Union Calendar No. 194

109TH CONGRESS
1ST Session } HOUSE OF REPRESENTATIVES { REPORT
109- 353

THE 2005 JOINT ECONOMIC REPORT

R E P O R T

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

ON THE

2005 ECONOMIC REPORT
OF THE PRESIDENT

TOGETHER WITH

MINORITY VIEWS

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 2005

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[Created pursuant to Sec. 5(a) of Public Law 304, 79th Congress]

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LETTER OF TRANSMITTAL

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC, December 16, 2005.

HON. J. DENNIS HASTERT,
Speaker of the House, House of Representatives,
Washington, DC.

DEAR MR. SPEAKER: Pursuant to the requirements of the Employment Act of 1946, as amended, I hereby transmit the 2005 Joint Economic Report. The analyses and conclusions of this Report are to assist the several Committees of the Congress and its Members as they deal with economic issues and legislation pertaining thereto.

Sincerely,

Jim Saxton,
Chairman.

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THE 2005 JOINT ECONOMIC REPORT

December 16, 2005.--Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

MR. SAXTON, from the Joint Economic Committee, submitted the following

REPORT

together with

MINORITY VIEWS

Report of the Joint Economic Committee on the 2005 Economic Report of the President

U.S. Macroeconomic Performance

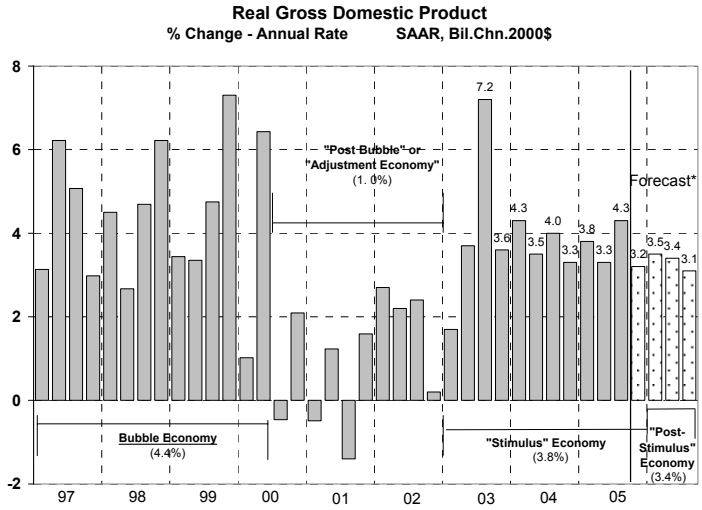
- **Introduction and Background:**

This introduction provides a broad economic overview of the performance of the U.S. economy since about 2003. Beginning in about 2003, the macroeconomy finally began to shake off the throes or burdens of the adjustments required by bursting stock market and investment bubbles. When an asset price (or stock market) bubble bursts, banks necessarily have to contract their lending and consolidate their portfolios. Such adjustment is tantamount to a slowdown in investment: i.e., such a stock market adjustment is associated with a downward movement in investment. The stock market peak occurred in the spring of 2000. The Dow and Nasdaq stock price indices, for example, peaked in January and March 2000, respectively. Overall, then, stock market prices began to fall sharply in the spring of 2000. Notably, most of the Nasdaq's large decline took place prior to January 2001, and consequently, had nothing to do with the Administration's economic policy. As stock prices fell, the financial cost of investment

increased and various measures of investment growth declined: i.e., declines in investment led to declines in economic activity. The investment sector, then, played a very important role in influencing recent cyclical economic activity. The seeds of this unsustainable stock market bubble, however, were sown in the period prior to the spring of 2000, since the stock market bubble burst beginning in the first quarter of 2000.

Many economists have noted that the economic weakness of 2000-2001 (or the "Post Bubble" or "Adjustment Economy)" was **inherited from earlier periods** involving an asset-price contraction in the late 1990s. (See Figure 1).

Figure 1

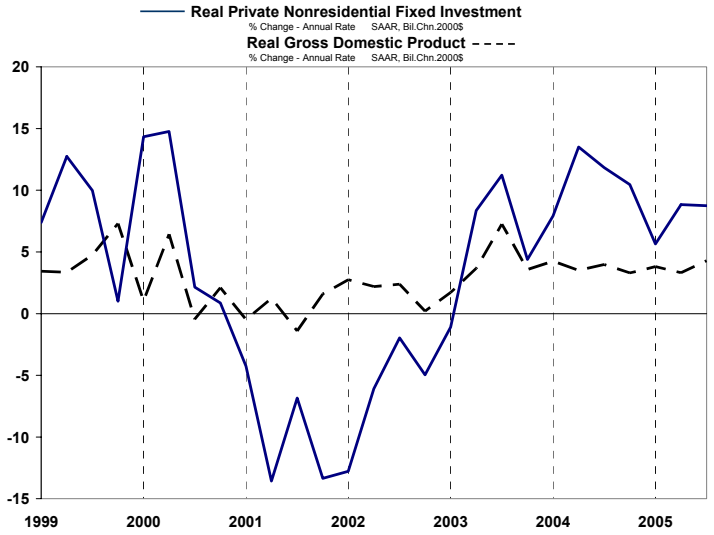


Source: Bureau of Economic Analysis/Haver Analytics/ *Blue Chip Consensus

Furthermore, the economic and financial strength of the late 1990s was unsustainable, with some of that strength borrowed heavily from the "irrational exuberance" of sharp stock market and balance sheet gains.

In sum, changes in the investment sector have been much larger and more prominent than changes in most other sectors, including real GDP. The investment sector, for example, was significantly weaker than real GDP during downturns and significantly stronger than real GDP during recoveries (see Figure 2).

Figure 2



- **Brief Overview:**

A **brief overview** of recent macroeconomic activity indicates that the economy is expanding robustly with little sign of any meaningful inflation. In the third quarter, for example, the most recent data indicate that real GDP growth was robust at 4.3%. Real GDP has grown at positive rates for 16 quarters in a row and at rates above 3.0% for 10 quarters in a row. Consensus forecasts have real GDP increasing by 3.5% to 4.0% for the next few years. Figure 2 highlights some of these facts.

Components of real GDP suggest that expansions of real nonresidential **fixed investment** should continue at a healthy pace. The equipment and software component of real nonresidential fixed investment, for example, has been growing on average at a double digit rate (11.7%) since the third quarter of 2003. Its leading indicator, capital good orders, continues to trend upward.

Another interesting observation relates to academic research relevant to U.S. economic growth. Recent research has thoroughly established that the volatility of U.S. GDP has consistently fallen for a number of years. This reduction of volatility means that the economy is not only growing robustly, but that growth is more stable than in the past. This fosters a reduction in risk premiums and lower interest rates.

Significant improvement can be seen in other sectors. For example, 4.5 million **jobs** have been added to the existing payrolls since May of 2003. The U.S. has gained many more jobs than key European economies. Similarly, the **unemployment rate**, now at

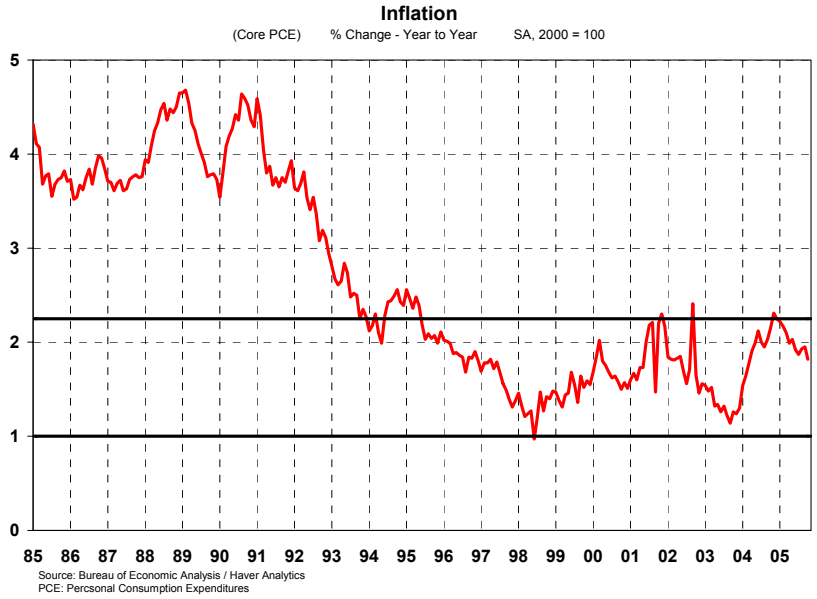
5.0%, is historically low and below the average U.S. unemployment rate for the 1970s, 1980s, and 1990s. Further, the U.S. unemployment rate is lower than most European rates.

The housing sector has performed much better than most analysts predicted. Housing sales have remained strong and residential investment elevated.

Another prominent feature of the recent U.S. economy is the **lower and more stable rate of inflation** we have experienced. While most broad measures of inflation provide similar information, we nonetheless use the core PCE on a year-over-year basis, depicted in the accompanying figure (see Figure 3). The persistently lower rate of inflation depicted there has helped to calm financial markets and reduce risk premiums. This persistently lower rate of inflation has in turn fostered lower expectations of future inflation and, consequently helped to lower interest rates.

In short, the macroeconomy has established a remarkably solid record with measures of aggregate economic activity registering not only relatively rapid growth figures, but exceptionally stable non-inflationary growth. These surprisingly strong results, it will be remembered, occurred in the face of a literal barrage of supply side shocks (discussed below) that were readily absorbed by this exceptionally resilient economy.

Figure 3



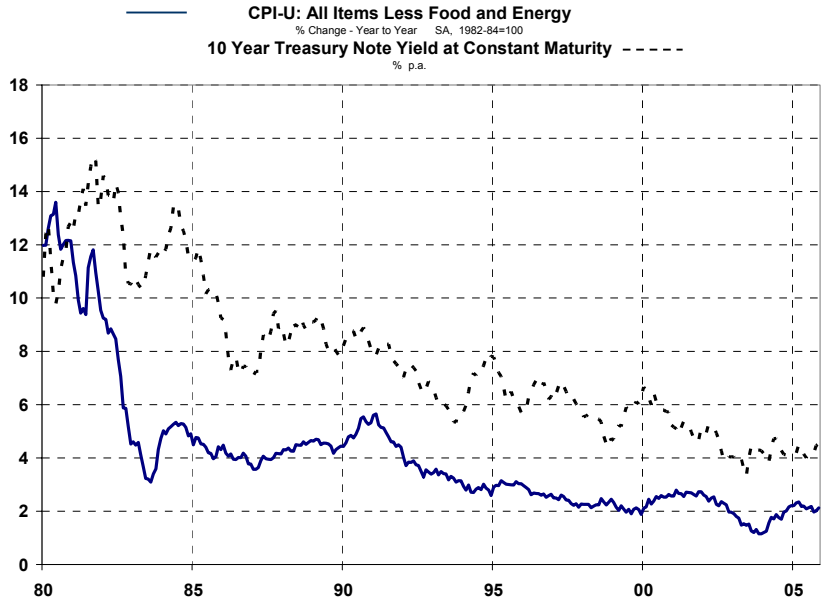
- **Policy Contribution**

With this impressive record as a backdrop – particularly in the face of the many negative shocks absorbed by the economy – a question facing policymakers is: Why has the economy performed so well? Put bluntly, the economy has advanced at a healthy, stable pace with little sign of meaningful inflation because of the economic policies that have been adopted. These policies will be briefly summarized.

Monetary Policy:

In adopting a flexible, implicit inflation targeting strategy, the Federal Reserve's monetary policy contributes to minimizing inflation, reducing the volatility of inflation, and anchoring the price system. Over time, the credible implementation of this strategy works to calm and stabilize markets, such as the money, capital, and foreign exchange markets. Some argue that this strategy also works to reduce macroeconomic volatility. This more stable set of markets works to promote economic growth. Recent monetary policy, then, has likely made a number of contributions to the workings of the macro economy. In particular, this credible, implicit inflation targeting approach works to lower inflation, lower the volatility of inflation, lower the volatility of economic activity, and promote economic growth (see Figure 4).

Figure 4



- **Tax Policy**

Whereas the Federal Reserve's current monetary policy performs a number of important functions, tax policy can play a major role in promoting investment or capital formation and consequently, economic growth. Accordingly, the tax-policy endorsed by the Administration is, for the most part, focused on a limited number of key objectives that often relate to economic growth.

In assessing initial economic conditions during the current expansion, it became obvious that investment and capital formation were weaker than desirable. The argument that with an entrenched income tax in place, saving, investment, and capital formation were over-taxed and further, taxed multiple times, seemed to be underscored by the data. Accordingly, a tax program was proposed which lowered the tax rates on dividends and capital gains, and expanded expensing for business investment. More specifically, the "Jobs and Growth Tax Relief Act of 2003" was passed and contained a number of provisions, most notably, a reduction in both dividend and capital gains tax rates.[1]

There were a number of reasons to lower these tax rates on capital:

- Removing some of the bias toward the multiple taxation of capital and investment.
- Lowering tax **rates** so as to affect behavior and promote additional incentives to save and invest.
- Removing some of tax burden's dead-weight loss.
- Maintaining the U.S. as an attractive investment outlet for international investors.
- And, most importantly, fostering capital formation so as to promote economic growth.

As the data in Figure 2 suggest, these tax cuts are associated with higher trend growth in business investment spending and increases in the value of stock market. The NIPA data, for example, suggest that after the 2003 tax cuts, various categories of non-residential fixed investment began trending up at more rapid rates. Similarly, most common measures of stock market value (e.g., Dow Jones, Nasdaq, or S&P) began advancing at a faster pace. In addition, since the tax cuts were implemented, the country has experienced higher economic growth, increases in payroll employment, lower unemployment, and more tax revenue. In short, the timing of investment and stock market activity appear to be consistent with the case made by proponents of the tax cuts.

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[1] The highest capital gains rate of 20 percent was lowered to 15 percent while the highest rate on dividend income was reduced from 35 percent to 15 percent. See Alan Auerbach and Kevin Hassett, "The 2003 Dividend Tax Cuts and the Value of the Firm: An Event Study," NBER working paper 11449, June 2005, p.1.

Furthermore, a number of studies (and empirical evidence) support this conclusion.

The findings of several studies tend to support the view that changes in the tax law have significant impacts on economic activity and economic growth.

A review of the problems caused by high dividend taxes shows that the U.S. had the second highest dividend tax rate in the OECD. In light of this finding, lowering the dividend tax rate in the US may be more potent than if undertaken elsewhere.

Furthermore, Auerbach and Hassett (2005) find strong evidence that the 2003 change in the dividend tax law had a significant impact on US equity markets. It could be, therefore, that by reducing those forms of taxation that work to tax capital in multiple ways a more rational system can result.

A similar view was outlined by Ben Bernanke (then CEA Chairman):

> "…tax legislation passed in 2003 provided incentives for businesses to expand their capital investments and reduce the cost of capital by lowering tax rates on dividends and capital gains…the effects are evident in the investment and employment data. From its trough in the first quarter of 2003, business fixed investment has increased over 21 percent, with the biggest gains coming in equipment and software."[2]

In sum, the macroeconomy has advanced sharply in recent years in part because of the contribution of a tax relief effort that lowered taxation on capital, promoted economic growth, and provided potent tax relief.

- **Conclusion**

Recent economic data indicate that the economy is quite robust and advancing at a healthy pace. Our economy has weathered a barrage of negative supply shocks (including a stock market bubble-bursting, a terrorist attack, a severe hurricane followed by a severe flood, two wars, corporate scandals, and a sharp increase in the price of oil). Given this array of significant hurdles, the economy's performance is remarkable. Part of the reason for this performance relates to the contributions of monetary policy's focus on price stability, which leads to a lowering of inflation, the volatility of inflation, and the volatility of economic activity, thereby fostering economic growth. Another reason

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[2] Ben S. Bernanke, "The Economic Outlook," Chairman, President's Council of Economic Advisors, Testimony before the Joint Economic Committee, October 20, 2005, pp.3-4.

for this remarkable performance is the pro-growth tax policy that has been embraced and allowed to lower the cost of capital. A further contribution relates to our flexible price system, which has enhanced the economic resiliency we enjoy.

Consequently, the economic outlook remains positive. According to Federal Reserve and private economic forecasts, the economy is expected to grow at a healthy pace through 2006.

Jim Saxton
Chairman
Joint Economic Committee

Robert F. Bennett
Vice Chairman
Joint Economic Committee

Union Calendar No. 194

MAJORITY STAFF REPORTS

Economic Effects of Inflation Targeting

Introduction

The theoretical case for inflation targeting (IT) has been spelled out during the course of the last 15 years in a number of publications, including several JEC studies. The case for IT is a strong one, supported by a number of compelling arguments. According to proponents, adopting IT certainly does make a difference by improving the performance of the economy, the financial system, and the inflation rate. The arguments supporting this approach, however, will not be repeated here; these arguments have been amply described elsewhere. Instead, one component of the arguments supporting the adoption of IT will be reviewed and assessed.

In particular, IT proponents contend that its adoption will help to calm and stabilize financial markets. More precisely, the adoption of credible IT will provide an anchor to the financial system and to financial markets. In so doing, financial markets will stabilize as inflation is driven from the price system. Temporary deviation of inflation will be ignored. This credibly-reduced inflation is associated with less volatile financial markets, smaller risk premiums, and lower inflationary expectations. In this view, then, IT is associated with **more stable** financial markets.

On the other hand, some economists contend that IT is associated with asset price bubbles, and thus, asset price volatility. In particular, as credible IT works to stabilize conventional measured inflation, to reduce risk premiums, and to tame economic fluctuations, economies experience more risk taking and more risky investment. Economies will also experience increased stock price volatility and associated asset price bubbles. According to this view, there is a kind of "moral hazard" of economic policymaking: the more stable/predictable the economic environment, the more risk taking and risky investment take place. Proponents of this view point to several classic episodes in which asset price bubbles followed periods of price stability; e.g., the U.S. during the 1920s as well as more recent episodes in Japan and the U.S. In this view, then, IT is associated with more volatile asset prices and financial markets, the opposite contention of the above, more conventional view.

This paper briefly describes these alternative views, reviews relevant empirical evidence, and attempts to reconcile these seemingly conflicting positions.

An Unconventional View: Inflation Targeting (IT) and Asset Price Volatility

Recently, a few economists have broken rank with the conventional view supporting IT. These economists contend that low inflation environments tend not to be associated with asset price stability. Instead, they argue that IT or low inflation environments tend to be associated with asset price movements and bubbles (or financial fragility) and asset price volatility. Fildaro, for example, states that:

> "…The achievement of a low, stable inflation environment has not simultaneously brought about a more stable asset price environment. The record over the last decade, in fact, has raised the prospect of asset price booms and busts as a permanent feature of the monetary policy landscape." [1]

Similarly, Borio and Lowe (2002) argue that:

> "…financial imbalances can build up in a low inflation environment…while low and stable inflation promotes financial stability, it also increases the likelihood that excess demand pressures show up first in credit aggregates and asset prices, rather than in goods and services prices…We stress that financial imbalances can and do build up in periods of disinflation or in a low inflation environment," [2]

Furthermore, in reviewing the economic environment of the past 30 years or so, Borio and White (2004) maintain that this environment can be characterized as improving in price stability while at the same time experiencing more financial instability. [3]

Some endorsing this alternative view include some economists sympathetic to the Austrian School and several economists affiliated with at the Bank for International Settlements (BIS).[4]

This alternative view embodies some important implications. Notably, proponents of this view contend that price stability or IT

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[1] Fildaro, Andrew, "Monetary Policy and Asset Price Bubbles: Calibrating the Monetary policy trade-offs," BIS Working Paper No. 155, June (2004), p.

[2] Borio Claudio, and Philip Lowe, "Asset Prices Financial and Monetary Stability: Exploring the Nexis,"
BIS Working Paper No. 114, (July 2002), Abstract, p.1.

[3]Borio, Claudio and William White, "Whither Monetary and Financial Stability? The Implications of Evolving Policy Regimes," BIS Working Paper No. 147 (February 2004).

[4] These authors, include, for example, Charles Bean, Claudio Borio, Philip Lowe, William White, Andrew Filadro, Andrew Crockett, and others.

causes sharp movements in asset prices; i.e., price stability or IT is associated with asset price bubbles.

According to proponents of this view, IT central banks themselves increasingly (but unwittingly) work to create the environment conducive to the formation of asset price bubbles or instabilities. Specifically, as modern central banks learn to control inflation and tame economic fluctuation, thereby stabilizing economic activity, these economies will experience more risk taking, more innovation, more investment and sometimes stronger advances in productivity. They will experience increased stock market volatility and associated asset price bubbles. Credible IT policies, therefore, stabilize conventionally measured price indices while at the same time create new incentives to take risk.

In this view, there is a kind of "moral hazard" of economic policymaking: the more stable/predictable the economic environment, the more risk taking, investment, and innovation take place. In sum, low inflation environments are increasingly associated with financial imbalances and asset price volatility.

The Conventional View: Inflation Targeting Calms and Stabilizes Financial Market Prices

There are several theoretical explanations of how financial markets are affected by the existing monetary regime. In particular, different explanations exist as to how movements in financial market prices are shaped by the adoption of IT and its associated consequent price stabilization. One of the direct benefits of IT, for example, is the calming, stabilizing effect it has on financial market prices and on the market price system itself. In short, IT stabilizes prices and serves as an anchor to the price system.

According to Levin et.al., for example;

> "…under an inflation-targeting regime, expectations about inflation, particularly at longer horizons, should be "anchored" by the target, and thus should be less affected by changes in actual inflation…Having inflation expectations that are well anchored – that is, unresponsive to short-run changes in inflation – is of significant benefit to a country's economy…..Keeping inflation expectations anchored helps to keep inflation itself low and stable." [5]

[5] Jeremy Piger, "Does Inflation Targeting Make a Difference?", Monetary Trends, Federal Reserve Bank of St. Louis, April 2004, p.1. See also Levin, Andrew T., Natalucci, Fabio M. and Piger, Jeremy M., "The Macroeconomic

More specifically, as inflation rates are credibly lowered and as stable prices eventually emerge, inflation and inflationary expectations will have less of a disturbing effect on price movements. Price reactions to both economic policy announcements and economic data releases will be tempered. This reduction in inflation and inflationary expectations will lower the variability of relative and nominal prices. And this reduction of inflation and inflationary expectations will also reduce uncertainty and thereby lower risk spreads.

Furthermore, distorting interactions of inflation with the tax code will gradually be minimized. In short, the operation and working of the price system will be improved as adopting IT will reduce market volatility.

These factors will contribute to calming and stabilizing a number of important markets including the short-term money market, long-term bond market, foreign exchange market, sensitive commodity markets, as well as equity markets.

All of these improvements will work to better enable to function, improve market efficiency, and inevitably to improve economic growth and performance.

Indirect Approaches to Stabilize Markets

There are additional indirect, but important ways in which IT can work further to calm and stabilize movements in market prices. More specifically, IT necessarily involves an increase in central bank transparency, which can work to further stabilize markets. [6] The benefits of monetary policy transparency cited in the literature include a reduction in both the level of and variability of inflation as well as output.[7]

IT, after all, involves the announcement of and explicit public identification of policy goals or policy rules. This involves providing more information to the market. Markets work better with more information; more specifically, they absorb new information and use it

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Effects of Inflation Targeting.". Federal; Reserve Bank of St. Louis Review, July/August 2004, 86 (4).

[6] Transparency has several dimensions. These involve explicit identification of policy objectives, issuing inflation reports, policy announcements, and testimony, i.e., providing much more information to the market. See for example, Seth B. Carpenter, "Transparency and Monetary Policy: What Does the Literature tell policymakers?" Working Paper, Board of Governors of the Federal Reserve System, April 2004. p.1.

[7] See Carpenter, op. cit., p. 1.

to form common, concentrated expectations about the future. [8] As markets begin to anticipate policy changes, the initial steps of the monetary transmission mechanism between policy action and economic activity begin to work more efficiently. [9] Policy surprises affecting markets become smaller and fewer in number. Central bank credibility begins to build and to anchor inflationary expectations, thereby helping to stabilize financial markets. As one proponent put it:

> "the strength of inflation targeting, vis-à-vis other monetary regimes lies precisely in how transparency enhances monetary credibility and anchors private expectations."[10]

In short, increased transparency changes behavior so that markets function better and in a more stable, predictable manner that works to stabilize markets.

Empirical Evidence

In sum, alternative views as to the effects IT might have on financial markets suggest that, **the adoption of IT could result in these markets becoming more volatile, less volatile, or unaffected by IT. Existing evidence sheds some light on validity of these alternative views.**

Does IT result in more Volatile Financial Markets?

Hard empirical evidence supporting the view that IT causes financial market volatility appears difficult to muster. Much of the literature sympathetic to this view is not focused directly on such empirical evidence. Rather, it often deals with broader issues of monetary policy and the policy role played by asset price "bubbles". Borio and Lowe, for example, make such a connection:

> "While low and stable inflation promotes financial stability, it also increases the likelihood that excess demand pressures show up first in credit aggregates and asset prices, rather than in goods and services prices. Accordingly, in some situations, a monetary response to credit and asset markets may

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[8] See, for example, Gavin, William, "Inflation Targeting," Business Economics, April 2004, pp 30, 36.

[9] See, Charles Freedman, "Panel Discussion: Transparency in the Practice of Monetary Policy," Review, Federal Reserve Bank of St. Louis, July/August, 2002, p.155.

[10] Klaus Schmidt-Hebbel and Matias Tapia, "Statement" (2002), p.11)

be appropriate to preserve both financial and monetary stability."[11]

But the argument that price stability or IT itself fosters asset price bubbles, asset price volatility, or financial instability has been neither adequately nor convincingly established. And the case that financial imbalances develop because of stable price environments, has not been demonstrated; it has **not** been shown that price stability causes financial instability. In short, no direct "hard core" or formal statistical or econometric evidence supports this view. Instead, anecdotal compilations of "stylized facts" are used to assess historical episodes in support of the view. Additionally, only a few episodes appear to have the characteristics (low inflation, credit growth, asset price bubbles, etc) consistent with this view. Instead of such evidence, proponents rely on assumptions relating to the credibility of policymakers, investment activity, technological advances, or productivity gains that can serve to constrain the price increases of goods and services. In sum, little **hard empirical evidence** supporting the view that price stability or IT contributes to or causes volatile financial markets exists.

Empirical Evidence: Does IT matter? Is IT unrelated to economic performance or to market volatility?

A number of studies have examined whether the adoption of IT improves economic performance (as measured by movements in inflation, output, and/or interest rates) or affects the volatility of market variables. In short, they have tested to see if IT matters.

Several researchers have addressed this question. Despite a good deal of effort, however, some of their empirical results have been mixed. As a result, this research in turn has raised a number of methodological questions. More specifically, in assessing these questions in recent years, researchers have often used a common methodology. The reason for this is that recently both IT and non-IT countries experienced improvement in economic performance as measured, for example, by inflation or the level of interest rates. Focusing on any one IT country in isolation might lead researchers to falsely conclude that IT caused the improvement. But non-IT countries may have experienced similar affects. Some researchers contend, therefore, that to test for the effects of IT, improvements in IT countries must be made relative to improvements in non-IT countries.

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[11] Borio Claudio and Philip Loew, "Asset Prices, Financial and Monetary Stability: Exploring the Nexis," BIS Working Paper No. 114, July 2002, Abstract.

Examples of research results: Implying IT doesn't matter include the following:

- Ammer and Freeman (1995) surveyed three IT countries, New Zealand, Canada, and the United Kingdom. They found that although each reached its inflation goal, bond yields suggested that long-term inflationary expectations exceeded targets as did short-term measures of inflationary expectations. This suggests that these countries did not attain the credibility necessary to properly anchor other prices and stabilize the price system. Moreover, there is no evidence that announcement of an explicit IT policy would reduce inflationary expectations. [12]

- Johnson (2002) employed data from eleven countries. He adopted a methodology which divided up his sample into inflation targeting and non-inflation targeting countries. His results are mixed. Specifically, he found that while the level of inflationary expectations falls after announcing explicit inflation targets, the variability of expected inflation does not. In describing his results, Johnson contended that "inflation targets allowed a larger disinflation with smaller forecast errors to take place in targeting countries." [13]

- Recent research by Ball and Sheridan (2003) is perhaps the most forceful example of empirical work concluding that IT does <u>not</u> matter. These authors, for example, conclude that:

> "…on average, there is <u>no</u> evidence that inflation targeting improves performance as measured by the behavior of inflation, output, or interest rates.…overall it appears that targeting does not matter. Inflation targeting has no effect on the level of long-term interest rates, contrary to what one would expect if targeting reduces inflation expectations…targeting does not affect the variability of the short-term interest rates controlled by policymakers…we find

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[12] John Ammer and Richard T. Freeman, "Inflation Targeting in the 1990s. The Experiences of New Zealand, Canada, and the United Kingdom," <u>Journal of Economies and Business</u>, 1995, 47:165-192, pp.165,189.

[13] David R. Johnson, "The Effect of Inflation Targeting on the Behavior of Expected Inflation: Evidence from an 11 country panel," <u>Journal of Monetary Economies</u>, 49 (2002) 1521-1538, p., 1537.

> no evidence that inflation targeting improves a country's economic performance." [14]

In short, some research clearly concludes that IT does not matter.

Some Questions and Critique:

There are, however, a number of fundamental reasons why this research and its conclusions are both questionable and in conflict with the results of other research. For example, many economists question the methodology employed in these studies. The selection and identification of "non-IT countries," for example, is one of these issues. Several economists, analysts, and even Federal Reserve officials have pointed out that a number of key countries, including the U.S., are identified as non IT countries in the studies because they do not have **explicit inflation targets**. But many of these countries consistently pursued an implicit inflation targeting strategy. **So the label may be misleading and inappropriate for several countries**. This misspecification also applies to countries pegging their currencies to a currency whose central bank is following ITs; (i.e., some countries in Europe and Asia). These observations were made by, Gertler, Mankiw, Federal Reserve officials and others.[15] These contentions draw into question the validity of the methodology and results of these empirical studies.

Furthermore, recent IMF research surveys and delineates the many dimensions to and ways of classifying and categorizing IT. This research underscores the large number of variables that can be used to select and define IT. It is a reminder that there may be no easy, simple way of neatly identifying an IT central bank.

Because of the multi-dimensional character of IT regimes, it is difficult to clearly and neatly dichotomize existing central banks into IT and non-IT categories. Definitions of IT, for example, should be adjusted to reflect the realities of "flexible" IT. The clean dichotomization maintained by theoretical researchers may not be nearly as clean as suggested by the authors. Consequently, the

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[14] Ball, Laurence and Niamh Sheridan, "Does Inflation Targeting Matter?," Paper presented at NBER Inflation Targeting Conference, January 2003 (March 2003), pp. 2,3,4,29.

[15] See Gertler, Mark, "Comments on Ball and Sheridan," Prepared for the NBER Conference on Inflation Targeting, January 2003. (June 2003), pp 1,3-5; Mankiw N. Gregory, (2001), "U.S. Monetary Policy During the 1990s. NBER Working Paper No. 8471, Cambridge, Mass Sept 2003; and Marvin Goodfriend, "Inflation Targeting in the United States?," (2003) Paper prepared for the NBER Conference on Inflation Targeting, January 2003.

empirical results may not be as clean as suggested by some of the results of these papers.

Additionally, several statistical or econometric issues and critiques were identified in much of this literature. In his comments on Ball and Sheridan, for example, Gertler notes that "existing evidence in favor of inflation targeting is open to identification problems."[16] Ball and Sheridan themselves assert that their empirical results are often not strictly comparable to the results of other studies because of unusual techniques that were employed. [17]

Empirical Evidence: IT is related to macroeconomic performance and to financial market volatility: IT does make a difference.

Despite the widespread practical support accorded IT in recent years, not much hard empirical support was found favoring IT in early, initial research.[18] As time passed and more historical data has come to the fore, however, researchers have uncovered a number of important empirical regularities tending to support IT. Some of the evidence comes from single-country case studies suggesting that IT tends to stabilize markets. Other evidence is cross-section support. For example, a number of recent empirical studies examined the relationship between IT and macroeconomic performance as well as between IT and financial market behavior: i.e., these studies attempted to assess whether IT matters. While mixed, the bulk of the new evidence indicates that IT matters; IT has a positive significant impact on economic and financial market performance.

The following "bullet points" supply an abbreviated summary of the recent key empirical studies relevant to this topic:

- In a (1996) report to the FOMC, David Stockton surveyed existing literature related to price objectives for monetary policy. [19] In that survey, Stockton identified several well-known established empirical relationships pertinent to this topic. They included the following:

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[16] Gertler, Mark, "Comments on Ball and Sheridan," June 2003, Paper prepared for the NBER Conference on Inflation Targeting, January 2003, p.1.
[17] Ball and Sheridan, op. cit., p.28. (The unusual technique was regression to the mean.)
[18] See Neumann and Von Hagen, p.127.
[19] David J. Stockton, "The Price Objective for Monetary Policy: An Outline of the Issues," A Report to the FOMC Board of Governors, June 1996.

- Both cross-country and time-series evidence supports the notion that inflation reduces the growth of real output (or productivity).
- Inflation is positively related to the variability of relative prices.
- Inflation is positively related to inflation uncertainty.
- In general, relative price variability and inflation uncertainty adversely affect real output.

- In his recent book Inflation Targeting (2003), Truman summarizes the principal conclusions of the empirical literature on inflation targeting.[20]

In particular, IT generally:

- Has had a favorable effect on inflation, inflation variability, inflation expectations, and the persistence of inflation.
- Has not had a negative effect on economic growth, the variability of growth, or unemployment.
- Has had mixed effects on both the level and variability of real, nominal, short-term, and long-term interest rates.
- Has had positive effects on exchange rate stability.
- Has affected the reaction functions of the central banks that have adopted the framework.[21]

- For the most part, economists have established empirically a negative relationship between inflation uncertainty and real economic activity. Elder (2004), for example, relates that:

> "Our main empirical result is that uncertainty about inflation has significantly reduced real economic activity over the post-1982 period… Our findings suggest that …macroeconomic policies that reduce volatility in the inflation process are likely to contribute to greater overall growth."[22]

- In a early study, Ammer and Freeman (AF) (1995) examined three IT countries. This study provided mixed results for IT. On the one hand, inflation did not exceed the targets and this result

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[20] Edwin M. Truman, Inflation Targeting in the World Economy, Institute for International Economics, Washington, D.C. October 2003, p 72.
[21] Ibid. p 72. (The points outlined were taken from Truman, p. 72.)
[22] John Elder, "Another Perspective on the Effects of Inflation Uncertainty"

occurred without sharp increases in short-term rates. These researchers found that "inflation fell by more than was predicted by the models in the early 1990s, an indication of the effect of the new regime."[23] However, "longer term interest rates suggest that none of these countries rapidly achieved complete long-term credibility for their announced long-run inflation intentions." [24]

- Some of the earlier (pre-2000) literature was summarized by Neuman and von Hagen (NvH) and included the following observations:

  - Some authors find that "IT might …serve to lock in gains from disinflation rather than to facilitate disinflation." [25] After introducing IT, inflation and interest rates remained below values predicted by existing models.
  - Other authors found that the "volatility of official central bank interest rates…declined substantially after the introduction of IT."[26]

- Neumann and von Hagen (NvH) (2002) reviewed earlier studies of inflation targeting episodes. They presented "evidence on the performance of IT central banks." [27] In particular, NvH showed that "… IT has reduced short-term variability in central bank interest rates and in headline inflation…"[28] (The NvH paper) "suggests that IT has indeed changed central bank behavior…" (NvH) "looked at different types of evidence in order to validate" (the claim that inflation targeting) "is a superior concept for monetary policy." "Taken together, the evidence confirms that IT matters. Adopting this policy has permitted IT countries to reduce inflation to low levels and to curb the volatility of inflation and interest rates…." .[29] In discussing this paper, Mishkin reminds us

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[23] Neumann and von Hagen, op.cit., p.128.
[24] John Ammer and Richard T. Freeman, "Inflation Targeting in the 1990s: The Experiences of New Zealand, Canada, and the United Kingdon," Journal of Economics and Business, 1995; 47: 165-192, p. 189.
[25] Neumann and von Hagen, op.cit., p.128.
[26] Ibid., p.129.
[27] Manfred J.M. Neumann and Jurgen Von Hagen, "Does Inflation Targeting Matter?", Federal Reserve Bank of St. Louis, Review, July/August 2002, p. 130.
[28] Ibid, p.127.
[29] Ibid, pp. 128, 144 (parenthesis added)

that NvH "produce several pieces of evidence quite favorable to inflation targeting."[30]

- Johnson (2002) shows that inflation "targets reduced the level of expected inflation in targeting countries"[31] … "The evidence is very strong that the period after the announcement of inflation targets is associated with a large reduction in the level of expected inflation…that (significant) reduction took place in all 5 countries with inflation targets. This is an important success of inflation targets."… "inflation targets allowed a larger disinflation with smaller forecast errors to take place in targeting countries." [32] In sum, inflation targeting presumably favorably affected the bond and other markets by influencing inflationary expectations and reducing uncertainty premiums.

- Levin, Natalucci and Piger (LNP) (2004) find "evidence that IT plays a significant role in anchoring long-term inflationary expectations and in reducing the…persistence of inflation" [33] The evidence suggests that IT practitioners can more readily delink their inflationary expectations from realized inflation.[34] In short, IT plays a significant role in anchoring long-term inflation expectations and long-term interest rates themselves.. [35]

  - LNP find that "inflation targeting affects the public's expectations about inflation"… "under an inflation targeting regime, expectations about inflation, particularly at longer horizons, should be 'anchored' by the target, and thus should be less affected by changes in actual inflation." "Keeping inflation expectations anchored helps to keep inflation itself low and stable."[36]

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[30] Frederick Mishkin, "Commentary," FRB St. Louis Review, July/August, 2002, p.144.
[31] David R. Johnson, "The Effect of Inflation Targeting on the Behavior of Expected Inflation: Evidence from an 11 country panel"
[32] Journal of Monetary Economics 49 (202), p. 1522. ibid, pp/1537. (parenthesis added).
[33] Andrew T. Levin, Fabio M. Natalucci, and Jeremy M. Pager, "The Macroeconomic Effects of Inflation Targeting," Federal Reserve Bank of St. Louis, Jan. 23, 2004. Abstract.
[34] Op.cit., Abstract
[35] Op. cit., p.2
[36] Jeremy Piger, "Does Inflation Targeting Make a Difference?" Monetary Trends, April, 2004

➢ In commenting on this paper, Uhlig (2004)… "concludes that these figures seem to suggest that an environment of low and stable inflation helps to reduce output volatility and support economic activity."[37]

- Recent empirical research at the Federal Reserve by Gurkaynak, Sack and Swanson (GSS) (2003) shows that the Fed could boost the economy by being more transparent about its long-term inflation objectives. [38] GSS "show that the long-term interest rates (of non-IT countries) react excessively to macroeconomic data releases and to news about monetary policy. This over-reaction is caused by changes in the market's long-term inflation expectations." [39]

IT, however, works to anchor (or prevent excess volatility in) long-term market's. Consequently, in IT countries (like the UK), markets do not overreact or display over-sensitivity. The empirical results of the paper suggest "that the central bank can help stabilize long-term forward rates and inflation expectations by credibly committing to an explicit inflation target."[40] Commitment to an explicit target will help stabilize both long rates and inflation expectations.

- Other research conducted at the Federal Reserve also relates to this evidence. Carpenter (2004), for example, surveyed empirical studies of transparency. [41] The summarized results are mixed, but suggest there is evidence of a relationship between IT and both transparency and lower inflation. Moreover, it is emphasized by several authors that there is no evidence that IT causes any harm. Swanson (2004) showed that increased central bank transparency acts to reduce financial market surprises and uncertainties. This

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[37] Jeremy M. Piger and Daniel L. Thornton, "Editor's Introduction," Federal Reserve of St. Louis Review, July/August 2004, Volume 86, Number 4, p.5.
[38] See Refet S. Gurkaynak, Brian Sack, and Eric Swanson, "The Excess Sensitivity of Long-Term Interest Rates, Evidence and Implications for Macroeconomic Models," Finance and Economic Discussion Series, Federal Reserve Board, November 17, 2003; William Gavin, "Inflation Targeting, Why It Works and How to Make it Work Better," Business Economics, Vol XXXIX April, 2004, p. 32.
[39] See Gavin, op cit, pp. 32, 36 (parenthesis added)
[40] GSS, op.cit. p.28.
[41] Seth Carpenter, "Transparency and Monetary Policy: What Does the Academic Literature Tell Policymakers?, "Working Paper, Board of Governors of the Federal Reserve System, April 2004, pp 11-13.

suggests that IT – which is tantamount to increased transparency of policy goals – may aid in reducing financial market volatility and stabilizing financial markets. [42]

- Several studies establish that additional central bank transparency in the form of announced inflation target, works to lower inflation and stabilizes output. Recently Fatas, Mihov, and Rose (FMR), for example, found "that both having and hitting quantitative targets (like IT) for monetary policy is systematically and robustly associated with lower inflation…Successfully achieving a quantitative monetary goal (like ITs) is also associated with less volatile output." [43] These authors find that "… countries with transparent targets for monetary policy achieve lower inflation." [44] They found "that having a quantitative de jure target for the monetary authority tends to lower inflation and smooth business cycles; hitting that target de facto has further positive effects. These effects are economically large, typically statistically significant and reasonably insensitive to perturbations in (their) econometric methodology."[45]

- Siklos (2004) found that "inflation-targeting countries have been able to reduce the nominal interest rate to a greater extent than have non-inflation targeting countries….It is also found that central banks with the clearest policy objectives have a relatively lower nominal interest rates." [46]

This abbreviated review of some of the recent literature suggests that overall, there is a good deal of evidence supporting the case for IT. This review suggests that inflation targeting does matter. More specifically, credible commitment to an explicit IT likely will work to help lower and stabilize the level and variability of inflation. This result occurs in part because of the reduction and stabilization of

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[42] Eric T. Swanson, "Federal Reserve Transparency and Financial Market Forecasts of Short-Term Interest Rates," Working Paper, Board of Governors of the Federal Reserve System, February 9, 2004.
[43] Antonio Fatas, Ilian Mihov, and Andrew K. Rose, "Quantitative Goals for Monetary Policy," NBER Working Paper No. W 10846, October 2004, Abstract (parenthesis added.)
[44] Ibid, p.1
[45] Ibid. p.21. (parenthesis added)
[46] Pierre L. Siklos, "Central Bank Behavior, The Institutional Framework, and Policy Regimes: Inflation Versus Non-Inflation Targeting Countries," Contemporary Economic Policy, vol 22, no. 3, July 2004, 331-343, pp 331, 332.

inflationary expectations. Hence, it will likely lower both the level and variability of the long bond rate. IT will anchor the price system and help to stabilize short-term interest rates, long-term interest rates, the foreign exchange and stock markets. Some research suggests IT also helps to dampen the business cycle and stabilize movements in output. Additionally there is a body of evidence indicating that transparency helps to stabilize markets and fosters central bank credibility.

Summary and Conclusions

After decades of debate, the case for inflation targeting is well established. This paper focuses on one key ingredient of the argument supporting inflation targeting. Namely, it examines the proposition that a credible implementation of inflation targeting will calm and stabilize various financial markets, anchor the price system, and limit inflation as well as its variability and persistence. Other competing views – i.e., (a) that inflation targeting has no impact on financial markets and (b) that Inflation Targeting leads to asset price bubbles and hence to financial market volatility – are briefly outlined.

These alternative views are presented and briefly contrasted with existing empirical evidence. Some key findings include the following:

- There is little or no evidence that inflation targeting has adverse effects on financial markets.

- Research finding that inflation targeting does not matter has problems, in part related to the selection and definition of inflation targeting countries.

- The weight of the existing empirical evidence appears to support the case for inflation targeting; i.e. overall, it supports the view that inflation targeting matters and will work to calm and limit the variability of financial markets as well as the persistence of inflation. It will serve to anchor the price system. As the empirical literature suggests, this will likely foster healthier economic growth.

There is little evidence that inflation targeting has adverse effects on or hurts financial markets or the economy. [47] Accordingly, adopting inflation targeting once price stability is attained likely will make it easier to maintain. [48] As emphasized by Gertler, "the case

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[47] Ball and Sheridan, op.cit., p. 29.

[48] See Anthony M. Santomero, "Monetary Policy and Inflation Targeting in the United States," Business Review, Federal Reserve Bank of Philadelphia, Fourth Quarter 2004, p.1.

made for adopting formal targets in the U.S. is not that this system would have improved past performance, but rather that it would help future performance by preserving gains in credibility for Greenspan's successor."[49]

[49] Mark Gertler, "Comments on Ball and Sheridan." A Paper presented to the NBER conference on Inflation Targeting, January 2003, p.5. The point was also made by Ball and Sheridan, op. cit., p. 30

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Individuals and the Compliance Costs of Taxation

It will be of little avail to the people that the laws are made by men of their own choice, if the laws be so voluminous that they cannot be read, or so incoherent that they cannot be understood; ... or undergo such incessant changes that no man who knows what the law is today can guess what it will be tomorrow. Law is defined to be a rule of action; but how can that be a rule, which is little known, and less fixed?

Alexander Hamilton or James Madison, The Federalist Papers, No. 62.

Introduction

Taxes impose many costs. It would be easy to view the costs as simply the amount of money a person gives to the tax collector. However, the economic effects go beyond simply transferring money from one party to another. Since Adam Smith, economists have been concerned with the costs of taxation and have developed several different measurements of the economic costs.

First, as Smith pointed out, taxes can change or alter behavior. This may or may not be intentional. For example, taxes on cigarettes have the stated purpose of reducing smoking. Likewise, tax incentives to attend school may lead to an increase in the demand for schooling. However, there are other costs that are not intentional. In the modern economic literature, these costs are known as the excess burden (or deadweight loss of taxation.) The excess burden is a loss of welfare above and beyond the tax revenues collected.

Additionally, we should consider what Slemrod (2005) terms the resource costs of taxation. These consist of two parts:

> ***Compliance costs:*** the cost (usually thought of as time, but can also be monetary) that is borne by individuals as a result of paying their income taxes.* This includes record keeping, learning about specific laws and forms, preparation time, remittal time, and any monetary costs such as seeking assistance from a certified public accountant, tax lawyer, or tax preparer (such as H&R Block) or buying computer programs

* Compliance costs also fall on businesses, however the focus here will only be on the cost to individuals.

or books. It is a measure of the opportunity cost of complying with the tax code.[*]

Enforcement costs: the costs associated with the administrative operation of the Internal Revenue Service (IRS).

Empirical work on the deadweight loss of taxation has resulted in a vast literature.[†] The purpose of the present study, however, is to examine only one aspect of the resource costs: the compliance costs associated with taxation. Compliance costs are a primary result of the complexity in the tax system.[‡] It is commonly believed that complexity reduces levels of voluntary compliance, either through avoidance or evasion, likely increases the difficulty in administering the tax law, and may reduce the perceived level of fairness in the Federal tax system.

While the tax system is obviously complex, it may not be that complex for everyone. Some individuals (those with lower incomes) qualify to fill out the 1040EZ, which is a comparatively easy document. Others may fill out the 1040A, which, while not as easy as the 1040EZ, is still not as complex as the 1040 basic form (see Table 1 for time estimates). Some people though, will use complex forms simply due to financial transactions. Others will try to minimize taxes by pursuing aggressive avoidance strategies. Ultimately, it is important to understand whether complexity is a result of the underlying transactions into which the taxpayer has chosen to enter, or whether the complexity is embedded in the tax code.

This study will focus on these questions and how individuals react when presented with complexity. The study will begin with a review of the estimated costs of compliance across time periods and will then examine the economic response of individuals to complexity.

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[*] Some of the literature on compliance costs includes the administrative costs borne by the government, although here they are considered separately.

[†] See Vedder and Gallaway (1999). JEC (2005) provides a brief overview of the topic.

[‡] Complexity can have different effects, depending on the type of complexity. For example, in some instances complex laws may lead to uncertainty in the correct application of the law to particular facts. Or in may require complex numerical calculations that, while potentially beneficial, may intimidate the tax filer.

Cost Estimates[*]

The modern literature on compliance costs begins with the work of Wicks (1965, 1966) who conducted the first study based on survey information. Wicks handed out questionnaires to 380 students with the request they mail the questionnaire to their parents. Adjusting for bias, Wicks estimated compliance costs amounting to 11.5 percent of the revenue raised.[†]

Slemrod and Sorum conducted the next survey (1984), this time of Minnesota households. They found that on average a taxpayer spent 21.7 hours on tax matters, or close to 2 billion hours for society. They estimated compliance costs as 5-7 percent of income tax revenue.

Blumenthal and Slemrod repeated the survey in 1990 and found that time requirements for 1989 returns had increased to 3 billion hours. In this study, individuals, on average, spent 27.4 hours on tax matters, despite the intervening Tax Reform Act of 1986, which was intended to simplify the tax code.[‡]

The largest survey, conducted by the consulting firm Arthur D. Little, Inc. (ADL) and commissioned by the IRS, was a mail questionnaire sampling approximately 6,200 individuals. ADL also conducted a diary study of time spent in 1983 by 750 individuals. The results were broadly consistent with those of Slemrod (1984), although there were important differences in the measurement of business compliance costs, which are not discussed here. ADL estimated that individual taxpayers spent 1.6 billion hours for tax year 1983 and 1.8 billion hours on 1985 returns.

The IRS now uses the ADL study as the basis for their estimates of time compliance. These estimates are published in the instruction booklets for the respective tax forms as part of the "Paperwork Reduction Act Notice." For example, for tax year 2004, the IRS

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[*] The works cited here refer only to the compliance costs associated with the U.S. federal income tax system. Scholars have surveyed the costs faced in other countries, most notably with respect to Australia and the U.K. See Slemrod and Sorum, (1984) and Blumenthal and Slemrod (1992) for a review of this literature.

[†] Wicks (1966).

[‡] The previous study (Slemrod and Sorum) did not include a category on the time spent arranging financial affairs to minimize taxes, which the latter study (Blumenthal and Slemrod) does include. For this reason, the 1982 survey might have been biased downward slightly, although respondents may have included the time estimates included in this category implicitly elsewhere. Thus, the time estimates are roughly comparable, though the categories are not. See Blumenthal and Slemrod (1992) for a discussion.

estimates the compliance burden for the standard 1040 at nearly 13.5 hours, on average (see Table 1 below).*

Table 1, Estimated Preparation Time

Form	Record keeping	Learning about the law or the form	Preparing the form	Copying, assembling, and sending the form to the IRS	Totals
2004 1040	2 hr., 46 min.	3 hr., 58 min.	6 hr., 17 min.	34 min.	13 hr., 35 min.
1992 1040	3 hr., 8 min.	2 hr., 42 min.	3 hr., 37 min.	49 min.	10 hr., 26 min.
2004 1040A	1 hr., 10 min.	3 hr., 28 min.	5 hr. 13 min.	34 min.	10 hr. 25 min.
1992 1040A	1 hr., 3 min.	2 hr., 8 min.	2 hr., 47 min.	35 min.	6 hr., 33 min.
2004 1040EZ	4 min.	1 hr., 41 min.	1 hr., 41 min.	20 min.	3 hr., 46 min.
1992 1040EZ	5 min.	33 min.	39 min.	34 min.	1 hr., 51 min.

Source: Selected IRS instruction booklets, various years.

Two recent studies by Payne (1993) and Moody (2002) base their estimates on the ADL/IRS time estimates. Payne uses data from the ADL survey while Moody considers the number of forms returned by type and simply adds the estimated totals per form to reach a cumulative total. Payne estimates that time spent complying equals 1.8 billion hours (for 1985) and Moody places the time at 2.8 billion hours (for 2002).

Because the ADL survey is over 20 years old, the IRS wishes to update its compliance estimates, which are derived from the survey. To accomplish this task, the IRS turned to IBM. IBM has now completed its Individual Taxpayer Burden Model (ITBM) and the results have been published in Guyton (2003.) The model is still being tested for reliability, but its compliance estimates are consistent with other studies. For tax year 2000, the ITBM model estimates a compliance burden of 3.21 billion hours. Guyton, et al., apply three different wage rates, $15, $20, and $25 respectively, yielding a compliance cost of between $48 and $80 billion. If we add in the cost of paid preparers,

* The time estimates only reflect the time to complete one specific form. It is entirely possible, and if time estimates are to be believed, necessary, that other forms, with their own time requirements will also be completed. The IRS estimates preparation time for all of their forms, even though only a few are listed in Table 1.

tax software, and related expenses, which the authors estimate at $18.8 billion, we can estimate a compliance cost between $67 and $99 billion.

Slemrod (2004) estimates taxpayers spent 3.5 billion hours complying with the tax code for tax year 2004. He follows the same methodology as Guyton, et. al. but estimates the compliance cost using the middle of the three wage rates ($20). Slemrod estimates a cost of $70 billion.

A conservative estimate would be to use the Guyton study methodology and estimate the cost at $20 per hour and then add the costs for additional services, $18.8 billion, which yields a total cost of $83 billion.

A recent Government Accountability Office (GAO) report reached a similar conclusion. For individuals, GAO estimates compliance costs between $67 billion to a little over $100 billion.[*] At the low end was the aforementioned IBM/IRS study and Moody's estimates (2002) were at the high end. It is important to remember that we are not dealing with absolutes and that even at the low end, the compliance costs are massive and are likely underestimated. They present a real cost to society because every dollar that is lost to inefficiency represents a dollar society could have used for productive purposes.

Individual Responses to Complexity

Economics is ultimately interested in how individuals behave given certain constraints and how incentives influence behavior. Given high compliance costs, it is important to understand what economic responses people exhibit.

Substitution Effect. Because people have some understanding of the time costs of preparing their taxes, many will choose to forgo the process entirely and have someone else do the work. About half of all taxpayers purchase assistance from an accountant or other tax professional.[†] Those who purchased assistance spent about $158 (1995 dollars) on average, although the amounts varied widely depending on the complexity of the return.[‡]

Because leisure time is valuable, it is not surprising that so many people seek assistance. Indeed, even some people with comparatively simple returns, such as those who file the 1040EZ, seek assistance.[§]

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[*] GAO (2005) p. 12.

[†] Slemrod (2000).

[‡] Slemrod (2000).

[§] The 1040EZ constitutes 75% of all forms H&R Block files per year**.** Indeed, the fact that anyone would pay to have the form completed is a little surprising. A much higher number of people seek help to complete form 1040A, which, though it is still complex, is not as time intensive as the 1040.

While seeking assistance will reduce the time costs of taxation, records still need to be kept, and the individual must invest some level of time and effort. Nevertheless, because tax preparers have developed a high level of expertise, they will be more efficient and will lower the time requirements, but not necessarily the monetary costs, to comply with the Code.

Taxpayer Confusion. For those who file themselves, complexity can create confusion. People may intentionally take conservative filing positions when faced with a complex area of the tax code that seems to offer no clear answers. Alternatively, some people may want to "roll the dice" and try a more aggressive approach in the hope that complexity may protect them in case of an audit.[*]

In other cases, complexity may induce changes in behavior even when the tax law is clear and there is little chance of confusion. The tax law may be clear in some cases but involve a large number of steps or calculations that could be intimidating. This would not result in confusion or uncertainty, but might still alter behavior. For example, the Government Accounting Office (GAO) estimated that in tax year 1998, approximately 510,000 individuals did not itemize their deductions and may have overpaid their taxes by $311 million.[†]

One possible reason for this apparently irrational behavior is that the GAO only considers the accounting costs involved. Itemizing may save a taxpayer money, but the economic costs, such as the lost time, may not be worth the accounting profit. Again, faced with a work-leisure constraint, people may simply decide to take the standard deduction in order to save themselves time and potential headaches.

As would be expected, individuals seek the easiest methods to complete the unpleasant process of filing taxes. Over the past 20 years, as technology has improved (especially computers), people have more and easier options to assist them. Now, approximately half of all returns are filed electronically.[‡] IRS forms can be downloaded online, saving individuals the time and effort of waiting in lines and traveling for the proper forms. Also, programs like TurboTax and Quicken can further simplify the process by making complex calculations that

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[*] Those that choose to pursue a more aggressive approach are also more likely to seek ways that avoid or evade taxation, usually with the assistance of a tax preparer. Comprehensive studies of tax evasion, though older (1992), suggest that noncompliance of both individual and corporate income tax cost the U.S. Treasury $128.4 billion in that year (Slemrod, 2000).

[†] GAO (2001). In tax year 1999 31.7% of filers itemized their returns. Similar numbers hold across time periods (Campbell, 2001).

[‡] Balkovic (2005).

would have previously been done by hand. These programs do have a monetary cost though.[*]

Lack of Transparency. Complexity in the tax laws obscures the actual tax base and increases the tendency for people to "free ride" on the contributions of others because each citizen's individual contribution is just a drop in the bucket and doesn't affect what benefits one receives from the government. This added effect of complexity can, over time, increase the tendency of people to feel that the tax system is not fair. People may call for marginal tax rates to increase, so a higher percentage of the burden of taxation will fall on the wealthier individuals in society.[†] Or, it can breed cynicism among taxpayers, which can ultimately lead to intentional noncompliance. Over time, this could make the collection duties of the IRS increasingly difficult.

Complexity Creep. One lesson of economics is that legislation can have unintended consequences. In tax law, one problem is that complexity does not become evident until many years after a change in the tax law. Consider the alternative minimum tax (AMT). In tax year 1990, only 132,000 people paid the AMT for individuals (there is also an AMT for corporations). In 2000 that number rose to 1.3 million and by 2010 the number is projected to rise to nearly 35 million, unless the current law is changed.[‡]

Ultimately, in order for a "voluntary" tax system to work, people must believe in the inherent goodness of paying taxes and providing for the public goods that all enjoy, even if the act itself is still painful. Complexity undermines this process through many of the processes mentioned above.

Conclusion

The Internal Revenue Code now consists of more than 1.4 million words and the result is complexity and taxpayer confusion.[§] The combination of compliance, administrative and welfare costs lead to very large economic costs and create strong disincentives to complying with the tax system. Tax reform is necessary and worthwhile. However, for tax reform to be successful, legislators should keep filing

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[*] Some filers — those with incomes below a certain income threshold — can now use certain tax programs for free if they file online. This has the added bonus of providing sound assistance while reducing time costs.

[†] Several surveys, summarized in Slemrod (2000), suggest that people have a hard time identifying the true burden of taxation and frequently believe that the wealthier classes bear a smaller share of the burden than is actually the case.

[‡] See Schuler (2001) for an overview of the AMT. For the data on future AMT filers, see National Taxpayer Advocate (2004), p. 3.

[§] National Taxpayer Advocate (2004).

and administrative costs to a minimum and they should apply low marginal tax rates to a broad economic base. These simple guidelines should ensure that tax reform reduces disincentives to work, save, and invest.

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OPEC and the High Price of Oil

I. Introduction

This paper explores the reasons for high crude oil prices. It finds that the world is not running out of crude oil, on the contrary, it exists in great abundance. Crude oil also is not very expensive to produce. The cost of producing crude oil in the Middle East is less than $5 per barrel and even in higher cost producing areas is nowhere near today's price.

The reason for the high price of oil is an artificial scarcity imposed on the market by the Organization of the Petroleum Exporting Countries (OPEC). The flow of oil to the market is restricted through collusion and the underdevelopment of the vast oil resources controlled by the OPEC cartel. The cartel controls 70 percent of the world's known oil reserves but contributes only 40 percent to world oil production.

Since the oil embargo of 1973, the price of crude oil also has been subject to wide swings. The reason is that OPEC has difficulty manipulating its output to fit changing market conditions and compounds the problem with secretiveness. Independent producers are left guessing what OPEC will do next and what market share it will claim. In the capital intensive oil industry this added uncertainty hinders investment decisions and lengthens the lead time of supply responses to a higher price.

Increases in world oil consumption have been driven principally by developing countries in Asia. Asian crude oil consumption has more than doubled since 1985. U.S. crude oil consumption, by comparison, increased just 12 percent in 25 years while the size of the economy more than doubled. Non-OECD countries now account for 40 percent of world crude oil consumption.

OPEC used the increase in oil demand to build up its market share until 1998. Since the oil price collapse in 1998 that followed the Asian currency crisis, the cartel has redoubled its efforts to preempt price declines and allowed increases in oil demand to push up the price. OPEC today barely produces more crude oil than it did in 1977. It has been sitting on spare capacity while the price has soared and is expected to collect an increase in oil revenue of $92 billion for 2005 alone.

Part II of this paper cites geological estimates of the oil resource on earth and presents data on the amount of proven oil reserves; the concern over an eventual world oil shortage is addressed; and the cost of producing crude oil in different parts of the world is examined. Part III reviews the size of OPEC's oil reserves, its rate of production, the

price volatility it has caused since the oil embargo of 1973, the manner in which it manipulates output, and its secretiveness. Part IV addresses non-OPEC production and the effect that OPEC has on it. Part V examines trends in oil consumption in developed and developing countries over time. Part VI analyzes oil price developments since 1998 in detail and discusses secondary market factors often blamed for oil price shocks. Part VII considers the long-run outlook, and Part VIII presents the conclusions.

II. Supply of Oil

The oil resource. Oil exists on earth in different forms and in enormous quantity. The Energy Information Administration (EIA) estimates the world's recoverable conventional oil endowment at 3.3 trillion barrels, i.e., liquid oil in underground reservoirs, of which only 950 billion barrels have been removed in 145 years of production as of 2004. Annual oil consumption in 2004 was 30 billion barrels. At that rate the remaining conventional oil would last another 78 years. In addition, there are more than 4 trillion barrels of oil in the form of so-called oil sands and extra heavy oil, and at least another 2.6 trillion barrels in the form of oil shale.[1]

All this oil is not available for immediate consumption. The availability of oil for consumption follows a hierarchy of cost related to the difficulty of finding it, making it accessible and extracting it from the ground. The economic concept of oil supply thus is different from the physical concept of how much oil exists. As an illustration, roughly two-thirds of the conventional oil known to exist in reservoirs traditionally has been abandoned as uneconomic, although that share is shrinking.[2] How much is recovered varies with the price of oil. If the

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[1] This estimate was generated by the Energy Information Administration (EIA) from the U.S. Geological Survey (USGS) estimates and other federal government sources; see Guy Caruso, "When Will World Oil Production Peak?" 10th Annual Asia Oil and Gas Conference, June 13, 2005, EIA, http://www.eia.doe.gov/neic/speeches/main2005. html#June; Pete McCabe, senior USGS geologist, "USGS Official Upbeat About Oil Reserves Outlook," *Oil & Gas Journal*, 103, 16 (4/25/2005): 32; Sam Fletcher, "Industry, U.S. Government Take New Look at Oil Shale," *Oil & Gas Journal*, 103, 15 (4/18/2005): 26.

[2] The amount of oil abandoned is not included in the 3.3 trillion barrel estimate. For a schematic on recoverable oil estimation with a hypothetical conventional 6 trillion barrel oil-in-place resource base, see John H. Wood, Gary R. Long, and David F. Morehouse, "Long Term World Oil Supply Scenarios," posted August 18, 2004, p.3; http://www.eia.doe.gov/pub/oil_gas/petroleum/feature_articles/2004/worldoilsupply/oilsupply04.html; see also Edward D. Porter, "Are We Running Out of Oil," American Petroleum Institute (API), Discussion Paper #081, December

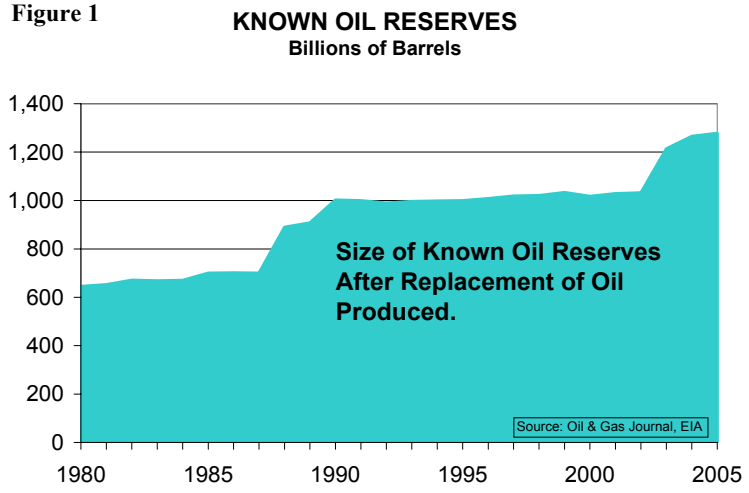
price falls, oil field development will be curtailed. If the price rises, progressively more costly oil will be developed and produced. In addition to price, technology has a major impact on oil supply. Improved survey and recovery methods can increase knowledge about the location and size of oil deposits and reduce the cost of extraction.[3] Geological estimates of the physical oil resource itself have grown over time as technology advanced. U.S. Geological Survey (USGS) estimates have a history of upward revision.

Known reserves. In order to produce oil, detailed knowledge about its location and the structure of deposits must be gathered, wells drilled and pipes laid for collecting the oil lifted from the ground. This activity is referred to as oil field development. The amount of oil that can be produced as a result of a given investment in oil field development is considered a "known" or "proven" oil reserve. The standard for proven reserve estimation is virtual certainty that the oil can be produced economically under existing technical conditions. "Known" reserves can be viewed as a producer's oil inventory in the ground that is drawn down by ongoing production and restocked through incremental oil field development. Known reserves can be bought and sold in-ground. Figure 1 shows the size of world's known oil reserves since 1980.

1995, which refers to an original conventional oil-in-place resource base between 6 and 8 trillion barrels and provides information on increasing recovery percentages.

[3] To those who waive off blind faith in technology, a recent graphic in the *Wall Street Journal* may be instructive. It shows a survey ship atop the ocean sending seismic signals below to explore for oil beneath the ocean floor. The ocean is about 2 1/3 miles deep; the signals reach to a depth another five miles below the ocean floor. In October 2003, Unocal announced finding oil after drilling a well in the Gulf of Mexico through water and rock to a depth of 35,966 feet. That distance is the cruising altitude of jet aircraft. "Deep Drilling in the Gulf," *Wall Street Journal*, June 23, 2005.

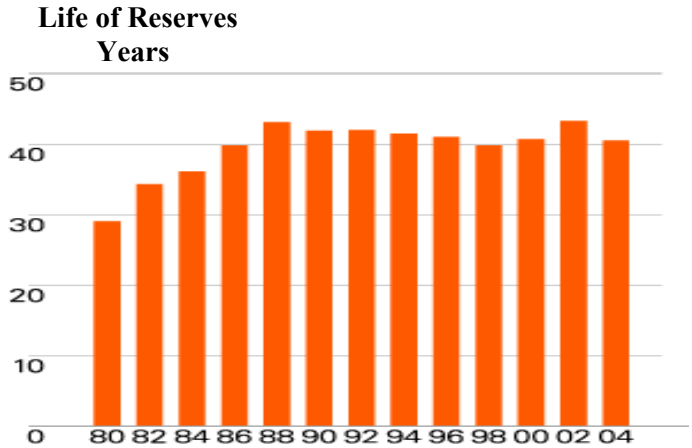
Figure 1



One approach to measuring whether the supply of oil is keeping up with demand is to track the size of the world's in-ground oil inventory and compare it to the rate of production. In 1980 known oil reserves stood at 645 billion barrels; today they stand at 1.278 trillion barrels. **This means that enough new oil was developed to replace all the oil produced in 25 years *and* nearly double the reserves.** In 1980, the rate of production was 60 million barrels per day (b/d). The known reserves would have lasted for 29 years at that rate, if no new oil had been developed. Much was said at the time about the world running out of oil, because the price was at an all-time high. But, in 2004 the rate of production was 82.5 million b/d and at that rate today's reserves would last more than 40 years. Figure 2 shows the history of reserve life expectancy over time, also called the reserves-to-production ratio.

Figure 2

WORLD OIL RESERVES-TO-PRODUCTION RATIO



Source: The BP Statistical Review of World Energy, June 2005.

World oil shortage. Predictions of a world oil shortage are based on the notion of the oil supply as fixed. They miss the fact that the rate at which the physical oil resource enters the world's economic oil supply inventory depends on the price and development costs, which in turn depend on the state of technology. Proponents of the so-called peak production theory warn that an increasing rate of production will eventually reach an unsustainable level from which it must decline. They foresee a growing shortage arising after the peak has been reached.[4] In the first place, this prediction fails to acknowledge that the price system will reallocate consumption among alternative resources long before any one of them run short. The occurrence of a peak in the rate of oil production at some point is to be expected and does not necessarily represent an adverse market event. Production profiles for minerals, commodities, and manufactured products typically increase at first and eventually decline as they are overtaken

[4] This view draws on the bell-shaped production profile made famous by M. King Hubbert, a geologist who predicted the production peak for the continental U.S. The profile derives from the declining flow rate of producing oil fields due to diminishing natural underground pressure. Hubbert's model underestimated U.S. production in total, mainly because it fails to account for secondary and tertiary recovery methods. The peak production theory as such is a truism. Given the assumption of a fixed quantity of recoverable oil, an increasing rate of production must lead to a peak and a subsequent decline, more or less abrupt depending on the steepness of the upswing.

by substitutes. In the case of crude oil, that may be natural gas. Rather than experiencing a shortage, the world likely will leave a surplus of oil in the ground.

Secondly, the theory denies that there is any elasticity to the supply of oil, that the price mechanism can provide any inducement for increased oil development. Instead, the prediction is premised on a fixed quantity of oil reserves. Yet, while ongoing production obviously reduces the physical quantity of oil in existence, oil reserves have been increasing as shown. **The premise of a fixed oil supply has been proved wrong time and again by experience, as reserve estimates and the timing of production peaks have been surpassed.** Daniel Yergin, chairman of Cambridge Energy Research Associates (CERA), has ventured a guess that the word has "run out" of oil five times already. He also points out that the share of "unconventional oil," such as oil sands and extra heavy oil, will rise from 10 percent of total capacity in 1990 to 30 percent by 2010.[5] In other words, **oil considered "unconventional" today will become "conventional" in the future.** The EIA shows a history of steadily increasing world oil resource estimates since 1942 when no more than 600 billion barrels of oil were thought to exist on earth.[6] That is less than one-fifth of the current USGS estimate of conventional oil deposits alone. The peak will keep moving to the right for some time to come.

Costs. "Lifting" costs refer to costs incurred in operating existing wells to extract oil from developed oil reserves. Persian Gulf wells have the highest flow rates and the lowest lifting cost. Saudi Arabia's oil minister stated in October 1999, that its cost is less than $1.50 per barrel.[7] In the North Sea, one of the higher cost producing areas, operating costs have been estimated between $3 and $6 per barrel.[8] The EIA shows average direct oil and gas lifting costs worldwide of $3.87 per barrel in 2003.[9]

The cost measure of greatest significance for the future oil supply is incremental reserve development cost. It represents the cost of

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[5] Daniel Yergin, "It's Not the End of the Oil Age," editorial, *Washington Post*, July 31, 2005.

[6] Guy Caruso, "When Will World Oil Production Peak?" 10th Annual Asia Oil and Gas Conference, June 13, 2005, EIA, http://www.eia.doe.gov/neic/speeches/main2005.

[7] "Saudi Oil Policy Combines Stability with Strength, Looks for Diversity," *Oil & Gas Journal* 98, 3 (January 17, 2000): 17. The statement refers to "full" cost, but the context indicates operating cost.

[8] Thomas R. Stauffer, "Trends in Oil Production Costs in the Middle East, Elsewhere," *Oil & Gas Journal*, 92, 12 (March 21, 1994): 107

[9] Performance Profiles of Major Energy Producers 2003; http://www.eia.doe.gov/emeu/perfpro/ch1sec5.html.

creating additional oil reserves and can be thought of as an inventory replacement cost. The "Big Four" Persian Gulf producers Iran, Iraq, Kuwait, and Saudi Arabia, have by far the lowest replacement cost; it has been estimated between $1 and $2 per barrel.[10] The U.S., being the most intensely developed oil producing area in the world, faces some of the highest costs among major producers, upwards of $25 per barrel in the lower 48 states. Figure 3 shows incremental cost ranges for major oil producing countries throughout the world.[11]

The sum of lifting and development costs in much of the Middle East thus falls in a likely range of $2.50 to $3.50 per barrel and certainly is below $5 per barrel. The OECD cites costs in the Middle East of less than $5 per barrel of oil as does the EIA.[12] The costs cited in this paper do not include taxes, which can be substantial.

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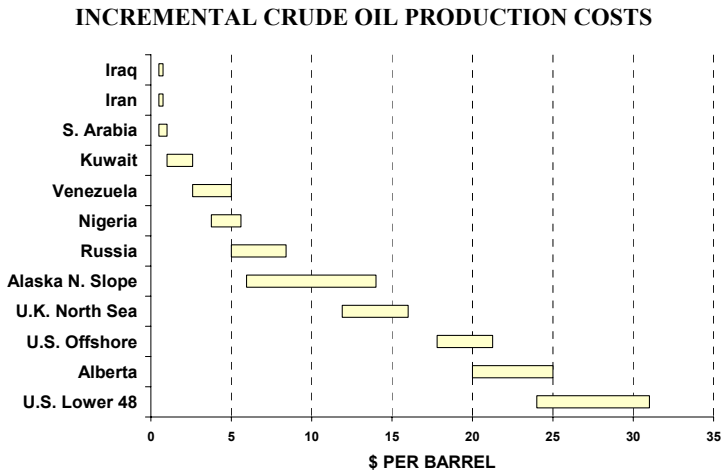
[10] Thomas R. Stauffer, "The Economic Cost of Oil and Gas Production: A Generalized Methodology," *The OPEC Review* 28, 2 (June 1999): 192.

[11] Worldwide cost studies of more recent vintage have not been found, but the EIA's data on foreign finding costs per barrel of oil equivalent (boe) show that costs have remained stable since 1994. Finding costs are the exploration, development, and property acquisition costs of replacing oil and gas reserves removed through production. The three-year average foreign cost computed by the EIA, in real terms, has moved between $5 and $6 per barrel from 1994 to 2003, except in 1996 when it was $4.73. Prior to 1994 finding costs had been higher. In the U.S. costs rose in the past two three-year periods; http://www.eia.doe.gov/ emeu/perfpro/fig16.gif. However, as an absolute measure finding costs are problematic, because the data comes only from U.S. companies subject to the EIA's Financial Reporting System (FRS) and for the reasons given in note 13 following.

[12] OECD Economic Outlook, Vol. No. 76, December, 2004/2, p.123; "Oil Production Expansion Costs For The Persian Gulf, 1994-2010," *EIA*, January 1996, Table 6 and author's calculations.

Figure 3



Source: Thomas R. Stauffer, "Trends in Oil Production Costs in the Middle East, Elsewhere," *Oil & Gas Journal*, 92, 12 (March 21, 1994): 105-107.

Technological advances have made unconventional oil development economical. In 2004, Canada's oil sands production exceeded 1 million barrels per day. Canada's oil sands projects are reported to require a price of oil around $25 per barrel to be profitable, implying development plus operating costs in that range.[13] **This means that world oil reserves can be replenished and produced at a cost of less than $5 per barrel by the world's low-cost producers, and a cost in the vicinity of $25 per barrel by high-cost producers in existing oil producing areas.**[14] However, development investments are large in absolute terms and essentially irreversible. This exposes

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[13] Canadian Association of Petroleum Producers, "Canadian Crude Oil Production and Supply Forecast, 2004-2015," p.5; Sam Fletcher, "N. American Unconventional Oil a Potential Energy Bridge," *Oil & Gas Journal*, April 11, 2005; 103, 14, p.22; Tamsin Carlisle, "A Black-Gold Rush in Alberta," *Wall Street Journal*, September 15, 2005.

[14] Exploration costs per barrel of oil are difficult to isolate and assign appropriately because (a) most new oil is found through incremental development of existing oil fields, (b) time lags in oil discovery and development complicate exploration cost assignment to production volume, and (c) oil and gas tend to occur together but not in fixed proportion. Oil sands development requires no exploration. The cost of exploration per boe thus is not a useful concept. See M.A. Adelman, *The Genie out of the Bottle, World Oil since 1970*, (MIT Press, 1995), 20 and 37, for a critique of this measure. In any event, according to its oil minister, Saudi Arabia's cost of finding new reserves is less than 10 cents per barrel (op. cit.).

high-cost producers to added risk, especially in a market that is subject to manipulation (see discussion of non-OPEC producers in Part IV.)

III. The OPEC Cartel

Low cost producers collude openly. Established in 1960, the Organization of the Petroleum Exporting Countries (OPEC) is an intergovernmental cartel. The member nations own different oil fields and operate production facilities through state-owned oil companies in the Persian Gulf, Africa, South-East Asia and South America. The membership includes Iran, Iraq, Kuwait, Saudi Arabia ("The Big Four"), Qatar, the United Arab Emirates (U.A.E.), Algeria, Libya, Nigeria, Indonesia, and Venezuela. OPEC conducts formal meetings to discuss oil prices and output, share information, and coordinate the market activity of its member countries for the purpose of increasing their oil revenue. In 1982, OPEC started to assign explicit crude oil production quotas to each individual member country (Iraq has not been part of the production agreements since 1998). Previously, the OPEC members had coordinated the offer prices they posted for their crude oil. Professor M.A. Adelman, whose studies of the oil industry span decades, has described the cartel as follows:

> OPEC is a forum whose members meet from time to time to reach decisions on price or on output. Fixing either one determines the other. … They refrain from expanding output in order to raise prices and profits. Because each member's cost is far below the price, output could expand many fold if each producer followed his own interest to expand output, which would lower prices and revenues. Only group action can restrain each one from expanding output.[15]

Needless to say, if U.S. companies engaged in price fixing and concerted output restriction they would be in *per se* violation of anti-trust laws.

Holding back the flow of oil. OPEC has huge known oil reserves. Its reserves are currently estimated at 885 billion barrels versus 393 billion barrels for non-OPEC producers (Figure 4).[16] Yet OPEC releases its oil to the market at an artificially low rate. **OPEC today barely produces more than it did in 1977** when world oil consumption was 61.8 million b/d whereas consumption is now approaching 85 million b/d. In 2004 OPEC's daily production was

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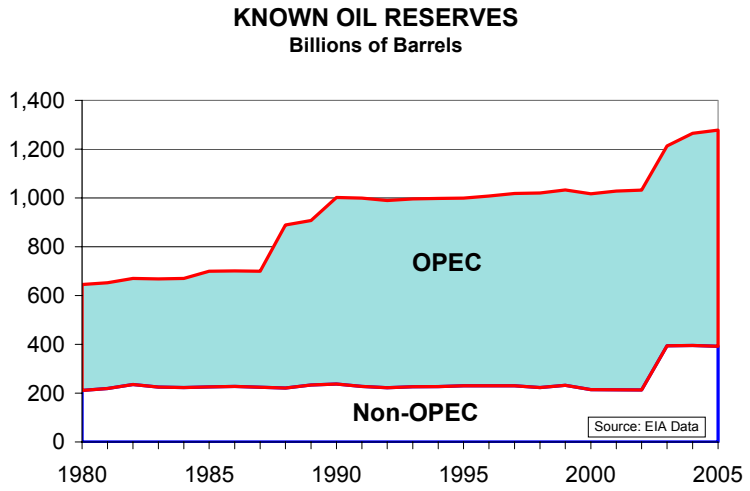
[15] M.A. Adelman, "The Real Oil Problem," *Regulation* (Spring 2004): 20. M.A. Adelman is professor of economics emeritus at the Massachusetts Institute of Technology.

[16] "Annual Special World Wide Report," *Oil & Gas Journal*, 102, 47 (December 20, 2004); EIA presents but does not certify foreign reserve estimates.

32.9 million barrels compared to 50 million barrels for non-OPEC countries (Figure 5). Non-OPEC production, which was about the same as OPEC's in 1977, has increased by two-thirds since 1977 and today far exceeds OPEC's rate of production. Professor Adelman has observed that "**for lower-cost output to fall or stagnate, while higher-cost output rises, is like water flowing uphill**. Some special explanation is needed…."

Figure 4



The special explanation is that OPEC holds back output to support the price, whereas producers acting independently sell what they can when the market price exceeds their cost. The OECD concurs, stating that, "OPEC and the reserve-rich producers in the Middle East have incentives to exploit [their] cost advantage by trading off market share for a higher price."[17] Given the large size of its known reserves, OPEC definitely has the ability to increase production substantially. Even OPEC delegates reportedly have indicated that the cartel is capable of raising production by one-third to 44 million b/d by 2009.[18]

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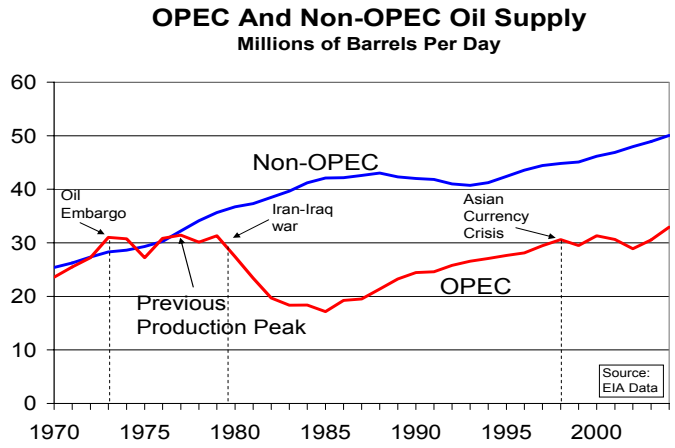
[17] M.A. Adelman, "World Oil Production and Prices 1947-2000," *The Quarterly Review of Economics and Finance* 42 (2002): 169. Professor Adelman provides a thorough discussion of the OPEC cartel, its output manipulation and its effect on price in this article. OECD Economic Outlook, Vol. No. 76, December, 2004/2, p.123.

[18] Carola Hoyos, "West Told Oil Demand is Too Much for OPEC," *Financial Times* (*FT*), July 7, 2005.

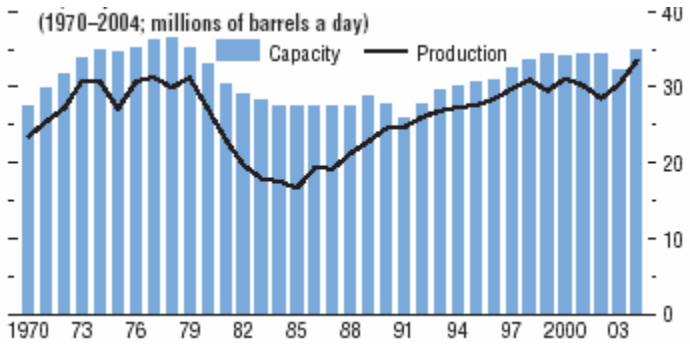
Figure 5



Spare capacity. Moreover, OPEC has had substantial excess short-run production capacity. Figure 6, reproduced from the IMF's April 2005 World Economic Outlook, shows OPEC idle production capacity over time.

Figure 6

OPEC'S SPARE PRODUCTION CAPACITY



Source: IMF World Economic Outlook, April 2005.

OPEC's spare short-run production capacity has been viewed as a "safety margin" that can be tapped quickly—within 30 days according to the EIA's definition—in case of supply disruptions or demand surges and its reported decline as a reason for higher prices. This logic is inverted. **OPEC does not hold excess production capacity for the benefit of oil buyers**. Significant, persistent excess production capacity is an indication of strategic output curtailment. At an average worldwide lifting cost of less than $4 per barrel, a price of, say, $20 per

barrel would yield more than $16 in gross margin. Producers who forgo this size margin on any appreciable volume of sales have a strategic motivation. Non-OPEC producers do not hold excess capacity. From the beginning of 2002 to the first quarter of 2004, the worldwide average crude oil price rose from less than $20 to $30 per barrel and also exhibited short-term swings close to ten dollars in magnitude. Several OPEC members were sitting on excess short-run capacity during this time that could have been activated within a month's time. As the price rose above $30 per barrel, more of the excess capacity was activated (the gross margin exceeding $26 per barrel), but to this day Saudi Arabia is reported to have surplus production capacity of 0.9 to 1.4 million b/d.[19] **This surplus is not being used to lower the price.** In the wake of Hurricane Katrina, OPEC declared its willingness to produce as much oil as needed. As Hurricane Rita gained strength in the Gulf of Mexico, OPEC even announced suspension of its output quotas. But when asked about discounting oil Saudi Oil Minister Ali Naimi said: "Absolutely not. I don't want to bring it on the market unless the consumer wants it at the commercial rate."[20] The commercial rate was near $70 per barrel at the time. Katrina, though more devastating than anticipated, had no adverse effect on the price of crude oil after the fact; the price actually fell because *buyers*' stocks from the strategic petroleum reserves were released to the market. **Thus the price of crude oil will be lower and more stable if spare capacity is held by oil *buyers* (in the form of oil stocks), not if it is held by oil *sellers* with monopoly power.**

Price volatility. The price of oil used to be low and stable. The price per barrel fluctuated over months, not years and by cents or ten cents, not tens of dollars, notwithstanding increasing oil consumption, threatening political events and severe weather conditions. From the end of World War II until the oil embargo of 1973, Arabian Light crude oil sold for less than $2.50 (about $10 in 2004 dollars) per barrel in Ras Tanura, Saudi Arabia's Persian Gulf oil terminal. Then OPEC imposed the oil embargo; the price shot up and started to gyrate. Figure 7 shows the history.

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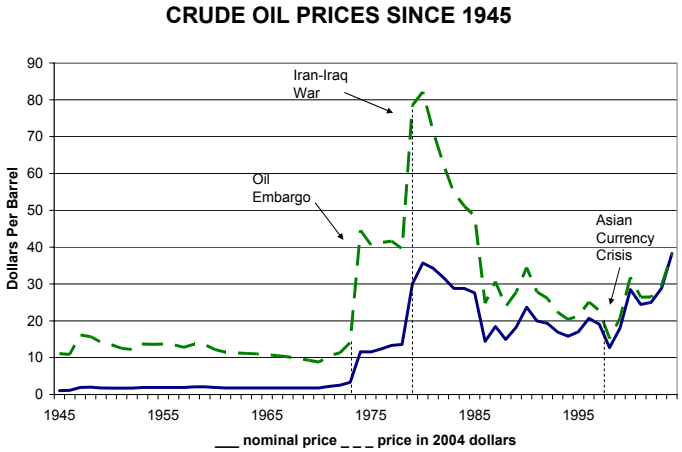
[19] EIA, Table 3a, OPEC Oil Production; Reuters reports OPEC's president stated that OPEC has spare capacity of 2 million b/d. "Oil Prices Near 'Acceptable' Levels: OPEC," October 29, 2005.

[20] Bhushan Bahree, "OPEC Suspends its Output Quotas," *Wall Street Journal*, September 21, 2005, p. A5.

Figure 7



Source: BP Statistical Review of World Energy, June 2005

Output manipulation. OPEC's effectiveness as a cartel has been questioned because an unstable price could suggest a lack of control over the market. Furthermore, prices had fallen below $20 for many years which seemed low compared to the price peaks of the 1970's and 1980's. However, under changing market conditions it is far more difficult to maintain price or profit targets with compensating output adjustments that are timed correctly than it is to simply push the price above cost. In a dynamic market OPEC cannot go through an output adjustment process only once to get the margin it wants. It has to keep manipulating output and will know only after the fact if it could have driven the price higher or if it caused the price to rise too much. To maximize its profit over time, OPEC must take into account that a price level achieved in the short-run may not be sustainable in the long-run, because demand is more price sensitive (elastic) in the long-run as is the output of alternative suppliers. Once customers and competitors have had time to react to a higher price, OPEC may have to cut output, accept a lower price or a combination of both. **Large price swings reveal errors in forecasting and execution, not a lack of power to move the price.**

In the 1970's OPEC misjudged the industrialized world's ability to conserve and find substitutes for oil and drove the price too high. Consumption fell by 6.4 million barrels per day from 1979 to 1983. At the same time, OPEC underestimated non-OPEC supply. Oil fields in Alaska's North Slope, Mexico, and the North Sea had been discovered

and committed to development before the 1973 OPEC oil embargo.[21] OPEC reduced its production up to 14 million barrels per day from 1977 to 1985—a reduction of 45 percent—and managed to hold the market price in a range between $15 and $21 per barrel for the most part from 1986 to 1999.[22] World output continued growing, because the price remained above the incremental cost of non-OPEC producers. Had there been no cartel action to prevent it, the price would have fallen back down to OPEC members' cost.

OPEC's internal management problems further complicate the execution of joint output plans. Holding back output cooperatively is difficult, because each producer's incentive individually is to expand output when the price exceeds cost. Professor James L. Smith of the Southern Methodist University provides a most apt description of the cartel: "OPEC acts as a bureaucratic syndicate; i.e., a cartel weighed down by the cost of forging and enforcing consensus among its members, and therefore partially impaired in pursuit of [its] common good."[23] Professor Adelman is blunter: "Since cooperation is usually difficult, reluctant and slow, members' output overshoots or undershoots the demand. Prices are volatile not because of methods of production or consumption, but because of the clumsy cartel."[24]

A study released in June 2005 by the Federal Trade Commission (FTC) confirms that OPEC has tried to cut or increase production to enforce a per barrel price band of $22 to $28 per barrel. The FTC concludes that while these efforts where only sporadically effective, OPEC "has been successful in exercising a significant degree of market power and in obtaining prices above competitive levels." *The Economist* reports that OPEC cleverly reduced its quotas to stop prices from softening whenever oil stocks in OECD countries started rising.[25]

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[21] M.A. Adelman, *The Genie out of the Bottle, World Oil since 1970*, (MIT Press, 1995), pp. 150-153.

[22] In over 30 years, the world-wide weighted average crude oil price computed by the EIA fell to a low between $9 and $10 for just eight weeks. Data supplied by EIA.

[23] James L. Smith, "Inscrutable OPEC? Behavioral Tests of the Cartel Hypothesis," *The Energy Journal*; 2005, 1.
Professor Smith presents quantitative evidence of the cartel's output manipulation. He also discusses reasons why several other studies had failed to do so. Professor Smith is Cary M. Maguire Chair in Oil and Gas Management.

[24] M.A. Adelman, "World Oil Production and Prices 1947-2000," *The Quarterly Review of Economics and Finance* 42 (2002): 171.

[25] "Gasoline Price Changes: The Dynamic of Supply, Demand, and Competition," Federal Trade Commission, June 2005, p.23; "Oil in Troubled Waters--A Survey of Oil," *Economist*, (April 30, 2005), p.4.

Indeed, OPEC has collected enormous monopoly rents since 1973. *The Economist* cited an estimate in 2003 that over $7 trillion dollars in wealth has been transferred from American consumers alone to oil producers since the 1973 oil embargo by keeping the oil price above its true market-clearing level.[26] The EIA estimates that OPEC will collect $430 billion in net oil export revenues in 2005; that is $92 billion more than in 2004.[27] **Stable or not, high oil prices are hugely profitable for OPEC and they are kept high only by collusion.** Addressing the Houston Forum in October 1999, Ali I. al-Naimi, Saudi Arabia Minister of Petroleum and Mineral Resources, stated that "one thing is for sure: Saudi Arabia cannot accept a low oil price. Yet it cannot defend the world oil price all by itself, it can do so only in cooperation with other producers. We have tried doing it alone in the past and it did not work."[28]

Secretiveness. Among the troubling characteristics of OPEC is its lack of transparency. It does not permit outside inspection of its reserves or production facilities, does not release timely, accurate output data and does not reveal its future output plans or price targets. Inadequate information from OPEC renders industry data incomplete and forecasts highly unreliable.[29] This adds unnecessary uncertainty that can misdirect investment decisions and set off or exacerbate speculative forces in the oil market. Born from internal posturing and cheating relative to the cartel's quota allocations, the OPEC member's aversion to transparency serves no positive purpose. **Secretiveness fosters duplicity in the members' dealing with each other and with the outside world.** Transparency International's Corruption Perceptions Index 2005, surveyed 159 countries and rated them on a corruption scale from 0 (most) to 10 (least). It shows seven OPEC countries with a score of less than 3.[30]

IV. Non-OPEC Producers

Crude oil is sold in standardized grades on a world market. Individual oil producers typically do not account for enough supply to move the market price to their advantage. They are price takers. Hence they operate close to their short-run pumping capacity. With the

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[26] "The End of the Oil Age," *Economist*, October 25, 2003, p.11.

[27] "OPEC Revenue Fact Sheet," EIA, June 2005.

[28] "Saudi Oil Policy Combines Stability with Strength, Looks for Diversity," *Oil &Gas Journal* (January 17, 2000): 98, 3, p.18.

[29] Bhushan Bahree, "Oil Forecasts Are a Roll of the Dice," *Wall Street Journal*, August 2, 2005.

[30] "Transparency International Corruption Perceptions Index 2005," Transparency International, The Coalition Against Corruption; http://www.transparency.org/surveys/index.html#cpi.

upper bound of operating costs estimated at $6 per barrel, producers who take the market price as given would leave highly valuable output in the ground, if they do not operate their wells at capacity. Each well is subject to a declining flow rate which steadily raises a well's operating cost per barrel of oil produced. When a well's operating or lifting cost exceeds the market price, it is capped. Short-run output flexibility is provided by the rate at which aging wells are shut down, which depends on the market price.

Non-OPEC producers will respond to a rising oil price by keeping older wells operating longer and by drilling new ones. But **upfront investment in new production is essentially irreversible.** Since investors know that OPEC can move the price up as well as down but do not know what its plan is, they are more hesitant to invest than they would be if the market were not subject to manipulation. **The heightened uncertainty can delay an adequate supply response to a rising price.** By the same token, once new supply capacity is in place it takes an exceedingly low price (below operating cost) to shut it down. According to Adelman, "Oil prices fluctuate more because betting on price must include calculations about not just supply and demand, but also about OPEC's quota decisions, plus the members' fidelity to their promises. Hence, the world oil market is less predictable, more volatile, and more herky-jerky."[31] The IMF World Economic Outlook concludes: "The unpredictability and volatility of oil prices also has deleterious effects on investment in the oil sector. … The impact of price volatility on investment could generate a vicious cycle whereby low or delayed investment activity could in turn add to price volatility."[32] Claude Mandil, Executive Director of the International Energy Administration (IEA), in a statement dated June 29, 2005 and posted on the IEA website, has called for OPEC governments to announce clearly their programs and schedules for new capacities. They have not done so.

V. Demand for Oil

Economic growth. Oil is needed for industrial production, electric power generation, and transportation. In the developed countries, oil demand from all three was increasing rapidly prior to 1973. But the oil price spikes of the 1970's and 1980's caused the OECD countries to curtail their demand for oil through input substitution and conservation. Industry and utilities in substantial measure have shifted to other energy sources (e.g., natural gas). The transportation sector was forced to conserve fuel through minimum mileage requirements for cars in the

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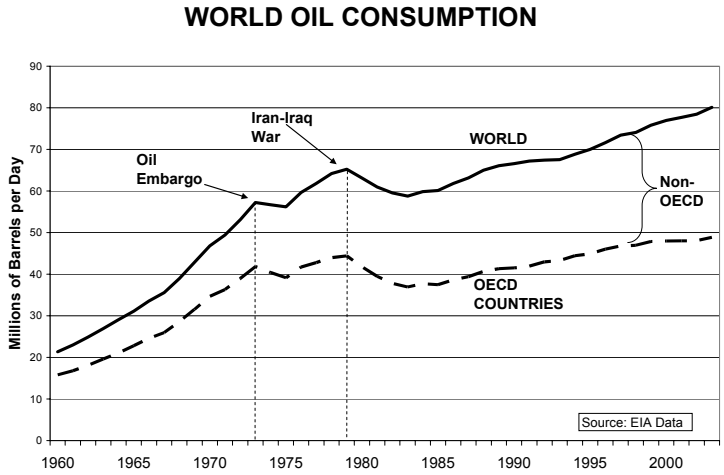
[31] M.A. Adelman, "The Real Oil Problem," *Regulation*, Spring 2004, 20.
[32] IMF World Economic Outlook, April 2005, Chapter IV, p.160.

U.S. and high gasoline taxes in other countries. World oil consumption fell as a result and even substantial economic growth in OECD countries thereafter caused it to rise only gradually. **Since 1979, U.S. oil consumption increased by 12 percent in which time the nation's real GDP more than doubled.** Figure 8 shows the much lower trajectory of OECD oil consumption since the 1980's compared to the period prior to the embargo. In non-OECD countries meanwhile, economic growth has led to greater increases in oil consumption. **In 1973 non-OECD countries accounted for 27 percent of world oil consumption; in 2003 they accounted for 40 percent.** Developing

Figure 8



economies are much less energy and oil efficient than the more developed economies and their growth is more oil dependent.
The People's Republic of China (PRC) for example is less than half as efficient in the use of oil per unit of GDP as the OECD average.[33] Some countries, such as the PRC and Indonesia, actually subsidize the use of oil domestically to mitigate the adverse impact of high oil prices on their economy.[34]

Asian demand. Economic development in Asia is a major new force in the world, and its oil consumption accounts for most of the increase. Figure 9 shows the steep rise in Asian consumption. It overtook U.S. oil consumption first in 1997 and, after the Asian currency crisis had set it back temporarily, again in 2000.

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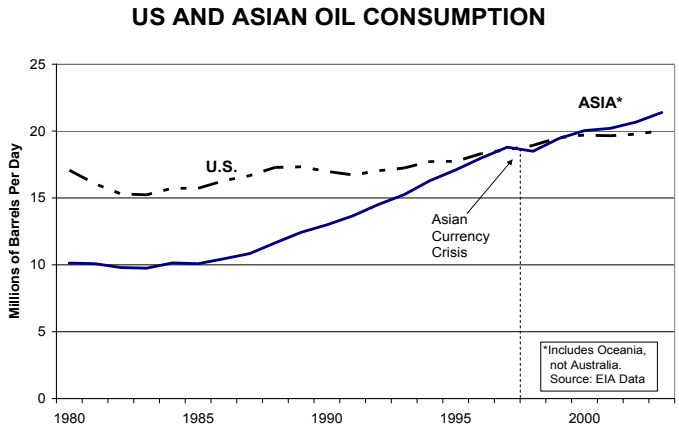
[33] James Hookway, "Thailand Tries to Prop Up Economy," *Wall Street Journal*, August 30, 2005.
[34] Paul Blustein and Craig Timberg, "High Oil Prices Met With Anger Worldwide," *Washington Post*, October 3, 2005.

Figure 9



Of the 4.8 million barrel increase in daily world oil consumption from 2001 to 2004, 3.29 million (69 percent) came from non-OECD countries and 2.32 million (48 percent) came from non-OECD countries in Asia. The new demand has been coming primarily from the PRC and India. From 1990 to 2003 the shares of oil consumption by the three largest oil consuming nations in Asia changed dramatically: The PRC's share rose from 18 percent to 26 percent, India's share rose from 8.5 percent to 10.5 percent, and Japan's share of oil consumption fell from 38 percent to 25 percent. The PRC is now the largest oil consuming nation in Asia.

VI. Analysis of Oil Price Developments Since 1998

OPEC reclaims market share. Growing Asian demand helped OPEC to boost its oil production and market share from their 1985 levels without causing the price to decline further. The steep rise in Asian oil demand starting in 1986 (Figure 8) coincides with the recovery of OPEC's rate of production (Figure 4) and market share, which increased from 29 percent in 1985 to 40 percent by 1994. In 1997, OPEC committed a miscalculation, however, and suffered a severe setback. It raised its production ceiling substantially by 2.5 million b/d in anticipation of further demand growth from Asia, but it guessed wrong.[35] The currency crisis of late 1997, instead, caused Asian demand to fall. The result was a market price that dipped below $10 per barrel for the first time since 1973, and a $51 billion year-over-year reduction in oil revenue.

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[35] For a more extensive discussion of this event and OPEC's subsequent actions, see Wilfrid L. Kohl, OPEC behavior, 1998-2001, *The Quarterly Review of Economics and Finance 42 (2002),* 210-213.

Price rises as OPEC restrains output. OPEC quickly lowered its output quotas and kept them below the level adopted in December 1997 for the next seven years. This despite the fact that world oil consumption recovered and in 1998 was higher than in 1997. The attacks of September 11, 2001 caused oil demand to fall, but world oil consumption was still 4.4 million b/d higher in 2002 (78.5 million b/d) than it had been in 1998 (74.1 million b/d). Yet OPEC cut its quotas for all of 2002 to a level 5.8 million b/d below that of December 1997 (21.7 vs. 27.5 million b/d). Its market share fell to 37.6 percent. World oil consumption subsequently accelerated, increasing by 1.53 million b/d from 2002 to 2003 (to 79.9 million b/d), and by 2.57 million b/d from 2003 to 2004 (to 82.5 million b/d). OPEC finally raised its quotas in 2003 and regained market share, but it subsequently lowered its quotas again, while the price was rising. As late as April 2004, it reduced its quotas to 23.5 million b/d. In December 2004, it resolved to cut back member output that was exceeding its quotas.[36] Prices had been in the mid-$30s per barrel in December 2004; by the last week of January 2005, they exceeded $40 per barrel and continued to climb. Only in April of this year did OPEC bring the quotas back up to the level in effect at the beginning of 1998. It finally raised its output ceiling by another 0.5 million b/d effective July 1, 2005. On June 25 of this year OPEC's president was quoted by *The Wall Street Journal* as saying that there was a need to observe price further before raising the production ceiling again. The price for West Texas Intermediate crude oil had just reached $60 per barrel.[37]

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[36] OPEC's 133rd meeting on December 10, 2004; EIA, Country Analysis Briefs, "OPEC," June 7, 2005.

[37] "OPEC President Will Wait Before Making Output Hike," *The Wall Street Journal*, June 25, 2005.

Figure 10

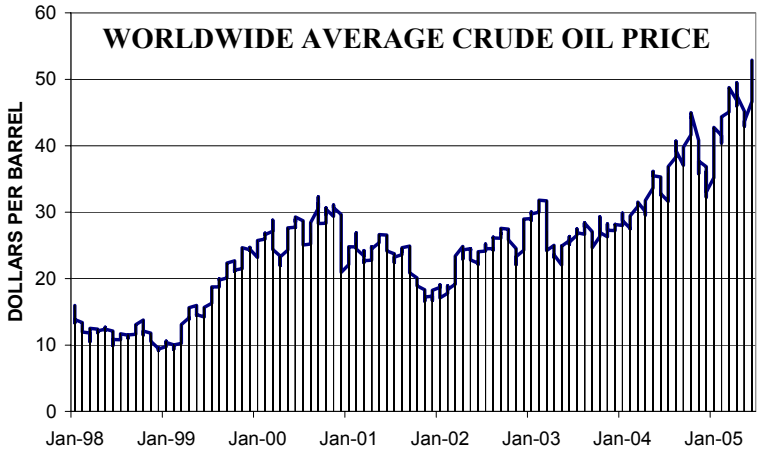
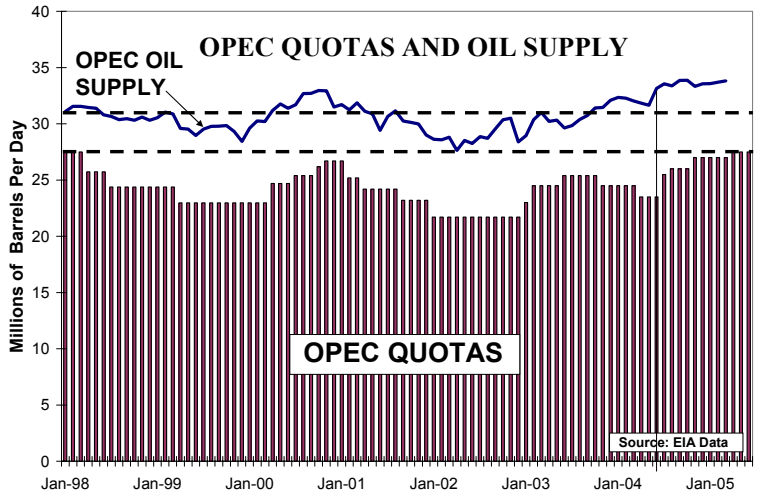


Figure 11



OPEC's quotas are set for crude oil only. Total oil supply consists of lease condensate, natural gas plant liquids, and refinery processing gain in addition to crude oil. Because of these additional components

and deliberate overproduction by some members, OPEC's total oil supply exceeds its quotas. As Figure 11 shows, total OPEC supply nevertheless correlates to the crude oil quotas and was held below or close to its 1998 level until 2004 when it moved modestly higher. In 2004, world oil consumption had grown to 82.5 million b/d and the price had been rising almost continuously since early 2003.

When demand increases and sufficient additional oil is not offered to fully accommodate the increment, buyers will allocate among themselves what quantity is available by bidding the price up. Since 1998, OPEC has managed its rate of oil production so that when demand increased it would not be fully accommodated and the price was bid up. There were brief phases when demand declined, and OPEC may have been concerned that Asian demand would recede again. It may have been overly restrictive in its production and also slow to invest in capacity expansion for this reason. OPEC shrouds its oil industry in secrecy. It is not known to what extent its conduct has been shaped by an overly cautious strategy to prevent another price collapse or by a deliberate plan to bring about a higher price. **The fact is that the price of oil did not have to rise. OPEC members hold more than enough oil reserves to satisfy increases in demand, and in the Middle East it costs less than $5 per barrel to produce more oil. Yet despite facing increases in world oil consumption year after year, OPEC did not raise its output quotas above the level of early 1998 until April of 2005.**

Other explanations for high oil prices. An inadequate supply side response to increasing demand magnifies the price impact of any occurrence that lessens, even minimally, the amount of oil available for purchase. In the short-run input substitution typically is a very limited option, which makes oil buyers willing to bid the crude oil price up disproportionately to try to meet their requirements (demand is inelastic). This heightens concerns over events that normally would not move the price of oil on the world market, such as accidents or labor strikes somewhere in the oil supply chain. Natural disasters, terrorist attacks or production problems in a major oil producing country certainly can have an effect on the price of oil, but these events also are usually compensated for in short order in an unfettered market. **Supply shocks of this kind occurred prior to the oil embargo of 1973 as well, but they were absorbed so quickly that annualized price data shows no variations** (see the nominal price line in Figure 7). It is also useful to recall the complaint by Mr. Ali I. al-Naimi that Saudi Arabia—the largest oil producer in the world—cannot hold up the market price of oil by itself, which strongly suggests that no other country can either, whatever the nature of the supply problem. The reason for high oil

prices is the ongoing, collective restriction of the oil supply by the cartel members.

Refinery "bottlenecks." OPEC has claimed that insufficient refinery capacity is linked that to high crude oil prices.[38] This is not logical. Refineries process crude oil. If they are operating at full capacity, then the rate at which they can use unprocessed crude oil has reached a limit and they will not bid the price up to buy more. On the other hand, if OPEC were to bring more crude oil on the market, that would lower the price.

Different grades of crude oil require different types of refining capacity. In the short-run, imbalances can arise that may cause price differentials among different crude oil grades to widen temporarily. This has occurred with respect to lower sulfur (sweet) and higher sulfur (sour) crude oil grades. But refiners in time adapt their facilities to changing price differentials for different quality grades. The dramatic upward price trend in all crude oil grades cannot be explained by limitations in all or some types of refining capacity.

OPEC's output restriction expected to continue. When an increase in oil scarcity is perceived to be temporary, the spot price of crude will rise but oil futures prices for long term delivery will not. Crude oil delivery prices exceeding $60 per barrel extend to 2011. This timeframe is longer than it takes to drill more wells and increase production capacity. Saudi Arabia earlier this year embarked on a $50 billion program to expand its petroleum industry over the next five years to 2010.[39] OPEC has indicated that it could increase production by 11 million b/d by 2009. Daniel Yergin of Cambridge Energy Research Associates (CERA) recently stated that "between 2004 and 2010, capacity to produce oil (not actual production) could grow by 16 million barrels per day—from 85 million barrels per day to 101 million barrels a day—a 20 percent increase. Such growth over the next few years would relieve the current pressure on supply and demand."[40] The CERA forecast is based largely on projects already under development that had been approved in the 2001-2003 timeframe with lower price expectations than current prices. The forecast implies a 3 percent average annual compound growth rate of capacity. Since 2001, world oil consumption has been increasing at an average annual compound growth rate of 2 percent. How can oil futures prices remain

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[38] Acting for the OPEC Secretary General, Dr. Adnan Shihab-Eldin delivered a speech at an OPEC/IEA luncheon on September 28, 2005, "OPEC-IEA Cooperation and the International Oil Market Outlook;" http://www.ope.org/opecna/Speeches/2005/OPECIEA.htm.

[39] Wall *Street Journal,* June 6, 2005.

[40] Daniel Yergin, "It's Not the End of the Oil Age," editorial, *Washington Post*, July 31, 2005.

so high then? Yergin goes on to say that the capacity growth is "pretty evenly divided between OPEC and non-OPEC." Therein lays the answer. If OPEC does not fully utilize its capacity, then incremental production could be as much as halved and prices would stay high. OPEC has a history of holding back production to support the market price and it could continue to do so, compensating for non-OPEC supply increases. As Phil Verleger of the Institute for International Economics and *The Economist* put it: **"Investors [in oil futures] believe the OPEC cartel will cut output to stop prices falling."**[41] If demand continues to grow sufficiently, OPEC may even have room to raise its production at a controlled pace while prices remain high or are pushed higher. The OECD puts it this way: "The less elastic global oil demand and non-OPEC supply are in the long-run, the greater are OPEC's incentives to restrict output and thus raise prices in the face of rising world demand."[42]

VII. The Long-Run

Oil futures prices over $60 per barrel for delivery as late as six years hence (2011) point to a scenario in which strong demand growth from developing economies compensates for countervailing market forces and strengthens OPEC's pricing power. However, the longer the timeframe considered, the greater the elasticity of global oil demand and of non-OPEC supply is likely to be. **Six years was the timeframe from the oil embargo (1973) to the oil price peak (1979). Thereafter the price plummeted.** Oil sands production today is at a beginning stage, just as Alaskan and North Sea production had been in the 1970's. The use of oil in developing nations is relatively inefficient and also may experience improvements similar to those in more mature economies. Moreover, new technologies in the oil intensive transportation sector, for example hybrid electric vehicles, are gaining acceptance and could be deployed throughout the globe, not only in developed countries.[43]

Since the Asian currency crisis, OPEC has taken pains to reduce output at any sign of softening demand. It has increased output only gradually when demand has risen. This strategy indicates preoccupation with price in the near tem, not with long-run forces mobilized by large margins over incremental development cost. The market price has moved far beyond the $22 to $28 per barrel price

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[41] "Oil in Troubled Waters, A Survey of Oil," *Economist*, April 30, 2005, p. 4. At the time the price was $40 per barrel. Both spot and futures prices are now over $60 per barrel.

[42] OECD Economic Outlook, Vol. No. 76, December, 2004/2, p.123

[43] See, for example, Jathon Sapsford, "General Motors Joins Rush to Make Hybrids in China," *Wall Street Journal*, October 31, 2005

band OPEC once sought to maintain. It appears that OPEC's members have been adjusting upward their view of what the long-run sustainable crude oil price is along with the upward movement of the market price. In June of this year, OPEC's ministers reportedly indicated that they would "like to see" a price below $50 per barrel, but there was no consensus on how much lower, though not below $30.[44] More recently OPEC officials are said to believe that the market may support a price well above $50 per barrel.[45] The enormous revenue increases for OPEC brought on by the price surge—from $338 billion in 2004 to an estimated $430 billion in 2005 alone—provide a powerful inducement for members to regard a high price as the "right" price. It will be difficult for OPEC's members to change their bias toward underproduction when it has resulted in growing riches. **This could portend continuation of high prices for the next several years and a subsequent recurrence of the price decline seen after 1979.**

VIII. Conclusion

The world is not running out of oil. Crude oil is an abundant resource. The rate at which it enters the world's economic oil supply inventory depends on the price, development costs, and technology. The supply of oil therefore is not fixed, and known oil reserves, in fact, have been increasing, not decreasing.

Unfortunately, the price of oil bears no relation to the scarcity of oil in the ground or to the cost of getting it out of the ground. The OPEC cartel controls 70 percent of the world's known oil reserves and manipulates how much oil reaches consumers. It imposes an artificial scarcity on the market that elevates the price manyfold above Middle East production cost of less than $5 per barrel and far above the cost of other producing areas as well.

The market price of oil is also highly unstable, because the cartel is not able to accurately anticipate market changes and administer compensating output adjustments. In the short-run, OPEC commits errors in timing and sizing its output changes that set off price gyrations. In the long-run, it has underestimated the elasticity of oil demand and of non-OPEC oil supply. In the 1970's it drove the price up over several years but then had to accept years of price declines. As

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[44] Bhushan Bahree, "OPEC Lifts Quota But Urges Increase In Refining Capacity," *Wall Street Journal,* June 16, 2005.

[45] Michael Williams, "Why OPEC's Over a Barrel," *Wall Street Journal*, June 16, 2005; September 17-18, 2005, *Wall Street Journal*, August 30, 2005. Reuters reported OPEC's president stating that "… Oil prices were approaching a level acceptable to both consumers and producers after recent decreases," "Oil Prices Near 'Acceptable' Levels: OPEC," October 29, 2005.

a result, price trends do not even convey *changes* in the true scarcity of oil.

The effect of the price distortion is worsened by OPEC's secretiveness. The lack of transparency has no benefit to the cartel as a whole and is associated with cheating and corruption. Other market participants lack crucial market information including what price OPEC intends to support and what market share will be left for them. Especially in a capital intensive industry this delays appropriate supply responses from non-OPEC suppliers and aggravates price volatility.

Most of the increases in oil demand since the late 1980's have come from developing countries in Asia. Currently 40 percent of world oil production is consumed and paid for by non-OECD countries, up from 27 percent in 1973. One aspect of this shift in demand is that developing countries increasingly are paying for OPEC's enormous profits. The EIA estimates that from 2004 to 2005 alone OPEC's net oil revenue will increase by $92 billion.

Rising demand, on the whole, allowed OPEC to sell more crude oil without lowering the price prior to 1998, and after the Asian currency crisis, to raise the price while maintaining its sales volume. OPEC's output quotas were the same in March 2005 as they were in early 1998. Going forward, if demand continues to grow, OPEC may be able to keep the price high. Oil futures prices are above $60 per barrel for delivery dates to 2011, which is beyond the timeframe it would take to bring substantial production increases online. OPEC is hinting that it may support prices far above the $22 to $28 per barrel range it tried to maintain in years past.

However, significant developments on the demand and the supply side of the oil market are taking hold and could gain momentum (among them hybrid electric vehicles and oil sands production). The inflation adjusted historical crude oil price peak occurred in 1979. That was six years after the oil embargo of 1973 when OPEC first imposed dramatic price increases. After the peak, the price commenced a long, steep decline as input substitution, conservation measures, and increased non-OPEC production lessened OPEC's pricing power. The world may be in the first phase of another such cycle.

Of course, the world could pressure OPEC to produce more oil and provide more information about its oil fields and production plans, if not to dismantle the cartel. The first step is to dispense with misleading representations of oil resource depletion and to place short-run disturbance to the oil supply outside the cartel in proper perspective. Secondly, as a cause for high prices, less emphasis should be placed on increases in oil demand, which, after all, emanate from

long awaited economic development in poor countries. Instead, OPEC's restrictive output policy, large reserves, low costs, and surging revenues should make the most headlines: "OPEC's output barely higher than in 1977;" "Mid-East production costs less than $5 per barrel;" "OPEC to collect $430 billion in 2005." The Third World will need more oil in order to grow economically. It would benefit from more responsible policies on the part of the world's oil producers with the lowest cost and the largest reserves.

RANKING MINORITY MEMBER'S VIEWS AND LINKS TO MINORITY REPORTS

RANKING MINORITY MEMBER'S VIEWS AND LINKS TO MINORITY REPORTS

I. OVERVIEW

The economy grew in 2005, but the benefits of that growth continued to show up in the bottom lines of companies rather than in the paychecks of workers. In the recovery from the 2001 recession, working families have been left behind from the start, and they continued to be left behind in 2005.

The signature policies of the Bush Administration and the Republican Congress have not addressed the problems facing ordinary American families. Successive rounds of tax cuts were poorly designed to stimulate job creation and produced a legacy of large budget deficits. Those large and persistent budget deficits contributed to an ever-widening trade deficit and massive borrowing from abroad. Most of the benefits of the tax cuts accrued to very high-income taxpayers, while cuts in programs that benefit middle- and lower-income families were viewed as the best way to pay for those tax cuts.

Policymakers faced a challenge in 2005 from the devastation to the Gulf coast from Hurricanes Katrina and Rita. The economy suffered a blow to employment and economic activity, and a budget that was already under strain had to absorb additional funding for emergency relief and planned reconstruction. In addition, the hurricanes focused attention on problems that had been ignored, such as the lack of emergency preparedness, inadequate investment in critical infrastructure, and, most sadly, neglect of our most disadvantaged citizens.

Many economists predicted that the economy would be resilient in the face of the hurricanes (see the JEC Democrats' report *Potential Economic Impacts of Hurricane Katrina*), and they appear to have been correct. However, the challenges facing policymakers remain (see *Meeting America's Economic Challenges in the Wake of Hurricane Katrina*, a forum sponsored by the JEC Democrats and the Democratic Policy Committee).

Unfortunately, there has been no change in the priorities or policies of the Bush Administration and the Republican Congress to address the problems facing the country's most disadvantaged citizens or to help ordinary working families deal better with job and retirement insecurity and the rising costs of energy, health care, and education for

their children. The Congress ended the first session of the 109th Congress debating budget reconciliation bills that would cut spending on programs that benefit middle- and lower- income families in order to partially fund the extension of tax cuts that mostly benefit very high-income taxpayers. The rest of the tax cuts would be financed by adding still more to the budget deficit.

The JEC Democrats' report, *Potential Economic Impacts of Hurricane Katrina* can be found at:
http://www.jec.senate.gov/democrats/Documents/Reports/katrinareportsep05.pdf

Materials from the JEC Democrats/Democratic Policy Committee forum, *Meeting America's Economic Challenges in the Wake of Hurricane Katrina*, can be found at:
http://www.jec.senate.gov/democrats/hearings.htm.

II. The Economy in 2005

The U.S. economy grew at an average annual rate of 3.8 percent over the first three quarters of 2005 despite the destruction caused by the Gulf hurricanes in late August and September. That growth rate is somewhat faster than the economy's long-term trend rate of growth, which is generally thought to be in the range of 3¼ to 3½ percent per year.

Above-trend growth was possible because productivity growth was strong and there was still slack in the labor market from the protracted jobs slump that began with the 2001 recession. A growing economy led to a pick-up in job creation and a modest reduction in the unemployment rate in 2005, but other indicators continued to point to softness in the labor market.

The Labor Market

Over the first eight months of the year and prior to Hurricane Katrina, employers added an average of 196,000 jobs per month to their payrolls. Hurricane-related job losses contributed to a sharp slowdown in aggregate job growth in September and October, but national payroll employment picked up again in November when over 200,000 jobs were created. The unemployment rate, which was 5.4 percent at the end of 2004, came down in early 2005 and settled into a narrow range around 5 percent for the rest of the year.

For an economy going through the most prolonged jobs slump in the postwar period, any improvement in the labor market was welcome. Nevertheless, many Americans remained unemployed and the official unemployment rate did not reflect hidden unemployment associated with depressed labor force participation. For those people with jobs, wage growth lagged far behind growth in output and productivity. Rising energy prices caused consumer prices to grow substantially faster than wages. Moreover, wage growth was uneven, with low-earning workers hit hardest by sluggish wage gains and more recently by declining real wages.

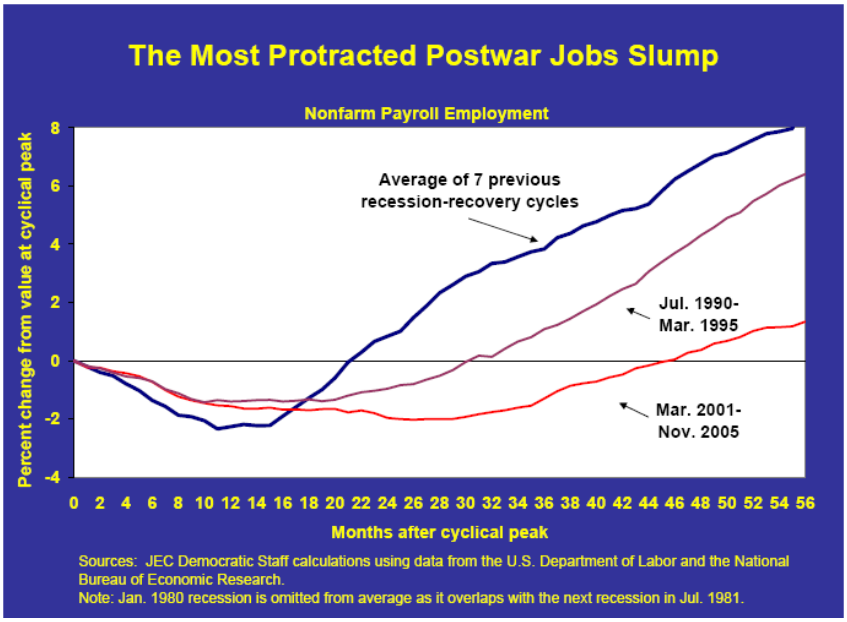
A protracted jobs slump. The jobs slump associated with the recession that began in March 2001 was the most protracted jobs slump since at least the end of World War II (the period over which we have comparable data). In fact, one would have to go back to the 1930s to find a worse jobs slump.

On average in the postwar period, job losses have stopped about a year after the onset of a recession and employment has begun to increase after about 15 months. Within two years, employment has surpassed its pre-recession peak and is expanding at a healthy pace. The most recent jobs slump was dramatically different from that pattern and even more protracted than the so-called "jobless recovery" following the 1990-91 recession (**Chart 1**).

The 2001 recession began in March and ended in November, according to the National Bureau of Economic Research, the widely recognized arbiter of business cycle dating. However, job losses continued until May 2003—more than two years after the start of the recession. It was not until January 2005, nearly four years after the start of the recession, that payroll employment climbed above its March 2001 level. Payroll employment increased in every month from June 2003 through November 2005. However, the pace of job creation over that period was just 149,000 jobs per month—only a little faster than the pace needed to keep up with normal growth in the labor force.

Whereas it was common to see job gains of 200,000 to 300,000 and sometimes 400,000 jobs per month in the 1990s expansion, gains of that magnitude were rare in the recovery from the 2001 recession. The economy created 3.4 milion jobs between the end of the recession in November 2001 and November 2005. That is 4.9 million fewer jobs than were created over a comparable period in the recovery from the 1990-91 recession.

Chart 1



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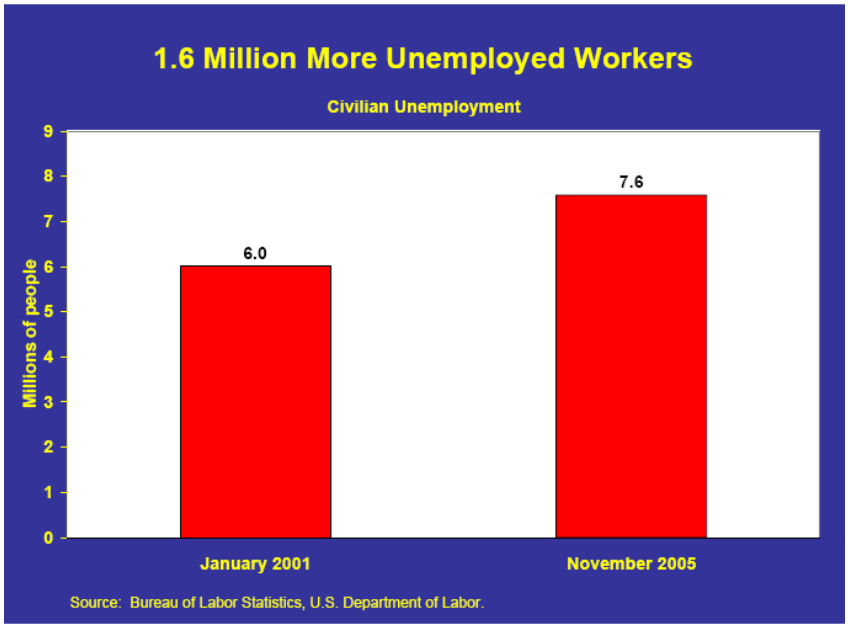
Indicators of labor market weakness. Millions of Americans who want to work do not have jobs. Although the unemployment rate has come down from its peak of 6.3 percent (reached in June 2003), the rate of 5.0 percent in November 2005 was still 0.8 percentage point higher than it was in January 2001 when President Bush took office and a full percentage point higher than it was in 2000.

In November 2005, 7.6 million people were officially counted as unemployed—1.6 million more people than were unemployed when President Bush took office in January 2001 (**Chart 2**). To be counted as unemployed, a person must be actively looking for work, but in a weak labor market there can be considerable hidden unemployment and underemployment if people who want to work have been discouraged from looking for work and if people who want to work full-time can only find a part-time job.

Chart 2



In a typical business cycle recovery, people come back into the labor force as the prospects of finding a job improve, but in the most recent jobs slump labor force participation has remained depressed compared with what it was at the start of the recession. In November 2005 the labor force participation rate (the proportion of the population working or actively looking for work) was 1.1 percentage points lower than it was at the start of the recession in March 2001. As a result of sluggish job creation and the depressed labor force participation rate, the proportion of the population with a job (the employment-to-population ratio) was 1.5 percentage points lower than it was at the start of the recession.

In November 2005, 4.8 million people who were not in the labor force said they wanted a job; about 1.4 million of these are considered "marginally attached" to the labor force because they have searched for work in the past year and are available for work. At the same time, 4.2 million people were working part-time because of the weak economy but wanted to be working full-time. The Bureau of Labor Statistics estimates that if marginally attached workers were included, the unemployment rate would have been 5.9 percent in November 2005, and if those working part-time for economic reasons were also included it would have been 8.7 percent.

A final indicator of labor market weakness is the fact that the number of people unemployed for more than 26 weeks is twice as high

as it was when President Bush took office. Twenty-six weeks is the cut-off for regular state unemployment benefits, and the President and the Republican-controlled Congress failed to renew the Temporary Extended Unemployment Compensation program when it expired in December 2003. As a result, those who subsequently exhausted their regular state benefits did not receive any additional federal benefits, even though it was difficult to find a new job in a labor market that remained relatively weak.

The number of long-term unemployed as a fraction of total unemployment fell below 20 percent in June 2005 for the first time in 32 months—the longest stretch on record in which that fraction exceeded 20 percent. In November 2005, a still-large 18.4 percent of the unemployed had been without a job for more than 26 weeks.

Sluggish wage growth. For those workers who are employed, wage gains have been swamped by increases in the cost of living. Over the first 11 months of 2005, real (inflation-adjusted) average hourly earnings of production and other nonsupervisory workers in private nonfarm establishments fell at an annual rate of 0.7 percent. While the most recent declines in real earnings have been especially sharp because of the rise in energy prices, wages have been growing relatively slowly for some time.

Since the economic recovery began in late 2001, output per hour in the nonfarm business sector has grown at a 3.4 percent average annual rate, but the average hourly pay and benefits of the workers producing that output has grown at an average annual rate of just 1.5 percent after inflation.

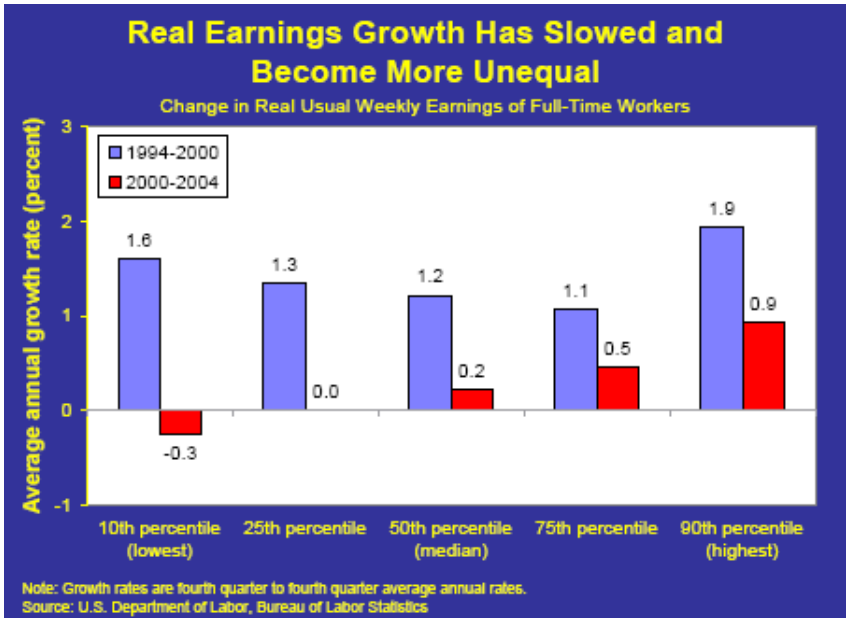
Over most of that period non-wage benefits grew more rapidly than wages, but that is because employers were absorbing higher costs for the health insurance and other benefits they were providing. The take-home pay of workers was stagnating. In the second and third quarters of 2005, total pay (wages plus benefits) did not keep up with inflation.

Strong productivity growth has boosted national income and profits, but wages have lagged. From the end of the recession in the fourth quarter of 2001 until the third quarter of 2005, aggregate compensation (wages and salaries plus benefits) rose 20.4 percent, while corporate profits rose 64.2 percent—more than three times as fast. Aggregate wages and salaries rose just 16.6 percent. As a

percentage of national income, wages and salaries reached an all-time low in 2004 and remained near historically low levels in 2005.

Unequal wage growth. Real wages at the top of the distribution have grown, while wages at the bottom have fallen. For example, from the end of 2000 to the end of 2004, the usual weekly earnings of full-time wage and salary workers in the middle of the earnings distribution grew by just 0.2 percent per year after inflation (**Chart 3**). Earnings near the top (the 90th percentile) rose by almost 1 percent per year after inflation, while earnings near the bottom (the 10th percentile) fell by 0.3 percent per year, on average. That sluggish and unequal growth in earnings contrasts sharply with the experience from the end of 1994 to the end of 2000, when real wage gains were substantial throughout the earnings distribution.

Chart 3



Most recently, real wages have fallen and some of the largest declines have been at the bottom of the distribution. For example, from the third quarter of 2004 to the third quarter of 2005, the real usual weekly earnings of workers fell throughout the distribution, with declines of 3.0 percent at the 25th percentile and 2.7 percent at the 10th percentile. Real earnings at the 90th percentile fell by 2.2 percent. In the third quarter of 2005, median usual weekly earnings of full-time

workers were $649. Earnings at the 90th percentile of the distribution were $1,484, while those at the 10th percentile were $306.

Energy Prices, Inflation, and Monetary Policy

Energy prices were already rising before the Gulf hurricanes hit, and, although prices abated somewhat from their storm-related spikes, energy prices in November 2005 were considerably higher than they were a year earlier. Prior to hurricane Katrina, the Energy Information Agency (EIA) expected the average retail price of regular gasoline to be $2.21 per gallon in the fourth quarter of this year, and to decline to $2.18 by the end of next year. In its December 2005 forecast, the EIA is expecting average gasoline prices in the fourth quarter to be $2.38 per gallon, with the same price expected to prevail at the end of next year. Natural gas prices rose sharply as well, and home heating costs are expected to be significantly higher in the winter of 2005-2006 than they were the previous year.

As a result of rising energy prices in 2005, the consumer price index (CPI) in November was 3.5 percent above its level a year earlier. However, the underlying rate of inflation—a measure that is more significant to the Federal Reserve's monetary policy decisions than the overall CPI—appeared to be little affected by the acceleration in energy costs. The core CPI (which excludes volatile food and energy prices) grew a moderate 0.2 percent in each of the last two months. In November, the core CPI was only 2.1 percent above its level a year earlier. That suggests that little if any of the rise in energy prices had so far translated into higher prices for non-energy consumer goods.

A stable underlying rate of inflation is a good thing for macroeconomic stability, but households must still pay their energy and food bills. The EIA currently expects that consumers will have to spend over 25 percent more to heat their homes this winter than they did last year. For those consumers whose homes are heated solely by natural gas (nearly 58 percent of U.S. households), the increase in winter heating expenditures is expected to be close to 40 percent.

Although core inflation has been tame, the Fed has been raising its target for the federal funds rate—the short-term interest rate it controls—since June 2004. For much of that period the Fed described its actions as "removing policy accommodation." In other words, concern over the weakness of the recovery in 2003 and early 2004 had led the Fed to keep short term interest rates very low, but once the economy began to show stronger growth, the Fed began to

raise rates at what it called "a pace that is likely to be measured." The policy announcement accompanying the 13th rate hike in December 2005 changed that language. The Fed no longer described monetary policy as accommodative but it continued to signal the possibility of further rate hikes "to keep the risks to the attainment of both sustainable economic growth and price stability roughly in balance."

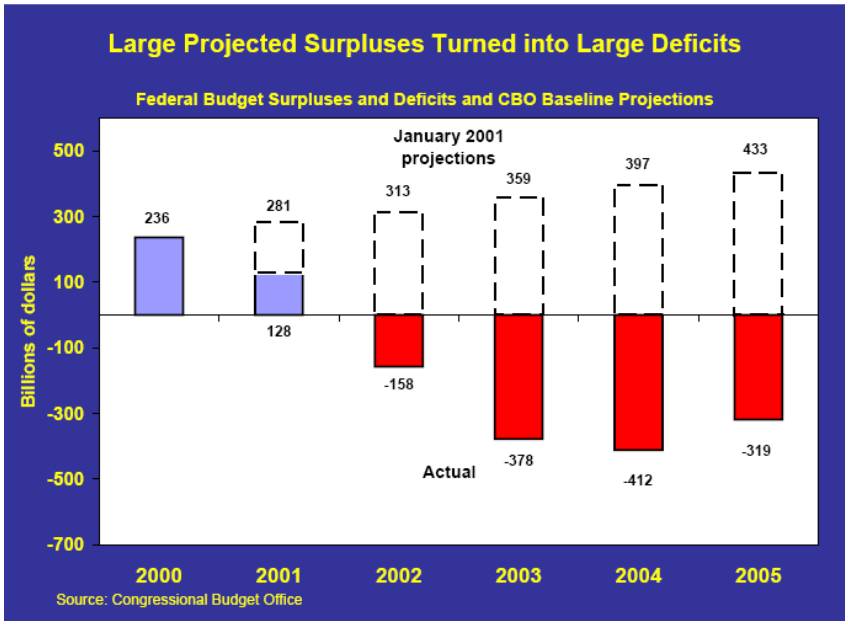
Rising energy prices could create a dilemma for the Fed if those increases begin to feed into core inflation while at the same time contributing to weaker household spending. In such a "supply-shock" scenario, the Fed would have to choose between tightening monetary policy (raising interest rates more than they otherwise would have) in order to keep inflation contained or loosening monetary policy (cutting interest rates or at least ceasing to raise them) in order to strengthen demand and keep unemployment from rising. To date, however, core inflation and inflationary expectations have remained contained.

III. The Consequences of Irresponsible Fiscal Policy

When President Bush took office in January 2001, the Congressional Budget Office projected large and growing federal budget surpluses under existing laws and policies (the so-called baseline projection). Those surpluses were projected to cumulate to $5.6 trillion over the 10 years from 2002 to 2011. In fact, of course, the surplus was smaller than projected in 2001 and by 2004 a projected $400 billion surplus had turned into a deficit of over $400 billion (**Chart 4**).

The fiscal year 2005 budget deficit was $319 billion, which is much lower than was originally estimated in January of this year. While the improvement in the 2005 budget is welcome, a deficit of $319 billion is still very large and stands in marked contrast to the surplus of $433 billion that CBO was projecting in January 2001 when President Bush took office. Moreover, many analysts believe that the improvement in the 2005 budget reflects temporary factors that have boosted revenue this year but that the long-term budget outlook is little changed and continues to show persistent large structural deficits.

Chart 4



Many factors have contributed to the return of large structural budget deficits after a strong economy and the fiscal discipline of the 1990s had restored the budget to surplus. For example, the 2001 recession caused a temporary cyclical increase in the budget deficit. But one of the main reasons for the re-emergence of large structural deficits is the tax cuts enacted over the past four years.

Defenders of the tax cuts argue that they were necessary to pull the economy out of the recession and that they will contribute to long-term growth. Some even argue that the tax cuts generate enough revenue to pay for themselves.

In fact, however, the tax cuts were poorly designed to generate short-term job-creating stimulus without adding to the long-term budget deficit. A wide range of economists recognizes that tax cuts increase the budget deficit. Dynamic analyses of the tax cuts by both the Congressional Budget Office and the Joint Committee on Taxation conclude that the negative effects of budget deficits tend to outweigh any positive benefits from the tax cuts on economic growth. A Congressional Research Service analysis of the dividend tax cut reached the same conclusion.

Tax cuts and economic growth

Proponents of extending the 2001-2003 tax cuts argue that those tax cuts are responsible for the current economic recovery and that they need to be extended beyond their statutory expiration date in order to promote continued economic growth. While the immediate, one-time tax rebates that were part of the 2001 tax package provided needed economic stimulus in the short-term, extending the tax cuts beyond their scheduled expiration will do little to promote the saving and investment needed for sustained long-term growth. Rather, extending the tax cuts will increase the deficit, reduce national saving, and ultimately result in lower national income.

Effects of the tax cuts so far. Despite over $800 billion in cumulative tax cuts since 2001, economic growth in the period following the 2001 recession was not particularly strong, lagging behind the growth experienced in the recoveries following previous recessions. In the recovery following the 1990-91 recession, growth was more rapid than in the current recovery, even with the tax increases enacted in 1990 and 1993.

The 2003 tax cuts, which lowered the tax rate on dividends and capital gains and increased the amount of investment expense that businesses could deduct in the first year, were intended to promote saving and investment. Proponents of extending those tax cuts point to the increase in business investment that followed enactment of the tax cuts as evidence of their success. However, the increase in business investment that started in the second quarter of 2003 was not unexpected given the sharp drop in investment during the 2001 recession.

The increase in business investment in this recovery is not particularly strong when measured against previous business cycles. Business investment was only 5.8 percent higher in the third quarter of 2005 than it was in the first quarter of 2001. In contrast, business investment was almost 26 percent higher at a similar point in the recovery following the recession in 1990-1991.

Tax cuts do not "pay for themselves." Supporters of the Administration's economic policies claim that deficit-financed tax cuts are not a problem because tax cuts lead to increased federal revenues. Some suggest that the rapid growth in revenues in 2005 is evidence that "tax cuts can pay for themselves."

While revenues were higher than expected in 2005, the Congressional Budget Office (CBO) attributes little of the additional revenues to higher-than-expected economic growth. Real economic growth in 2005 was not stronger than projected by CBO or the Office of Management and Budget at the beginning of the year. Much of the recent revenue surprise is the result of strong corporate income tax receipts following the expiration of the enhanced investment expensing provisions enacted in 2002 and 2003. As CBO noted in its August 2005 update to its Budget and Economic Outlook:

"CBO now expects that when all revenues for 2005 are tabulated, corporate tax receipts will exceed its March projection by $53 billion. [Note: Receipts were actually $62 billion higher than the March projection.] *Only $1 billion of that difference can be attributed to the revised economic outlook.*

"...[T]he sources of the current strength in corporate tax receipts will not be known until information from tax returns becomes available in future years, but CBO anticipates that most of that strength will be temporary."

A comparison of actual revenues with revenue projections done in January 2001 prior to enactment of the tax cuts does not support the claim that tax cuts pay for themselves (**Table 1**). The revenue shortfall in 2003 through 2005 is almost $900 billion more than the projected cost of the enacted tax cuts.

It is important to keep in mind that even with the rapid growth in revenues in 2005, federal revenue expressed as a share of GDP was 17.5 percent in 2005, well below an average revenue share of 18.2 percent since 1960. Federal revenues fell to 16.3 percent of GDP in 2004, the lowest level relative to the economy since 1959. It is not surprising that the revenue share of GDP would grow as the economy recovers. However, if the 2001-2003 tax cuts are extended, the revenue share of GDP will drop below its current level after 2006.

Table 1

A Comparison of CBO Revenue Projections with Actual Revenues, 2003-2005

(Billions of dollars)

	2003	**2004**	**2005**	**2003-2005**
CBO revenue projection (January 2001)	2,343	2,453	2,570	7,366
Actual revenues	1,782	1,880	2,154	5,816
Revenue shortfall	**561**	**573**	**416**	**1,550**
CBO projected revenue loss from the 2001-2004 tax cuts	**179**	**265**	**211**	**655**

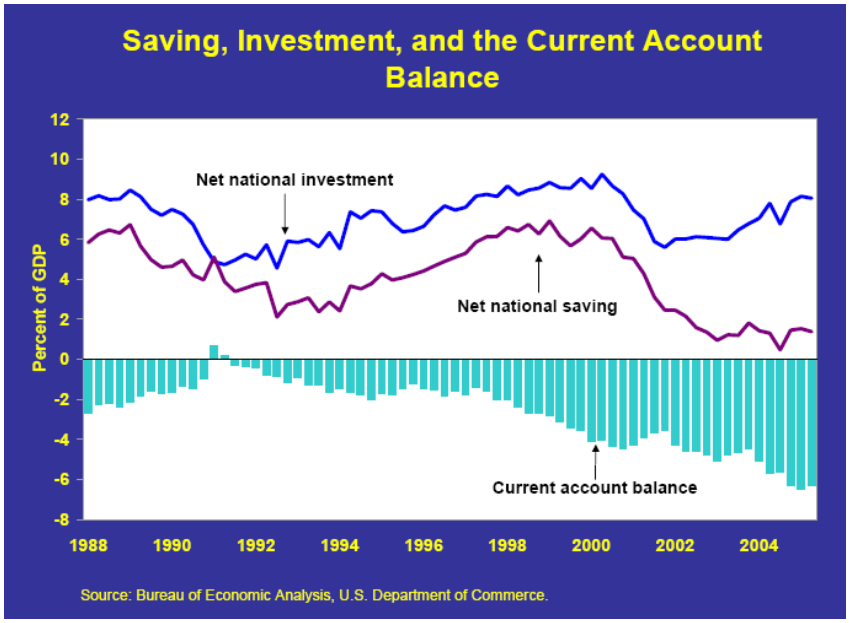
Budget Deficits, Trade Deficits, and Economic Growth

Large and persistent budget deficits have contributed to producing an ever-widening trade deficit that forces the United States to borrow vast amounts from abroad and puts the economy at risk of a major financial collapse if foreign lenders suddenly stop accepting U.S. IOUs. Even if an international financial crisis is avoided, continued budget and trade deficits will be a drag on growth in living standards.

Reduced national saving means lower national income. Large federal budget deficits have caused U.S. national saving to plummet since 2000. That decline in national saving has not translated into a similar decline in national investment, but only because the United States has run a large international trade deficit (**Chart 5**). Without the substantial purchases of U.S. Treasury securities by foreign central banks and others that have helped finance that deficit, U.S. interest rates would almost certainly be much higher than they are now and national investment would be much lower.

The relationship since 2000 among saving, investment, and the current account deficit contrasts sharply with the situation in the 1990s expansion. In the 1990s, U.S. net national investment exceeded net national saving, but both were growing as the improvement in the federal budget contributed to higher net national saving. An increasing fraction of net national investment was being financed by U.S. saving and a diminishing fraction by foreign borrowing. After 2000, a growing fraction of U.S. net national investment was financed by foreign borrowing rather than U.S. saving.

Chart 5



If the United States continues to rely on foreign borrowing rather than its own national saving to finance investment, growth in national income will be curtailed. Maintaining investment through foreign borrowing contributes to higher productivity growth in the United States. However, the income from investment financed by foreign borrowing accrues mostly to the foreign lenders. As long as a high fraction of U.S. national investment is being financed by foreign borrowing, future U.S. national income will be reduced by the costs of financing and repaying those loans.

The trade and current account deficits are at record levels. The deficit in goods and services (the difference between U.S. imports of goods and services and U.S. exports of goods and services) rose to a monthly record of $68.9 billion in October. Both in dollar terms and as a share of GDP, the trade deficit will set another record in 2005. The broader current account deficit, which includes income flows as well as goods and services, was 6.3 percent of GDP in the second quarter of 2005 (the latest data available) and is on track to set a record in 2005.

The United States had to borrow nearly $670 billion to finance its international payments imbalance in 2004. It is on track to have to borrow nearly $800 billion in 2005.

A depreciation of the dollar will not restore balance any time soon. After nearly three years of decline, the dollar rose in value against the currencies of its trading partners in 2005. However, many analysts believe that the rise in 2005 is temporary. More importantly, notwithstanding the recent increase, the value of the dollar in November 2005 was 11 percent lower than it was at its peak in February 2002 (based on the broadest trade-weighted exchange rate index, adjusted for differences in inflation among the various countries).

In principle, a fall in the dollar can improve the trade deficit by encouraging exports and discouraging imports. However, changes to imports and exports resulting from changes in the exchange rate can take some time to play out, and the trade deficit may initially worsen when the dollar depreciates (because the price of imports has gone up but the quantity purchased has not yet gone down).

Moreover, the central banks of some Asian economies where exports are viewed as an important source of economic growth have been resisting the appreciation of their currency (which would hurt their exports) by buying dollars. In recent years, for example, China has intervened heavily in the foreign exchange market by purchasing U.S. Treasury securities and other dollar-denominated assets to keep its currency from rising beyond its target exchange rate. In effect, governments that intervene to support their currency are helping to finance the U.S. trade deficit and limiting adjustment through the exchange rate.

Restoring fiscal discipline is one of the best ways to reduce the trade deficit and avoid problems from a weak dollar. Thus far, there has not been a flight from the dollar among foreign holders. However, private investors and foreign governments may suddenly decide that the benefits of holding dollars no longer justify the risks. A widespread dumping of dollar-denominated assets could precipitate an international financial crisis. But even an orderly further depreciation of the dollar and reduction in foreign capital inflows is likely to be accompanied by inflationary pressures from rising import prices and a further tightening of monetary policy by the Fed.

Without an increase in national saving, any reduction in the current account deficit would also entail reduced national investment that would harm future growth. Private saving may rise some from its very depressed levels, but it would be imprudent to count on that. As many experts, including Federal Reserve Chairman Greenspan, have

said, the best way to increase national saving is to reduce the federal budget deficit. That is also one of the best ways to reduce the trade deficit and to promote U.S. national investment and a rising standard of living.

Distorted Budget Priorities

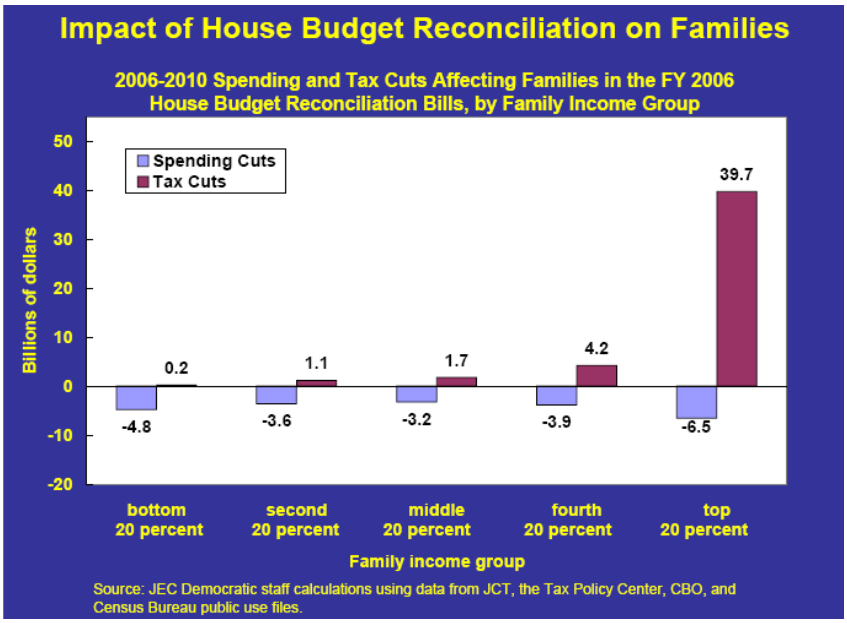
No matter what the budget situation, the challenge of dealing with the effects of Hurricanes Katrina and Rita would have put short-term strains on the federal budget. However, those strains would have been easy to absorb if U.S. budget and economic policies were sound.

Unfortunately, instead of sound budget policies aimed at preparing for the imminent retirement of the baby-boom generation, the Bush Administration and the Republican Congress have refused to adopt the kinds of budget enforcement rules that helped achieve fiscal discipline in the 1990s; have pursued an open-ended commitment to rebuilding Iraq that relies on supplemental appropriations rather than the normal budget process; and have remained committed to extending tax cuts that will add further to the budget deficit.

The end result is that policy priorities are distorted and programs that help ordinary Americans cope in a difficult economy become candidates for budget cutting in order to fund tax cuts. The budget reconciliation process this year illustrates these misplaced priorities. Congress was having difficulty completing the reconciliation process at the time this JEC annual report was completed, but the JEC Democrats' study, *The Impact on Families of the House and Senate Spending and Tax Reconciliation Provisions: A Preliminary Analysis*, shows how families in different parts of the income distribution would be affected by the plans under consideration.

The report compares the dollar value of the loss in benefits from cuts in spending that affect people directly with the gain in after-tax income from the tax cuts for families in each fifth of the income distribution. Using the House bills as a model, the analysis shows that families in the poorest fifth of the income distribution, which receive only 3 percent of total family income, would bear 22 percent of the cuts in spending directly affecting families and receive almost no benefit from the tax cuts. In contrast, families in the richest fifth of the income distribution would receive most of the benefits of the tax cuts, and those benefits would far outweigh any loss from the spending cuts (**Chart 6**).

Chart 6



The JEC Democrats' report, *The Impact on Families of the House and Senate Spending and Tax Reconciliation Provisions: A Preliminary Analysis*, can be found at: http://www.jec.senate.gov/democrats/Documents/Reports/budgetreconciliationdec2005.pdf

IV. Meeting America's Economic Challenges

The Joint Economic Committee Democrats issued several reports in 2005 analyzing America's economic challenges. In addition, they co-sponsored a forum at which distinguished policy experts discussed those challenges in the wake of Hurricane Katrina. This section summarizes those reports and provides web links to them.

Democratic Economic Forum: Meeting America's Economic Challenges in the Wake of Hurricane Katrina

The JEC Democrats and the Democratic Policy Committee co-hosted a forum with distinguished economic policy experts Robert Rubin, Alan Blinder, Alice Rivlin, Roger Altman, Cecilia Rouse, and Bruce Bartlett to discuss the economic challenges posed by Hurricane Katrina and how working families are paying the price for misplaced budget priorities and other structural economic problems that existed

before the hurricane and which remain unaddressed by the Bush Administration.

The panel generally agreed that the devastating impact of Hurricane Katrina will put short term strains on the federal budget, but a long-term economic disaster looms if the Bush Administration does not change course on economic policy. The panelists focused their remarks on the historically large budget and trade deficits; growing income disparities and the economic insecurity felt by the middle class; and providing adequate education and training. The panel assessed the economic challenges we face, evaluated current policies and how they differ from those implemented in the 1990s, and discussed policies we should pursue in the future.

Materials from the JEC Democrats/Democratic Policy Committee forum, *Meeting America's Economic Challenges in the Wake of Hurricane Katrina*, can be found at: http://www.jec.senate.gov/democrats/hearings.htm.

Poverty, Family Income, and Health Insurance

Annual data released in 2005 by the Census Bureau show that the Bush administration's economic policies have not benefited most working families. During the first term of the Bush administration, income for the typical American household fell by $1,670, 5.4 million more people slipped into poverty, and 6 million more joined the ranks of those without health insurance.

The proportion of Americans living in poverty rose to 12.7 percent in 2004, up from 11.3 percent in 2000. Inflation-adjusted median household income was $44,389 in 2004, down from $46,058 in 2000. The number of Americans without health insurance increased to 45.8 million in 2004, up from 39.8 million in 2000.

Key findings from the reports can be found in the following three JEC Democratic studies:

Poverty Rate Increases for Fourth Consecutive Year
http://www.jec.senate.gov/democrats/Documents/Reports/poverty7sep2005.pdf

Household Income Unchanged in 2004, but Down Since 2000
http://www.jec.senate.gov/democrats/Documents/Reports/income7sep2005.pdf

The Number of Americans without Health Insurance Grew by 860,000 in 2004, Increasing for the Fourth Year in a Row
http://www.jec.senate.gov/democrats/Documents/Reports/healthinsurance7sep2005.pdf

Social Security Reform

Three reports by the JEC Democrats examined the negative impacts of the President's plan to replace part of Social Security with private accounts.

The Negative Impacts of Private Accounts on Federal Debt, Social Security Solvency, and the Economy finds that President Bush's plan to replace part of Social Security with private accounts would lead to a massive increase in federal debt, weaken the solvency of Social Security, and fail to increase national saving in preparation for the retirement of the baby boom generation. Furthermore, if the benefit cutbacks President Bush seems to favor were added to the plan, future generations would face the double burden of large cuts in their guaranteed Social Security benefits and paying down the higher federal debt.

What if President Bush's Plan for Cuts in Social Security Benefits Were Already in Place? finds that if President Bush's proposal for price indexing Social Security benefits had gone into effect in 1979 instead of the current method, middle-class workers retiring this year would receive a benefit 9 percent smaller than they would get under current law. Benefit cuts would grow larger over time, and Social Security would replace an ever smaller share of workers' pre-retirement earnings. Indexing would hit middle-income workers much harder than upper-income workers, because middle-income workers rely on Social Security for a much larger fraction of their retirement income than do upper-income workers.

How the President's Social Security Proposals Would Affect Late Baby Boomers finds that the President's proposals for price indexing and the privatization tax accompanying private accounts would significantly cut guaranteed Social Security benefits for 40- to 50-year-olds. The guaranteed Social Security benefit after both price-indexing and the privatization tax would be 27 percent less than under current law for a 40-year-old worker who makes about $36,000 annually.

These three studies can be found at the following links:

The Negative Impacts of Private Accounts on Federal Debt, Social Security Solvency, and the Economy
http://jec.senate.gov/democrats/Documents/Reports/ssprivateaccountsapr05.pdf

What if President Bush's Plan for Cuts in Social Security Benefits Were Already in Place?
http://jec.senate.gov/democrats/Documents/Reports/ssprogindexingmay05.pdf

How the President's Social Security Proposals Would Affect Late Baby Boomers
http://jec.senate.gov/democrats/Documents/Reports/babyboomersreportmay05.pdf

Pension Reform

Two reports examined ways to improve defined contribution pensions for workers and reform the excesses of executive retirement packages.

Two-Tiered Pension System Protects Executives, But Not Average Workers argues that executives should have a stake in the fate of their companies' pension plans in order to improve corporate governance. Too often, the executives of companies that default on their pension obligations escape with padded executive retirement packages while the average worker is left with little or nothing. Companies that underfund or default on their pension obligations should be prohibited from funding and paying out benefits from special executive pension plans.

Improving Defined Contribution Pension Plans examines the risks associated with the shift from traditional employer-provided pensions to defined contribution plans, where workers manage their own retirement savings. Despite some of the advantages to employees of defined contribution plans, most workers lack the experience and financial expertise to manage the risks and responsibilities of these plans. Low participation rates, low contribution rates, ill-informed investment decisions, and early withdrawals of funds all contribute to the increased retirement security risks associated with defined contribution plans.

These pension studies can be found at the following links:

Two-Tiered Pension System Protects Executives, But Not Average Workers
http://www.jec.senate.gov/democrats/Documents/Reports/twotieredpensions06oct2005.pdf

Improving Defined Contribution Pension Plans
http://www.jec.senate.gov/democrats/Documents/Reports/dcpensionplans06oct2005.pdf

Welfare Reform

Despite net increases in spending in both the House and Senate welfare reauthorization bills, those measures still fall well short of the amount needed to offset inflation and simply extend current welfare policy. The funding shortfalls are even greater after accounting for the significantly higher child care funding needs that would result from the increased work requirements under both bills.

The JEC Democrats' report, *Getting Real about Welfare Funding: The Costs of Sustaining Current Policy Are Not Program Expansions*, finds that this year the real value of the basic Temporary Assistance for needy Families (TANF) block grant was only 85 percent of its fiscal year (FY) 1997 level. If funding remains fixed in nominal terms, the purchasing power of the TANF block grant will continue to erode, falling to just 75 percent of its original value by FY 2010. Furthermore, from FY 2006 through FY 2010, the increase in child care funding needed to offset inflation and higher work requirements would total between $5.4 billion and $8.3 billion, according to CBO data.

Getting Real about Welfare Funding: The Costs of Sustaining Current Policy Are Not Program Expansions can be found at the following link:
http://www.jec.senate.gov/democrats/Documents/Reports/tanfreportjune2005.pdf

V. Conclusion

Despite solid economic growth and some improvement in the labor market, 2005 was another disappointing year for American families. Real wages fell in the face of rising energy prices and the economic recovery continued to benefit mainly those who were already well-off. Although the Gulf hurricanes focused attention on the many challenges, new and old, facing policymakers, it was business-as-usual for the President and the Republican Congress. Instead of focusing on issues of concern to working families, they continued to devote their energy to extending tax cuts for the rich. Meanwhile the problems of large budget and trade deficits and the economic insecurity felt by many American families remained unaddressed.