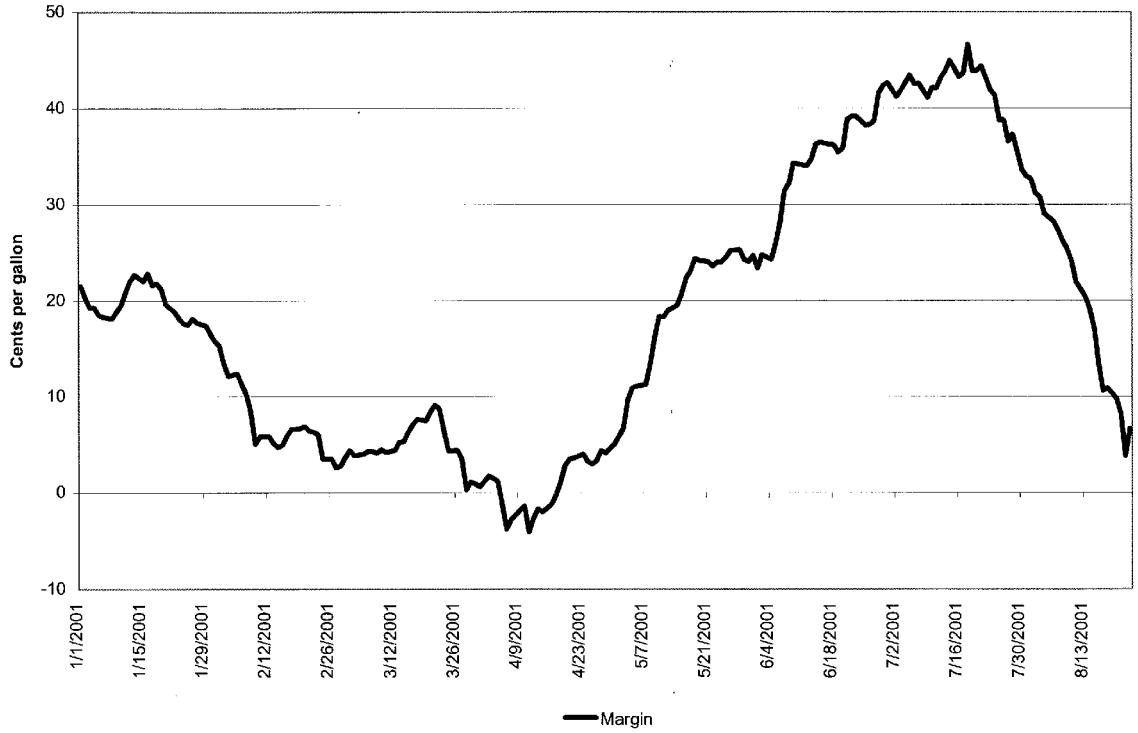
Source: Analysis of OPIS data.

Figure A2.41: Illinois Rack-Retail Price Margins, January - August 2001



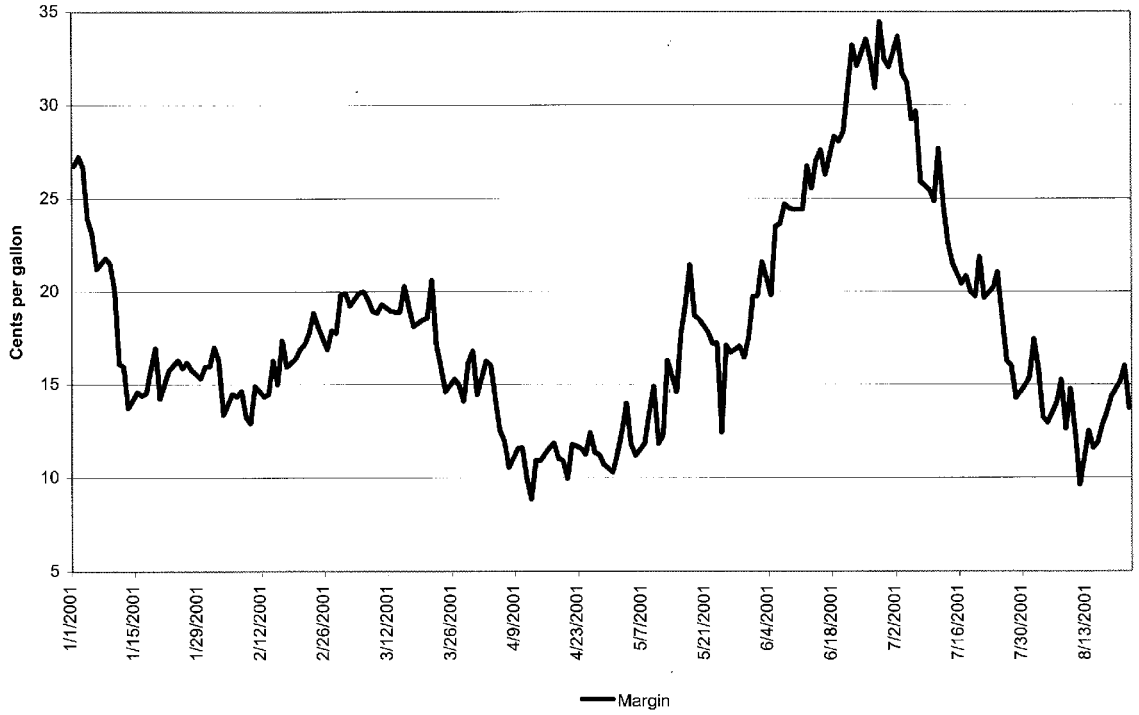
Source: Analysis of OPIS data.

Figure A2.42: California Rack-Retail Price Margins, January - August 2001



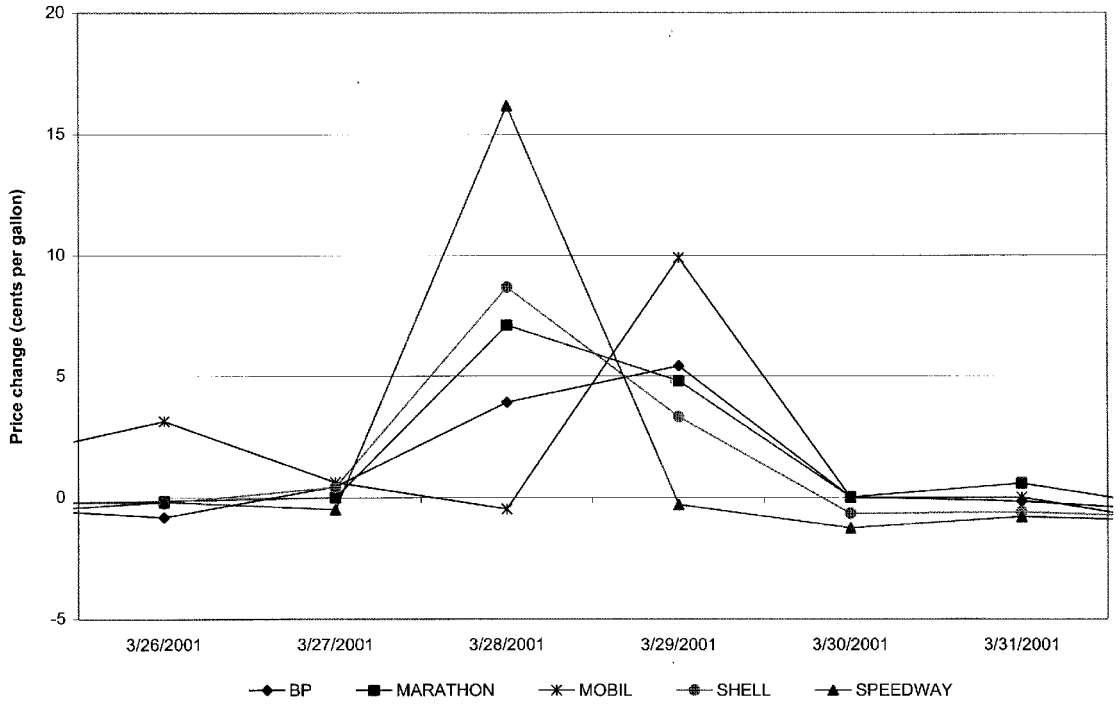
Source: Analysis of OPIS data.

Figure A2.43: Maine Rack-Retail Price Margins, January - August 2001



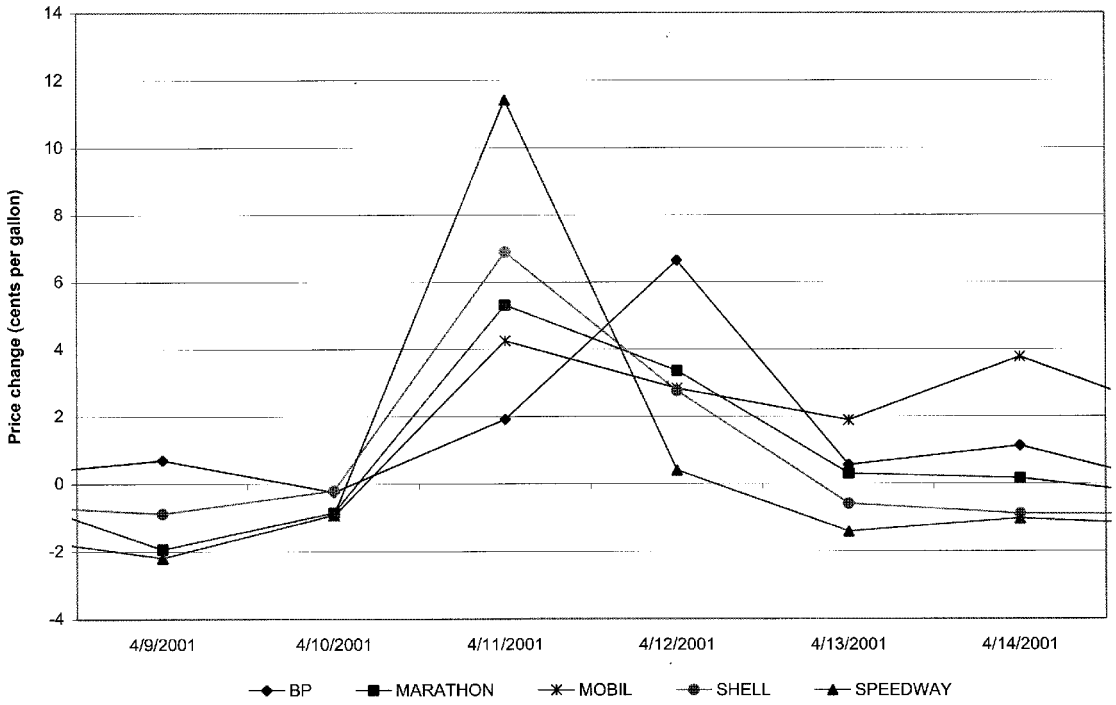
Source: Analysis of OPIS data.

Figure A2.44: Michigan Daily Retail Price Changes (Net Taxes) by Brand, March 26 - 31, 2001



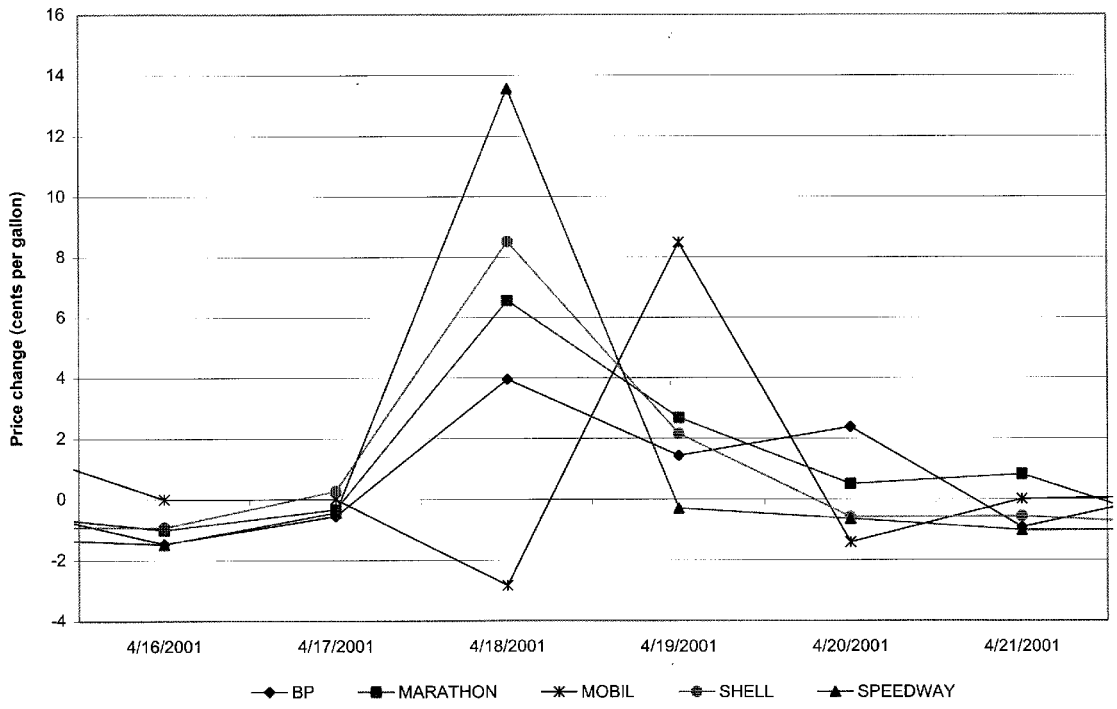
Source: Analysis of OPIS data.

Figure A2.45: Michigan Daily Retail Price Changes (Net Taxes) by Brand, April 9 - 14, 2001



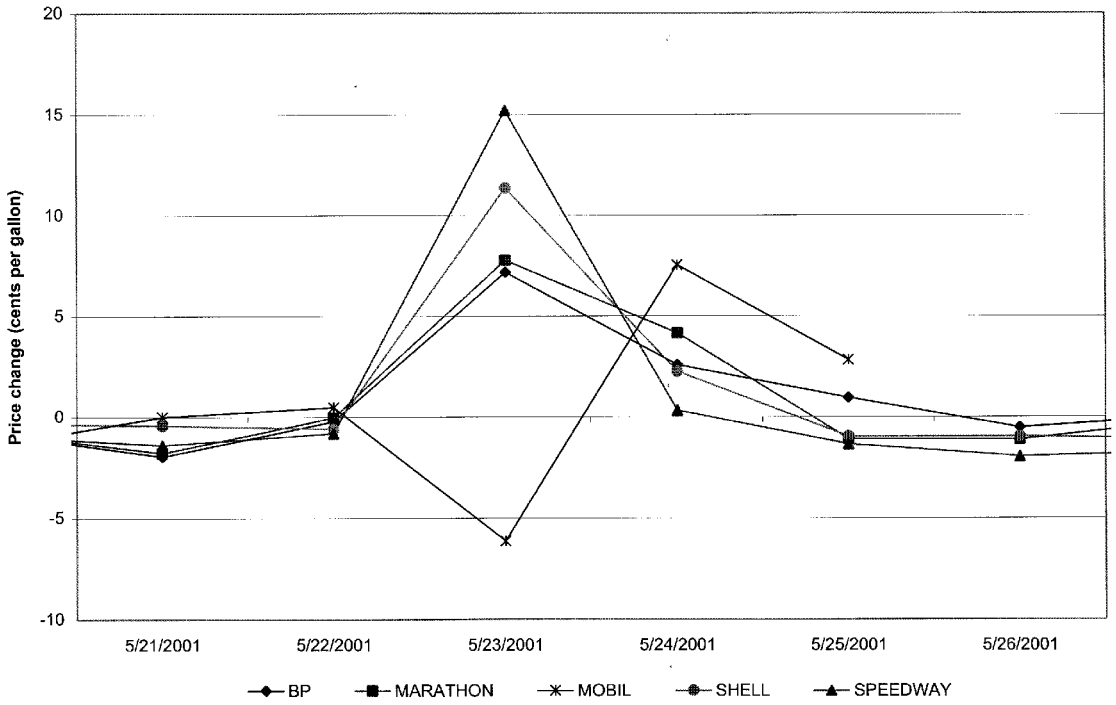
Source: Analysis of OPIS data.

Figure A2.46: Michigan Daily Retail Price Changes (Net Taxes) by Brand, April 16 - 21, 2001



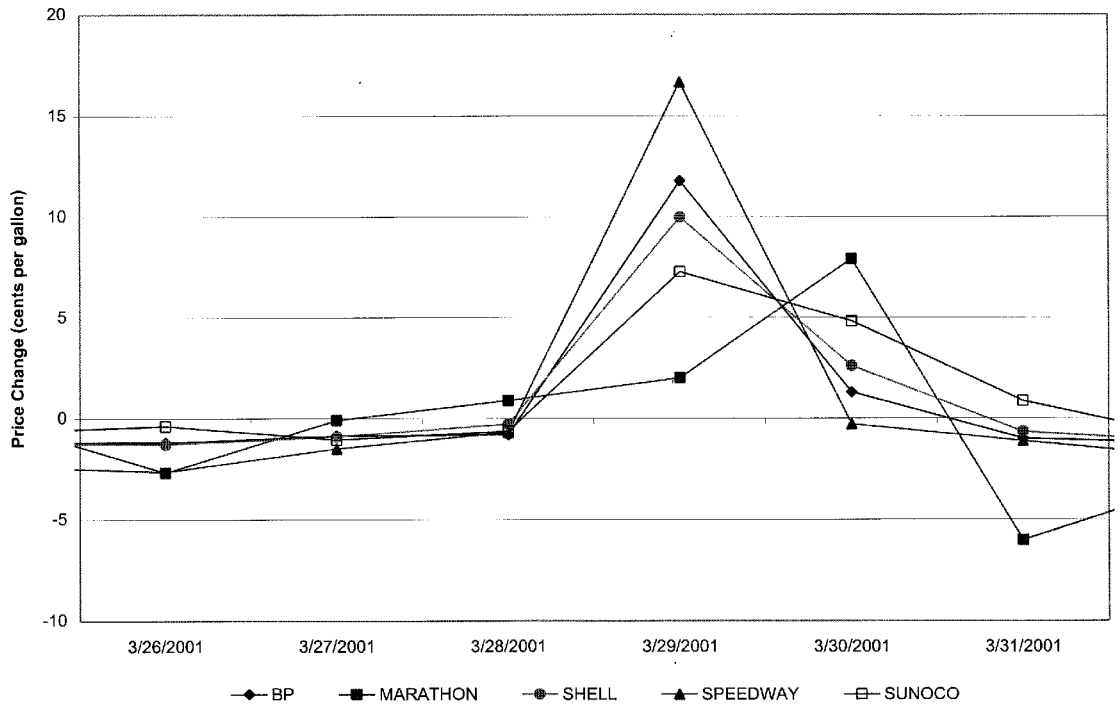
Source: Analysis of OPIS data.

Figure A2.47: Michigan Daily Retail Price Changes (Net Taxes) by Brand, May 21 - 26, 2001



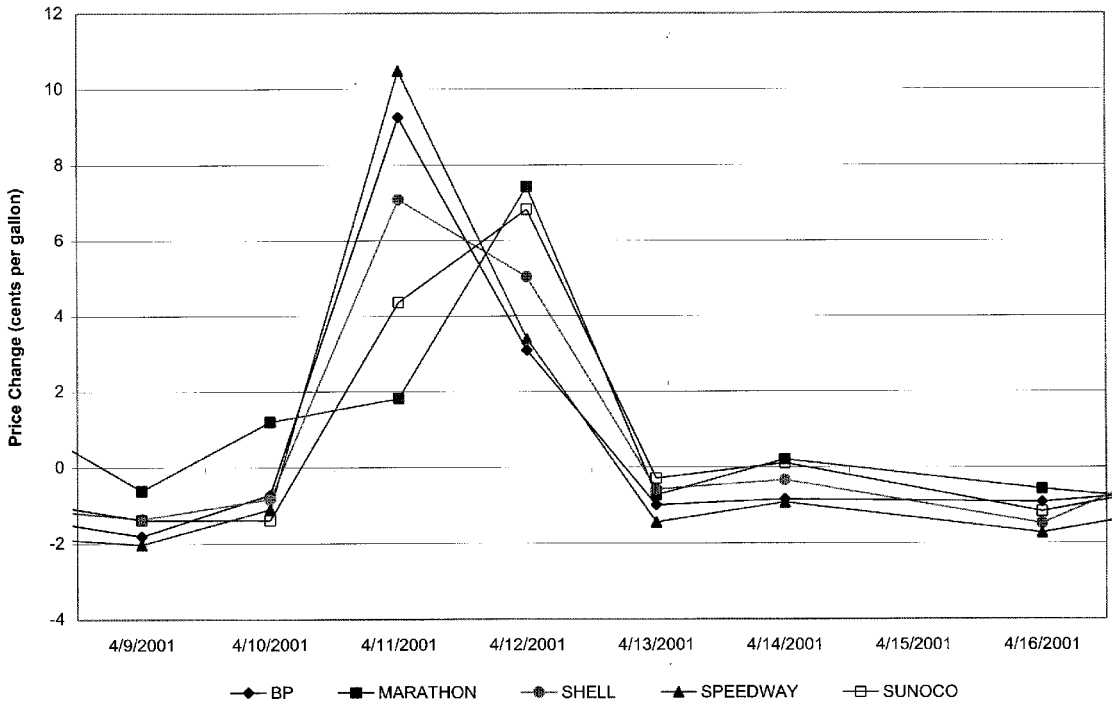
Source: Analysis of OPIS data.

Figure A2.48: Ohio Daily Retail Price Changes (Net Taxes) by Brand, March 26 - 31, 2001



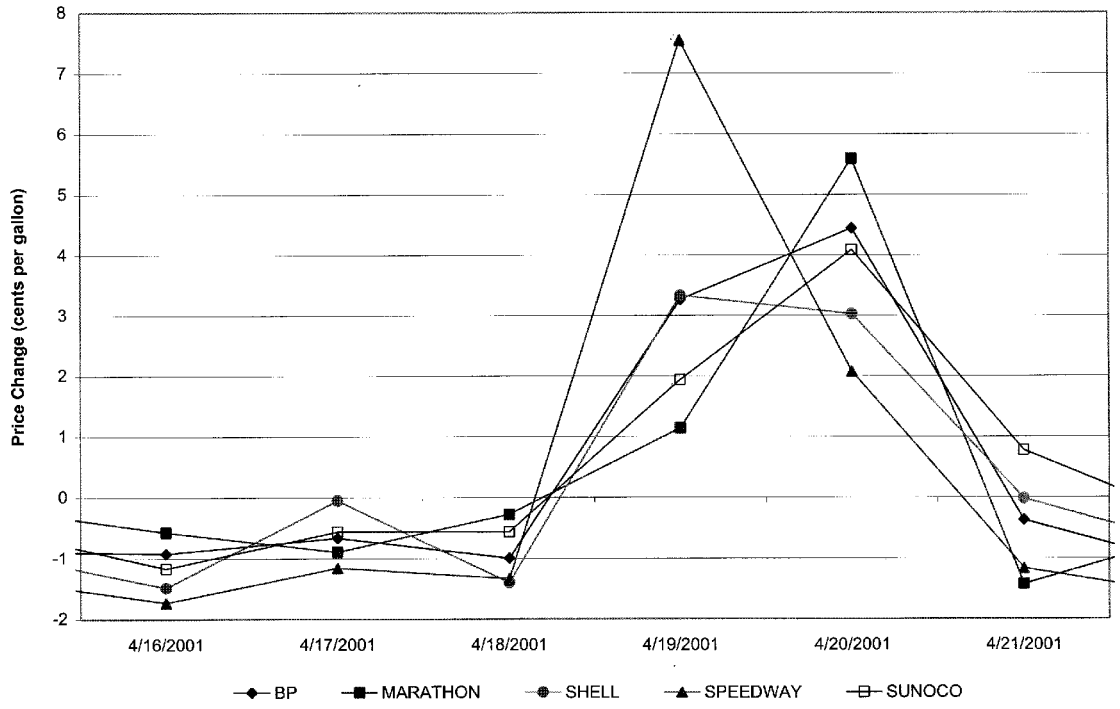
Source: Analysis of OPIS data.

Figure A2.49: Ohio Daily Retail Price Changes (Net Taxes) by Brand, April 9 - 16, 2001



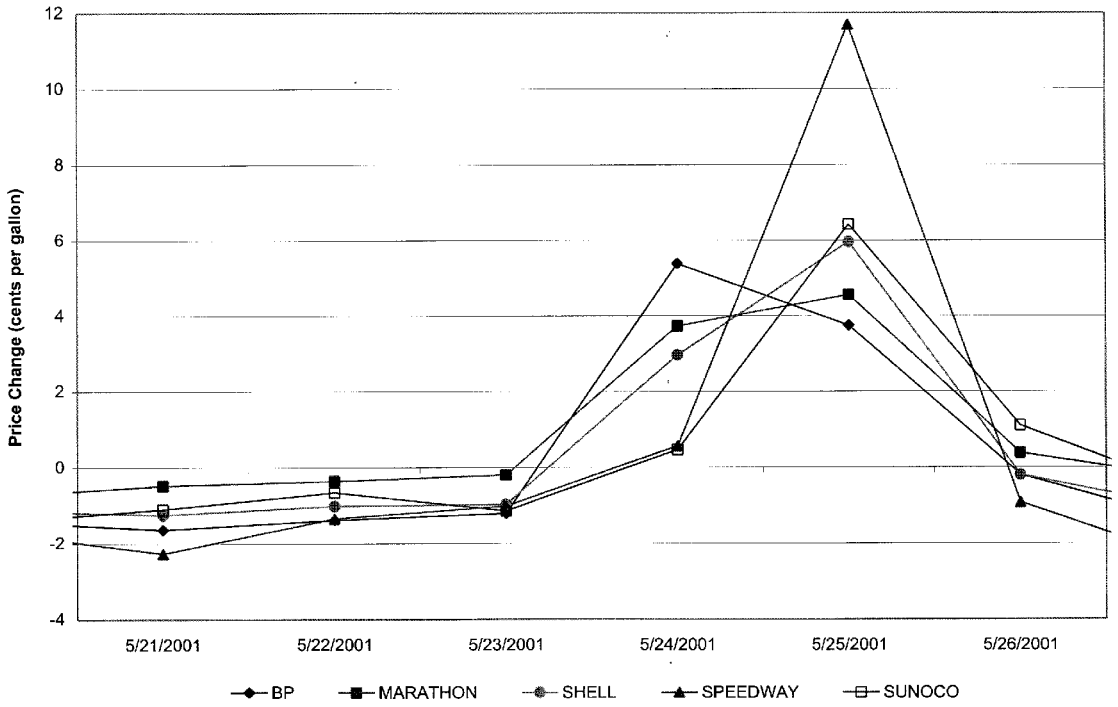
Source: Analysis of OPIS data.

Figure A2.50: Ohio Daily Retail Price Changes (Net Taxes) by Brand, April 16 - 21, 2001



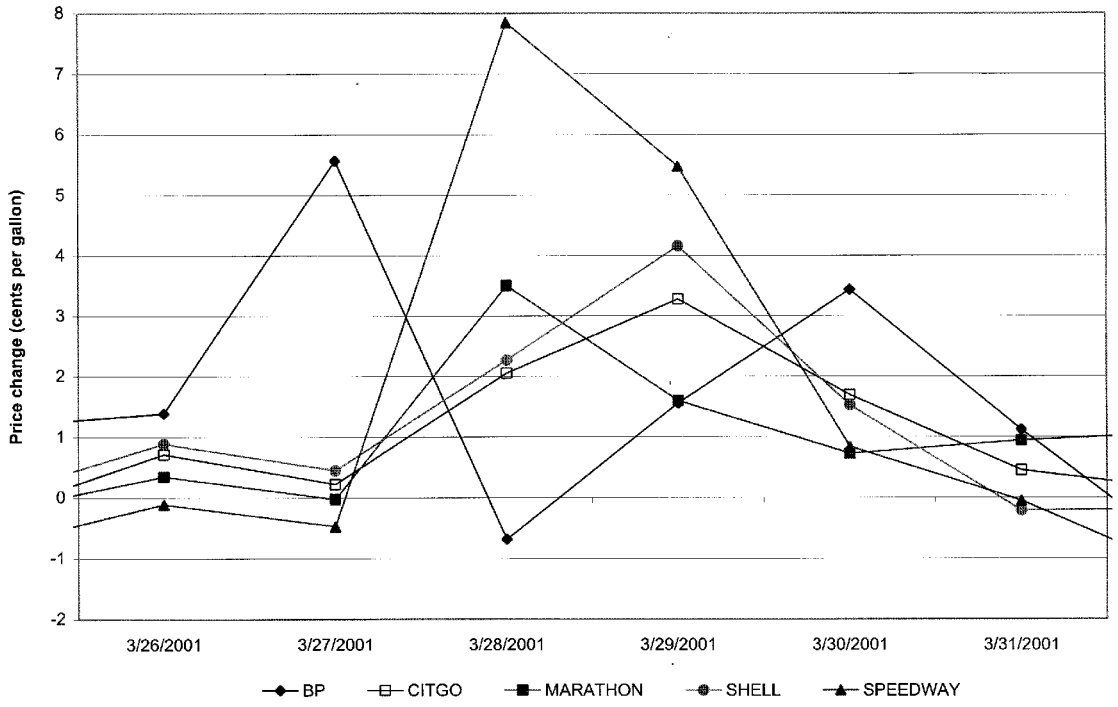
Source: Analysis of OPIS data.

Figure A2.51: Ohio Daily Retail Price Changes (Net Taxes) by Brand, May 21 - 26, 2001



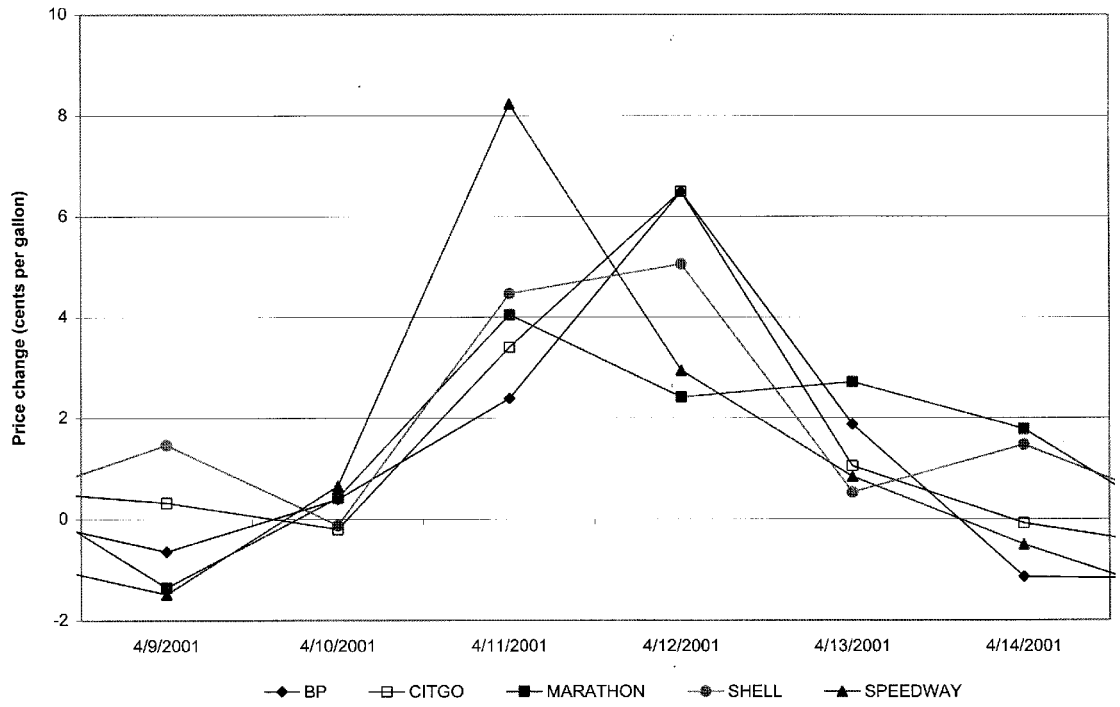
Source: Analysis of OPIS data.

Figure A2.52: Illinois Retail Price Change (Net Taxes) by Brand, March 26 - 31, 2001



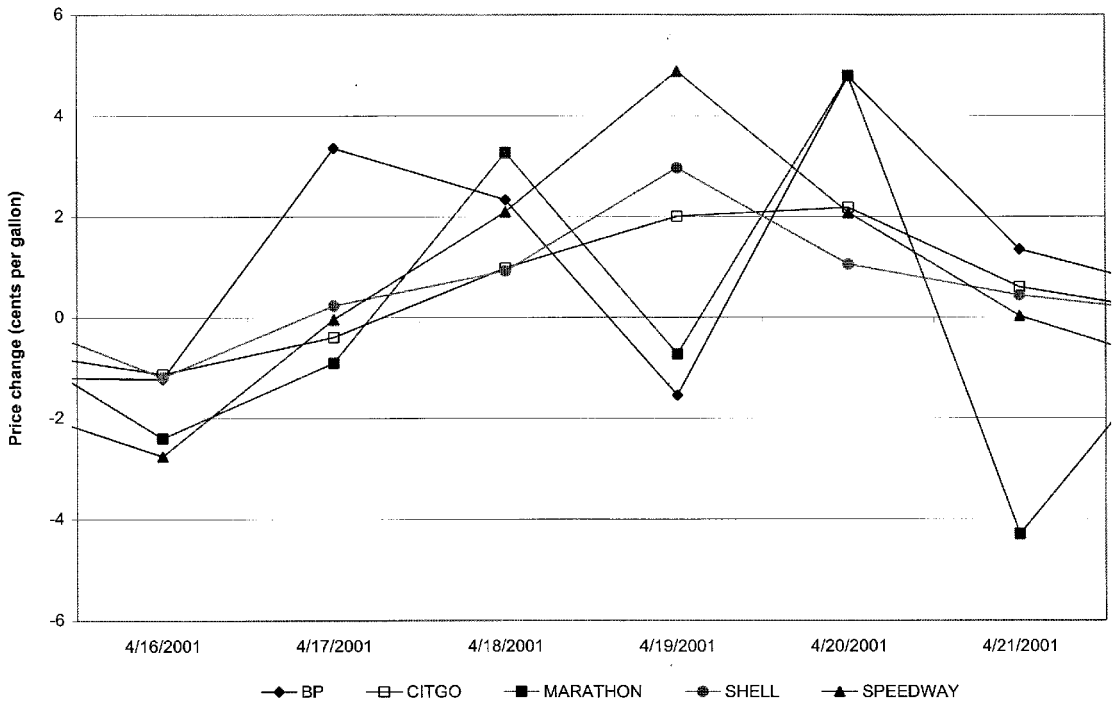
Source: Analysis of OPIS data.

Figure A2.53: Illinois Retail Price Change (Net Taxes) by Brand, April 9 - 14, 2001



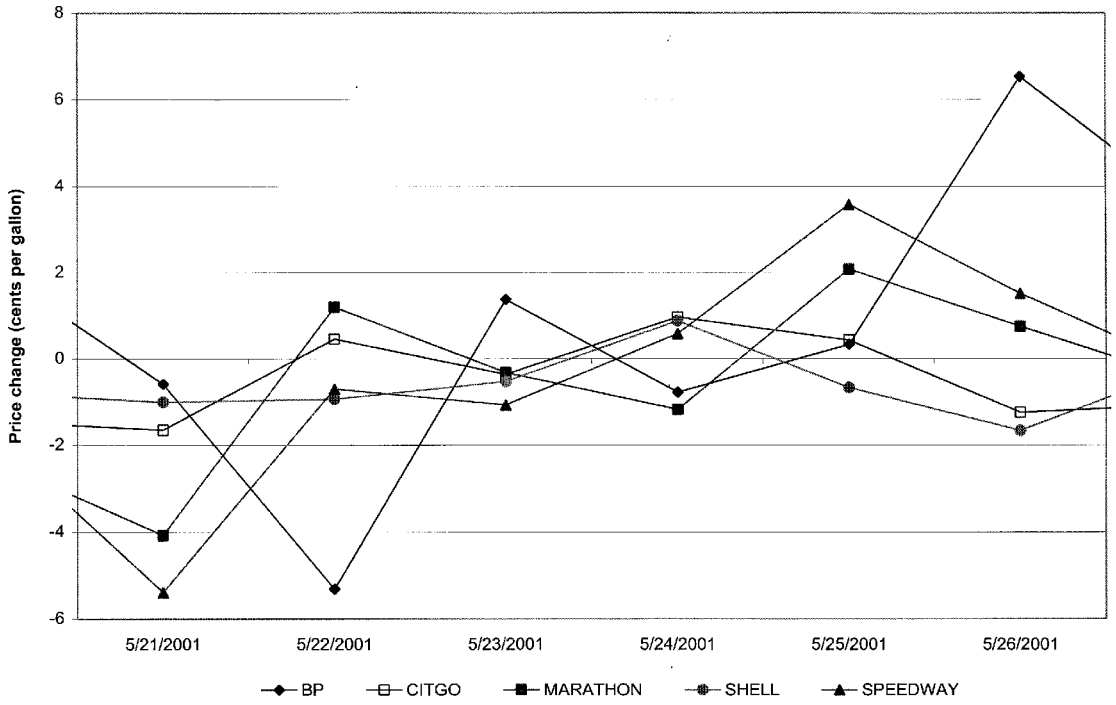
Source: Analysis of OPIS data.

Figure A2.54: Illinois Retail Price Change (Net Taxes) by Brand, April 16 - 21, 2001



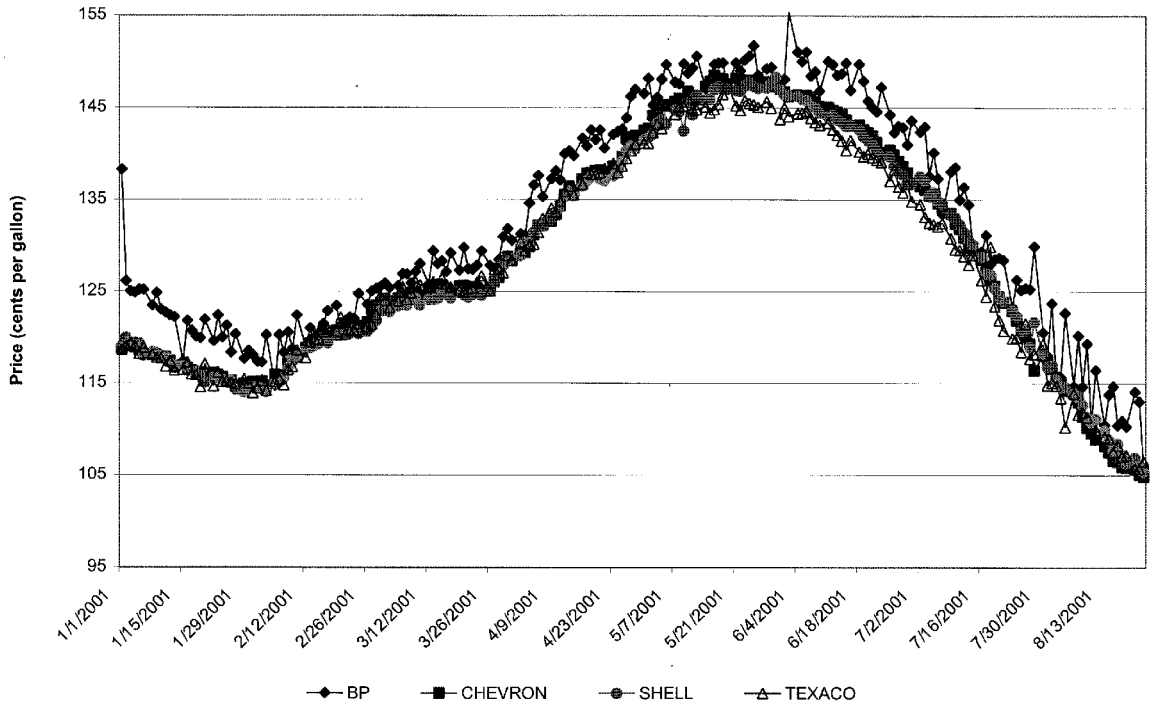
Source: Analysis of OPIS data.

Figure A2.55: Illinois Retail Price Change (Net Taxes) by Brand, May 21 - 26, 2001



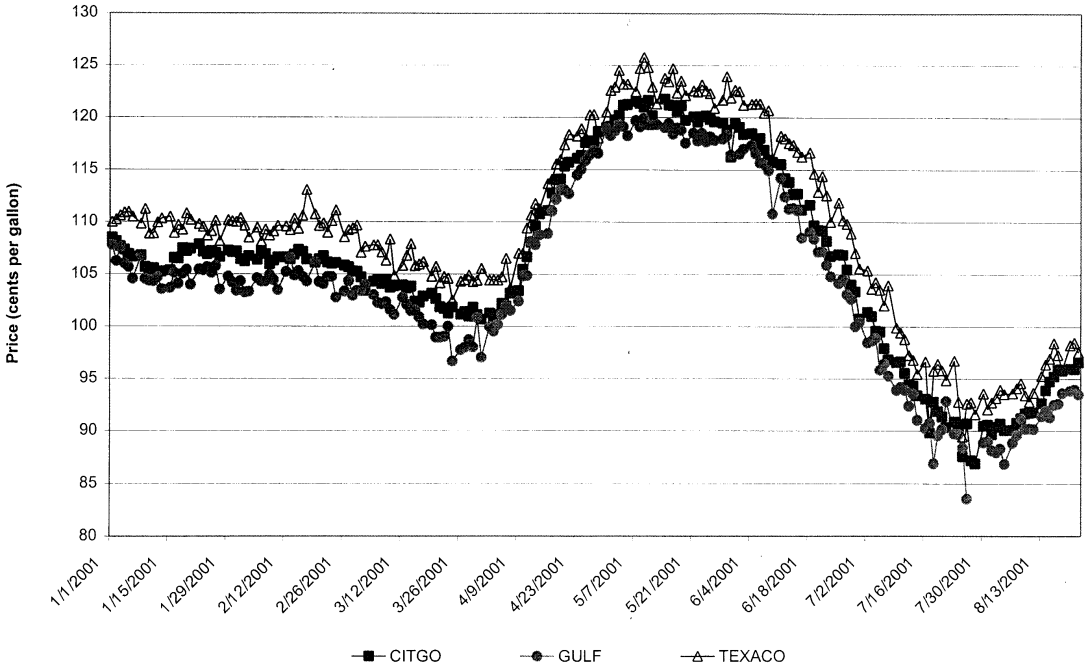
Source: Analysis of OPIS data.

Figure A2.56: California Retail Prices (Net Taxes) by Brand, January - August 2001



Source: OPIS.

Figure A2.57: Maine Retail Prices (Net Taxes) by Brand, January - August 2001



Source: OPIS.