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THE 2002 JOINT ECONOMIC REPORT

REPORT

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

ON THE

2002 ECONOMIC REPORT
OF THE PRESIDENT

together with

ADDITIONAL VIEWS

U.S. GOVERNMENT PRINTING OFFICE
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LETTER OF TRANSMITTAL

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC, November 12, 2002.

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 2002 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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Union Calendar No. 490

107TH CONGRESS, 2nd Session } HOUSE OF REPRESENTATIVES { REPORT 107–788

THE 2002 JOINT ECONOMIC REPORT

November 14, 2002.--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

ADDITIONAL VIEWS AND STUDIES

Report of the Joint Economic Committee on the 2002 Economic Report of the President

OVERVIEW OF CURRENT MACROECONOMIC CONDITIONS

Background and Summary

After experiencing a remarkably sustained period of economic growth during most of the 1980s and 1990s, a wide array of economic data revealed that the economy began to slow down sharply in mid 2000. Subsequently, the National Bureau of Economic Research (NBER) "officially" determined that the expansion peaked (a recession began) in early 2001. A comparatively short, mild recession ensued despite the added shock of the terrorist attacks of September 11. Most economists believe that this recession ended by late autumn 2001. Since that time, macroeconomic activity has continued to expand and move forward, albeit at a moderate pace.

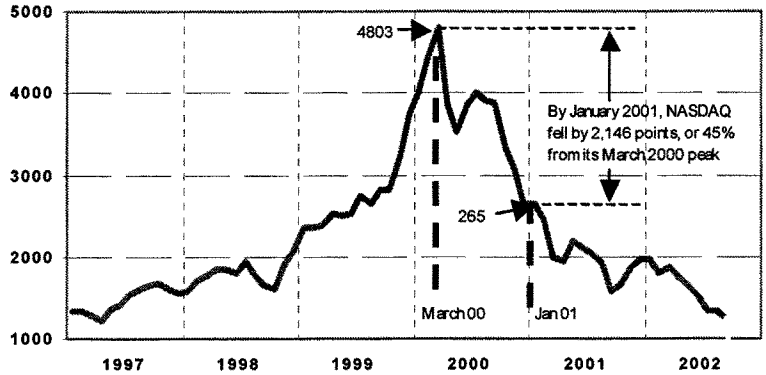
The mid-2000 slowdown

The fundamental pattern and interpretation of events surrounding the mid-2000 economic slowdown is unmistakable. This interpretation is supported by a wide array of economic data. In particular, Federal Reserve interest rate increases (from June 1999 to May 2000) together

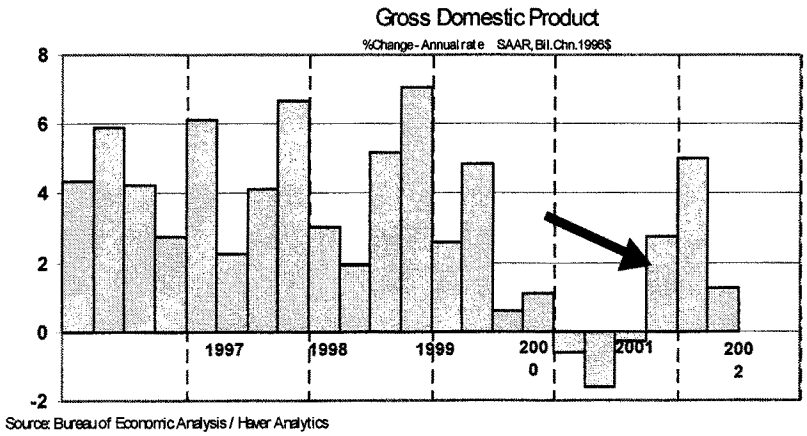
Autumn 2000) adversely impacted corporate profits, earnings, and an overvalued equity market. The stock market peaked and began to decline by the Spring of 2000. This combination of interest rate and energy price increases together with stock market declines set in motion a significant economic slowdown beginning in mid 2000.

Evidence that this economic slowdown or slump actually began in mid 2000 is clearly discernable in a host of economic data including the following:

The Stock Market: Equity price declines in recent years are epitomized by movements in the technology rich NASDAQ index (See chart below). This index peaked in March of 2000 at a level of 4803 and by January 2001 had fallen 45 percent to a level of 2657. Nearly $3 trillion of wealth was destroyed during this period from March 2000 to January 2001.



Sources: Wall Street Journal / Haver Analytics



Real GDP: Economic growth, as measured by the total output of goods and services (GDP), fell dramatically after the second quarter of 2000 (See chart below). Real GDP (annualized) growth in the second quarter of 2000 was 4.8 percent, but fell to an annual rate of about one-fifth that in the second half of the year.

1. Consumption, Income and Investment: A similar pattern of comparative weakness beginning around mid 2000 is also evident in the growth of consumption and income. Sharp declines after mid 2000 and notable weakness also characterize (fixed nonresidential) investment growth.
2. Manufacturing Activity: Various measures of manufacturing activity provide corroborating evidence of a slowdown commencing in mid 2000. Industrial production, for example, one of the major indicators used to determine the timing of recessions and expansions, peaked in June 2000 and declined through 2001. Capacity utilization shows an identical timing pattern. The Institute of Supply Management (ISM) composite purchasing managers index, which measures movements in manufacturing activity, tells a similar story. This index began deteriorating (becoming less expansionary) by early 2000 and signaled that manufacturing activity was actually contracting by mid 2000 and into 2001.

The Labor Market: This unmistakable pattern is also reflected in the labor market. Payroll employment gains, for example, averaged about 260,000 jobs per month in the two years prior to June 2000 but actually declined on average in the year and a half after that date. The percentage of the population employed peaked in April 2000 and trended down through 2001, while the number of unemployed began increasing in the fall of 2000. Manufacturing employment, on the other hand, peaked earlier in April 1998, and has been trending down thereafter. Since April 1998, some 2.2 million factory jobs have been lost.

The Recession

This slowdown, of course, continued and culminated in actual declines in quarterly real GDP beginning in the first quarter of 2001 and lasting until the third quarter: i.e., until just after the September 11, 2001 terrorist attacks. The "official" start of the recession, however, was designated March 2001 by the NBER Business Cycle Dating Committee.

Compared to most previous downturns, these three quarters of negative growth were comparatively mild and brief. Nonetheless, the slowdown and recession has had significant implications for the Federal budget. In particular, since the Federal budget importantly responds to economic/financial activity, recent economic and financial deterioration has caused the budget to swing into deficit. On its own, for example, the 2002 impact of the Bush tax cut, scored at $38 billion dollars, would still have left a large budget surplus amounting to over $250 billion. But the economic and financial market deterioration since 2000, and other non-policy factors, accounted for well over $300 billion in lost revenues and added spending, erasing the surplus and pushing the budget into deficit. Also, additional defense, homeland security, and other legislated spending increases have contributed to the current fiscal situation.

The Recovery and Current Prospects

Currently, a number of economic indicators point toward economic expansion, suggesting the economic rebound is gradually taking root. While real GDP has expanded at uneven rates following the negative growth experienced in 2001, this growth has averaged about 3 percent per quarter for the positive period as a whole. The consensus view among economists is for continued positive growth, albeit at a pace slower than the typical post World War II recovery.

Consumption growth has consistently contributed to the expansion and has continued to hold up with a good deal of positive momentum, along with retail and especially auto sales. Persistent advances in income have helped to maintain this consumption. The residential housing sector has also been a consistent contributor to the

expansion and housing sales currently remain at elevated levels. Several months of evidence of some re-emerging life in manufacturing (such as in industrial production, capacity utilization, and durable good orders) also point to some forward momentum. This is complemented by persistent gains of the service sector.

On the other hand, continued weakness in investment and sluggishness in the labor market remind us that the economy is not yet "out of the woods." Further, persistent stock market weakness and associated declines in household wealth (or net worth) suggest that the expansion may not be as robust as other recoveries in the post World War II era.

Causal Factors

Several factors contributed to bringing about the current economic expansion. The rebound is significantly related to the sharp interest rate reduction from 6.5 percent to 1.75 percent undertaken by the Federal Reserve during the course of 2001. This substantial rate reduction clearly was a most important factor in supporting interest-rate sensitive sectors (such as housing and autos). But a significant energy price moderation, which also occurred during 2001, contributed to this outcome. Well-timed tax relief and the continued maintenance of price stability contributed to the expansion as well.

Prices and Inflation

Broad measures of inflation continue to indicate that inflation is not an important problem at this time. This is also true of core measures of inflation that remove the influence of special factors. Most forecasters are projecting a continuation of current low rates of inflation. Forward-looking market price indicators corroborate this view. Long-term interest rates continue to trend down to near 40-year lows. Commodity prices, less special factors, are off their lows but still lower than levels of recent years. The dollar, after some mild depreciation, remains firm. In short, when assessed over time and in conjunction with one another, forward-looking market price indicators continue to suggest that an imminent and important resurgence of inflation is not in prospect.

Prospects, Risks, and Uncertainties

Prospects for a sustained economic expansion look favorable. Nonetheless, a realistic appraisal of the expansion must consider factors that could possibly slow its progress. Specifically, the economy remains vulnerable to a number of potential headwinds, risks, and uncertainties that could weigh on the recovery and affect growth over time. If there were continued stock market weakness and various ancillary effects of asset price deflation such as negative wealth effects, deteriorating

consumer and business confidence, worsening debt burdens, or further cuts in capital spending (due to increases in the cost of capital), these could have negative impacts on consumption and investment and hence on future expansion. More substantial than expected costs of terrorism weighing on the economy may have similar effects. And energy price increases associated with conflicts in the Middle East pose a genuine risk as well. Although these risks should be considered, most economists do not regard them as significant enough to undermine the expansion.

REPRESENTATIVE JIM SAXTON,
CHAIRMAN.

REPUBLICAN STAFF REPORTS

Inflation Targeting Goals for the Federal Reserve

Introduction

In recent years, several Members of Congress have endorsed the concept of price stability as the principal policy objective for Federal Reserve monetary policy.[1] The Joint Economic Committee (JEC) has published several studies examining the viability of such an approach for our central bank.[2] This paper builds on these earlier contributions in making the case for establishing inflation goals for the Federal Reserve. After outlining current monetary institutional arrangements and related congressional responsibilities, this paper details the reasons why the goal of stabilizing the purchasing power of money is appropriate. The paper proceeds to demonstrate that a price stability goal (1) has a rich historical heritage, (2) recently has been successfully adopted in several countries, (3) has worked informally in the United States in recent years, and (4) has been endorsed by a number of Federal Reserve officials.

Although inflation has receded and Chairman Greenspan has substantial credibility as an inflation fighter, the paper highlights several important reasons why now is an opportune time to adopt explicit inflation targeting. Finally, while inflation targeting can theoretically operate successfully with alternative intermediate indicators under "instrument (or indicator) independence," in practice, certain market price indicators appear to have performed quite well as policy guides and offer a number of distinct advantages over existing alternatives in helping to achieve price stability.

Background: Institutional Arrangements, Congressional Responsibilities, and Previous Approaches

In order to assess the appropriateness of adopting the monetary policy goal of price stability, some background material—a brief review of the current monetary regime as well as associated congressional responsibilities—is essential.

The Current Monetary Regime

A cogent description of current monetary institutional arrangements perhaps is best provided by Milton Friedman:

> ... a world monetary system has emerged that has no historical precedent: a system in which every major

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[1] In the context of this paper, the policy of "price stability" will generally refer to inflation targeting whereby target bands for changes in a conventional broad price index or measure of inflation are used to guide policy.

[2] See, "Compendium of Staff Studies on Monetary Policy," Joint Economic Committee, November 1998.

> currency in the world is, directly or indirectly, on an irredeemable paper money standard . . . It is worth stressing how little precedent there is for the present situation. Throughout recorded history . . . commodity money has been the rule. So long as money was predominantly coin or bullion, very rapid inflation was not physically feasible . . . The existence of a commodity standard widely supported by the public served as a check on inflation . . . The key challenge that now faces us in reforming our monetary and fiscal institutions is to find a substitute for convertibility into specie that will serve the same function: maintaining pressure on the government to refrain from its resort to inflation as a source of revenue. To put it another way, we must find a nominal anchor for the price level to replace the physical limit on a monetary commodity.[3]

In other words, the emergence of fiat money, flexible exchange rate arrangements (after the demise of the Bretton Woods System in the early 1970s), means there is no reliable mechanism anchoring the price system; no reliable store or standard of value exists.[4] Instead, the stability of the current monetary regime fully depends on the competence of central bankers to provide these critical functions of a dependable monetary system: to substitute for the reliability of a commodity standard.

Congressional Authority

At the same time, the Congress has clear legal authority over regulating the value of money. Specifically, the U.S. Constitution (Article I, Section 8) explicitly gives Congress the power over money and the regulation of its value. This responsibility was delegated by Congress to the Federal Reserve; the Federal Reserve was created by an act of Congress. This delegation implies that Congress has important responsibilities for overseeing the conduct of Federal Reserve monetary policy.

Of course, at the time of the creation of the Federal Reserve and for most of the period until the demise of the Bretton Woods System, the

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[3] Milton Friedman, "Monetary Policy in a Fiat World," in Money Mischief: Episodes in Monetary History, Harcourt Brace Jovanovich, New York, 1992, pp. 249, 252-4.

[4] Furthermore, current monetary arrangements are unlikely to change in the near future. Specifically, because the potential for sharply changing demands for international monetary reserves is associated with the rapid growth of emerging markets and the evolution of the European Monetary Union, a near-term stable, international monetary anchor appears unlikely.

United States was on some form of commodity standard so that no explicit price anchor mandate was essential.[5] With the emergence of fiat money/flexible exchange rate arrangements in the early 70s, however, such a mandate—which Congress clearly has the authority to implement—is appropriate.

The Failure of Other Approaches

Unfortunately, inappropriate or multiple and conflicting monetary policy goals for the Federal Reserve have been prescribed and found wanting during much of the period since the demise of Bretton Woods. In part, such prescription reflects Keynesian predilection for attempting to manage real economic activity and full employment macroeconomic policy goals, culminating in the *Full Employment and Balanced Growth Act of 1978* (Humphrey-Hawkins Act). This Act prescribes multiple and sometimes conflicting policy goals and, accordingly, has made it more difficult to achieve the key objective of monetary policy -- price stability.

But (intermediate) monetary targeting for the Federal Reserve also was prescribed during this period. These monetary targets proved less reliable than expected for a number of reasons relating partly to financial deregulation.

This post-Bretton Woods experience has culminated in the growing awareness that price stability is the single preeminent goal for monetary policy; a monetary standard securely anchoring the price system is essential. This view is now embodied in current inflation targeting legislation introduced by Congressman Saxton in previous Congresses. This legislation would require the Federal Reserve to define upper and lower bounds of inflation target ranges.

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[5] With the existence of a fixed exchange-rate gold standard at the time the Federal Reserve was created, monetary policy was not seen as a potent tool of government economic policy making. (Federal Reserve policy was guided by the behavior of the gold reserve ratio following Central Bank practice under the gold standard.) Accordingly, congressional oversight was not seen as a high priority responsibility. With the emergence of the fiat system described above, this mechanism has changed, and monetary oversight now is accorded more importance.

Rationale for Adopting the Goal of Price Stability

Given this background, it is natural that Congress should move to consider making price stability the explicit key objective for monetary policy. A number of specific reasons indicate why price stability is the appropriate primary monetary policy goal; these reasons relate not only to efficient provision of monetary services but also to minimizing the disruptive costs of inflation.

•**Price stability enables money to best perform its various functions:** Money can best provide its functions of a medium of exchange, a store of value, and a standard of value under a regime fostering price stability. Such stability anchors the price system so that comparative values can be established and accurately measured.

•**Price stability enables the price system to work better:** Price stability enables the price system—the information or signaling mechanism of free-market economies—to function effectively by directing resources to their most beneficial use. Price stability is associated with both lower inflation volatility and with lower (relative) price dispersion than inflationary circumstances. Lower inflation reduces the variability between individual prices or reduces the noise and distortion in the price system.[6] This allows the price system to better serve its information and allocative functions. As a result, the economy operates more efficiently and therefore grows faster.

•**Price stability promotes transparency, accountability, and credibility:** Explicitly adopting price stability as the principal monetary policy goal serves to promote transparency, accountability, and credibility to monetary policy. Furthermore, explicit inflation targets reduce incentives of the monetary authority to renege or backslide on its commitment to price stability.

•**Price stability enhances fiscal discipline:** Explicit price or inflation targeting prevents the use of inflation as a revenue source for the government. More specifically, price stability minimizes seignorage as well as government's ability to reduce its outstanding debt via inflation. Moreover, price stability minimizes those interactions of inflation with non-indexed portions of the tax code that effectively result in higher

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[6] See, for example, Guy Debelle and Owen Lamont, "Relative Price Variability and Inflation: Evidence From U.S. Cities," Journal of Political Economy, vol. 105, no. 1, February 1997.

taxation. Lowering inflation, therefore, in some ways acts like a tax cut by removing these potential sources of revenue.[7]

Moreover, adopting the goal of price stability and moving to lower inflation has a number of beneficial economic effects relating to minimizing the distortive costs of inflation:

•**Price stability lowers interest rates:** A credible, sustained reduction of inflation will lower expectations of future inflation. Accordingly, the inflationary expectations component of interest rates will dissipate from the structure of both short- and long-term interest rates and interest rates will decline.

•**Price stability works to stabilize financial markets and interest-sensitive sectors of the economy:** As inflation diminishes, the variability of inflation also is reduced. Lower inflation is associated with lower volatility of inflation. Accordingly, financial markets have less tendency to overshoot or undershoot their fundamental values. This lower volatility has the effect of reducing uncertainty premiums of interest rates, resulting in lower real interest rates. And financial markets tend to become more stable and predictable. Thus, lower inflation stabilizes financial markets. As a result, market participants tend to become more confident or self-assured and more willing to invest, take risk, and innovate. Businesses are better able to plan and coordinate, thereby improving efficiency. Furthermore, this enhanced financial stability works to stabilize interest-rate-sensitive sectors of the economy and, therefore, the macro economy as well.

•**Price stability promotes growth:** By enabling the price system to work better, enhancing fiscal discipline and minimizing tax distortions, lowering interest rates, and helping to stabilize both financial markets and interest-sensitive sectors of the economy, price stability promotes economic growth. Resources can engage in productive activities rather than finding ways to circumvent costs of inflation. Several recent empirical studies have found that lower inflation is associated with higher growth.[8]

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[7] This argument is especially relevant in circumstances when tax limitation provisions and/or balanced budget regimes are being implemented: i.e., when stricter fiscal regimes are put in place. It is in these circumstances that government likely will look for new revenue sources.

[8] See, for example, Robert Barro, "Inflation and Economic Growth," National Bureau of Economic Research Working Paper No. 5326, October 1995; Brian Motley, "Growth and Inflation: A Cross-Country Study," Center for Economic Policy Research, publication no. 395, March 1994; and Todd E. Clark, "Cross-Country Evidence on Long-Run Growth and Inflation," Economic Inquiry,

•Price stability in the U.S. can serve to foster global price stability: In an increasingly integrated financial world, the U.S. dollar continues to serve as the world's principal international money, acting as the world's leading key, reserve, and vehicle currency. Further, a number of countries have (officially or unofficially) dollarized their economies and others continue to attach or peg their currencies to the dollar. Given this international reserve status, it is recognized that the Federal Reserve can serve as an international lender of last resort.[9] As a consequence of these characteristics, changes in U.S. monetary policy can have important international repercussions for the world's industrial, emerging and transition economies.[10] In these circumstances, the pursuit and achievement of price stability by the U.S. can significantly contribute to promoting world price stability; it fosters dollar-based-area stability and a stable global benchmark or "standard." Such a stable price environment simplifies the pursuit of price stability in many other countries.

Additional Considerations

In addition to these important reasons for adopting price stability as the primary goal of monetary policy, a number of additional considerations lend further support to the argument.

(1) Historically, this view has been endorsed by many of the world's most preeminent monetary economists: Support for the goal of price stability under fiat money is, of course, not novel. Many of the economic profession's most revered monetary writers have supported this objective.

Probably history's most famous monetary debate occurred during the Napoleonic era when Britain went off the gold standard. During this period, classical bullionist writers such as Henry Thornton and David Ricardo recognized that under these circumstances the Bank of England had responsibility to regulate the value of money; in effect, to provide a stable monetary standard substitute for gold convertibility. This endorsement of price stability under fiat money was later supported by such eminent economists as John Stuart Mill and Alfred Marshall. Knut Wicksell further refined existing approaches to achieving price stability; his views were widely embraced by other Swedish economists such as Gustav Cassel. Famous British economists during the interwar period such as Ralph Hawtrey and John Maynard Keynes also endorsed price

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vol. 35, no. 1, January 1997.

[9] See Robert E. Keleher, "An International Lender of Last Resort, the IMF, and the Federal Reserve," Joint Economic Committee, February 1999.

[10] See Robert E. Keleher, "International Dimensions to U.S. Monetary Policy," Joint Economic Committee, August 2000.

stability as the appropriate goal for monetary policy.[11] The view was also supported by respected economists in the United States such as Irving Fisher, Henry Simons, and Lloyd Mints, as well as most modern-day monetarists.[12]

(2) Both historical and contemporaneous evidence indicate that the price stability objective can work quite successfully: A good deal of empirical evidence shows that price stability or inflation targeting regimes have worked successfully. Historically, the first such regime was the Swedish price stabilization regime of the early 1930s. Upon suspending gold payments in 1931, Swedish authorities explicitly announced the adoption of a price stability standard, a monetary policy explicitly directed to stabilize the internal purchasing power of the Swedish krona. The policy was remarkably successful: prices were stabilized, contributing significantly to the stability of the domestic economy and insulating the Swedish economy from the 1930s' worldwide depression.[13]

More recently, inflation targeting regimes have been implemented in a number of countries. Explicit, quantifiable inflation targets have been adopted, for example, in 18 countries as recently documented by Mishkin and Schmidt-Hebbel (2001). These countries include industrialized, emerging market, and transitional economies. After reviewing and assessing recent empirical research evaluating a decade of worldwide experience with inflation targeting, these authors conclude that "inflation targeting has proven to be a very successful new monetary framework, both in comparison to inflation targeters' preceding experience and relative to alternative monetary regimes adopted by a control group of highly successful industrial countries that had in place

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[11] This support is especially evident in Keynes' Tract on Monetary Reform, as well as his Treatise on Money.

[12] A history of the price stabilization movement was published by Irving Fisher in 1934. See Stable Money: A History of the Movement. Adelphi Co., New York, 1934.

[13] The Swedish experience led Irving Fisher to assert that "This achievement of Sweden will always be the most important landmark up to its time in the history of (price) stabilization," Irving Fisher, Stable Money, Adelphi Co., New York, 1934, pp. 408-9. (parenthesis added). For further documentation of this episode, see Manuel Johnson and Robert Keleher, Monetary Policy, A Market Price Approach, chapter 13, Quorum Books, Westport, Connecticut, 1996.

other monetary arrangements during the 1990s."[14]

Other studies corroborate these conclusions. In general, the evidence to date is promising and indicates that inflation targeting policies for the most part have been quite successful. Those countries adopting a price stability goal, for example, significantly improved their inflation performance. Specifically, most of these countries have dramatically lowered their inflation rates since adopting targets for inflation, often to lower rates not observed for decades. One preliminary study showed that those countries adopting explicit inflation targets outperformed other countries not only in terms of lowering inflation but in a number of other criteria as well.[15] Overall, this evidence underscores the argument that explicit, quantifiable goals of price stability can be implemented successfully.

After examining the recent evidence on inflation targeting, the IMF's former Acting Managing Director Stanley Fischer stated that:

> ...the experience shows that this (inflation targeting) approach has done well under a variety of circumstances that 10 years ago would have raised legitimate doubts on whether the framework would hold up.[16]

In short, the evidence indicates that explicit inflation targeting can prove quite successful for a variety of different types of economies.

(3) Recent Federal Reserve policy focus on price stability has also been successful: The Federal Reserve's emphasis on price stability in recent years has also worked to lower inflation, and contributes to sustaining economic expansion. While the Federal Reserve has not adopted explicit, quantifiable inflation targets like the central banks of countries cited above, Fed Chairman Greenspan has suggested that, in essence, "informal" inflation targeting has been pursued, although he later testified that he was not currently in favor of strict, quantifiable inflation

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[14] Frederic S. Mishkin and Klaus Schmidt-Hebbel, "One Decade of Inflation Targeting in the World: What Do We Know and What Do We Need to Know?" National Bureau of Economic Research, Working Paper 8397, July 2001, p.11.

[15] See, for example, Bennett T. McCallem, "Inflation Targeting in Canada, New Zealand, Sweden, the United Kingdom, and in general," National Bureau of Economic Research Working Paper no. 5579, May 1996. p. 9.

[16] Stanley Fischer, "Opening Remarks Given at the IMF Institute's High-Level Seminar on Implementing Inflation Targets," the IMF, Washington, D.C., March 20-21, 2000, p.5. (parentheses added)

targets.[17]

Indeed, several researchers have examined U.S. monetary policy in recent periods and concluded that the Federal Reserve has likely pursued an implicit or informal inflation targeting rule. Mishkin, for example, argues that the Federal Reserve has pursued a monetary policy that involved an implicit nominal anchor, close to an explicit inflation targeting strategy.[18] Mishkin goes on to argue that "through their testimony and speeches, high officials in the Federal Reserve System, and especially Alan Greenspan, have made it quite clear that the overriding long-run goal for Fed monetary policy is price stability... and it is fair to characterize the Fed as having an implicit nominal anchor."[19] Other researchers have employed empirical techniques to estimate the Fed's goals and objectives. For example, Dennis (2002) estimates the Fed had an implicit inflation target of about 1.4% and argues that his results are consistent with the Federal Reserve having a long-run inflation target.[20]

Over time, this Federal Reserve anti-inflation policy has gained credibility and worked to lower interest rates, stabilize financial markets and interest sensitive sectors of the economy, promote the efficient operation of the price system, and, in effect, act like a tax cut in many ways.[21] All of this has contributed to promoting sustained economic expansion and further demonstrates the value of price stability as a principal monetary policy goal.

(4) Price stability as <u>the</u> principal goal of monetary policy has

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[17] See, for example, Chairman Greenspan's testimony before the Joint Economic Committee; *The Economic Outlook and Monetary Policy*, Hearing before the Joint Economic Committee, One Hundred Fifth Congress, First Session, October 29, 1997, p.14.

[18] See, for example, Mishkin and Schmidt-Hebbel, <u>op</u>. <u>cit</u>., p.8; Frederic S. Mishkin, "Monetary Policy," <u>NBER Reporter</u>, Winter 2001/2002, p.10; see also N. Gregory Mankiw, "U.S. Monetary Policy During the 1990s", NBER Working Paper 8471, September 2001, p.53.

[19] Frederic S. Mishkin, "What Should Central Banks Do?" <u>Review</u>, Federal Reserve Bank of St. Louis, November/December 2000, Volume 82, Number 6, p.8-9.

[20] Richard Dennis, "Inferring Policy Objective from Policy Actions," <u>FRBSF Economic Letter</u> Number 2002-10, April 5, 2002, pp.2-3.

[21] See Robert Keleher, "The Roots of the Current Expansion," a Joint Economic Committee study, April 1997, and Robert Keleher, "Assessing the Current Expansion," a Joint Economic Committee study, February 2000, for a more detailed discussion of the contribution of monetary policy to the sustainability of economic expansion.

been endorsed by several Federal Reserve policy-makers: Adopting price stability as the primary goal of monetary policy has received the support of many academic economists as well as many officials and policy-makers within the Federal Reserve system itself. For example, Federal Reserve regional bank presidents from the New York, Richmond, St. Louis, San Francisco, and Cleveland banks have all explicitly endorsed price stability as monetary policy's primary policy goal.

Response to Criticism

A number of criticisms have been directed at price stability or inflation targeting as the primary goal of monetary policy. One of these criticisms is that such a strategy would remove monetary policy's flexibility. With fiscal policy focused on renewed deficits and thereby constrained so that it cannot readily be used for stabilization policy, it is argued that monetary policy is the only macropolicy tool left for this purpose and therefore should remain relatively unencumbered.

This criticism is misplaced for several reasons. Certainly the international experience with inflation targeting provides ample evidence that, in practice, inflation targets leave room for considerable flexibility. In particular, inflation targets normally consist of bands rather than point estimates and are often multi-year in nature. The relevant targeted inflation index often is adjusted for volatile (supply-side) components. And even after such adjustment, some countries allow for further exceptions or escape clauses to specified targets. All of these considerations allow for considerable flexibility, yet maintain a focus on long-term price stability.

Furthermore, if unanticipated shocks are "demand-side" in nature, inflation targets automatically direct appropriate monetary policy responses that work to stabilize the economy. Finally, by adopting inflation rather than price level targets, some accommodation of unanticipated one-time supply-side shocks are allowed for (i.e., inflation targets do not require offsetting deflation and hence associated economic disruption as do price level targets).[22] In sum, inflation targets retain a good deal of flexibility for monetary policy.

A number of other criticisms directed at price stability or inflation

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[22] Because offsetting deflation is not required by inflation targets, these targets embody "base drift" (an ever-increasing price level). In other words, inflation targets imply that the price level becomes "non-stationary"; once disturbed, the price level does not return to its previous level. Because of this characteristic, inflation targets are associated with greater long-term variance and uncertainty of prices. Nonetheless, because inflation targets enhance policy flexibility, they are viewed as more realistic politically.

targeting as the primary goal of monetary policy also have been addressed and refuted in earlier JEC studies; these arguments will not be repeated here.[23]

The Opportune Time to Adopt Inflation Targets

Although inflation has receded and hence price stability is no longer emphasized so often in the headlines, there are several important reasons why now is an opportune time to adopt inflation targets.

- **Cement current gains:** Adopting inflation targets would ensure that many beneficial economic effects of low inflation are maintained. Such targets are easiest to implement when inflation is already low, political opposition is relatively weak, and price stability has attained a degree of credibility as a proper goal for monetary policy. In short, the current period is a politically opportune time to cement gains and hard won credibility, thereby minimizing the cost of moving to price stability.[24] Adopting formal inflation goals now when political barriers are relatively low ensures that procedures for maintaining price stability are in place when inevitable difficult tightening decisions have to be made in the future.
- **Remove incentives to backslide:** As memories of high inflation fade, interest groups increasingly emphasize near-term benefits of stimulative monetary policy: demands for monetary relief from adverse changes in interest rates, foreign exchange rates, or output proliferate. Implementing explicit inflation targets would serve to insulate the Federal Reserve from such political pressures.

  Furthermore, without inflation targets, incentives grow for inflationary policies when inflation is low. Specifically, shortsighted policy-makers recognize that surprise (unexpected) expansionary policies are more potent than expected policy changes. So when inflation is reduced and

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[23] See Robert Keleher, "A Response to Criticisms of Price Stability," a JEC study, September 1997.

[24] Inflation targets should be introduced when there is a realistic chance of reducing inflation (i.e., when inflation is low or trending down); credibility is important for inflation targeting and hitting the first target is especially significant for establishing such credibility. See Charles Freedman, "The Canadian Experience with Targets for Reducing and Controlling Inflation," Inflation Targets, edited by Leonard Leiderman and Lars Svensson, Center for Economic Policy Research, Glasgow, 1995, p.28.

is expected to remain subdued, stimulative policies that are a surprise have a larger economic-boosting impact. In short, as inflation is reduced, incentives increase for policy-makers to unexpectedly stimulate the economy. Pre-commitments to explicit inflation targets reduce these perverse incentives.

- **Govern by rules rather than by men:** While the Federal Reserve has performed admirably under the regimes of Chairman Volcker and Greenspan, there is no guarantee that it will continue to perform so well in the future under different management. Institutionalizing and depersonalizing the goal of price stability will help ensure that Federal Reserve performance depends more on a transparent system of rules rather than upon the vagaries of individuals and is less prone to political manipulation or pressure. Adopting such rules would provide a political buffer, preventing future administrations from manipulating monetary policy when there are incentives to do so.

  The current period and economic environment provides a window of opportunity for establishing inflation targets. Implementing inflation targets under such circumstances would be easier and timelier than establishing inflation targets under the reign of a newly-appointed Chairman and potentially undermining that individual's inflation-fighting credibility.

Promising Policy Indicators

Hypothetically, there are several types of policy guides that the Federal Reserve can use to target inflation or pursue a price stabilizing monetary policy. In practice, successful inflation targeting has for the most part involved establishing explicit inflation goals while allowing for instrument (or intermediate indicator) independence (that is, establishing explicit objectives for the central bank but allowing the monetary authority determine for itself the best methods and guides to use in achieving these specified goals).

The JEC, however, has recommended using a market price approach in pursing price stability. A detailed description of this approach has been given elsewhere and will only be briefly summarized here.[25] This approach uses certain market price indicators -- broad indices of commodity prices, various measures of the foreign exchange value of

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[25] For a thorough description of this approach see Manuel Johnson and Robert Keleher, Monetary Policy: A Market Price Approach, Quorum Books, Westport Connecticut, 1996.

the dollar, and long-term bond yields -- as guides for price-stabilizing monetary policy. All of these sensitive market prices yield early warning signals pertaining to changes in the value of, or price of money; i.e., relevant to movements in the general price level. These market prices are intended to serve as informational indicators, not policy targets. Other things equal, each indicator can signal the relative "ease" or "tightness" or monetary policy.

These market prices have numerous distinct advantages over competing intermediate indicators of monetary policy. Such market price data, for example, are observable, easy-to-understand, timely, and readily available, literally minute-by-minute. They are accurate, less subject to sampling error, and unaffected by revision, rebenchmarks, seasonal adjustments, or shift-adjustments that sometimes plague quantity data. Several formal studies investigating the usefulness of various forms of economic statistics conclude that market price data are superior to other forms of data.[26] Furthermore, they are forward-looking and can signal future changes in inflation and inflationary expectations. If these market price indicators are carefully assessed in conjunction with one another, they can be useful forerunners of inflation and helpful guides for a price-stabilizing monetary policy.

Indeed, these indicators appear to have yielded accurate signals to price stabilizing monetary authorities and performed quite well as intermediate guides in an "inflation targeting" context.[27] These market price indicators, therefore, readily complement the goal of inflation targeting and thus appear to be an appropriate set of guides for such an objective.

Summary and Conclusions

Currently, our fiat money system has no reliable price anchor or standard of value. At the same time, Congress has the legal authority and oversight responsibility for regulating the value of money and providing for such an anchor. There are many reasons for and benefits from adopting price stability as the primary goal of monetary policy. This

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[26] See, for example, Oskar Morgenstern, On the Accuracy of Economic Observations, Princeton University Press, Princeton, N.J., 1963, and Victor Zarnowitz, "On Functions, Quality, and Timeliness of Economic Information," NBER Working Paper Series, No. 608, December 1980.

[27] See, for example, Robert Keleher, "The Performance of Current Monetary Policy Indicators" A JEC Study, October 2000; and Johnson and Keleher, op. cit., chapter 12 and 13.

objective has been endorsed not only by many of the world's most esteemed monetary economists but also by many Federal Reserve officials. Evidence demonstrates that price stability in the form of inflation targets can work quite well. Furthermore, the approach allows for ample monetary policy flexibility and there are many reasons why now is an opportune time to adopt this approach. Finally, certain market price indicators appear to be especially well-suited to serve as policy guides in such a price stabilizing monetary policy strategy.

The time has come to introduce price stability as an explicit legislative goal for monetary policy. Such legislation deserves the support of both Houses of Congress.

Fiscal Policy Choices: Examining the Empirical Evidence

I. Introduction

In August 2001, the Congressional Budget Office (CBO) and the Office of Management and Budget (OMB) issued separate budget forecasts for the fiscal years 2002-2011 that reached remarkably similar conclusions. After factoring in the budgetary effects of the

Federal Fiscal Position, Federal Budget Balance, And Federal Net Debt

The federal fiscal position refers to both federal budget balance and the amount of federal net debt. The federal budget balance is the difference between all federal revenues less all federal outlays in a unified federal budget during a fiscal year. The federal budget balance may be positive (a surplus) or negative (a deficit). Federal net debt represents the accumulation of all federal budget balances (surpluses and deficits) in past fiscal years.

Federal debt refers to the federal net debt, which is held by the public, rather than the federal gross debt, which includes both federal debt held by the public and federal debt held in intragovernmental accounts. Economists consider net debt as the proper measure of federal debt. Increasing (decreasing) net represents a withdrawal of money from (release of money to) global financial markets and may affect the broader economy. Publicly held U.S. Treasury debt securities (Treasuries) represent legally binding commitments with other parties that cannot be abrogated. In contrast, the U.S. government is both the creditor and debtor for Treasuries held in intragovernmental accounts. As President Bill Clinton stated in his *Fiscal Year 2000 Budget*, "These balances [in intragovernmental accounts] are available ... but only in a bookkeeping sense." Thus, an increase or a decrease of Treasuries in intragovernmental accounts is merely a bookkeeping entry that does not affect financial markets or the broader economy.

Economic Growth and Tax Relief Reconciliation Act (EGTRA) and the current economic slowdown that began in July 2000, both CBO and OMB forecast cumulative federal budget surpluses of $3.397 trillion and $3.113 trillion, respectively, for fiscal years 2002-2011.[1] Based on

[1] Congressional Budget Office, *The Budget and Economic Outlook: An Update*, 107th Congress, 1st Session, August 2001: 1; and Executive Office of the President, Office of Management and Budget, *Budget of the United States, Fiscal Year 2002, Mid-Session Review* (Washington, D.C.: Government Printing Office, August 2001): 8.

current policy, the CBO projected that federal net debt will decline to $876 billion or 5.2 percent of GDP, while the U.S. Department of the Treasury will accumulate an unspent cash balance of $820 billion or 4.8 percent of GDP, leaving a federal net indebtedness (federal net debt less the unspent cash balance) of a mere $56 billion or 0.3 percent of GDP.[2] Similarly, based on the President's policy proposals, which include making all of the expiring tax provisions permanent, the OMB projected that federal net debt will fall to $1.057 trillion or 6.1 percent of GDP, while the U.S. Department of the Treasury will accumulate an unspent cash balance of $710 billion or 4.1 percent of GDP, leaving a federal net indebtedness of $348 billion or 2.0 percent of GDP.[3]

The aftermath of September 11, 2001, has substantially changed the fiscal outlook. With bipartisan congressional support, President George W. Bush has launched a war on terrorism that will increase defense outlays beyond above previous CBO and OMB projections. The federal government will make substantial one-time outlays for disaster relief and recovery assistance in fiscal year 2002. In this new economic and security environment, a bipartisan consensus has emerged that reducing federal net debt as rapidly as possible is not the exclusive objective of fiscal policy. Instead, both the Bush administration and Congress agree that additional tax reductions are needed to stimulate economic growth.

This study evaluates the economic consequences of reducing federal net debt as rapidly as possible or providing additional federal tax reductions while reducing federal net debt moderately. This study employs the concept of opportunity cost (*i.e.*, the highest valued alternative that must be sacrificed when choosing one option over others) to evaluate the federal debt reduction and federal tax relief options in terms of their expected effects on real GDP growth.

II. What is Opportunity Cost?

Economics is fundamentally about making choices. For example, a consumer with $16,000 to spend may buy either a 2002 Toyota Corolla LX or 500 shares of General Electric stock. Since the consumer may use this $16,000 only once, he or she must choose between the Toyota and the GE stock. Both cannot be bought

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[2] CBO, *The Budget and Economic Outlook: An Update*: 19, 55. Author calculated CBO projection of federal net indebtedness as a percent of GDP from CBO projections of federal net indebtedness and GDP.

[3] OMB, *Mid-Session Review*: 20, 44. Author calculated OMB projection of federal net debt and net indebtedness as percents of GDP from OMB projections of federal net debt, net indebtedness, and GDP.

simultaneously. If the consumer purchases the Toyota, then he or she has lost the opportunity to purchase the GE stock. Economists describe the highest valued alternative that must be sacrificed when choosing one option over others as the opportunity cost of such choice. In this example, the value of the GE stock would be the opportunity cost of buying the Toyota.

The opportunity cost concept applies to the U.S. government as well. Suppose the U.S. government ends its fiscal year with a surplus of $150 billion. During the next fiscal year, Congress may choose to reduce federal taxes by $150 billion or reduce federal net debt by $150 billion. Whatever its choice, Congress can use this $150 billion dollar surplus only once. If Congress were to choose to reduce federal net debt, the United States would have to forego the macroeconomic benefits from additional federal tax reductions.

III. How Does the Federal Fiscal Position Affect Real GDP Growth?

What are the macroeconomic benefits from reducing federal net debt? Answering this question requires an understanding of how the budget balance of the U.S. government affects the American economy. Economists have postulated two competing models to describe the relationship between the federal fiscal position and economic performance: the conventional model and the Ricardian equivalence model.

A. Conventional Model

One view of how the federal budget balance affects the U.S. economy is known as the conventional model. The conventional model is based upon the macroeconomic savings and investment identity; *i.e.*, a country's aggregate savings must equal all of its uses both at home and abroad. In other words, the sum of private savings and government savings must equal the sum of domestic investment and net international investment (outward international investment by U.S. individuals and firms abroad less inward international investment by foreign individuals and firms in the United States).

Suppose the U.S. government expects that its budget will be exactly balanced in the next fiscal year. If U.S. policymakers decide to reduce federal taxes by $150 billion temporarily while leaving federal spending unchanged, the U.S. government would then incur a $150 billion budget deficit in the next fiscal year. The U.S. Department of the Treasury would then borrow $150 billion from global financial markets, adding $150 billion to the federal net debt.

The $150 billion federal budget deficit would increase the disposable income of U.S. taxpayers by $150 billion. According to the

conventional model, taxpayers would spend at least a portion of their tax reduction, boosting consumption expenditures within the United States. However, the resulting $150 billion federal budget deficit would simultaneously reduce government savings. Given the macroeconomic savings and investment identity, one or more of the following must happen to restore equilibrium: (1) private savings may rise, (2) domestic investment may decline, or (3) net international investment may decline.

The conventional model asserts that real interest rates must rise sufficiently to reduce domestic investment and net international investment to restore equilibrium. However, higher real interest rates lower long-term real GDP growth by slowing the accumulation of capital. Under the conventional model, ameliorating the federal budget balance and reducing federal net debt should promote long-term real GDP growth by lowering real interest rates and thereby stimulating domestic investment and net international investment.[4]

B. Ricardian Equivalence Model

The 19th century economist David Ricardo postulated an alternative to the conventional model under which a government's fiscal position does not have significant macroeconomic effects.[5] Robert J. Barro rediscovered Ricardo's idea in his 1974 article, "Are Government Bonds Net Worth?"[6] Nobel Laureate James Buchanan christened the idea the Ricardian equivalence model in his comments on Barro's article.[7]

Under the conventional model, a federal tax reduction without a similar federal spending reduction will stimulate consumption expenditures, increase real interest rates, decrease domestic investment and net foreign investment, lower capital accumulation, and decelerate long-term GDP growth. In contrast, the Ricardian equivalence model asserts such a fiscal policy change will not cause any of these macroeconomic consequences. In other words, U.S. macroeconomic outcomes will be equivalent whether a deficit-financed federal tax reduction occurs or not.

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[4] Douglas W. Elmendorf and N. Gregory Mankiw, "Government Debt," in *Handbook of Macroeconomics*, ed. John B. Taylor and Michael Woodford, 1C (Amsterdam: Elsevier, 1999): 1627-1640.

[5] Elmendorf and Mankiw note that David Ricardo did not necessarily advocate the Ricardian equivalence model. Elmendorf and Mankiw (1999): 1642-1643.

[6] Robert J. Barro, "Are Government Bonds Net Worth?" *Journal of Political Economy* 82 (November-December 1974): 1095-1117.

[7] James M. Buchanan, "Barro on the Ricardian Equivalence Theorem," *Journal of Political Economy* 84 (April 1976): 337-342.

The Ricardian equivalence model is based upon two economic insights – the government budget constraint and the permanent income hypothesis. First, in the absence of any change in federal spending, the government budget constraint implies that a federal tax reduction and the resulting budget deficit today will cause higher federal taxes in the future. Issuing net debt under these circumstances merely defers, but does not eliminate, the incidence of federal taxation.

Second, the permanent income hypothesis affirms that individuals base their consumption expenditures upon their expectations for disposable income over their entire lifetime, not just upon their disposable income in the current week, month, or year. In other words, an individual's current consumption expenditures are a function of the present value of his or her expected disposable income during his or her lifetime. For example, a third-year law school student courted by several prestigious law firms may buy new suits or a motor vehicle on credit even though his or her current disposable income may still be very low. On the other hand, high income earners in their fifties may save large portions of their disposable income in anticipation of retirement. Thus, individuals smooth their consumption expenditures over their lifetime based on their expectations for permanent disposable income. Under the permanent income hypothesis, if individuals perceive that a federal tax reduction is temporary, they will save their tax benefits in order to pay higher taxes in the future since the present value of their expected future disposable income has not changed.

Combining the government budget constraint and the permanent income hypothesis, the Ricardian equivalence model holds that a deficit-financed tax revenue reduction may alter the timing of taxation, but does not change the present value of its burden. A deficit-financed tax revenue reduction cannot increase the public's expectations for permanent disposable income and therefore cannot alter consumption expenditures. An increase in private savings will offset the decrease in government savings, leaving macroeconomic outcomes unaltered. Real interest rates will not increase. The growth rates for investment and real GDP will remain unchanged.[8]

C. How to Evaluate the Validity of Both Models

At first glance, the conventional model may have a stronger intuitive appeal than the Ricardian equivalence model. However, intuitive appeal does not determine the validity of competing economic models. To determine their worth, economists perform empirical

[8] Elmendorf and Mankiw (1999): 1640-5.

studies that compare the outcomes predicted by both models with real world data. The one that best fits the data is the more valid model.

The conventional model provides economists with two hypotheses that can be empirically tested:

1. Federal budget balance is negatively correlated with consumption expenditures.
2. Federal budget balance is negatively correlated with real interest rates.

If a sufficient number of econometric studies using different data sets consistently show statistically significant negative correlations both between the federal budget balance and consumption expenditures and between the federal budget balance and real interest rates, then the conventional model is valid, and the Ricardian equivalence model can be rejected. Otherwise, the conventional model is invalid, and the Ricardian equivalence model cannot be rejected.

D. Empirical Evidence

Challenging the conventional model, Robert J. Barro (1974) found that government debt does not constitute an increase in perceived household wealth under most circumstances. If, and only if, the government were more efficient than private markets in the loan process or in the production of liquidity services would government debt contribute to net wealth.[9] Barro concluded:

> *In particular in the case where the marginal net wealth effect of government bonds is close to zero, ... fiscal effects involving changes in the relative amounts of tax and debt finance for a given amount of public expenditures would have no effect on aggregate demand, interest rates, and capital formation.*[10]

Barro's controversial conclusions provoked other economists to conduct numerous empirical studies concerning the validity of conventional and Ricardian equivalence models during the last quarter century. Some empirical studies have tested whether individual factors (*e.g.*, income uncertainty and myopia) or external factors (*e.g.*, capital market imperfections and distortionary taxes) may erode the theoretical underpinnings of the Ricardian equivalence model.[11] Other empirical

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[9] Barro (1974): 1094-1117.

[10] Barro (1974): 1116.

[11] Ricardian equivalence assumes that (1) people have infinite time horizons or (2) at least some people have altruistic motives to leave bequests to future generations.

studies have examined whether market outcomes such as consumption expenditures and interest rates are consistent with the conventional model or the Ricardian equivalence model. The results of empirical studies on how the federal budget balance affects consumption expenditures and real interest rates are summarized below.

1. Consumption Expenditures

The conventional model differs from the Ricardian equivalence model on whether the federal budget balance affects consumption expenditures. The conventional model forecasts that a decrease (an increase) in the federal budget balance should cause a statistically significant rise (fall) in consumption expenditures. In contrast, the Ricardian equivalence model predicts that a change in the federal budget balance does not trigger a statistically significant change in consumption expenditures.

The results of empirical studies looking at consumption expenditures found mixed results. On one hand, Martin Feldstein (1982),[12] Franco Modigliani and Arlie Sterling (1986 and 1990),[13] Martin Feldstein and Douglas W. Elmendorf (1990),[14] Fred C. Graham and Daniel Himarios (1991 and 1996),[15] Paul Evans (1993),[16] and Fred C. Graham (1995)[17] found a statistically significant negative correlation between the federal budget balance and consumption

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[12] Martin Feldstein, "Government Deficits and Aggregate Demand," *Journal of Monetary Economics* 9 (1982): 1-20

[13] Franco Modigliani and Arlie Sterling, "Government Debt, Government Spending and Private Sector Behavior: Comment," *American Economic Review* 76 (December 1986): 1168-1179; and Franco Modigliani and Arlie Sterling, "Government Debt, Government Spending and Private Sector Behavior: Further Comment," *American Economic Review* 80 (June 1990): 600-603.

[14] Martin Feldstein and Douglas W. Elmendorf, "Government Debt, Government Spending, and Private Sector Behavior Revisited: Comment," *American Economic Review* 80 (June 1990): 589-599

[15] Fred C. Graham and Daniel Himarios, "Fiscal Policy and Private Consumption: Instrumental Variables Tests of the "Consolidated Approach," *Journal of Money, Banking, and Credit* 23 (February 1991): 53-67; and Fred C. Graham and Daniel Himarios, "Consumption, Wealth, and Finite Horizons: Tests of Ricardian Equivalence," *Economic Inquiry* 34 (July 1996): 527-544.

[16] Paul Evans, "Consumers are Not Ricardian: Evidence from Nineteen Countries," *Economic Inquiry* 31 (October 1993): 534-548.

[17] Fred C. Graham, "Government Debt, Government Spending, and Private-Sector Behavior: Comment," *American Economic Review* 85 (December 1995): 1348-1356.

expenditures in line with the conventional model. On the other hand, Roger C. Kormendi (1983),[18] David Alan Aschauer (1985),[19] Roger C. Kormendi and Philip G. Meguire (1986, 1990, and 1995),[20] and Paul Evans (1988 and 1991)[21] found no statistically significant relationship between the federal budget balance and consumption expenditures in line with the Ricardian equivalence model. The results of all of the empirical studies regarding consumption expenditures are summarized in Table 1.

Noting the contradictory findings of these empirical studies, Emanuela Cardia (1997) checked to see if standard consumption function tests were incapable of providing conclusive evidence about whether Ricardian equivalence is true or not.[22] Applying simulated data, Cardia found:

> *When the generated series are used to estimate a consumption function, the estimates on income, wealth, and government spending are very robust and remarkably close to the ones reported in the empirical literature. The estimates of the coefficients on tax revenue and government debt variables are not robust, which is also the case with the empirical literature. This suggests that the conflicting empirical evidence on Ricardian*

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[18] Roger C. Kormendi, "Government Debt, Government Spending, and Private Sector Behavior," *American Economic Review* 73 (December 1983): 994-1010.

[19] David Alan Aschauer, "Fiscal Policy and Aggregate Demand," *American Economic Review* 75 (March 1985): 117-127

[20] Roger C. Kormendi and Philip G. Meguire, "Government Debt, Government Spending, and Private Sector Behavior: Reply," *American Economic Review* 76 (December 1986): 1180-1187; Roger C. Kormendi and Philip G. Meguire, "Government Debt, Government Spending, and Private Sector Behavior: Reply," *American Economic Review* 80 (June 1990): 604-617; and Roger C. Kormendi and Philip G. Meguire, "Government Debt, Government Spending, and Private-Sector Behavior: Reply," *American Economic Review* 85 (December 1995): 1357-1361.

[21] Paul Evans, "Are Consumers Ricardian? Evidence for the United States, *Journal of Political Economy* 96 (October 1988): 983-1004; and Paul Evans, "Is Ricardian Equivalence a Good Approximation?" *Economic Inquiry* 29 (October 1991): 626-644.

[22] Emanuela Cardia, "Replicating Ricardian Equivalence Tests with Simulated Series," *American Economic Review* 87 (March 1997): 65-79.

equivalence may be due to a weakness in the statistical test performed.[23]

TABLE 1 - SUMMARY OF EMPIRICAL STUDIES ON CONSUMPTION EXPENDITURES			
ECONOMISTS	DATE OF PUBLICATION	DATA COVERAGE	RESULTS
Martin Feldstein	1982	1930-40 and 1947-77	Results contradicted Ricardian equivalence model.
Roger C. Kormendi	1983	1930-76	Consumers fully incorporated the future implications of government fiscal policy into their decisions about consumption expenditures in line with Ricardian equivalence model.
David Alan Aschauer	1985	1948-81	Results were consistent with Ricardian equivalence model.
Franco Modigliani and Arlie Sterling	1986	1952-83	Kormendi's (1983) findings were caused by errors in data measurement and model specification. U.S. consumption expenditures were consistent with the conventional model after World War II.
Roger C. Kormendi and Philip G. Meguire	1986	1931-83	Modigliani and Sterling (1986) findings were reversed if Great Depression and World War II years are included.
Paul Evans	1988	2Q 1947 – 4Q 1985	No relationship between federal budget balance and consumption expenditures in line with Ricardian equivalence model.
Martin Feldstein and Douglas W. Elmendorf	1990	1931-85	Kormendi's (1983) results were misleading because data includes World War II years. When those years are excluded, Kormendi's results were reversed. Results were consistent with the conventional model.
Franco Modigliani and Arlie Sterling	1990	1952-84	Omission of temporary tax variable, use of an inefficient model specification, and inclusion of World War II data biased results of Kormendi and Meguire (1986). Making these adjustments, consumers ignore government spending or the deficit in making their consumption decision in line with conventional model.

[23] Cardia (1997): 76.

Roger C. Kormendi and Philip G. Meguire	1990	1931-85	Feldstein and Elmendorf (1990) failed to use published real data and to incorporate an improved model specification. The methodological errors biased their result. Making these adjustments, the results supported the Ricardian equivalence model. Inclusion or exclusion of World War II years did not affect the result.
Fred C. Graham and Daniel Himarios	1991	1948-86	Consumers treated government bonds as net wealth and did not consider government spending in their consumption choice in line with conventional model
Paul Evans	1991		Ricardian equivalence held so long as any household is forward-looking and altruistic. Ricardian equivalence held even if 25 percent of households are liquidity constrained.
Paul Evans	1993	1960-88	Results from pooled data from 19 OECD countries rejected the Ricardian equivalence model
Fred C. Graham	1995	1951-91	Kormendi made two methodological errors. When these restrictions are eliminated, the results support the conventional model.
Roger C. Kormendi and Philip G. Meguire	1995	1951-91	Graham (1995) erred in decomposing labor and capital income. After this adjustment, results were fully consistent with Ricardian equivalence model. Sensitivity test showed that Graham's results were atypical.
Fred C. Graham and Daniel Himarios	1996	1949-91	Using the market value of corporate equity rather than its book value to estimate household wealth reversed Evans' (1988) results

2. Interest Rates

The conventional model differs from the Ricardian equivalence model on whether the federal budget balance affects real interest rates. The conventional model forecasts that a decrease (an increase) in the federal budget balance should cause a statistically significant rise (fall) in real interest rates. In contrast, the Ricardian equivalence model predicts that a change in the federal budget balance should not trigger a statistically significant change in real interest rates. Unlike the mixed results of the empirical studies on consumption

expenditures, the empirical studies on interest rates have uniformly failed to find any statistically significant relationship between interest rates and the budget balance of the U.S. government.

Charles I. Plosser (1982) investigated the relationship among federal debt, federal spending, and interest rates. Applying an econometric model to data from the first quarter of 1954 to the last quarter of 1978, Plosser compared interest rates on Treasuries of various maturities to federal spending on goods and services, privately held federal net debt, and federal net debt owned by the Federal Reserve System. Plosser found no statistically significant relationship between changes in federal debt and interest rates. Contrary to the conventional model, changes in the federal budget balance did not affect interest rates. Instead, Plosser found a statistically significant correlation between federal spending and interest rates. Higher federal spending, even if funded through federal tax revenues, was linked to higher interest rates.[24]

Under the Reagan Administration, the U.S. Department of the Treasury published a comprehensive theoretical and empirical study, *The Effect of Deficits on Prices of Financial Assets: Theory and Evidence* (1984), investigating the relationship between the federal budget balance and real interest rates. Examining data on the federal budget balance and real interest rates, from the first quarter of 1965 through the second quarter of 1983, the Department of the Treasury found "high deficits have virtually no relationship with high interest rates in this time period."[25]

Paul Evans (1985) examined three periods of U.S. history when federal budget deficits exceeded 10 percent of GDP – the Civil War, World War I, and World War II – to ascertain whether high budget deficits increased interest rates. Contrary to the conventional model, but consistent with the Ricardian equivalence model, Evans found that federal budget deficits were negatively correlated with interest rates on commercial paper, railroad bonds, and New England municipal bonds during 1858-69. Likewise, Evans found that during 1914-20 the interest rate on railroad bonds was remarkably stable while

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[24] Charles I. Plosser, "Government Financing Decisions and Asset Returns," *Journal of Monetary Economics* 9 (1982): 325-352.

[25] The Honorable Manuel H. Johnson, Assistant Secretary of the Treasury for Economic Policy, "Introduction," in U.S. Department of the Treasury, The Office for the Assistant Secretary for Economic Policy, *The Effect of Deficits on Prices of Financial Assets: Theory and Evidence* (Washington, D.C.: Government Printing Office, March 1984), no page number.

changes in the interest rate on commercial paper were unrelated to the federal budget balance. Finally, Evans examined the World War II period. Because the Federal Reserve pegged interest rates during the war to moderate the growth of federal interest outlays, interest rates on commercial paper and the Moody's Aaa corporate bond index were not surprisingly stable. Wartime rationing prevented any rise in consumption. To test whether in the absence of such controls consumption and interest rates would have risen as predicted by the conventional model or would have remained stable as predicted by the Ricardian equivalence model, Evans used a proxy to predict what consumption expenditures would have been without controls. He found that desired consumption expenditures actually fell as federal budget deficits rose during World War II.[26]

While previous studies had examined whether past or current federal budget balances affect current interest rates, Paul Evans (1987) examined whether expectations of future federal budget balances affected current interest rates. Evans compared the commercial paper rate, the Moody's Aaa corporate bond index rate, and the *ex post* real commercial paper rate to current and past federal spending, federal budget balances, and real money supply data from June 1908 to 1984. Evans found that interest rates are not related to past, present, or expected federal budget balances. Evans also examined whether anticipated tax cuts or hikes had any impact on interest rates. He found that interest rates were neither bid up in 12 months leading to each major tax reduction nor bid down in the 12 months leading to each major tax increase during June 1908 through 1984. These findings are consistent with the Ricardian equivalence model.[27]

Building upon his 1982 study, Charles I. Plosser (1987) expanded the data set to 1985 and examined the relationship between expected future federal budget balances and interest rates. Overall, Plosser's results confirmed his earlier findings. Plosser again failed to find a statistically significant relationship between federal budget balance and nominal or real interest rates. Expected future federal budget deficits did not raise interest rates.[28]

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[26] Paul Evans, "Do Large Deficits Produce High Interest Rates?" *American Economic Review* 75 (March 1985): 68-87.

[27] Paul Evans, "Interest Rates and Expected Future Budget Deficits in the United States," *Journal of Political Economy* 95 (February 1987): 34-58.

[28] Charles I. Plosser, "Fiscal Policy and Term Structure," *Journal of Monetary Economics* 20 (1987): 343-367.

E. Implications of Findings

A review of relevant empirical studies yields mixed results on the effect of the federal budget balance on consumption expenditures. Some economists found a statistically significant negative correlation between the federal budget balance and consumption; *i.e.*, reducing federal surpluses or increasing federal deficits will cause consumption expenditures to rise. Others found no statistically significant relationship between the federal budget balance and consumption expenditures. Apparently, consumption expenditure studies are very sensitive to the data selection and model specification. Consequently, the empirical evidence regarding consumption expenditures fails to provide robust support for the conventional model.

In contrast, none of the empirical studies found a statistically significant relationship between the federal fiscal position and real interest rates. These consistent findings across many data sets and model specifications do not statistically support the conventional model's hypothesis that an increase (decrease) in the federal budget balance will cause real interest rates to fall (rise). Thus, the Ricardian equivalence model's hypothesis that such a change in the federal budget balance will not affect real interest rates cannot be rejected.

Any change in the federal net debt due to the federal budget balance should be compared to overall size of global financial markets from which net debt is funded. On December 31, 2000, the value of securities outstanding in global financial markets was $60 trillion. That means a $150 billion surplus (deficit) represents about 0.25 percent of global financial markets. Even compared to smaller domestic financial markets of $30 trillion, a federal budget surplus (deficit) of $150 billion is still a mere 0.50 percent of domestic financial markets. From this perspective, the conclusion that the federal fiscal position does not measurably affect real interest rates significantly appears reasonable.[29]

To the extent that the federal budget balance does not measurably affect real interest rates, then the federal budget balance cannot measurably affect domestic investment, net international investment, or real GDP growth over time. The conventional model postulates that a negative movement in the federal budget balance will increase real interest rates, this increase will cause domestic investment and net international investment to decline, and such declines will slow capital accumulation and decelerate long-term real GDP growth.

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[29] Derived from data from *Size and Structure of World Bond Market* (New York: Merrill Lynch, 2001) and Ibbotson Associates.

However, empirical studies generally found no statistically significant relationship between the federal budget balance and real interest rates. The real interest rate transmission mechanism from the federal fiscal position through domestic investment and net international investment to real GDP growth claimed by the conventional model does not appear to exist at least over the range of federal net debt to GDP ratios that have occurred in U.S. history. While there might be a relationship between federal net debt and real interest rates at very high federal net debt to GDP ratios (120 percent or more), data limitations make such a relationship impossible to determine. Over any range relevant to U.S. policymakers, however, a change in federal budget balance or net debt is unlikely to affect real GDP growth in a statistically significant way.

With the federal net debt to GDP ratio of 32.0 percent as of July 31, 2001, the macroeconomic benefits from a moderate reduction of federal net debt are not empirically measurable. Empirical evidence suggests that a moderate reduction of federal net debt would not produce any significant real GDP growth dividend for the American economy. Under current circumstances, the macroeconomic opportunity cost for foregoing a moderate reduction of federal net debt is, if not zero, quite small.

IV. How Do Additional Federal Tax Reductions Affect Real GDP Growth?

The burden of federal taxation upon the U.S. economy is significantly greater than the amount of federal tax revenues collected each year from individual and firm taxpayers. Because of administrative costs, compliance costs, and deadweight losses, the economic burden of paying a dollar in taxes to the U.S. government is significantly greater than one dollar.

A. Administrative Costs

The administrative costs are the expenses that U.S. government incurs in devising, administering, and enforcing federal tax laws. These include the costs of Congress drafting federal tax legislation and providing oversight of the Internal Revenue Service (IRS), the administrative, information management, auditing, and enforcement activities of the IRS, and the tax-related supervisory activities of the President and the Secretary of the Treasury. Because Congress must appropriate sufficient funds for these activities, U.S. taxpayers bear the burden of the administrative expenses of the federal tax system indirectly through higher federal taxes or lower federal spending on other activities or programs. During fiscal year 2000, the IRS will spent $8.6 billion and will employ approximately 97,000 workers to administer federal tax laws. That amounts to 0.4 percent per dollar of

all federal tax collections or 0.7 percent of federal income tax collections.[30]

B. Compliance Costs

Closely related to administrative costs are compliance costs. The IRS expects that individuals and business firms will file approximately 215 million returns during 2001.[31] Both individual and business taxpayers must bear the burden of filing these returns and complying with federal law directly. Compliance costs includes the value of the time and out-of-pocket costs of learning tax requirements, record keeping, tax preparation, accounting, legal, and other professional fees, and responding to audits and enforcement proceedings. Surveying and synthesizing the empirical research on compliance cost, Joel Slemrod and Jon Bakija (2000) estimated the compliance cost of the federal income tax was about $100 billion or 10 percent of federal income tax revenue raised in 1999.[32]

C. Deadweight Losses

Economic activity depends upon voluntary exchange among individuals and firms. Taxation is a burden that discourages individuals and firms from undertaking economic activities that they would otherwise undertake in the absence of such taxation. Taxes create disincentives toward economically productive behavior such as work, savings, or investment. Thus, taxation alters the economic behavior of individuals and firms in ways that reduce overall economic welfare. This reduction is known as the deadweight losses from taxation.

Deadweight losses from taxation may be depicted graphically (see Graph 1). The triangle to the left of the intersection point of the demand and supply curves may be divided into two triangles, AFD and DFI, by the horizontal line indicating the market-clearing price. The upper triangle, AFD, represents consumer surplus (*i.e.*, the cumulative

value that consumers place on a good in excess of its market-clearing price), and the lower triangle, DFI, represents producer surplus (*i.e.*,

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[30] Executive Office of the President, Office of Management and Budget. *Budget of the United States, Fiscal Year 2002, Appendix*, vol. 2. Washington, D.C.: Government Printing Office, 2001: 2-861.

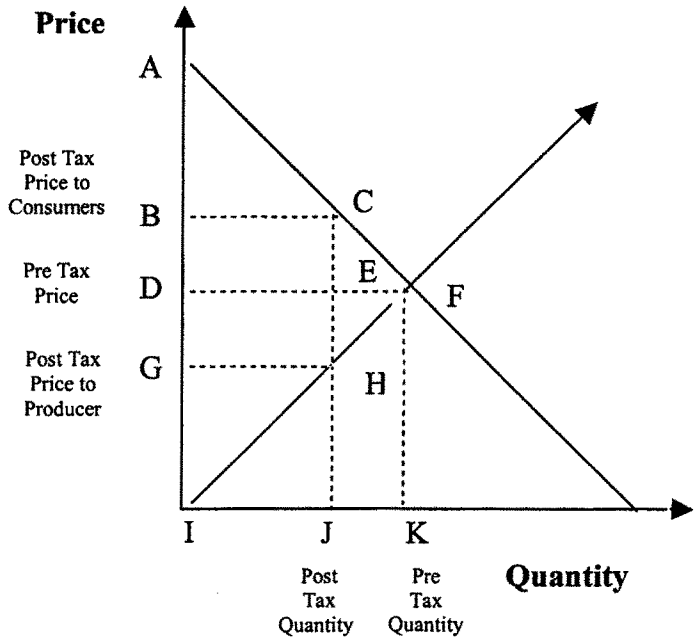
[31] *Budget Fiscal Year 2001: Appendix*: 2-861

[32] Joel Slemrod and Jon Bakija, *Taxing Ourselves: A Citizen's Guide to the Great Debate over Tax Reform* (Cambridge, Massachusetts: The MIT Press, 2000): 137.

the economic profits to producers for selling units at the market-clearing price). Any tax may be thought of as a wedge between consumers and producers that simultaneously raises the price paid by consumers from D to B and lowers the price received by producers from D to G. Because of this tax wedge, the number of units produced and sold will decline from K to J.

The difference between the price paid by consumers, B, and the price received by producers, G, multiplied by the quantity of units sold after the tax is imposed, J, is the rectangle BCHG, which represents the tax revenue to the government. However, because any new tax reduces the number of units that would have otherwise been produced and sold, some of both the consumer surplus and producer surplus that would have existed without the tax is not transferred to the government, but instead is lost to the economy forever. This is the deadweight loss from taxation. Graphically, the triangle CFH, which is composed of the portions of the pre-tax consumer and producer surplus triangles to the right of the vertical line depicting the number of units produced and sold after the new tax is imposed, represents the deadweight losses from taxation.

Graph 1 – Deadweight Losses



PrePre-Tax Consumer Surplus = Δ ADF
Pre-Tax Producer Surplus = Δ DFI
Post Tax Consumer Surplus = Δ ABC
Post Tax Producer Surplus = Δ GHI
Tax Revenue = ▭ BCHG
Deadweight Losses = Δ CFH

While all economists have long accepted the deadweight losses from taxation conceptually, there has been relatively little empirical work until recent years to quantify the size of the deadweight losses from taxation in the United States. Early studies using partial equilibrium models found that deadweight losses were relatively small. Using 1974 data, Edgar K. Browning (1976) found that the marginal excess burden of additional taxes on labor income was between 8.3 percent and 15.6 percent of revenue raised, depending what taxes were increased.[33] In a second partial equilibrium study, Browning (1987) found the marginal excess burden of taxation varied from under 10 percent to more than 300 percent of marginal tax revenue.[34]

Taking a different methodological approach, Charles Stuart (1984) applied a general equilibrium model to 1976 data. Stuart found the marginal excess burden of the U.S. tax system was 20.7 percent based upon the marginal tax rates that prevailed in 1976. Stuart found the marginal excess burden was 24.4 percent based upon the marginal tax rates that prevailed in 1979.[35]

Charles L. Ballard, John B. Shoven, and John Whalley (1985) calculated the marginal excess burden for all major taxes in the United States. Using a general equilibrium model with mid-range estimates for uncompensated labor supply elasticity of 0.15 and for

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[33] Edgar K. Browning, "The Marginal Cost of Public Fund," *Journal of Political Economy* 84 (April 1976): 283.
[34] Edgar K. Browning, "On the Marginal Welfare Cost of Taxation," *American Economic Review* 77 (March 1987): 11.
[35] Charles Stuart, "Welfare Costs per Dollar of Additional Tax Revenue in the United States," *American Economic Review* (June 1984): 358.

uncompensated savings elasticity of 0.4, Ballard, Shoven and Whalley found the average marginal excess burden from U.S. taxation was 33.2 percent (see Table 2).

Table 2 -Marginal Excess Burden from Raising Extra Revenue from Specific Portions of the U.S. Tax System[36]	
All Taxes	33.2 %
Capital taxes at Industry Level including Corporate Income and Property Taxes	46.3 %
Labor Taxes at Industry Level including Payroll Taxes	23.0 %
Consumer Sales Taxes including Alcoholic Beverages, Tobacco Products, and Motor Vehicle Fuels	38.8 %
Consumer Sales Taxes excluding Alcoholic Beverages, Tobacco Products, and Motor Vehicle Fuels	11.5 %
Personal Income Taxes	31.4 %
Output Taxes including Excise Taxes and Other Indirect Business Taxes	27.9 %

Other empirical research has found even higher values for the marginal excess burden for the federal taxation. Martin Feldstein (1995) asserted that the traditional method for calculating deadweight losses solely based upon the substitution of leisure for labor (*i.e.*, the elasticity of labor supply) seriously underestimated the actual deadweight losses from taxation. Taxpayers can use exemptions and deductions to avoid tax increases. For example, individuals may substitute tax-exempt health insurance benefits for taxable wages. Individuals may also reduce their tax burden by shifting toward tax-preferred forms of consumption such as owner-occupied housing.[37] Yet, the traditional method ignored these important behavioral responses to tax changes. To capture these behavioral responses, Feldstein used the compensated elasticity of taxable income instead of the compensated elasticity of labor supply in calculating deadweight

[36] Charles L. Ballard, John B. Shoven, and John Whalley, "General Equilibrium Computations of the Marginal Welfare Costs of Taxes in the United States," *American Economic Review* 75 (March 1985): 136.

[37] Homebuyers receive a federal income tax deduction for mortgage interest payments. A federal income tax increase may cause some individuals to shift from renting to owning a home to take advantage of this deduction.

losses. Applying this methodology in the National Bureau of Economic Research's TAXSIM model to 1994 data, Feldstein found:

> *The deadweight loss of $181 billion [for the federal individual income tax] represents 32.2 percent of the TAXSIM estimate of $543 billion personal income tax revenue for 1994. ... The TAXSIM estimate ignores the effect of Social Security payroll taxes on the deadweight loss of the income tax. An alternative calculation [including the Social Security payroll tax] ... implies a substantially larger deadweight loss of $284 billion or 52 percent of the personal income tax revenue.* [38]

Reviewing the empirical literature regarding deadweight losses from taxation, Richard K. Vedder and Lowell E. Gallaway (1999) concluded:

> *To be sure there are still higher estimates ... as well as lower ones, but the 40-cent estimate is probably approximately a midpoint estimate of the many serious studies performed. It is important to note all the studies show some deadweight loss from taxation ... the 40-cent welfare loss per tax dollar estimate is a reasonable midrange evaluation of studies of the issues using different methodologies, data sets, and time periods.*[39]

D. Real GDP Growth Benefits from Additional Federal Tax Reductions

Marginal tax rate cuts stimulate two behavioral responses among individuals. One response is known as the "substitution effect"; the other, the "income effect." Reducing marginal tax rates is analogous to cutting prices of taxable activities such as work, saving, and investment relative to nontaxable activities such as leisure. On one hand, a tax cut may cause individuals to undertake more of the now relatively lower cost taxable activities and less of the now relatively higher cost nontaxable activities. This is the substitution effect. On

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[38] Martin Feldstein, *Tax Avoidance and the Deadweight Loss of the Income Tax*, NBER Working Paper 5055, (Cambridge, Massachusetts: National Bureau of Economic Research, March 1995): 32.

[39] Richard K. Vedder and Lowell E. Gallaway, *Tax Reduction and Economic Welfare*, Prepared for the Joint Economic Committee, 106th Congress, 1st Session, April 1999: 6.

the other hand, a tax cut may make individuals feel wealthier causing them to engage in less of the taxable activities. This is the income effect. Economists cannot determine *a priori* whether the substitution effect or the income effect will predominate at the individual level.

With regard to effect of after-tax wages on labor supply, the substitution effect may occur either at the intensive margin (hours worked among the currently employed) or at the extensive margin (labor force participation). Among all subgroups, prime working age married men have consistently shown a low elasticity regarding hours worked and a slightly greater elasticity regarding participation. Prime working age married women as well as older individuals display significantly higher elasticities regarding both hours worked and participation. The labor supply of these groups is more responsive to tax changes than the labor supply prime working age married men.[40] With regard to effect of the after-tax return on the savings, the supply of savings is more elastic to changes in marginal tax rates than the supply of labor.

Marginal income tax rate cuts reduce the deadweight losses attributable to taxation. As marginal tax rates decline, the wedge between pre-tax income and post-tax income for economically productive activities shrinks. For example, a marginal income tax rate reduction increases the take-home pay of employees and the after-tax return of buying a Treasury bond. This shrinkage of the tax wedge encourages economically productive activities, decreases the deadweight losses from taxation, and thereby enhances overall economic welfare

International comparisons demonstrate the negative correlation between taxation and economic growth in developed countries. In an Organization for Economic Cooperation and Development (OECD) report, Willi Leibfritz, John Thornton and Alexandra Bibbee (1997) found:

> *Our estimates, based on a highly simplified "top-down" approach (i.e., cross-country regression analysis), suggest that the increase in the average (weighted) tax rate of about 10 percentage points over the past 35 years may have reduced OECD annual growth rates by about ½ percentage point. ... The "top-down" has several shortcomings as a reliable basis for the assessment of tax effects on*

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[40] Harvey Rosen, *Public Finance* 6th Ed. (Boston: McGraw-Hill Irwin, 2002): 374-378.

> *the economy. The analysis in the paper suggests that it is necessary to supplement it with a "bottom-up" approach which examines the various channels through which taxation affects economic growth, in particular via to distortions to saving, physical and human capital formation, and labour supply. ... While the results are model-dependent, one of the endogenous growth models finds that a cut in the tax-to-GDP ratio by 10 percentage points of GDP (accompanied by a deficit-neutral cut in transfers) may increase annual growth by ½ to 1-percentage points.*[41]

In a World Bank staff working paper, Keith Marsden (1983) examined the economic performance of 20 countries, pairing one high-tax country with one low-tax country with similar initial *per capita* GDP, during 1970-79.[42] Marsden observed the average (unweighted) annual rate of real GDP growth was 7.3 percent in the low-tax group and 1.1 percent in the high-tax group.[43] Performing a statistical analysis relating the tax/GDP ratio to real GDP growth, Marsden found:

> *An increase of one percentage point in the tax/GDP ratio decreases the rate of economic growth by 0.36 percent points. ... The results suggest that taxes affect growth in two ways: first, by influencing the aggregate supply of the main factors of production by raising or lowering their net (after tax) returns and second, by influencing the efficiency of resource utilization (total factor productivity).*[44]

Marsden also observed "[g]ross domestic investment grew at substantially higher rates in low-tax countries, averaging 8.9 percent annually, compared with an annual decline of 0.8 percent in high-tax countries." Performing a statistical analysis relating the tax/GDP ratio

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[41] Willi Leibfritrz, John Thornton, and Alexandra Bibbee, *Taxation and Economic Performance* (Paris: Organization for Economic Cooperation and Development, 1997): 10-11.

[42] Keith Marsden, *Links between Taxes and Economic Growth: Some Empirical Evidence*, World Bank Staff Working Paper 605 (Washington, D.C.: World Bank, 1983).

[43] Marsden: 2.

[44] Marsden: 8, 11.

to investment, Marsden found "an increase in the total tax ratio of 1 percentage point lowers the rate of growth of investment by 0.66 percentage points."[45] Finally, Marsden observed "[n]onagricultural employment rose more rapidly in low-tax countries. So did productivity (GDP per member of the labor force), by 5.0 percent a year on the average compared with a decline of 0.1 percent in high-tax countries."[46]

E. Implications of Findings

In terms of economic welfare, the macroeconomic opportunity cost of foregoing additional federal tax reductions is quite high. Though the marginal excess burdens imposed by different elements of federal taxation may vary, a mid-range estimate of the aggregate marginal excess burden of federal taxation is 40 cents per dollar of federal revenue. Thus, federal taxation imposes extraordinary deadweight losses upon the U.S. economy. Moreover, empirical studies suggest that lower federal taxes, especially marginal income tax rates, will significantly accelerate long-term real GDP growth. Thus, empirical evidence suggests that, under current circumstances, the macroeconomic opportunity cost of foregoing moderate federal tax relief is higher than the macroeconomic opportunity cost of foregoing a moderate reduction of federal net debt.

V. Conclusion

Prior to the events of September 11, 2001, the U.S. government expected to run large recurring budget surpluses during the next decade. The terror attacks have substantially changed the fiscal outlook.

With bipartisan congressional support, President George W. Bush has launched a war on terrorism that will increase defense outlays. The federal government will make substantial one-time outlays for disaster relief and recovery assistance in fiscal year 2002. Economic dislocations associated with these attacks may aggravate the U.S. economic slowdown. In this new economic and security environment, a bipartisan consensus has emerged that reducing federal net debt as rapidly as possible is not the exclusive objective of fiscal policy. Instead, both the Bush administration and Congress agree that additional tax reductions are needed to stimulate economic growth. The available empirical evidence indicates that this is the appropriate fiscal policy response under current circumstances and given the range

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[45] Marsden: 12.
[46] Marsden: 20-21.

of feasible policy options. This study does draw conclusions about the appropriate fiscal policy under substantially different circumstances.

Empirical studies consistently find that additional federal tax reductions, particularly of marginal federal income tax rates, would accrue large macroeconomic benefits. The marginal excess burden from federal taxation is about 40 percent. Reducing such deadweight losses through additional federal tax relief would enhance overall economic welfare and stimulate long-term real GDP growth.

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The Taxation of Individual Retirement Plans: Increasing Choice for Seniors

> We believe that there is a strong case for changing the minimum distribution requirements to reflect increases in life expectancy, the increase in labor force participation by women and older people, and the need for financing long-term care late in the life cycle.
>
> *Mark J. Warshawsky, Ph.D.*
> *then Director of Strategic Research at the TIAA-CREF Institute*[1]

I. Introduction

Individual retirement plans ("IRPs") have many different variations. As defined here, IPRs include Individual Retirement Arrangements (IRAs), also commonly referred to as individual retirement *accounts*, and similar retirement plans such as 401(k)s. IRPs have become an important vehicle for many households to invest in the market and save for their retirement. Most of these plans allow for limited annual contributions to be made before taxes into a retirement account.[2] For example, traditional IRA contributions are tax deductible within certain limits. The contributions are allowed to grow deferred from taxation until withdrawal. IRPs can be invested in stocks, bonds, money-market funds, or a combination of all three.

Over the past decade, assets held in IRPs have increased approximately 250 percent, from $1.4 trillion in 1990, to an estimated $4.9 trillion in 2001.[3] IRAs have increased an estimated 277 percent, from $636 billion in 1990, to an estimated $2.4 trillion in 2001. Similarly, 401(k)-type retirement plans increased approximately 230 percent, from $756 billion in 1990, to $2.5 trillion in 2001.[4] For 2001,

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[1] Mark Warshawsky, "Distributions from Retirement Plans: Minimum Requirements, Current Options, and Future Directions," TIAA-CREF Institute, *Research Dialogues*, No. 57, September 1998, page 10.

[2] The exception being Roth IRAs, which are funded with post-tax dollars and the returns to which are then tax-free.

[3] Investment Company Institute, *Fundamentals*, June 2002, Figure 5, page 4. Includes IRAs and defined contribution plans, such as 401(k)s and the Federal Employees Retirement System (FERS) Thrift Savings Plan (TSP). Detail may not add due to rounding.

[4] *Ibid.* Detail may not add due to rounding.

39.7 percent, or 41.9 million U.S. households owned IRAs. An estimated 34.1 million households, or nearly one-third of all U.S. households, held traditional IRAs.[5]

For many senior citizens, IRPs can be a primary saving vehicle for retirement. Further, along with Social Security, IRPs represent a major source of money for retirement. However, even though IRPs have been a valuable saving vehicle for many seniors, they do have one major drawback: the forced distribution of IRP assets and the associated taxation of those assets for senior citizens once they reach age 70½.[6]

Since most IRPs are funded with pre-tax dollars that are allowed to grow tax-deferred, eventual distributions from IRPs at retirement are taxed at the individual income tax rate. In order for the government to recapture the deferred taxes on the original contribution plus the related appreciation, the government generally requires seniors to begin withdrawing from their IRPs once they reach age 70½. This requirement often forces seniors to take distributions when they do not need them.

Worse, in cases of a down market, the forced distributions could require seniors to sell some of the assets in their IRPs at a loss and still have to pay taxes on the loss. Usually, the government does not tax transactions that generate losses. However, for those IRPs that are funded with pre-tax dollars a tax is due on distributions even if the distributions are at a loss. For many seniors, a forced distribution that might require assets to be sold at a loss could jeopardize their economic welfare in their remaining retirement years. This would be counter to the original intent of IRPs: to allow individuals to save and invest so that they have enough money to live a secure retirement. Further, forcing withdrawals according to an overly rigid schedule can limit the ability of seniors to smooth their consumption patterns over their retirement years and even deprive them of needed financial resources in case of future illness or other financial necessities.

The treatment of IRP withdrawals reflects an underlying problem with the U.S. income tax system. In many respects, the

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[5] Investment Company Institute, *Fundamentals*, September 2002, Figure 1, page 1.

[6] Owners of IRA accounts must begin minimum withdrawals at age 70½. However, holders of 401(k) plans have the option of beginning their withdrawals at age 70½ or at retirement, whichever is later, so long as the account holder remains employed by the same employer that sponsored the 401(k) plan.

current tax system is counterproductive and biased against saving and investment. In general, the tax system imposes large losses on the economy that reduce the economic welfare of households. The current levels of taxation can impose relatively high output and welfare costs on the economy. While the range of economic losses imposed by the current level of taxation is rather broad, a conservative estimate is that these excess marginal burdens range from 25 to 40 cents of the last dollars raised in federal revenue; other estimates range much higher.[7]

The tax treatment of senior citizens invested in IRPs over age 70½ can be even more punitive. In short, effectively forcing seniors to take mandatory withdrawals from their IRPs once they reach age 70½ is not only biased against saving and investment but also biased against senior citizens in general and women in particular, at exactly the time when they need all of their savings. This policy is not only unfair to seniors but is out of date with current work and retirement realities, as people continue working at older ages (some well past age 70) and life expectancies, especially for women, have increased and are continuing to increase. Further, in volatile market and financial conditions, seniors need flexibility in deciding how and when to withdraw their retirement assets. It is time that policy action be taken to alleviate this unfair tax treatment levied on seniors.

This study addresses the requirement that forces senior citizens to begin withdrawing from IRPs once they reach age 70½, the reasoning behind the requirement, the economic harm it can have on seniors and some policy alternatives to this requirement that would help mitigate the bias on seniors and their retirement that this requirement creates. Section II addresses some economic considerations and how the current tax treatment of forcing seniors to begin taking distributions from their IRPs once they reach age 70½ can unfairly and punitively affect performance, saving and investment and possibly jeopardize the future health of seniors' retirement funds. Section III of this paper provides a brief technical introduction to the mandatory withdrawal requirements and their implications. Section IV highlights some demographic statistics to illustrate the importance of IRPs as an investment vehicle for many millions of seniors. Section V addresses policy considerations to restore the fair tax treatment of senior citizens.

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[7] For more information, see: United States Congress, Joint Economic Committee, *Tax Reduction and the Economy*. April 1999.

II. Economic Considerations

Individual retirement plans ("IRPs") have may different variations (e.g., traditional IRA, Roth IRA, 401(k), Keogh, etc.) but fall into two basic categories: those that have contributions funded with *pre-tax* dollars (deductible) and those funded with *after-tax* dollars (nondeductible).

The advantage of these retirement plans is simple: a participant may save during working years and continue to have such savings grow without taxes until the funds are withdrawn in retirement. Contributions to most of these plans are tax-deferred or tax-deductible and the tax becomes due once withdrawals are made. Other plans allow contributions to be made with after-tax dollars and the proceeds to be withdrawn tax-free during retirement.

The requirement to force seniors to begin taking distributions from IRPs only applies to traditional IRAs or 401(k) plans that are funded with deductible or tax-deferred contributions. This is because the government eventually wants to recapture these tax dollars on the contributions, plus related appreciation. Retirement accounts funded with deductible contributions are allowed to defer the original tax due. In order to ensure that the deferral does not last forever, the government requires seniors to begin withdrawing from these types of retirement accounts once they reach age 70½. However, even this treatment is not identical across deductible retirement accounts.

As mentioned, holders of traditional IRAs, as well as workers with pension plans from prior employers, must begin mandatory withdrawals beginning at age 70½. However, holders of 401(k) plans, also funded with deductible contributions, have the option of beginning their withdrawals at age 70½ or in the year in which they retire, whichever is later, so long as the account holder remains employed by the same employer that sponsored the 401(k) plan. Thus, a person with a 401(k) plan who decides to work until age 75 could continue to defer paying tax on their retirement account past age 70½, while a similar person with a traditional IRA would have to begin taking distributions once they reached 70½ even if they continued to work. In some cases, a person over age 70 with a traditional IRA could continue to work and still contribute to a 401(k) plan while simultaneously be required to withdraw funds from the traditional IRA.

The primary problem with requiring individuals to make mandatory withdrawals from their IRAs and 401(k)s is that it could force retirees to either sell capital assets or channel money from some other potentially productive source in order to pay the tax bill. This would not only be unfair, but it would also be inefficient, as resources

would have to be allocated away from higher valued uses in order to pay a tax bill. Additionally, in times of down markets or markets with low valuations, seniors could be forced to sell assets at reduced prices or even at losses, just so the government can collect a tax bill. This could have the effect of forcing seniors to sell assets at reduced values during the years when they need savings the most. Lastly, in the event that some assets had to be sold at a loss, the loss would not be deductible either against capital gains or ordinary income since it was funded with pre-tax dollars.

If seniors are forced to sell assets at reduced values, the government could receive *less* tax revenue than if the same assets were sold for a higher value at a later date. Generally, a deferral of taxation is a benefit to both the investor and the government.[8] Whether a tax deferral actually results in a wash, a gain, or a loss to the Treasury, on a net present value basis, is dependent upon the tax rates in effect at the time of the deferral and at the time the tax payment is made, and the rate of return the deferral creates for the taxpayer. A rate of return greater than that of U.S. Treasury Bills would result in a net gain to the government, as well as the taxpayer, all else being equal. Hence, both seniors invested in IRPs and the U.S. Treasury could benefit from a tax change to the minimum withdrawal requirement.

III. Technical Aspects of Mandatory Distributions

Individual retirement plans were created to encourage people to save during their working years in order to better fund their retirement. Penalties are imposed for early withdrawal and for failing to withdraw once an account owner reaches a minimum age or retirement.[9] The penalties can be extremely severe: those account holders who fail to make the mandated withdrawals suffer a massive penalty equal to 50 percent on the difference between the amount that should have been withdrawn and the actual amount withdrawn, if any.

Minimum distribution requirements, which establish the periods over which assets of the account must be distributed, were established to ensure that the benefits provided by the retirement account were used to fund retirement and not as an indefinite tax shelter. According to Mark Warshawsky, the former Director of Research at TIAA-CREF Institute and now the Deputy Assistant

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[8] For a discussion and mathematical proof that shows how deferral of taxation would eventually increase tax revenue to the government, see Irving Fisher, "Paradoxes in Taxing Savings," *Econometrica*, vol. 10, issue 2, April 1942.

[9] Until recently, a penalty also applied if an account owner withdrew too much money in retirement years, but fortunately this has been repealed.

Secretary for Economic Policy, Microeconomic Analysis, at the U.S. Department of the Treasury, "Minimum distribution requirements were first put into place in 1962 to prevent Keogh plans from becoming vehicles for avoiding income and estate taxes. Since then, they have been imposed on all types of retirement plans. While their original intent may have been valid, the rules have become increasingly outmoded in today's labor market and social conditions, to say nothing of the strict regulatory regime controlling pensions."[10]

Different types of retirement plans have different specifics on when distributions can be made, penalties for early withdrawals, penalties for withdrawing too little during retirement, etc. Generally, account owners must either begin minimum distributions once they retire or reach a minimum age, currently 70½. However, as is the case with many government regulations that limit individual choice, many policies have unintended consequences that can cause much harm.

It is important to start out with a brief background of the regulations relating to minimum withdrawals from IRPs. Generally, there are two sets of requirements: *basic* and *incidental*.[11] Most attention and consideration are given to the *basic* requirements. Under this set of requirements, minimum withdrawal amounts must be made by the account owner beginning at a specified time (no earlier than age 59½ and no later than age 70½). Withdrawals must continue periodically (usually annually) based on percentage amounts specified by life expectancy tables provided for in regulation. The amounts withdrawn are to be included in the account owner's taxable income when filing annual tax returns. *Incidental* requirements set forth the limitations on the ability to defer taxation of assets held in IRPs to nonspousal beneficiaries. In addition, incidental requirements establish the mandatory withdrawal amounts and the life expectancy rates to be used when assets held in IRPs are passed on to nonspousal heirs.

Though the rules and calculations can be complex and confusing, required minimum withdrawal amounts are generally determined by dividing the account balance at the end of the year by the number of years listed in a life expectancy table. The life expectancy tables are determined by regulation. For example, using the new uniform lifetime table provided by the IRS, a 75 year old woman would divide her account balance by the number of distribution

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[10] Mark Warshawsky, "Optimal Design of Minimum Distribution Requirements for Retirement Plans," TIAA-CREF Institute, *Benefits Quarterly*, No. 4, 1998, pg. 9.
[11] *Ibid.*, pg. 1.

years listed for age 75, in this case assume 22.9 years.[12] For an account balance of $150,000 this would require a withdrawal of $6,550. Assuming a 27% tax bracket, this would amount to a tax bill of $1,769. The procedure would be repeated again each following year until the account balance is zero or the owner becomes deceased.

The legislative history behind retirement arrangements and minimum distributions requirements is long and detailed, to say the least.[13] For purposes of this study it is necessary only to briefly discuss the 1987 regulations and the new regulations issued January 11, 2001 and finalized April 16, 2002.[14]

Under the old regulations (pre-2001), IRP owners had to withdraw minimum amounts as specified by life expectancy tables at least every year after reaching age 70½. For owners of employer-sponsored retirement plans that were still employed by the employer that sponsored the plan the minimum distributions began after the latter of age 70½ or retirement.[15] Thus, individuals with 401(k) plans who continued to work after age 70½ were not required to make minimum distributions, so long as the account holder remains employed by the same employer that sponsored the 401(k) plan, while owners of traditional IRAs were once they reached age 70½ regardless of whether or not they continued to work.[16] Minimum withdrawals must begin for retirement plans from previous employers at age 70½, regardless of whether the account holder continues to work. Further, minimum distribution requirements from 403(b) plans can be postponed until age 75 for pre-1987 contributions and investment earnings.[17] This unequal

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[12] U.S. Department of the Treasury, Internal Revenue Service, *Supplement to Publication 590*, June 2002.

[13] For more information on the regulatory history, see: Mark Warshawsky, "Further Reform of Minimum Distribution Requirements for Retirement Plans," *Tax Notes*, April 9, 2001.

[14] Though the regulations are considered "final" the Internal Revenue Service is still accepting comments and future adjustments may be made.

[15] Persons considered "5 percent owners" in a company retirement plan must begin withdrawals at age 70½.

[16] It should be noted that after the *Tax Reform Act of 1986* and before the 1997 tax reforms, even 401(k) owners had to make minimum withdrawals beginning at age 70½ even if they continued to work.

[17] James R. Storey and Paul J. Graney, "Retirement Plans With Individual Accounts: Federal Rules and Limits," Congressional Research Service, updated March 7, 2002, page 23.

treatment between traditional IRA owners and owners of employer-sponsored retirement plans continues in the new regulations.[18]

As discussed above, the minimum amount was determined every year by dividing the previous year-end account balance by a factor specified in a life expectancy table. A designated beneficiary's life expectancy could be included in the calculations. If the beneficiary was not the spouse of the account owner, the regulations limited the maximum age difference to 10 years. This was done to limit the amount of money and tax benefit that could be provided to nonspousal heirs.

One of two methods could be elected at the time of the first withdrawal for calculating the life expectancy factors. Under the *recalculation* method, which was not available if the beneficiary was not the spouse, the factors set forth in the life expectancy tables are used. The amount to be withdrawn is recalculated every year based on the asset value at the end of the previous period and the corresponding life-expectancy factor for the given age. Under the *period-certain* method, also called the one-year-less method, one year is subtracted from the original life expectancy factor every year that passes after the first distribution, based on mortality tables. This results in a faster drawdown of the account, as withdrawals increase rapidly until the initial age of life expectancy is reached and the balance reduced to zero.

The recalculation method generally allows for lower amounts to be withdrawn yearly, while the period-certain method will result in higher amounts and a faster depletion of the account. Regardless of the method chosen, a 50 percent excise penalty tax was applied on the difference between the mandatory minimum distribution amount required and the amount actually withdrawn, if any. The complexity of the regulations and confusion surrounding the different sets of regulations, along with the potential for severe penalties, necessitated the advice of a professional accountant for many retirees. This complexity adds an additional cost to complying with the regulations.

These regulations resulted in much confusion and criticism.[19] For example, life expectancies have increased and are expected to

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[18] Since many employer-sponsored retirement plans take the place of pensions and the administrative burden that would be placed on plan administrators, the different treatment is allowed. However, since both employer-sponsored retirement plans and traditional IRA plans are funded with tax deferred dollars and are intended for "retirement" it can be argued that this treatment is not equitable and discriminates against traditional IRA owners.

increase further. Hence, mandatory withdrawals should be lessened to allow for increased life expectancy. Second, many people continue to work well past age 70½, and therefore it was suggested the minimum age should be raised. Third, the life expectancy tables were based on, or more heavily weighted towards, men's mortality. Hence, women who tend to have longer life expectancies were forced to make larger withdrawals than should have been necessary. Fourth, the period-certain method was strongly criticized for its tendency to require high distributions that abruptly ended. Therefore, individuals could outlive their savings. The 50 percent penalty applied to withdrawals that were too low was considered overly punitive. Others claimed noncompliance with the minimum withdrawal requirements was extensive, as the IRS never provided specific guidance on what documentation was required.

In January 2001, the IRS released new guidelines covering minimum distribution rules from retirement accounts. The regulations were "finalized" in April 2002 but remain open for additional comments from the public. The new guidelines attempt to address many of the concerns and problems associated with the old regulations and are a step in the right direction. However, many of the procedures and requirements stay the same. The new regulations still require mandatory withdrawals for owners of IRP plans, but now allow for the use of better standardized life expectancy tables, which are longer than the previous tables and allow for smaller annual withdrawals.

Also, the new regulations addressed some compliance concerns. The IRS will now require the trustee or custodian of an individual's IRP to report both the year-end value of the IRP and the required distribution for the next year. This will presumably make it easier for the IRS to audit taxpayers to ensure correct withdrawals are being made.

Though many changes were made to the regulations to ease the complexity and financial burden on IRP owners, the main problems and inequities still remain. For example, the bias against saving remains intact and owners of IRAs and 401(k)s can still be forced to make withdrawals from accounts that are depressed in value, which could contribute to an erosion of the savings seniors need for future living expenses, medical needs or other expenses.

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[19] For a detailed analysis of these regulations and their difficulties, see: Mark Warshawsky, "Further Reform of Minimum Distribution Requirements for Retirement Plans," *Tax Notes*, April 9, 2001, page 299.

Additionally, even under the new rules, it is possible for seniors to get hit with two penalties in one year. If a senior fails to withdraw the required minimum distribution in the first year due and in a consecutive year, the April 1st deadline for making the first withdrawal may cause the senior to pay the 50 percent penalty for the two-year period in one year, along with both distributions. For example, if the senior were 70½ in 2002, the first mandatory withdrawal would be due April 1, 2003. By the end of 2003, two minimum withdrawals would be required to be paid, one for 2002 and one for 2003.

Further, if seniors finds it necessary to withdraw larger amounts than are required, for example to pay medical bills, the next year's withdrawal requirement would be based on the new reduced asset value, even though excess funds were withdrawn in the previous year. In other words, a credit is not provided for excess funds withdrawn in one year to be carried over to future withdrawal requirements.

It should also be noted that the new regulations still require that seniors use the most recent available account valuation for the given year. This is usually the last account statement of the calendar year. Withdrawals must be made in the following year. This could lead to an instance where a senior retirement account falls in value between the time of withdrawal and previous year-end account valuation, as would likely be the case for many seniors in 2002. Hence, a senior would be forced to take out *more* money than should be necessary. Of course, the opposite would be the case if the account value were to rise in value between the withdrawal period and the previous year-end account valuation.

To further illustrate this problem, and place it within the context of the current stock market fluctuations, consider the following example. A senior retiree has a beginning year balance of $125,000 in a traditional IRA. At the end of year one the market is up and the senior now as an account value of $150,000. Suppose the minimum distribution requirement forces a senior to withdraw 10 percent, or $15,000. A few months into the second year, and before the senior makes the required minimum withdrawal, the market declines heavily and reduces the value of the asset base by one-third. The senior is still forced to withdraw the $15,000, though on an account that is now valued at $100,000. The $15,000 minimum withdrawal turns into a 15 percent withdrawal instead of the 10 percent originally required.

This withdrawal then further reduces the overall asset value of the retirement account going into the end of the second year. The

market continues to decline throughout the second year and the minimum distribution requirement for the second year is based on an even smaller account value and the mortality factor in the life expectancy tables now force an even larger percentage to be withdrawn from the retirement account. In a short period of time, the value of the retirement account dwindles substantially. Further, the sale of assets in a down market, especially when such selling by retirees is aggregated over all retirement accounts that meet the minimum distribution requirement, might further depress market asset values. This illustration highlights the economic inefficiencies embedded in the minimum withdrawal requirement and why reform is necessary.

Forcing seniors to sell retirement assets just to pay a tax bill when they do not necessarily need the money at the time is bad tax policy and could do long-term harm to the security of senior citizens. Other options are available that would both alleviate this unfair burden and, if necessary, still recoup tax revenue for the government. These options are discussed in Section V.

IV. Demographic Highlights

Before examining in detail several policy proposals that address the unfair tax treatment of individual retirement plan owners, some demographic highlights are provided. According to data from the Federal Reserve Board's Survey of Consumer Finances (SCF), 48.8 percent of all families owned some type of tax-deferred retirement account in 1998. In 1995, 45.2 percent of all families owned such retirement accounts.[20]

Comprehensive data are not available from a single source that compares and contrasts demographic information on all the various forms of IRPs. Fortunately, some compelling data are available relating to IRAs and to a much lesser extent 401(k)s, the plans that are most predominately affected by the minimum distribution requirements. A review of the data relating to IRAs and 401(k)s shows that many millions of Americans could benefit from a change to the mandatory distribution requirements relating to IRPs.

An estimated 42 million American workers owned a 401(k) plan, with assets totaling $1.8 trillion, at the end of 2000.[21]

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[20] Arthur B. Kennickell, Martha Starr-McCluer and Brian J. Surette, "Recent Changes in U.S. Family Finances: Results from the 1998 Survey of Consumer Finances," *Federal Reserve Bulletin*, January 2000, page 12. Tax-deferred retirement accounts include individual retirement accounts (IRAs), Keogh accounts, and certain employer-sponsored accounts.

[21] Investment Company Institute, *Perspective*, November 2001, page 1.

Approximately 33 percent of all 401(k) participants also had someone in the household that owned an IRA.[22] If the sample is changed to include workers with an employer-sponsored retirement plan, 58 percent of these workers also owned an IRA.[23]

More detailed information is available on IRAs. For example, an estimated 41.9 million households (or 40 percent of all U.S. households) owned an IRA as of 2001. This is up from 30.6 million households owning IRAs in 1998 (30 percent of households), or a 37 percent increase in just three years. Chart 1 displays the number of households owning IRAs from 1998 – 2001, and corresponding percentages.

Additionally, as can be seen in Chart 2, the number of households that own traditional IRAs numbered 34.1 million in 2001 (32 percent of all U.S. households). The number of households with traditional IRAs has increased 34 percent since 1998 when 25.5 million households owned traditional IRAs.

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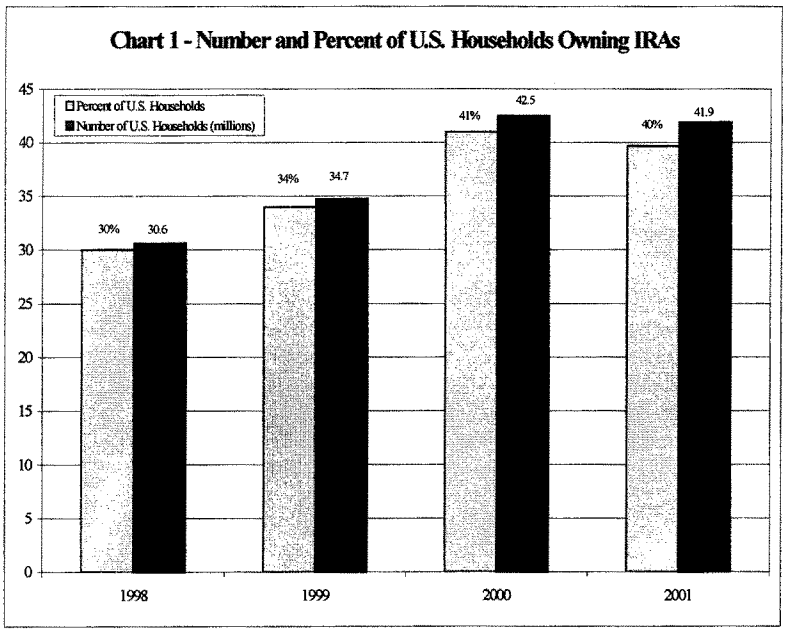
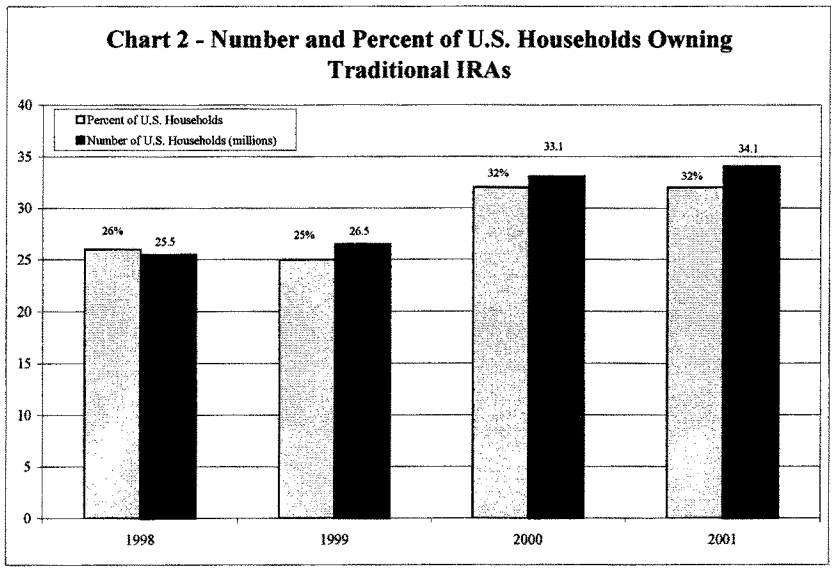
[22] Investment Company Institute, 401(k) Plan Participants: Characteristics, Contributions, and Account Activity, Spring 2000, Figure 2, page 4.

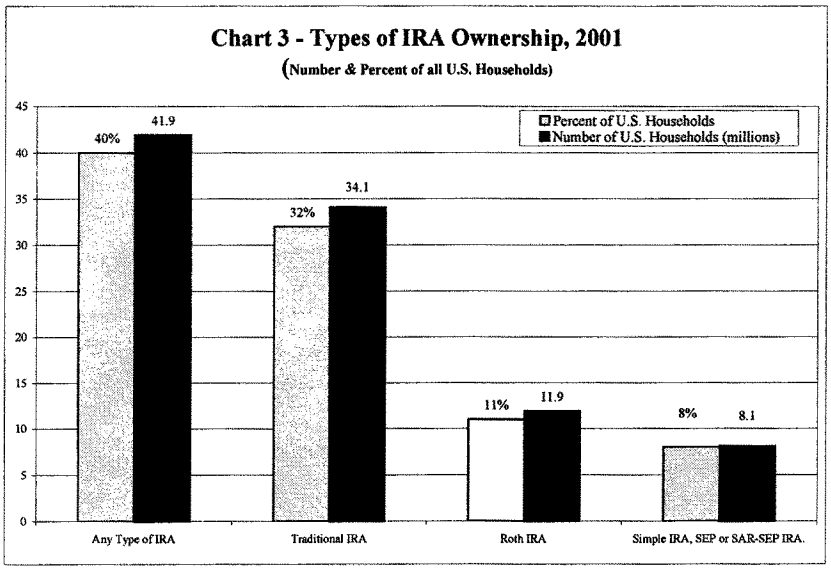
[23] Investment Company Institute and Securities Industry Association, "Equity Ownership in America," Fall 1999, Figure 45, page 50.



Source: ICI, "*Fundamentals*," selected years, multiple responses included.



Source: ICI, "*Fundamentals*," selected years, multiple responses included.



Source: ICI, "*Fundamentals*," Vol. 11, No. 3, September 2002, Figure 1, multiple responses included.

Traditional IRAs are the most common type of IRA for U.S. households. As shown in Chart 3, 32 percent of U.S. households owned a traditional IRA as of 2001, 11 percent a Roth IRA and 8 percent other forms of IRAs.[24]

According to the Investment Company Institute (ICI), as of 2001, assets held in IRAs were approximately $2.4 trillion.[25] As shown in Chart 4, this in an increase of 278 percent from 1990 when assets held in IRAs were $636 billion.

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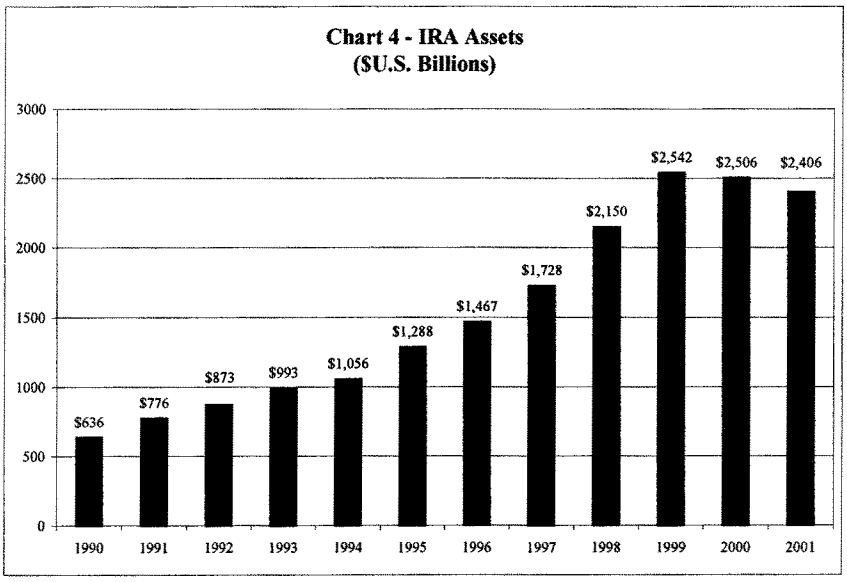
[24] Other includes: SIMPLE IRA for employers with no more than 100 employees, Simplified Employee Pension (SEP) IRA and SAR-SEP IRA, which is a SEP-IRA with a salary reduction feature.

[25] Investment Company Institute, *Fundamentals: Investment Company Institute Research In Brief*, Vol. 11, No. 2. Washington, DC: June 2002.



Source: ICI, "*Fundamentals*," Vol. 11, No. 2, June 2002, Figure 5, multiple responses included, estimated for 2000 & 2001.

Assets held in IRAs span a variety of financial structures. As shown in Table 2, mutual funds represented the most common choice of investment vehicle for IRAs. In 2001, mutual funds held 49 percent of total IRA assets. This figure includes both traditional and Roth IRAs. Second were brokerage accounts, which accounted for 32 percent of total IRA assets in 2001.

Table 2 - IRA Assets and Share of Total IRA Assets by Institution, 1990-2001*

	Mutual Funds		Bank and Thrift Deposits [1]		Life Insurance Companies [2]		Securities Held in Brokerage Accounts [3]		Total Assets
	Assets	Share (%)[4]	Assets	Share (%)[4]	Assets	Share (%)[4]	Assets	Share (%)[4]	
1990	140	22	266	42	40	6	190	30	636
1991	188	24	282	36	45	6	260	34	776
1992	238	27	275	31	50	6	311	36	873
1993	323	32	263	26	61	6	346	35	993
1994	350	33	255	24	69	7	382	36	1056
1995	476	37	261	20	81	6	471	37	1288
1996	598	41	258	18	92	6	518	35	1467
1997	777	45	254	15	135	8	562	33	1728
1998	975	45	249	12	156	7	770	36	2150
1999	1264	50	244	10	201	8	833	33	2542
2000	1237	49	252	10	202	8	816[e]	33	2506[e]
2001	1173	49	255	11	200[e]	8	779[e]	32	2406[e]

*Notes: Assets in $US billions

e = estimated

[1] Bank and thrift deposits include Keogh deposits

[2] Annuities held by IRAs, excluding variable annuity mutual fund IRA assets

[3] Excludes mutual fund assets held through brokerage accounts, which are included in mutual funds

[4] Percent of total IRA assets

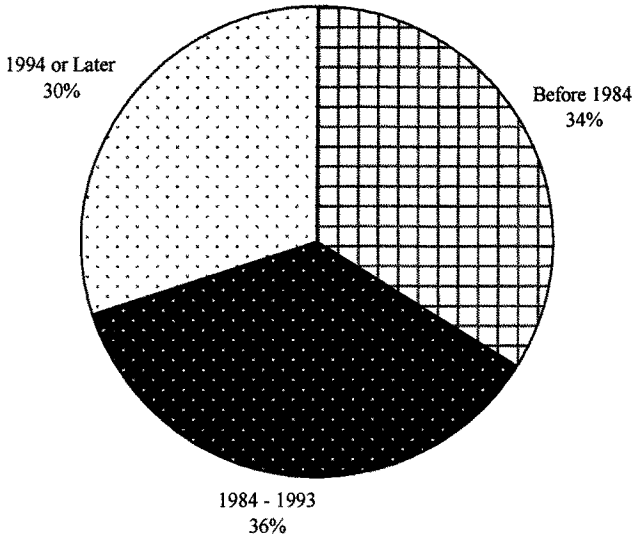
Source: Investment Company Institute, "*Fundamentals*," Vol. 11, No. 2, June 2002, Figure 6, page 5.

It is interesting to note the changing preferences of IRA owners. While the percentage of assets held in brokerage accounts has held relatively constant from 30 percent in 1990 to 32 percent in 2001, mutual funds have grown to be the investment vehicle of choice. In 1990, mutual funds accounted for only 22 percent of total IRA assets. In 2001, mutual funds accounted for 49 percent of total IRA assets, more than double the 1990 level. The amount of IRA assets under mutual fund management reached a high of $1.3 trillion in 1999 and a 50 percent share of total IRA assets. This increase in assets under management came at the expense of bank and thrift deposits, which

accounted for 42 percent of total IRA assets in 1990 and fell to only 11 percent in 2001.

Chart 5 shows most traditional IRAs were opened before 1993. A total of 70 percent of all traditional IRAs were opened before 1993, with 36 percent opened between 1984 and 1993 and 34 percent opened before 1984. Thirty percent of all traditional IRAs were first opened in 1994 or later.[26]

Chart 5 - Year First Traditional IRA was Opened



Source: ICI, "*Fundamentals*," Vol. 11, No. 3, September 2002, Figure 3.

Though very little data are actually available on the retirement account withdrawal patterns of senior retirees, the Investment Company Institute has recently begun to survey retirement account holders to gain some insight into this area. As shown in Table 3, 17 percent of traditional IRA holders made some type of withdrawal from their IRA in 2001, or 5.8 million households out of the total 34.1 million U.S. households that owned a traditional IRA in 2001.

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[26] Investment Company Institute, *Fundamentals: Investment Company Institute Research In Brief*, Vol. 11, No. 3. Washington, DC: September 2002.

Of these 17 percent (5.8 million households), more than half, or 53 percent, made their withdrawal in order to comply with the mandatory distribution requirement that begins at age 70½. This number is up from 2000, when 39 percent of those that made a withdrawal from a traditional IRA did so to comply with the minimum distribution requirement.[27] Hence, the requirement that forces seniors to withdraw funds from their traditional IRAs currently affects approximately 3 million U.S. households, or between roughly 3 million and 6 million seniors depending on household marriage status.

Table 3 - Traditional IRA Distributions in 2001

	2001
Made a withdrawal from a traditional IRA	17%
Reason for withdrawal:	
- To take a required minimum distribution at age 70 1/2 or older	53%
- To buy a home	7%
- To purchase investments outside of an IRA	5%
- To pay for health care	4%
- To make a large purchase	7%
- Other reasons	20%

Source: ICI, "Fundamentals," Vol. 11, No. 3, September 2002, Figure 8, multiple responses included.

A different study, using older data from the 1995 Survey of Consumer Finances (SCF) and expanded to include more types of retirement plans (and therefore also more households), estimated that the number of households affected in 1995 to be approximately 3.2 million households,[28] or also between 3 million and 6 million seniors depending on household marriage status. Therefore, according to the ICI data, many more seniors are affected by the minimum distribution requirements than in 1995. Additionally, if the SCF and ICI data are

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[27] Investment Company Institute, *Fundamentals: Investment Company Institute Research In Brief*, Vol. 10, No. 3. Washington, DC: September 2001, Figure 3, multiple responses included.

[28] Jeffrey R. Brown, Olivia S. Mitchell, James M. Poterba, and Mark J. Warshawsky, "Taxing Retirement Income: Nonqualified Annuities and Distribution from Qualified Accounts," *National Tax Journal*, Vol. 52, No. 3, September 1999, page 590.

any indication of a developing trend, even more seniors will be affected by the minimum distribution requirements in the near future.

In the legislative process, the costs of policy proposals are often considered over a 10-year period. If the number of households cited in the above paragraph are expanded to include the number of households that would be affected over a 10-year period the number increases to 8.6 million households,[29] or between 9 million and 17 million seniors depending on household marriage status. Regardless, the number of affected seniors will only grow as the baby boom generation reaches retirement age. A repeal or modification to the mandatory distribution requirement could significantly benefit seniors especially when they need help the most, in their retirement years.

V. Policy Alternatives

For many senior citizens, IRPs can be a primary saving vehicle for retirement. Further, along with Social Security, IRPs represent a major source of money for retirement. However, even though IRPs have been an important saving vehicle for many seniors, as this study has illustrated, they do have one major drawback: the forced distribution of IRP assets and the associated taxation of those assets for senior citizens once they reach age 70½. A range of policy prescriptions could be considered that would help to alleviate the potential economic harm the mandatory minimum withdrawal requirement can impose on senior citizens.

Repeal

The first proposal is to completely repeal the requirement that owners of IRPs begin withdrawals at age 70½. A bill (H.R. 1386) introduced to the U.S. House of Representatives by Rep. Jim Saxton (R-NJ) proposes this option. Rep. Saxton introduced similar bills (H.R. 252) in the 106th Congress and (H.R. 3079) in the 105th Congress. The bill would amend the Internal Revenue Code of 1986 to remove the requirement of a mandatory beginning date for distributions from individual retirement plans. This option would give senior citizens the full choice of deciding when to take withdrawals from their IRP.

Under this option, a tax liability would only be incurred when the account owner decided it was time for a withdrawal to be made. Since individuals are the only ones who really know their own financial needs and constraints, this option would be the most economically efficient option. Additionally, this option would be

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[29] Ibid.

consistent with the economic philosophy that income should be taxed only when used for consumption, not for saving and investing.

Repeal with Recapture upon Transfer to Nonspouse (Death Distribution Mandate)

A second proposal, which would address the economic problems associated with the mandatory distribution requirement but would result in lower revenue costs to the government, is to allow the IRP owner the option of deferring withdrawals to a later time but changing the way the IRP is taxed once it is passed on in an estate. If the account owner opted for continued deferral, it would be required that whatever assets remain in the IRP once the owner is deceased would be taxed immediately in full when the assets are passed on to a nonspousal heir at the end of the year, instead of allowing for a withdrawal plan based on the life expectancy of the heir.

A continued deferral would still be allowed for the spouse of a decedent, just as other assets are allowed to pass tax-free in an estate to a decedent's spouse. But, in order to ensure that the government reclaims the tax due on the original tax-deferred contributions, and that a repeal of the mandatory distribution requirement would not lead to a type of unfair tax shelter, a tax liability would be generated once the remaining assets of the IRP were passed on to a nonspousal heir. Note that under this option, if IRP owners elected not to take the deferral, then the normal mandatory distribution rules would apply and at death the IRP would fall under current treatment of estate tax laws.

Increase Minimum Age

A third option is to increase the minimum age at which mandatory withdrawals must begin. Representatives Rob Portman (R-OH) and Ben Cardin (D-MD) have introduced comprehensive pension reform bills over the last few Congresses that proposed, among other things, to increase the minimum age to 75.

This proposal has considerable merit. First, increasing the minimum age requirement to 75 addresses the changing demographic reality that many seniors continue to work well past age 70. Second, this policy option has a lower revenue cost than a full or partial repeal. However, critics claim it could still force seniors to withdrawal funds during future down markets, or during other market conditions when IRP assets are depressed. But, it cannot be proven that the definite benefits associated with the inside build-up of assets due to an additional five years of deferral would be less than the potential downside of having to withdraw funds in future down markets. The

five years of deferral would be a known benefit, whereas the prospect of future down markets is largely speculative.

Limited Exclusion

A fourth proposal would allow for a limited exclusion from the minimum withdrawal requirements up to a specified amount. This option has also been considered by Reps. Portman and Cardin. For example, if the exclusion limit was set at $500,000 then only those owners holding accounts with asset values over $500,000 would have to comply with the minimum withdrawal requirements and only applied to the marginal difference between the account value and $500,000. If a retiree was age 71 and had an account value of $600,000 then the first $500,000 would be excluded and the retiree would only be forced to apply the minimum withdrawal requirements to the difference, or $100,000. Once the asset value of the account fell below $500,000 the minimum withdrawal requirements would no longer apply. Therefore, for many senior retirees, a limited exclusion with a reasonable limit could effectively remove a large number of seniors from having to sell retirement assets just to pay a tax bill.

Allow Withdrawals Above the Minimum Required to be Credited to Future Minimum Withdrawal Requirements

As stated earlier, seniors might find it necessary in any given year to withdraw larger amounts from their IRPs than required by law, for example to pay medical bills. Under the current minimum distribution requirements, the following year's withdrawal requirement would be based on the new reduced asset value, even though excess funds were withdrawn in the previous year. In other words, a credit is not provided for excess funds withdrawn in one year to be carried over to future withdrawal requirements.

A fifth proposal would be to allow for such excess withdrawals to be credited to future minimum withdrawals. Credits should be allowed to carry-forward in perpetuity until such time that the credits are consumed.

Allow Losses to Apply to Capital Gains or Ordinary Income

A sixth proposal would treat any IRP losses similar to capital losses. Therefore, any assets that were sold for a loss could be offset against capital gains or against ordinary income, up to specified limits. Currently $3,000 of capital loss can be applied to ordinary income and any remaining loss balance carried forward to future years. However, this proposal probably would not provide much relief to many seniors whose IRP assets might be seriously depressed in value, but still not incur a nominal loss. Further, mandatory withdrawals would still be required.

Grace Period

Finally, a seventh proposal would allow for a specified "grace period" under which seniors at or over age 70½ could elect to defer the mandatory withdrawals for a specified number of years. The grace period would allow seniors to avoid having to sell IRP assets at depressed values and allow them to wait until asset values are higher before either beginning or resuming mandatory withdrawals.

This option should have the lowest revenue implications since most of the tax that would be deferred would be recaptured in a short period of time and much of it could be recaptured within the five- or ten-year budget window used by the Congress for scoring purposes. However, like the option to raise the minimum age at which mandatory withdrawals would be required, unless the regulation that relates the minimum amount of distribution to life expectancy is changed or an additional number of years is added to the life expectancy table equal to the number of years allowed for the grace period, seniors would be forced to take out larger distribution amounts. Again, if at such time market conditions were depressed, the problem of selling assets at reduced valuations would only be compounded.

Regardless of whether or not any of these options eventually become law, at the very least one policy change should immediately be implemented: equalizing the treatment between traditional IRA owners and owners of 401(k)-type plans. The law should be changed to allow owners of traditional IRAs the choice as to whether they want to begin to take the mandatory distributions at the latter of either age 70½ or retirement. This option is currently available to owners of 401(k)-type plans, which are funded with tax-deferred dollars, and should be available to owners of traditional IRA plans.

A combination of these proposals might also be appealing from both a policy perspective and a revenue perspective. The minimum age at which mandatory withdrawals begin could be increased to age 75 along with a grace period that would allow seniors then at or over age 75 to defer mandatory withdrawals for a short period of time (maybe three years). The regulations relating to the life expectancy tables could also be revised to allow for an extension equal to five years (the difference between 75 and 70) plus any additional years for which a grace period were elected.

Whatever policy option is ultimately decided upon, it is important to recognize that all of these options would enhance the ability of seniors invested in IRPs to maximize their return and allow

them the right to exercise more control as to when withdrawals are made. The individual should make the choice, not the government.

Differences over Revenue Costs

The Joint Committee on Taxation (JCT) staff provides revenue estimates on the impact of tax legislation. A thorough discussion of the rules, procedures, methodologies and guesses that go into revenue estimation is well beyond the scope of this paper. However, it is important to note that the JCT's revenue estimations are not always accurate and are often based on myriad and hidden assumptions. Hence, different economists can come up with completely different revenue estimations for the same piece of tax legislation.

For example, a comprehensive pension reform bill introduced in the U.S. House of Representatives by Representatives Rob Portman (R-OH) and Benjamin Cardin (D-MO) in 1998 and 1999 contained several provisions to modify the mandatory minimum withdrawal requirements. Earlier versions of the bill increased the minimum age at which withdrawals were required to 75, and removed the requirement entirely for those with account assets under $300,000. Later versions of the bill lowered the amount to $100,000. In an article that was published in *Tax Notes*, Warshawsky notes that, the reform "efforts ran into problems with the revenue estimators, as the Joint Committee of Taxation economists estimated the loss in tax revenues from these types of changes to run up to $40 billion over the relevant time period."[30] Warshawsky further notes, "a careful empirical analysis showed that the JCT estimate was double an alternative, fully documented, calculation."[31]

This alternative analysis was provided in a *National Tax Journal* article that estimated:

- Full repeal of the minimum distribution requirements would result in an estimated 10-year revenue loss of only $21 billion, or approximately $2.1 billion per year;
- Partial repeal allowing for the first $300,000 of account assets to be excluded from the minimum distribution requirements would result in an estimated 10-year revenue loss of $13 billion and benefit over 8 million U.S. households; and
- Partial repeal allowing for the first $100,000 of account assets to be excluded from the minimum distribution requirements

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[30] Mark Warshawsky, "Further Reform of Minimum Distribution Requirements for Retirement Plans," *Tax Notes*, April 9, 2001, page 300.

[31] Ibid.

would result in an estimated 10-year revenue loss of $8 billion and benefit over 6 million U.S. households.[32]

As far as can be determined, differences between the methodologies used by the JCT staff and Brown, et al. have never been reconciled. Unfortunately, the JCT staff has been unwilling to fully disclose its revenue estimation assumptions to the public.

It is just as important to discuss the implications and differences of competing policy proposals as it is to discuss the differences in revenue estimations. Along with whatever policy proposal is ultimately advanced to repeal or modify the minimum withdrawal requirements, careful and detailed examination should be given to the accuracy or inaccuracies of revenue estimates provided by the staff of the Joint Committee on Taxation.

VI. Conclusion

Tax policies are often evaluated based on three criteria: efficiency, equity and simplicity. An efficient tax policy is one that raises a given amount of revenue while causing the least economic distortion. Equity often implies that similarly situated taxpayers should pay similar taxes. Tax simplicity suggests that tax policy be simple to understand and comply with, or reduce the complexity of an existing tax policy.

This study proposes several options that would repeal or modify the mandatory minimum withdrawal requirement that affect millions of seniors and their IRPs. Under current law, seniors could be forced to sell IRP assets at depressed values just to pay a tax bill during the time of their lives when they need their savings the most. Any of the proposals discussed in this study would help alleviate this unfair tax treatment by increasing the efficiency, equity and simplicity of the tax system.

These proposals would enhance efficiency by providing senior retirees with the choice of when it is in their best interest to make a withdrawal from their IRP and subsequently pay the appropriate tax. The individual is in the best position to know when is the right time to withdraw retirement funds, not the government. Further, forcing seniors to sell assets in market conditions that have reduced their retirement plan assets only results in *less* money to seniors and *less* tax revenue to the government.

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[32] Jeffrey R. Brown, Olivia S. Mitchell, James M. Poterba, and Mark J. Warshawsky, "Taxing Retirement Income: Nonqualified Annuities and Distribution from Qualified Accounts," *National Tax Journal*, Vol. 52, No. 3, September 1999, page 590.

Additionally, equity could be enhanced by equalizing the treatment between traditional IRA owners and owners of 401(k)-type plans. Recall that 401(k) plans are also funded with tax-deductible or tax-deferred contributions, like traditional IRA plans. However, unlike traditional IRA plans, 401(k) owners are allowed to choose whether to begin their mandatory withdrawals beginning either in the year in which they retire or age 70½, whichever is greater.

An outright repeal of the requirement dictating minimum withdrawals from IRP plans would vastly improve the current tax treatment of IRP plans and result in less complexity. Even under the new regulations, the calculation of the asset base and amount of minimum withdrawal necessary may be difficult to calculate for many seniors. Additionally, if they fail to make the required withdrawal, punitive penalties of 50 percent are applied. If the tax due on the required minimum withdrawal does not contribute to the erosion of a senior's available retirement fund, the 50 percent tax the government summarily applies definitely would.

Though some of the policy options above, short of full repeal, may seem complex, they are no more complex than the current requirements but do expand individual choice and efficiency by allowing the individual greater choice over their saving and consumption. Given the certain economic harm that the minimum IRA and 401(k) withdrawal requirements will impose on many seniors this year, policymakers have a range of options available to address this problem. Passing legislation now would help many millions of seniors this year.

In the long run, repealing or modifying the rules requiring forced withdrawals of IRP plans beginning at age 70½ will improve economic efficiency by increasing the returns seniors receive on their IRP investments and not forcing them to sell assets at depressed values. Additionally, in the long run, any increase in returns would likely result in an increase in tax revenue to the government. Hence, both owners of IRP plans and the U.S. Treasury would benefit from this tax change.

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Hidden Costs of Government Spending

I. Introduction

Government policy and the slowing U.S. economy. The U.S. economy has been slowing down since the summer of 2000, and it is now in a recession.[1] Most other large economies are also close to recession or at best growing only slowly. The economic situation and the terrorist attacks of September 11, which have contributed to it, have changed Congressional attitudes towards fiscal policy. There has been bipartisan agreement that the so-called Social Security lockbox, which committed Social Security surpluses to paying off publicly held federal debt, is no longer appropriate. An early product of changed attitudes was Public Law 107-38, which commits up to $40 billion for increased airport security, counterterrorism activity, and assisting victims of the attacks.

Government influences economic activity through three main channels: monetary policy, regulatory policy, and fiscal policy. Monetary policy is the job of the Federal Reserve System, although the Fed reports periodically to Congress. Regulatory policy is outlined by Congress, but it is the executive branch that fills in the details. Fiscal policy is the area in which Congress has the clearest and most direct ability to influence economic activity.

Emphasize higher government spending, or incentives to work and produce? What can fiscal policy do to encourage a return to the sustained economic growth that the United States has enjoyed for most of the last 20 years? There are two major points of view on the subject. One emphasizes higher government spending. According to it, during recessions the main problem is that people are not spending enough money; in economic jargon, aggregate demand is deficient. Government can get the economy moving again by in a sense spending for the public. Government spending should therefore be higher than it currently is. Some advocates of higher spending propose reducing tax rates or moving from a budget surplus to a budget deficit, while others do not. However, they are united in advocating more government spending.[2] Many are not particular whether it takes the form of spending on defense, education, transportation, or any of various other competing priorities. This point of view has its roots in ideas developed by the English economist John Maynard Keynes (1883-1946) during the Great Depression.

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[1] As defined by the National Bureau of Economic Research, a nonprofit organization whose judgments are widely recognized as authoritative.

[2] Madrick (2001), Stiglitz (2001).

The other major point of view emphasizes incentives to work and produce goods. According to it, during recessions the main problem is that government policies impose barriers to growth. The barriers hinder people's attempts to produce existing goods efficiently and to develop new goods people will want to buy, which will therefore generate new jobs and wealth. The best way to get the economy moving again is to reduce the barriers. The implication for fiscal policy is that government should focus on cutting tax rates, particularly tax rates that deter investment.[3] Spending more in particular areas may be desirable (for instance, spending more to improve airport baggage scanning machines or monitor terrorist groups), but there is no *general* case that higher government spending simply for the sake of spending stimulates the economy.[4] This point of view has roots in ideas of the "classical" economists of the 1700s and 1800s, such as Adam Smith (1723-1790). It has enjoyed a strong revival since the mid 1970s, under the label of supply-side economics.

Both viewpoints agree that recessions can sometimes occur because of factors beyond the ability of government to influence. In small economies, natural disasters or declines in the world price of a major export sometimes cause recessions. However, in an economy as big and diverse as the United States, such problems are usually small compared to the overall economy, though they may be quite important in particular areas of the country. There is no factor of this sort that has had an obvious role in *creating* the current recession, though the political and economic uncertainty resulting from the September 11 terrorist attacks has *aggravated* it.

The major flaw of the view that emphasizes higher government spending is that it looks at the benefits of spending without taking account of the costs. When government spends, it uses resources that could be used for other purposes. Government spending is not free. Substantial research exists to suggest that total government spending in the United States is higher than the level that would maximize

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[3] Kemp and Miller (2001), Joint Economic Committee (2001).

[4] Contrary to a Keynesian criticism, the classical/supply-side point of view does not assume that all resources are fully employed. Resources can be underemployed on a wide scale if people make systematic mistakes about economic conditions. The major preventable cause of systematic mistakes is inappropriate government policy. If government spending simply for the sake of spending *does* stimulate the economy in a way that adds to the economy's long-term capacity for production, the likely cause is that the government has corrected a mistake it has made elsewhere, such as deflationary monetary policy. See Hutt (1977).

economic growth. Responding to the current recession by emphasizing more spending rather than lower tax rates is a recipe for prolonging the recession.

II. Benefits and Costs of Government Spending

Need to consider costs as well as benefits of government spending. Many people think of government spending only in terms of its benefits. Money the federal government spends building roads produces interstate highways; money it spends on crop subsidies increases the incomes of at least some farmers; money it spends on medical research produces vaccines.

However, government spending also has costs. Every dollar the government spends has to come from somewhere. A dollar the government spends buying what it wants is a dollar that somebody in the private sector cannot spend buying what he or she wants.[5] A full picture of government spending must look at its costs as well as its benefits. Doing so involves thinking about points that are fundamental but often neglected.

Voluntary exchange versus taxation. Government differs from the private sector in how it obtains revenue. In the private sector, people have to provide something that other people are willing to pay for. Without customers, there are no businesses or workers. Businesses cannot force customers to deal with them; customers can go to competitors or, if they wish, refuse to buy what the businesses are selling. Because customers, workers, and businesses in the private sector can choose whether or not to buy and sell from one another, the presumption is that they will make deals only to the extent they think the deals will be mutually beneficial.

Government collects its revenue through taxes.[6] In the short term, it can borrow rather than tax, but borrowing just shifts the need to tax from the present into the future. The ability to borrow is important, but it does not eliminate government's ultimate reliance on taxation. Creating inflation, another way of raising revenue, is a kind of tax—a complex and hidden one, but a tax nonetheless. Unlike businesses, government can force people to deal with it, and part with some of their earnings. The presumption that exists with private-sector activity, that it is mutually beneficial to the parties involved, does not exist for

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[5] Again, see the previous footnote.

[6] Some revenue comes from user fees. Unlike taxes, people can easily avoid many user fees: somebody who does not want to pay the entrance fee to Yellowstone National Park can simply not visit the park. It is hard to conceive of a government funded entirely by user fees, though: it would look more like a business than like a typical government.

compulsory payment of taxes. The presumption is in fact the opposite, namely, that some people would rather not pay taxes because they do not think they get enough personal benefit from government activities.

What is the economic justification for government spending? The economic justification for government spending must be that the government can provide some goods better than the private sector. "Better" does not necessarily mean more cheaply; it also may mean more comprehensively or in a manner that most people perceive as being more fair. What kind of goods are we talking about? Over the course of U.S. history, the federal government has grown from doing little besides maintaining an army, navy, courts, and post office to engaging in a huge range of activities that consume more of national income than food, housing, medicine, or any other single category of Americans' personal consumption spending.[7]

Debate about the proper size and functions of government is, of course, one of the main topics of political debate. What an economic perspective can add to the debate is an estimate of just what we gain or give up when the government shifts a dollar of spending from the private sector to itself. This involves thinking about what is known as the "deadweight loss" or "excess burden" of taxation.

III. The Deadweight Loss of Taxes

An explanation of the deadweight loss. The deadweight loss of a tax is a measure of the value that consumers and producers of a good lose from the imposition of the tax. Because of deadweight losses, the taxpayers' losses exceed the government's gain. Comparing a good without tax to the same good when the government imposes a tax, the tax operates as a wedge between the price consumers pay and the price producers receive. The government collects the wedge. Besides generating revenue, though, the wedge changes how consumers and producers behave. Let us use a hypothetical example to illustrate. Suppose the good being taxed is gasoline, and before the tax is imposed, gasoline sells for $1.00 a gallon at the pump. Consumers and producers each receive a kind of benefit from the price being where it is. Consumers receive what economists call consumer surplus because the price of gasoline is lower than what some consumers would be willing to pay. A consumer who would be willing to pay as much as $1.20 a gallon, for instance, enjoys 20 cents a gallon in consumer surplus from the price being $1.20 a gallon. Similarly, a producer that is efficient enough to be able to produce gasoline at 80 cents a gallon enjoys 20 cents a gallon in what economists call producer surplus from the price being $1.00 a gallon. (Producer surplus

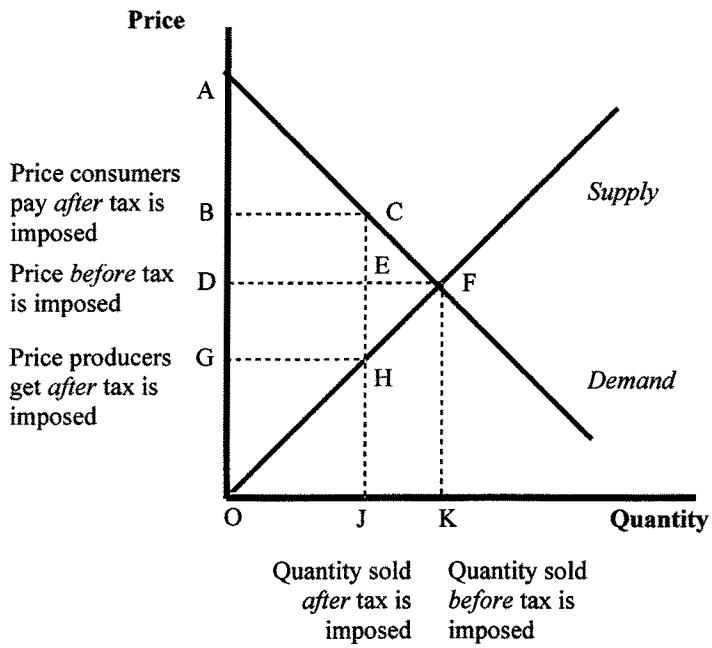
[7] President of the United States (2001), pp. 294-5, 369.

is different from profit. Profit accrues to the owners of a business, while producer surplus includes the net gains of everyone who helped produce the good, including employees.)

Now suppose there is a tax of 40 cents a gallon (roughly what combined state and federal taxes for gasoline are, on average). With the tax, the price of a gallon of gasoline rises to, say, $1.20. Why doesn't it rise to $1.40? Typically, in the short run producers cannot simply pass along the full amount of a tax to consumers because the higher price leads consumers to buy less of the good. High-cost producers have to cut back production or even go out of business. Lower-cost producers stay in business. Where consumers are highly sensitive to changes in the price of a good (or, as economists say, when their demand is highly elastic), the price consumers pay may rise only a little, or in the extreme case, not at all. Accordingly, people sometimes claim that in such cases producers rather than consumers bear the burden of the tax. In the final analysis, though, somebody somewhere bears the burden in his role as a consumer. If gasoline refiners have to lay off workers because a tax reduces demand for gasoline, those workers have less ability to consume.

With the tax, gasoline now costs $1.20 gallon, but gasoline stations only receive 80 cents a gallon in revenue for themselves. The 40-cent wedge that the gasoline tax imposes means that some buying and selling that went on before the tax now ceases. Consider what would happen if the tax did not exist. There are some consumers who would be willing to pay 90 cents, $1.00, $1.10, or even $1.19 for an extra gallon of gasoline, but do not buy the extra gallon because at $1.20 a gallon they consider it too expensive. On the other hand, there are some gasoline stations that would be willing to sell gasoline at $1.10, $1.00, 90 cents, or even 81 cents a gallon without the tax, but do not, because at 80 cents a gallon in revenue the price is too low for them. Hence the demand for gasoline falls. Lower demand for gasoline means lower demand for workers who explore for oil, pump it out of the ground, refine it into gasoline, transport the gasoline, and sell it to motorists. The tax reduces economic activity.

Figure 1. Deadweight loss from a tax



Consumer surplus *before* tax = triangle ADF; *after* tax = triangle ABC.
Producer surplus *before* tax = triangle DFO; *after* tax = triangle GHO.
Government's revenue resulting from tax = rectangle BCHG.
Deadweight loss resulting from tax = triangle CFH.

The other side of the imposition of the tax is that consumer surplus and producer surplus fall. Consumer surplus falls 20 cents a gallon, and for those consumers who formerly enjoyed 1 to 20 cents a gallon in consumer surplus, the surplus disappears. Producer surplus also falls 20 cents a gallon, and for those producers that formerly enjoyed 1 to 20 cents a gallon in producer surplus, the surplus disappears. (Note that in this example producers and consumers alike lost 20 cents a gallon in surplus, but taxes need not always affect producer and consumer surplus equally.)

A graph showing the deadweight loss from a tax. It is possible to use a graph with supply and demand curves to illustrate the concept of the deadweight loss from a tax. Figure 1 does so. Some readers may find it helpful to think in terms of the graph. Readers who are not interested in the graph can skip to the next section (called "Types of deadweight losses") without missing the essential points of this study.

Continuing with the example of the gasoline tax, before the tax is imposed, consumers pay $1 a gallon and producers receive $1 a gallon. The amount of gasoline sold at that price is, say, 500 million gallons a day (roughly the actual amount of consumption currently in the United States). This is point F of Figure 1. At point F, consumers enjoy a total consumer surplus equal to triangle ADF, while producers enjoy a total producer surplus of DFO.

Now the government imposes a tax of 40 cents a gallon. The higher price causes consumers to use less gasoline, so their consumption falls to 400 million gallons (corresponding to point J in Figure 1). As has been explained, in the short run producers typically cannot pass along the full amount of a tax to consumers. That is the case in this example. The price of gasoline that consumers pay rises from $1 a gallon not to $1.40 a gallon, but to $1.20 (corresponding to point B). The price that producers receive falls from $1 a gallon to 80 cents (corresponding to point G).

The government collects a tax of 40 cents a gallon on each of the 400 million gallons sold every day, for a total of $160 million. It is represented by rectangle BCHG in the figure. However, total consumer surplus, which was equal to the triangle ADF, is now equal to the smaller triangle ABC. Total producer surplus, which was equal to the triangle DFO, is now equal to the smaller triangle GHO. Triangle CFH represents the deadweight loss—the amount of surplus that, as it were, vanishes into thin air. Consumers and producers lose the surplus, but the government does not gain it. In this example, the deadweight loss is $20 million a day.[8]

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[8] The area of a triangle is one-half its height times its base. Triangle CFH has a base, CH, equal to 40 cents, and a height, EF, equal to 100 million gallons a day. Therefore the deadweight loss is
½ x $0.40 x 100 million gallons a day = $20 million a day. For simplicity, diagrams often show supply and demand curves as straight lines, but they need not be. When they are not, the excess burden is no longer a triangle, and measuring it becomes harder, particularly since researchers may not know the precise shapes of the supply and demand curves. Auerbach and Rosen (1980)

Types of deadweight loss. What specifically are the types of deadweight loss involved in taxes?

Substitution into less desirable options. If fishing poles are subject to a special tax (as they are under current federal law[9]), people who do not want to pay the tax can avoid it by making their own poles out of sticks. However, most fishermen prefer store-bought poles, so they lose some degree of satisfaction by using a home-made pole instead.

Reduction of overall economic activity. By driving a wedge between the price consumers pay and the price producers receive, taxes discourage some transactions that would otherwise occur. Rather than accept a less desirable substitute, some people may buy or do nothing at all. For example, a few people may be so attached to fishing with a store-bought pole that they will accept no substitute if a tax makes the price higher than they wish to pay. As a result, fishing pole makers sell fewer poles than before, so they hire fewer employees than they would otherwise have.

Compliance costs. Taxes involve compliance costs, mainly in the form of additional record keeping. In the United States and most other countries, most of the burden of determining how to apply taxes, collecting taxes, and keeping records of collections falls on businesses. Individuals also bear the burden for certain kinds of taxes, notably income tax. The Tax Foundation estimates that the cost of complying with the individual income tax will reach $140 billion this year, or 12 cents for every dollar of tax collected.[10]

Enforcement costs. To ensure that taxpayers are paying the taxes required by law, governments employ small armies of lawyers, accountants, inspectors, and clerks. The more difficult a tax is to enforce, the more the revenue it generates is eaten up by the expense of paying government officials to extract it. The budget of the Internal Revenue Service was $8.6 billion in fiscal 2001.[11]

Tax evasion, economic activity, and government revenue. In general, the higher the tax rate, the more people are tempted to evade it. People who evade a tax also evade part of its deadweight burden, so there is a sense in which tax evasion actually reduces the deadweight loss. Many countries with high tax rates have large underground economies. (The United States, as a relatively low-tax

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describe different approaches to solving the mathematical problem of measuring the excess burden.

[9] The tax is 10 percent; see 26 United States Code sec. 4161.

[10] Moody (2001).

[11] Office of Management and Budget (2001), p. 204.

country for its income level, is estimated to have a smaller underground economy than many other industrialized countries.) But with tax evasion come costs of a different kind. A plumber who takes payment only in cash and reports no income may be unable to get a bank loan to hire other plumbers and expand his business because he cannot show evidence of his potential to earn money. The more conspicuous a good, business, or individual is, the harder it is to avoid being noticed by tax collectors. High tax rates create a barrier that discourages people in the underground economy from going above ground and expanding small enterprises into larger ones. As a result, economic growth is lower than it could be.

IV. Estimates of the Deadweight Loss in the United States

Concepts of deadweight loss. When economists first began serious estimates of deadweight losses in the 1960s, they limited consideration of the deadweight loss to the relatively small direct loss in economic activity caused by the imposition of a tax. In Figure 1, it is the little triangle CFH. However, further thinking about what the deadweight loss involves led them to realize that the deadweight loss can be much bigger. In general, the more a tax causes people to change their behavior, the larger the deadweight loss.

One way the deadweight loss can be bigger than the little shaded triangle is by using up resources in political activity. Taxes are imposed through political decisions. Lobbying to impose a tax, or to avoid having a tax imposed, generates costs. The direct monetary costs of lobbying and the indirect costs (paying bright people to become lobbyists rather than doctors, for instance). In the extreme case, interest groups may expend so many resources lobbying to apply a tax to competitors or to prevent it from falling on themselves that the deadweight loss exceeds the tax. Imagine that Congress is considering imposing a tax of $10 million that might fall on either of two highly concentrated industries. Conceivably, it is worth up to $10 million for each industry to avoid the tax. But even if they are willing to spend only $6 million apiece in lobbying expenses, the deadweight loss of $12 million exceeds the tax of $10 million.

Another way the deadweight loss can be bigger than the little triangle is that the changes a tax causes in one part of the economy can spill over into other parts of the economy. The deadweight loss multiplies. For example, income or payroll taxes are taxes on hours worked. If the taxes become too high, some people will reduce the hours they work. Others, particularly people who are near retirement or are not the main wage earner in their households, will stop working altogether and enjoy more leisure. But taxes on labor do not just affect how many hours people work; they affect life choices that determine

how productive people are and therefore how productive the economy is. A wife considering going back to paid work after her children are grown may face a choice between continuing to stay at home, working as a cashier without needing additional training, or working as an accountant but needing first to obtain additional training at her own expense. If the tax rate is high enough that investing in more training would not yield much more after-tax income for herself and her husband, she may work in the lower-skilled cashier's job or not work at all. The economy loses the additional value she could have contributed as an accountant.

Estimates of the deadweight loss in the United States. Economists' estimates of the deadweight loss from taxes in the United States have increased over the years as they have become aware of how a deadweight loss in one part of the economy can spill over into other parts and cause additional losses. Arnold Harberger, who pioneered measurement of deadweight losses, initially estimated that income taxes reduced Americans' willingness to work by 5 to 11 percent and that they imposed welfare losses of about 2.5 percent of tax revenue raised. At the time Harberger wrote, in 1964, he used his estimate as the basis for a suggestion to cut tax rates. He estimated that reducing marginal income tax rates by 30 percent within each income tax bracket would raise the same amount of revenue as existing tax rates, because lower rates would encourage people to earn more taxable income.[12]

More recent estimates have arrived at much larger estimates of deadweight losses, and often conclude that the deadweight losses are about equal to or exceed the tax revenue raised. Table 1 lists some studies of deadweight loss and their findings.

In light of the trend to increase estimates of deadweight losses, an earlier Joint Economic Committee report that reviewed some of the studies listed in Table 1 concluded that a *conservative* estimate of the deadweight loss imposed by taxation in the United States was 40 cents for every additional dollar in taxes collected.[13]

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[12] Harberger (1974 [1964]), pp. 46-7. Federal income tax brackets in 1964 ranged from 16 percent to 77 percent.

[13] Vedder and Gallaway (1999), p. 7.

Table 1. Studies estimating deadweight losses from taxation

Author (year)	*What studied*	*Deadweight loss as % of tax collected*
Harberger (1964)	Taxes affecting U.S. labor	2.5
Browning (1976)	Taxes affecting U.S. labor	8-16
Findlay and Jones (1982)	Australian income, excise, sales taxes	11-160
Stuart (1984)	U.S. payroll, income, excise taxes	21-100
Ballard and others (1985a)	All major U.S. taxes	17-56
Browning (1987—revision of 1976 estimates)	Taxes affecting U.S. labor	8-100
Jorgenson and Yun (1993)	All major U.S. taxes after 1986 reforms	18 (average) 38 (marginal)
Feldstein (1996)	All major U.S. taxes	165
Gravelle and Smetters (2001)	U.S. cigarette and energy taxes	92-861

Sources: References given at end of paper.

V. Policy Implications

The concept of deadweight loss has several important implications for making tax policy.

An extra dollar of government spending costs the economy more than a dollar. Accordingly, using government to transfer income from one group to another, without a clear rationale in terms of economic efficiency, does not simply reshuffle income; it reduces the overall size of the economy.

Conversely, *reducing taxes by a dollar generates more than a dollar of benefit to the economy.* That is why a previous Joint Economic Committee study concluded that, over a seven-year period,

every $1 in lower federal spending and taxes would increase the size of the economy by $2.45. (That is equal to $2.09 in present dollars, since much of the growth would occur some years in the future and needs to be discounted by appropriate rate of interest to reflect that its benefits would not be immediately available.[14])

Another implication of the concept of the deadweight loss is that maximizing the taxes the government collects over the short term is not the same as maximizing growth. In fact, *the level of tax rates that maximizes growth is almost certain to be far below the level that maximizes government revenue.*[15] The reason is that the deadweight loss grows the more tax rates increase beyond the level needed to fund those government functions whose benefits outweigh their costs. So, if the growth-maximizing level of government spending (federal, state, and local combined) is $2 trillion, but the maximum revenue that government could raise is $3 trillion, $1 trillion in revenue involves net deadweight losses that make economic growth lower than it otherwise would be.

Finally, *it is particularly important to be aware of the deadweight loss from taxation in an economy that is only growing slowly or not at all.* Taxation creates deadweight burdens in a fast-growing economy, but the economic environment is more forgiving of errors in policy. In an economy that is growing slowly or not at all, policies that increase the deadweight loss of taxation can delay or in extreme cases prevent recovery. The case for cutting tax rates is particularly strong in such circumstances.

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[14] Gallaway and Vedder (1995).
[15] Lindsey (1997).

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International Trade and Investment: An Historical And Contemporary Survey of Research and Analysis

I. Introduction

The benefits of international trade and investment are today more widely accepted around the world than at any time in recent history. At the government level, faith in these benefits has encouraged many countries to adopt international economic policies that promote greater trade and investment. A key feature of these international economic policies is a commitment to reducing global barriers to trade and investment.

Yet with worldwide acceptance has also come greater examination of the benefits and costs of international trade and investment. One example is in the growing body of research that has examined the relationship between international trade and investment and economic growth and income. Relying on that research, this paper will consider how international economic policies that promote greater trade and investment can increase economic growth and income. It is assumed throughout that increasing economic growth and income are positive additions to the human condition.

The organization of the paper is as follows. Section II provides a brief history of international trade relations in the last century. The section introduces some key terms used later and records the motives of U.S. officials instrumental in furthering greater international trade and investment after World War II. Section III reviews economic research that has established various correlations between international trade and investment and increases in economic growth and income. Section IV considers four ways international trade and investment can increase economic growth and income. These four ways are: growth of international trade and investment from trade liberalization; gains in economic welfare from lower trade barriers; changes in the pattern of international trade and investment from comparative advantage; and gains in total factor—land, labor, and capital—productivity and technology diffusion from greater international trade and investment. Section V concludes the paper with some observations on international economic policy.

II. Lowering Trade Barriers Since 1945

Although lowering trade barriers has been debated since the 17th and 18th centuries,[1] the modern era of trade liberalization began

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[1] For an intellectual discourse on the 17th and 18th centuries debates, see Joseph A. Schumpeter, *History of Economic Analysis* (Oxford University Press, 1974), Part II, chapter 7. Also see Alfred E. Eckes, Jr., *Opening*

in the midst of the tragedy of World War II (1939-1945) when the U.S. and other governments began creating for the first time effective, rule-based institutions to assist in guiding global commerce. Why did American and other allied leaders at the time consider such a global economic system finally worth creating?

In hindsight some might say it was a natural choice, given the worldwide economic despair after World War II and the need to revive war-ravaged economies, especially in Europe. Yet this is from the perspective of the last decade or so, when international trade and investment have enjoyed a wide appeal in national capitals and international organizations; it was not the case in the 1940's. In fact, trade barriers had been steadily on the rise for well over a half-century prior to World War II, after a period of retreat, but never defeat, during the 19th century. World War I (1914-1918) and the Great Depression of the 1930's only made the situation worse, prompting countries to enact additional barriers to trade.[2] Moreover, as international trade economist Douglas Irwin has found, the problem was not only the rise of trade barriers, but also a lack of effective international cooperation in the early decades of the 20th century. As Irwin writes: "Economic reconstruction following World War I lacked any institutional mechanism to facilitate the reduction of trade barriers that had arisen during the war and had become entrenched thereafter."[3] After 1929, the Great Depression and successive military crises culminating in World War II only made international cooperation on trade even more difficult.

By the 1940's, many in the U.S. and elsewhere came to believe that trade barriers erected in the preceding years and decades had played a part in plunging the world into economic depression and war. At the core of both the wartime and later postwar trade negotiations was a belief that an institutional mechanism for trade was necessary to strengthen global prosperity and create lasting peace. After the calamities and tragedies of the first half of the 20th century, peace and prosperity were unquestionable noble aspirations, if not moral imperatives. With the world economy in shambles, an historic opportunity thus presented itself for those who believed in trade liberalization in the Roosevelt and Truman administrations (allied with

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America's Market: U.S. Foreign Trade Policy Since 1776 (The University of North Carolina Press, 1995), pp. 2-4.

[2] See below, pp. 5-6.

[3] Douglas A. Irwin, "The GATT's Contribution to Economic Recovery in Post-War Western Europe," National Bureau of Economic Research (NBER) Working Paper 4944, December 1994, p. 1.

like-minded British officials[4]) to create institutions that could lower trade barriers and help to revive the global economy.[5]

The institutional mechanism ultimately created in 1948 was the General Agreement on Tariffs and Trade (GATT), which became the World Trade Organization (WTO) in 1995. In addition, at the regional level, there also began a trend in the late 1940's and early 1950's toward trade liberalization. In Europe, several Western European nations created the European Coal and Steel Community in 1951 and the European Economic Community—today the European Union—in 1957, to mention the most successful of the regional initiatives. Because of the policies established during and immediately after World War II, trade liberalization has become an important feature of international economic diplomacy. Through eight GATT negotiating "rounds," the last being the Uruguay Round (1986-1994), the average tariff for industrial products has been lowered from 40 percent to just 4 percent. During the same period, the number of GATT/WTO members has risen to 144, a significant majority of countries today (there are 189—soon to be 190—members of the United Nations), encompassing more than 90 percent of world trade.[6] As tariffs have fallen, other trade barriers have also been included in trade negotiations, gradually extending the scope and mandate of the GATT/WTO.

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[4] See Richard N. Gardner, *Sterling-Dollar Diplomacy in Current Perspective* (Columbia University Press, 1980), chapter VI; D. E. Moggridge, "Economic policy in the Second World War," in *Essays on John Maynard Keynes*, edited by Milo Keynes (Cambridge University Press, 1975), pp. 190-191; R. F. Harrod, *The Life of John Maynard Keynes*, (Avon/Discus Books, 1971), pp. 540-541.

[5] As a key U.S. interdepartmental committee concluded, a trading system that fostered an expansion in the volume of world trade was instrumental to the U.S. achieving its postwar global objectives of full employment, the preservation of private enterprise, and peace. As noted in a December 1943 memorandum of the committee: "In order to create conditions favorable to the fullest possible expansion of international trade, on a non-discriminatory basis, it will be necessary for nations to turn away from the trade-restricting and trade-diverting practises of the inter-war period and to cooperate in bringing about a reduction of the barriers to trade erected by governments during that period." The memorandum concluded that because of the unique strength of the U.S. at the time, "[t]he only nation capable of taking the initiative in promoting a world-wide movement toward the relaxation of trade barriers is the United States." See "Summary of the Interim Report of the Special Committee on Relaxation of Trade Barriers" (December 18, 1943) quoted in Gardner, *Sterling-Dollar Diplomacy in Current Perspective*, p. 102.

[6] Statistics from the WTO, Office of the U.S. Trade Representative, and United Nations.

III. International Trade and Investment and Economic Growth and Income

For countries that have adopted international economic policies that promote greater trade and investment, such as joining the WTO or unilaterally reducing trade barriers, evidence suggests that this has generally boosted economic growth and income. For example, according to the Office of the U.S. Trade Representative, from 1994 to 2000 increased exports accounted for approximately one-fifth of U.S. economic growth, and nearly one-third of U.S. growth between 1992 and 1997.[7] For the decade ending in 1999, the Organisation for Economic Co-operation and Development (OECD) reports that "more open" countries achieved double the annual average growth of other countries.[8] Even developing countries have benefited from greater international trade and investment. As the Council of Economic Advisers reported in 1999: "Data from 1974-1985 and 1986-1992 show developing countries with inward-oriented economic policies experiencing less annual growth of GDP [gross domestic product] per capita than those with outward-oriented economic policies."[9]

Greater international trade and investment have also had a positive effect on income. One study of how international trade affects standards of living found: "The relation between the geographic component of trade and income suggests that a rise of one percentage point in the ratio of trade to GDP increases income per person by at least one-half percent."[10] (The "geographic component" tends to reflect the natural variations in trade, as opposed to trade variations induced by, say, government policies, therefore establishing a more direct relationship between trade and income.) The Council of Economic Advisers likewise reported in 1998 the results of a study of data from 123 countries between 1960 and 1985. The study "estimated that every percentage-point increase in openness," where the yardstick for measuring "openness" was imports plus exports as a percentage of a country's GDP, "was associated with a 0.34-percent increase" in per

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[7] U.S. Trade Representative, "U.S. Membership in the WTO: Supporting American Workers, Farmers, Businesses, Economic Progress and Security," April 12, 2000, p. 1 and "America and the World Trade Organization," (no date) p. 10.

[8] OECD *Observer,* "Open Markets Matter: The Benefits of Trade and Investment Liberalisation," *Policy Brief,* October 1999, p. 2.

[9] Council of Economic Advisers, "America's Interest in the World Trade Organization: An Economic Assessment," November 16, 1999, p. 29.

[10] Jeffrey A. Frankel and David Romer, "Does Trade Cause Growth?" *The American Economic Review*, June 1999, p. 394.

capita real income.[11] The positive effect that international trade and investment can have on income appears to be independent of income distribution. A study by economists at the World Bank examined income data from 80 countries covering four decades. It found in income data for the poor and per capita income that the poor benefited from "trade openness" the same as the average household—a result that has far-reaching policy implications.[12]

IV. Four Ways International Trade and Investment Can Increase Economic Growth and Income

As studies from the OECD, Council of Economic Advisers, World Bank, and other government institutions and individual economists have shown, scores of countries around the world have achieved higher economic growth and incomes by adopting international economic policies that promote greater trade and investment. Many of the studies demonstrate that greater international trade and investment is correlated or associated with higher economic growth and income; it is also important to demonstrate various ways greater international trade and investment can *cause* them to increase. The remainder of this study will consider four ways greater international trade and investment can increase economic growth and income.

These four ways are: growth of international trade and investment from trade liberalization; gains in economic welfare from lower trade barriers; changes in the pattern of international trade and investment from comparative advantage; and gains in total factor productivity and technology diffusion from greater international trade and investment. Like tax cuts or any other pro-growth policy, these four features raise economic growth and income by stimulating commerce and making it more efficient, reducing market distortions, and boosting labor productivity and capital accumulation.

- **Growth of International Trade and Investment from Trade Liberalization**

Trade liberalization, by lowering and eliminating trade barriers and establishing rules governing trade relations between countries, makes international commerce more stable and less uncertain, and helps to stimulate growth in international trade and investment. As the classical economist David Ricardo wrote *circa* 1817-1821, business people instinctively find international commerce riskier than domestic

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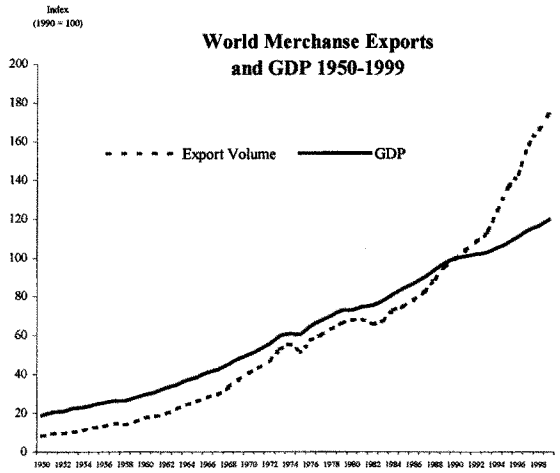
[11] *Economic Report of the President*, February 1998, p. 238.

[12] David Dollar and Aart Kraay, "Growth *Is* Good for the Poor," World Bank [working paper], March 2000, pp. 1-2, 22-23, 27.

commerce when confronted with the uncertainty of foreign laws and customs:

> Experience, however, shows that the fancied or real insecurity of capital, when not under the immediate control of its owner, together with the natural disinclination which every man has to quit the country of his birth and connections, and intrust himself, with all his habits fixed, to a strange government and new laws, check the emigration of capital. These feelings, which I should be sorry to see weakened, induce most men of property to be satisfied with a low rate of profits in their own country, rather than seek a more advantageous employment for their wealth in foreign nations.[13]

Figure 1



Sources: World Trade Organization.

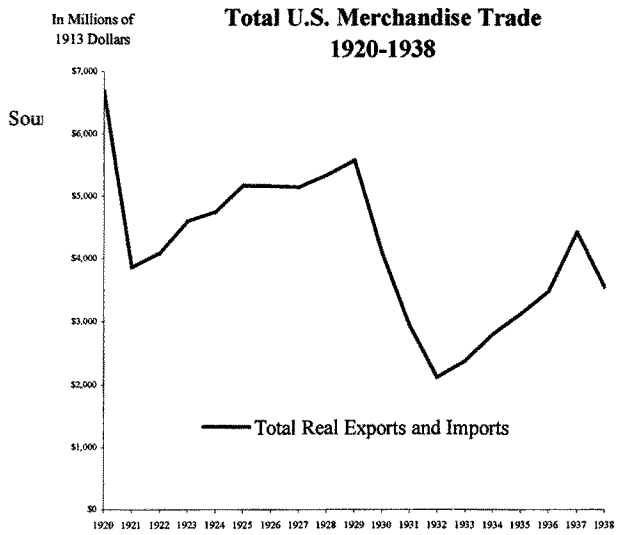
After 1948, the GATT assisted in making international commerce more stable and less uncertain not only by lowering trade barriers but also by establishing a growing body of rules governing

[13] David Ricardo, *The Principles of Political Economy and Taxation* (Dent/Dutton, 1974), p. 83.

international trade and investment. The WTO, the GATT's successor, has also begun to make a similar (and potentially more significant) contribution by establishing a more binding international legal framework to redress trade grievances. Consequently, trade liberalization after 1948 has coincided with substantial growth in international trade and investment.

Figure 1 shows the growth in indexes of world merchandise exports and GDP. From 1950 to 1999, the index of the volume of world merchandise exports grew by 19.3 times, compared to 6.3 times for world GDP, while the index of the value of world merchandise exports rose 80 times.[14] Foreign direct investment has been equally robust, increasing roughly 25-fold during the last quarter century or so.[15] Finally, for developing countries, exports rose faster than world trade for every year in the 1990's, except 1998.[16]

Figure 2



Sources: Joint Economic Committee, U.S. Department of Commerce, and U.S. Bureau of Labor Statistics.

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[14] See Table II.1 in WTO, "International trade statistics 2000."

[15] *OECD Observer,* "Open Markets Matter: The Benefits of Trade and Investment Liberalisation," p. 2.

[16] WTO, Press/175, 6 April 2000.

Compare these global figures with the economic unstable 1930's, when international economic policies often collectively referred to as protectionist dominated trade relations. Policies of high tariffs and other restrictive trade practices were intended to "protect" countries from the downward spiral of the Great Depression beginning in 1929; in a few instances they were also part of larger foreign and strategic objectives.

The Economic Committee of the League of Nations reported in June 1932 that from the beginning of 1930 practically every country had broadened or raised its tariffs.[17] Nontariff barriers were also widely adopted.[18] Rather than protecting world trade, these practices only contributed to a decline in its volume and value in a rapidly deteriorating international economic environment. The volume of world trade fell by about 25 percent from 1929 to 1932, while its value over the same period collapsed to less than 40 percent of its 1929 level. In fact, the decline in trade far exceeded the decline in world production.[19] Figure 2 shows total U.S. trade— exports plus imports— from 1920 to 1938. Note the steep decline in total trade beginning after 1929, and the fact that total trade never rose to its 1929 level, despite a steady, and even accelerating, rebound from 1932 to 1937.

To see the effect that tariff increases had on the volume of international trade in the face of deflation and falling real output, consider the 1930 Smoot-Hawley tariff in the U.S., which increased import duties by about 20 percent.[20] Manufacturing imports were especially singled out for protection, with average customs duties

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[17] Report referenced in H. V. Hodson (1933), "Tariffs and Exchange Control: The Struggle to Escape," in *The Disintegration of the World Economy Between the World Wars*, Volume II, edited by Mark Thomas (Elgar, 1996), p. 197.

[18] *Ibid.*, p. 197.

[19] Svenska Handelsbanken (1933), "The Great Trade War," in *The Disintegration of the World Economy Between the World Wars*, Volume II, p. 229.

[20] Douglas A. Irwin, "The Smoot-Hawley Tariff: A Quantitative Assessment," NBER Working Paper 5509, March 1996, p. 18. Named after Senator Reed Smoot (R-Utah) and Representative Willis Chatman Hawley (R-Oregon). Also referred to as "Hawley-Smoot," in deference to Constitutional protocol and precedent, since Hawley was Chairman of the Ways and Means Committee at the time. See Eckes, *Opening America's Market: U.S. Foreign Trade Policy Since 1776*, pp. 103-105.

raised to around 45-50 percent.[21] It has been calculated by Douglas Irwin that nearly one-quarter of the 40 percent decline in the volume of U.S. imports occurring in the two years following imposition of the Smoot-Hawley tariff revision can be attributed to it raising even higher the crucial effective tariff rate—the percentage equivalents of specific (fixed dollar amount per quantity) duties which rise with price deflation.[22] During 1930-31, nearly half of dutiable imports carried specific duties.[23]

- **Gains in Economic Welfare from Lower Trade Barriers**

Economic theory has consistently demonstrated that lowering tariffs and reducing nontariff trade barriers can increase economic welfare by lowering the costs of goods and services and thereby allocating resources more efficiently, like a tax cut or any other economic incentive to spend, invest, or save. An allocation of resources is said to be optimal when the prices of goods and services reflect the lowest economic cost of supplying them. Movement toward the optimum increases economic welfare. How are the gains in economic welfare measured in international trade? By establishing, first, what the net welfare cost of protectionism is to a country—measuring what consumers, producers, and governments lose and gain through trade barriers—then, second, calculating the net gain in economic welfare from removing these costs.

Consumers derive what economists call a consumers' surplus when they can buy a good or service at a price less than the maximum price they are willing to pay. Producers similarly derive a producers' surplus when the price they can charge for a good or service is higher than the minimum price they are willing to accept. Tariffs, as a rule, raise prices domestically, transferring part of the consumers' surplus to producers and part to the government in added revenues. The loss in consumers' surplus can be shown to be greater than the gains in producers' surplus and government revenues. The difference is a net welfare or deadweight loss.[24] A nontariff barrier, such as a quota,

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[21] Paul Bairoch, *Economics and World History: Myths and Paradoxes* (Simon & Schuster/Harvester Wheatsheaf, 1993), p. 5.

[22] Irwin, "The Smoot-Hawley Tariff: A Quantitative Assessment," pp. 7 & 18.

[23] Eckes, Opening America's Market: U.S. Foreign Trade Policy Since 1776, p. 106.

[24] For readers familiar with supply and demand curves, consumers' surplus is the area beneath the demand curve, *above* the after-trade equilibrium price; producers' surplus is the area above the supply curve, *below* that price. Through trade, the after-trade equilibrium price of any good is usually below the pre-trade equilibrium price as the supply of it is increased through imports. Being below the pre-trade equilibrium price makes the consumers' surplus

similarly transfers part of the consumers' surplus to domestic producers but also part to foreign businesses, which can now charge higher prices because the supply of the imported good or service is restricted. As with a tariff, there is a net welfare loss to the economy, but the loss tends to be greater than for a tariff since the consumers' surplus that is transferred to government through tariff revenue is instead transferred to foreign businesses through higher prices and other benefits, referred to as quota rents.

For the U.S., it has been estimated in one study that, on average, a $1 decrease in imports due to protectionism translates into a $2 decrease in consumers' surplus. For each $1 lost in consumers' surplus, $0.49 is transferred to producers, while $0.11 is deadweight loss.[25] Using these estimates, another study roughly calculates that the total welfare cost to U.S. consumers of import protection in 1996 was $223.4 billion, or 3.3 percent of GDP. Of this amount, $109.1 billion was transferred to producers, with a deadweight loss of $24.5 billion. The remaining amounts consisted of tariff revenues and quota rents (of $72.8 billion) not captured by the government. (If all these quota rents were transferred to producers in the rest-of-the-world, the net welfare cost to the U.S. economy in 1996 from import protection was $97.3 billion, or 1.45 percent of GDP.)[26]

Other studies similarly find gains from the removal of U.S. import barriers. The size of the gain varies depending on the model used and the years considered, but is significant. For example, also using 1996 data, the U.S. International Trade Commission, in its periodic report on the effects of U.S. import restraints on the American economy, found a net welfare gain to U.S. consumers of approximately $12.4 billion from eliminating the most significant import barriers in manufacturing, agriculture, and services. Total elimination of import restraints would yield net welfare gains of nearly $15 billion.[27]

Global estimates of removing import barriers likewise show significant welfare gains. According to estimates by the WTO, World Bank, OECD, and the World Bank/OECD Development Centre, the

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greater than the producers' and government's surpluses, other things equal. For a good graphical presentation, see Howard J. Wall, "Using the Gravity Model to Estimate the Costs of Protection," Federal Reserve Bank of St. Louis *Review*, January/February 1999, p. 38.

[25] For a description of this study, see *ibid.*, pp. 39-40.

[26] *Ibid.*, p. 39.

[27] United States International Trade Commission, "The Economic Effects of Significant U.S. Import Restraints," Second Update 1999, Investigation No. 332-325, Publication 3201, May 1999, p. 15.

global welfare gains from the GATT Uruguay Round, which lowered protectionism, could reach between $170 billion and $275 billion a year.[28]

Further global trade liberalization from additional WTO rounds could produce higher global welfare gains, as some of the world's most heavily protected sectors are gradually opened to global competition. For example, a 50 percent reduction in global trade protection in agriculture, industrial products or manufacturing, and services could generate annual global welfare gains ranging from $385 billion to around $400 billion, according to studies by the Commission of the European Union and Australian government.[29] Welfare gains from more extensive liberalization of global trade could exceed $750 billion.[30] One study from the OECD found potential welfare gains from full and global tariff liberalization for agricultural and industrial goods of $1.2 trillion (3.1 percent of world GDP), with welfare gains to OECD countries of $757 billion (2.5 percent of GDP) and gains to non-OECD countries of $455 billion (4.9 percent of GDP).[31]

- **Changes in the Pattern of International Trade and Investment from Comparative Advantage**

In a dynamic, relatively open global economy, countries tend to pursue their comparative advantage. That is, they tend to specialize in trading those goods and services in which they have an advantage in producing, either in terms of efficiency or quality, in exchange for goods and services in which they do not possess a similar advantage, both in absolute and relative terms. Comparative advantage has long been a potential growth-enhancing feature of trade liberalization, since

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[28] A table containing the range of figures (derived from different models, variants, and base years) can be found in a study by the OECD entitled, "Open Markets Matter: The Benefits of Trade and Investment Liberalisation," p. 107. This is a much larger document than the OECD *Observer* article of the same title referred to earlier in this paper. Hereafter, the larger document will only have OECD preceding the title.

[29] Nigel Nagarajan, "The millennium round: An economic appraisal," European Commission *Economic Papers*, Number 139, November 1999, p. 37 (the figure from this study also reflects an additional agreement on WTO trade facilitation, which would lower transaction costs); Australia Department of Foreign Affairs and Trade, "Review of Australia's General Tariff Arrangements," 28 January 2000, p. 22.

[30] Australia Department of Foreign Affairs and Trade, "Review of Australia's General Tariff Arrangements," p. 22.

[31] OECD Trade Committee, "Non-OECD Countries and Multilateral Trade Liberalisation: A Background Note on Some Key Issues," TD/TC (99) 18/Final, 25 November 1999, pp. 8, 9, 26 (Table 7).

it guides global resources toward their *most productive* uses. It also has an indirect effect in boosting economic growth and income by lowering the opportunity costs associated with producing various goods and services.

Comparative Advantage in Theory: To illustrate how comparative advantage can operate consider a simple barter trading system between two adjacent countries. A large river, which flows into inland waterways and lakes, separates the countries. The people of each country produce three "consumer" goods: wine, bread, and fish. Initially there is no trade because, say, for military reasons no bridges have been built and boats are forbidden to sail the river. The people within each country must produce all their own wine, bread, and fish. Assume, however, because of sloping terrain and skill, the people in one country are better winemakers but far less skilled at fishing because of fewer inland waterways and lakes. Assume further that the people of the other country, which possesses more waterways and lakes, are better fishermen and, due to grassy, steppe terrain, less proficient at winemaking. Both countries are equally skilled at growing grain and baking bread.

An incentive exists to improve the standard of living in both countries through trade: the better winemakers can exchange some of their wine for some of the fish caught by the better fishermen. Over time, if the river barriers are removed, trade relations allow the people of one country to begin to specialize in wine, while those in the other can specialize in fish. The benefits of specialization are apparent. The country of better winemakers is freed from having to depend on its own waterways and lakes alone for the daily catch, allowing the winemakers to put more of their scarce resources into more vines and grapes. The same applies to the country of superior fishermen, which is freed from having to make all its own wine. By opening their economies to trade, the better winemaking country can obtain fish at lower cost and the country of better fishermen can obtain wine at lower cost. Both countries can enjoy more output with the same level of input as before.

One of the insights of comparative advantage is countries do not even have to be best at producing a good to take advantage of trade opportunities. According to David Ricardo, who first elucidated the concept of comparative advantage, a country that could produce a good cheaply still might want to import the good, if it is even *more* efficient at using its resources in producing another good for export or domestic use. In the extreme case, a country that can produce *everything* cheaply still has an incentive to trade. It is a matter of opportunity

cost, scarce resources, and the benefits that come with specialization. At the end of the day, it is relative costs that usually matter. The country with an absolute advantage in producing a good finds that devoting resources to producing that good also has a relative cost, namely the greater quantity of goods it could obtain by trading another good in which it is even more efficient in producing.

In our three-good example above, suppose the better fish-producing country can also grow grain a little more cheaply because of its grassy, steppe terrain. However, given an equal input of resources, the fish it produces is greater than the bread it produces. Consequently, the country may want to import some bread even though it could produce it cheaper than its neighbor. By producing less bread, it frees scarce resources for producing even more fish for export. By producing more fish and less bread, the country can trade the additional fish not only for greater amounts of wine, but also for more bread than it could produce and bake.[32]

Comparative Advantage in Practice: Evidence of comparative advantage in the global economy can be found in Table 1, which lists the top ten broad categories of U.S. manufacturing exports and imports in 1999. Although the U.S. is the leading exporter in world merchandise trade, it also imports large quantities of manufactured goods. This table suggests that American manufacturers do follow U.S. comparative advantage. Conversely, Americans also purchase foreign goods that could be made in the U.S. (note that the top manufacturing imports and exports are mainly within the same categories of goods), indicating other countries are following their comparative advantage.

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[32] As David Ricardo wrote: "It will appear, then, that a country possessing very considerable advantages in machinery and skill, and which may therefore be enabled to manufacture commodities with much less labour than her neighbours, may, in return for such commodities, import a portion of the corn required for its consumption, even if its land were more fertile and corn could be grown with less labour than in the country from which it was imported." *Principles of Political Economy and Taxation,* p. 83.

Table 1: Top Ten 1999 U.S. Manufacturers Trade (Two-Digit SITC Product Groups)	
Exports	*Imports*
Electrical Machinery, Apparatus & Appliances	Motor Vehicles
Motor Vehicles	Electrical Machinery, Apparatus & Appliances
Transport Equipment	Office Machines and ADP Equipment
Office Machines and ADP Equipment	Articles of Apparel and Clothing
Power Generating Machinery	Miscellaneous Manufactured Articles
Miscellaneous Manufactured Articles	Telecommunications Equipment
General Industrial Machinery	Power Generating Machinery
Telecommunications Equipment	General Industrial Machinery
Professional Scientific Instruments	Nonmetallic Minerals
Machinery Specialized	Organic Chemicals
Source: U.S. Department of Commerce	

Further evidence of comparative advantage can be found in the factor intensity composition of U.S. exports. Technology-intensive manufacturing in 1999 accounted for over half (57 percent) of U.S. exports, with an additional 18 percent in human capital-intensive manufacturing, while unskilled labor-intensive manufacturing only comprised 7 percent of U.S. exports.[33] This reflects the comparative advantage the U.S. has in technology and skill versus the rest of the world and the comparative disadvantage in terms of total, and unskilled, labor supply. Researching U.S. comparative advantage between 1980 and 1995, one study found the U.S. has a "temporally stable and ubiquitous" comparative advantage in differentiated producer goods and comparative disadvantages, generally, in

[33] Trade statistics from the International Trade Centre UNCTAD/WTO (Geneva, Switzerland).

standardized producer and consumer goods.[34] Differentiated goods tend to require more technology-intensive manufacturing, whereas standardized goods tend to require more labor-intensive manufacturing and lower unit costs to be competitive.

Another study, from economists at the Economics and Statistics Administration of the U.S. Department of Commerce, sampled U.S. manufacturing plants over 1987 and 1992. They found a positive and significant association between the current use of advanced technologies and future exporting, interpreting this association "as evidence that these two activities are linked by the market niche served by American exporters."[35] The authors suggest this "is indicative of the United States' comparative advantage in high-tech products (which require advanced technologies for their manufacture)."[36]

Additional evidence of comparative advantage in the global economy can be found in "the flying geese formation" in East Asia.[37] In that region, Japan tends to produce and export new goods earlier than other Asian countries. Like the U.S., it has a comparative advantage in technology and human capital-intensive manufacturing, which in 1999 comprised 87 percent of its exports,[38] and are evidence of the skill and capital needed to develop new goods. As these goods become standardized and profit margins fall, production and export of them moves to the so-called four tigers of Asia—Hong Kong, Korea, Singapore, and Taiwan—where labor costs are comparatively lower. Then, for similar reasons, production and export moves to Malaysia and Thailand, and then on to Indonesia. In the meantime, Japan develops and exports other goods, and the product cycle begins again.[39] The comparative advantage found in "the flying geese formation" has

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[34] See J. David Richardson and Chi Zhang, "Revealing Comparative Advantage: Chaotic or Coherent Patterns Across Time and Sector and U.S. Trading Partner?" NBER Working Paper 7212, July 1999.

[35] J. Bradford Jensen and Nathan Musick, "Trade, Technology, and Plant Performance," Economics and Statistics Administration, U.S. Department of Commerce, ESA/OPD 96-4, April 1996, p. 10.

[36] *Ibid.*, p. 11.

[37] See Andrew K. Rose, "Dynamic Measures of Competitiveness: Are the Geese Still Flying in Formation?" Federal Reserve Bank of San Francisco *Economic Letter*, Number 97-17, May 30, 1997.

[38] Trade statistics from the International Trade Centre UNCTAD/WTO.

[39] Rose, "Dynamic Measures of Competitiveness: Are the Geese Still Flying in Formation?" The careful reader will ask, *where is China?* Rose finds China to be an anomaly in "the flying geese formation," more competitive than its traditional position behind Indonesia and requiring further research.

been responsible in large part for the high and growing competitiveness of East Asia over the last few decades.[40]

Comparative advantage operating in Asia can be found also in the factor intensity composition of China and India's exports. China's huge population of 1.3 billion has a comparative advantage in unskilled labor supply: 41 percent of its exports in 1999 were in labor-intensive manufacturing, but only 30 percent in technology-intensive manufacturing. India also has a huge population of a little over 1 billion, but is less developed and more agrarian, with an estimated 67 percent of its labor force engaged in agriculture versus 50 percent for China. Consequently, India in 1999 had a different pattern of exports: 33 percent were in labor-intensive manufacturing, 21 percent in natural resource-intensive manufacturing, and 19 percent in primary products.[41]

- **Gains in Total Factor Productivity and Technology Diffusion from Greater International Trade and Investment**

Ultimately, it is difficult for any economy to increase its rate of growth and income without increases in total factor productivity, in particular labor productivity. For most OECD countries, growth in labor productivity accounts for at least half of their growth in per capita GDP; for many, it accounts for considerably more than half.[42] Greater international trade and investment play important roles in raising total factor productivity. As the OECD reports: "Productivity levels tend to be highest in industries that are exposed, through imports, exports and foreign direct investment, to substantial competition from world-class producers."[43]

Exports: The increase in productivity for countries that promote greater international trade and investment is statistically significant. For example, one study found that U.S. plants producing for export had labor productivity 40 percent higher than in equivalent

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[40] *Ibid.* Also see Anne O. Krueger, "Trade Policy and Economic Development: How We Learn," NBER Working Paper 5896, January 1997, pp. 23-26 for a discussion of East Asian trade policies since the 1950's.

[41] Trade statistics from the International Trade Centre UNCTAD/WTO; population statistics from Central Intelligence Agency, *World Factbook 2000.*

[42] Andrea Bassanini, Stefano Scarpetta, and Ignazio Visco, "Knowledge, Technology and Economic Growth: Recent Evidence from OECD Countries," *How To Promote Economic Growth in the Euro Area* (150th Anniversary Conference of the National Bank of Belgium, Brussels, 11 and 12, May 2000), p. 7.

[43] OECD, "Open Markets Matter: The Benefits of Trade and Investment Liberalisation," p. 25.

non-exporting plants, and had productivity growth nearly three times the national average from 1986 to 1994.[44] Another study, from economists at the U.S. International Trade Commission, found in a sample of 13 OECD countries, using data primarily from 1980's, and including 17 manufacturing sectors: "The share of exports in output is nearly always positively associated with productivity growth, after controlling for initial productivity, research effort and (where appropriate) growth in capital per worker."[45]

Higher levels of productivity in the export-oriented sectors tend to occur because firms producing for export generally are more productive in the first place and can take advantage of the opportunities trade liberalization affords them to enter export markets and expand production.[46] By entering export markets and increasing production, these firms reallocate employment and increase productivity; this type of reallocation in the U.S. manufacturing sector accounted for more than 40 percent of total factor productivity growth in the sector from 1983 to 1992.[47]

Higher productivity in the export sector can also be measured in the wage levels of export-oriented jobs. It is a general rule in economics that when productivity rises, real wages also rise because output per worker is increasing. Therefore wages in export-oriented jobs should be higher than average wages in an economy, reflecting higher productivity. The Council of Economic Advisers reported in 1998 that goods export jobs tended to pay wages approximately 12.5 to 18 percent higher than other jobs.[48] Higher wages appear to occur in export sectors irrespective of the level of economic development. In Mexico, salaries in the export sector have been typically 30 percent higher than in the domestic market, despite a 10 percent fall in average wages for the majority of industrial workers beginning in the early 1990's.[49] Even when skill levels are taken into account by adjusting for the skill-premium in wages, the Council of Economic Advisers reported in 1998 that U.S. wages were higher across the board in

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[44] Figures in *ibid.*, p. 28.

[45] Nancy Benjamin and Michael J. Ferrantino, "Trade, Trade Policy, and Productivity Growth in OECD Manufacturing," Office of Economics Working Paper No. 98-3-A, U.S. International Trade Commission, Revised November 1998, p. 13.

[46] See Andrew B. Bernard and J. Bradford Jensen, "Exporting and Productivity," NBER Working Paper 7135, May 1999.

[47] *Ibid.*, p. 23.

[48] *Economic Report of the President*, February 1998, p. 241.

[49] Figures cited in *The Washington Post*, September 17, 2000, p. A22.

export-oriented industries. The wages of unskilled workers were approximately 7 percent higher in export-oriented industries than in the rest of the economy, and the wages of skilled workers were approximately 5 percent higher.[50]

Imports: Imports also play an important role in elevating productivity and growth levels. For example, statistics for the G-7 countries[51] from 1992 to 1997 suggest that trade deficits were positively associated with growth in GDP and employment; conversely, trade surpluses were negatively associated with growth in GDP and employment.[52]

In fact, it can be shown that whereas exports have a tendency to concentrate productivity gains in export sectors imports can actually stimulate domestic productivity. One study of over 100 U.S. manufacturing industries in the 1980's found that a higher share of imports in domestic consumption was associated with a positive and statistically significant effect on subsequent total factor productivity growth.[53] In another study, growth in competing imports from 1970 to 1985 in the Japanese electrical machinery sector was estimated to have raised productivity by about 35 percent in that sector.[54] There is a similar relationship between domestic and foreign capital. One study found using cross-country data for the period 1960-1985: "The ratio of imported to domestic capital goods in the investment sector has a significant positive effect on the per capita income growth rates across countries, in particular, in developing countries."[55] Finally, a study of the manufacturing sector in the United Kingdom (UK) from economists at the Bank of England and Oxford University found significant "productivity convergence" occurring between the UK and the U.S. through "international openness." The authors note: "In total manufacturing, UK TFP [total factor productivity] rose from approximately 52% of the U.S. level in 1970 to about 61% in 1990."[56]

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[50] *Economic Report of the President*, February 1998, p. 241.

[51] United States, United Kingdom, France, Canada, Italy, Germany, and Japan.

[52] See *Economic Report of the President*, February 1999, p. 260, Charts 6-7 and 6-8.

[53] See Robert Z. Lawrence and David E. Weinstein, "Trade and Growth: Import-Led or Export-Led? Evidence from Japan and Korea," NBER Working Paper 7264, July 1999, p. 22.

[54] *Ibid.*, p. 20.

[55] Jong-Wha Lee, "Capital Goods Imports and Long-Run Growth," NBER Working Paper 4725, April 1994, p. 19.

[56] Gavin Cameron, James Proudman, and Stephen Redding, "Productivity Convergence and International Openness," Bank of England, 1997, p. 57.

Thus imports themselves can raise economic growth and income in at least two ways. The first way is basic to economics (and also constrained by broader considerations of national security and international law): foreign competition can encourage domestic producers to improve their productivity in order not to lose out to foreign producers. The second way is that trade liberalization increases the opportunity for world innovators to expand globally so that almost every country eventually benefits from innovation. Therefore, at a deeper level, it can be said that imports are much more than goods and services. They convey crucial knowledge to domestic producers and workers, which can increase their productivity and raise their incomes.

V. Conclusion

This paper has outlined how greater international trade and investment can increase economic growth and income. Its objective, in part, has been to survey scholarly research to provide a better understanding of how countries benefit from following international economic policies that promote greater international trade and investment.

In general, public policy often has to catch up with economic reality. It is similar to astronomers viewing light emanating from a distant star or planet: because of space and time, the flashes of light they actually see began their travels years earlier. Economic policy makers are now in the position of astronomers. They can see the light of unprecedented world economic growth, which began following World War II, followed by the light of economic research, which has explained how international trade and investment has increased this economic growth. However, to continue to see the light of economic growth, economic policy, like a telescope, must be pointed in the right direction, as it has been since the 1940's.

The world today is arguably more integrated than at anytime in history. Even communist and former communist countries that were once closed societies today follow international economic policies that promote greater international trade and investment. By any measure this has been one of the most remarkable achievements in the post-Cold War world, one hoped for by the original designers of the international economic system some 60 years ago. If the benefits of greater international trade and investment were not real, this would simply not have occurred. These benefits have also had an influence in developing countries, where the model of a more closed economy was once popular with economic development theorists and with local officials educated by them.

Greater international trade and investment cannot solve all of the world's economic ills. Other factors, many non-economic in nature, are equally important, but which carry costs that also have to be properly understood and considered. Moreover, the criticism that legalistic "trade agreements" can be oversold has its merits, and such agreements should be subjected to a rigorous analysis of costs and benefits. The analysis must also consider whether all signatories to a trade agreement can, and ultimately do, comply with its rules.

Yet the popular slogan "trade not aid" is a good indication that the benefits of international trade and investment have climbed to a level of recognition, even a level of moral esteem, once occupied solely by the benefits of development aid. As John Maynard Keynes confessed before the Liberal Summer School at Cambridge University in 1925, one does not have to believe in all aspects of free trade to accept the economic arguments for reducing and eliminating barriers to the movement of goods, services, and capital that have been presented in this paper. As Keynes said:

> There were always two arguments for Free Trade—the *laissez-faire* argument which appealed and still appeals to the Liberal individualists, and the economic argument based on the benefits which flow from each country's employing its resources where it has a comparative advantage. I no longer believe in the political philosophy which the Doctrine of Free Trade adorned. I believe in Free Trade because, in the long run and in general, it is the only policy which is technically sound and intellectually tight.[57]

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[57] John Maynard Keynes, "Am I a Liberal? (1925)," *Essays in Persuasion* (W. W. Norton & Company, 1963), p. 326. As the international relations scholar F. S. Northedge of the London School of Economics wrote: "The case for British free trade was never shaken until the fearful economic whirlwinds which struck world commerce in 1929 -1932." *The International Political System* (Faber and Faber, 1976), p. 87.

Economic Perspectives on Terrorism Insurance

I. Introduction

The terrorist attacks of September 11, 2001 dramatically altered the economic, budgetary and security landscape of the United States. One effect of the attacks was to create an entirely new economic and public policy issue: terrorism insurance. Insured losses from 9/11 will likely total $40 billion to $50 billion. Prior to 9/11, the risk of losses due to terrorism was considered so low that they were automatically covered in most insurance policies.

Today, however, insurance companies are routinely excluding or limiting coverage for terrorist acts from the policies they issue. Where terrorism insurance is provided, it is expensive, hard to find at needed coverage levels and sometimes impossible to obtain. As a result, a significant barrier to economic activity has been created, as businesses are forced to bear higher costs of insurance or are unable to conduct business due to financing requirements to carry terrorism insurance. In addition, businesses are bearing significantly more risk exposure, which raises concerns about the potential economic impact of another catastrophic terrorist attack.

To address this incipient problem, federal legislation has been proposed to establish a limited and temporary federal role in assuring the availability of terrorism insurance. This study examines the market for terrorism insurance in the United States, discusses the economic implications of the cost and availability of terrorism insurance and considers the proposed federal role in terrorism insurance.

II. The Impact of 9/11 on the Insurance Industry

The economic losses from the terrorist attacks of September 11th were unprecedented. Estimates of the insured losses from the attacks range from $30 billion to $70 billion, with many analysts predicting the final amount to total around $40 billion to $50 billion.[1] These losses easily make the terrorist attacks the single largest

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[1] Although initial claims and payouts total around $20 billion so far, the history of major catastrophes indicates that initial estimates greatly underestimate the final total. It will likely take several years for all the claims to be settled. The estimates do not include the cost of damage to the Pentagon, the property damage to which is expected to cost upwards of $775 million. Robert P. Hartwig, "The Terrorist Attacks of September 11, 2001: Impacts and Implications for the Insurance Industry," Presentation to the Innovations in Catastrophe Management Conference, Sanibel, FL, 3/5/2002; and U.S. General Accounting Office, Prepared Testimony of Richard J. Hillman to the U.S. House Committee on Financial Services, Subcommittee on Oversight and Investigation, 2/27/2002.

economic loss in U.S. history (Figure 1). The next largest disaster was Hurricane Andrew in 1992, with insured U.S. losses of $19.6 billion (in inflation-adjusted dollars). In fact, the 9/11 terrorist attacks produced losses, which could well prove greater than the losses of the next five largest disasters combined.[2]

The losses from 9/11 occurred under a variety of policies (Figure 2). Liability and business interruption lines will likely account for the bulk of losses (59 percent).[3] Property damage insurance is expected to amount to only about one-fifth of the loss total. This distribution makes the 9/11 attacks atypical, since in previous disasters the large majority of losses came from property damage. A substantial amount of uncertainty surrounds the estimates, particularly potential liability costs that could reach $20 billion alone.[4]

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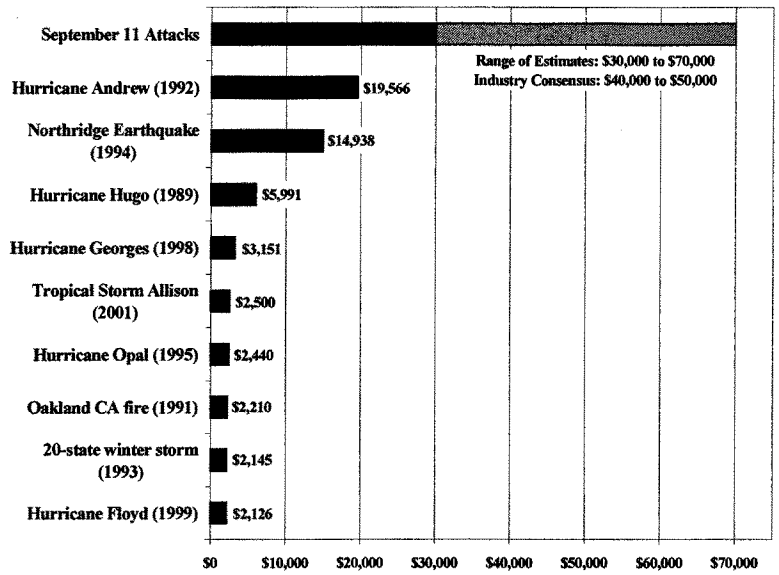
[2] Calculations based on loss data from Hartwig, "Impacts"; and inflation (CPI-U) data from Council of Economic Advisers, *Economic Report of the President* (Washington, DC: Government Printing Office, 2002), 389.

[3] Hartwig, "Impacts."

[4] Tillinghast-Towers Perrin, "Why Do We Need Federal Reinsurance for Terrorism?" 10/8/2001.

Figure 1. Insured Costs of U.S. Disasters (in millions of 2001 dollars).



Source: Hartwig, "Impacts"; U.S. General Accounting Office; Insurance Information Institute; and Council of Economic Advisers.

Overview of the Insurance Industry

The first reaction of the insurance industry following the 9/11 attacks was to reassure policyholders and investors that the industry had sufficient reserves from which to pay claims.[5] This reassurance injected a sense of economic security that the economic damage of the attacks would be repaired. The fact that businesses that had been destroyed would be reimbursed for their losses sent a signal that the long-term economic impact would be mitigated to a certain degree.

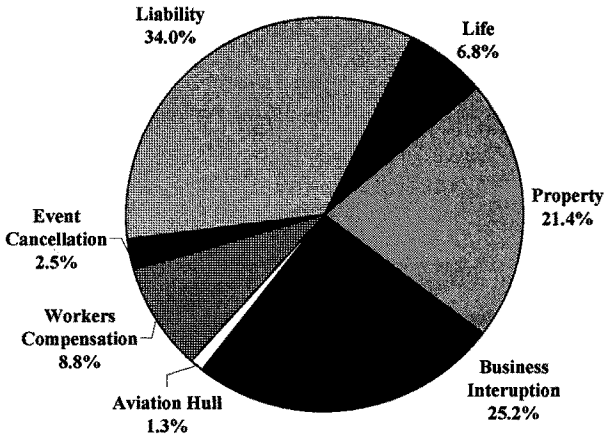
Soon after the attacks, the insurance industry took another step with long-term implications: it began to withdraw coverage for future losses caused by terrorism. Prior to the 9/11 attacks, terrorism

[5] This declaration was deemed necessary not just to affirm the sufficiency of insurers' financial resources, but also that insurers would not attempt to invoke the "act of war" clauses in policies that might prevent payment of claims.

insurance was generally not a separate line of insurance. Typically, it was not even mentioned in insurance policies. The risk of significant terrorist attacks was considered so low that policies, for lack of a specific clause excluding them, automatically covered such losses. The 9/11 attacks, however, changed how insurance companies assess the risks of terrorism.

Following 9/11, insurers decided that they could no longer write policies that automatically covered losses caused by terrorist acts. The move to exclude terrorism losses was motivated out of financial and actuarial concerns. Financially, the 9/11 attacks forced insurers to draw down their surplus. At the time of the attacks, the industry surplus was approximately $300 billion, although one analyst estimates that the surplus associated with high-risk commercial targets was just $100 billion at the time of the attacks.[6] Thus, although the industry clearly has sufficient resources to pay 9/11 claims, the payment of claims significantly impairs insurers' ability to sustain another attack. Financially, insurers potentially risked insolvency unless they limited their exposure.

Figure 2. Distribution of Estimated 9/11 Insured Losses



Source: Hartwig, "Impacts."

[6] Robert P. Hartwig, "11 September 2001: One Hundred Minutes of Terror that Changed the Global Insurance Industry Forever," *Études et Dossiers*, no. 241 (February 2002), 128.

In addition to capacity considerations, insurers were beset with the problem of how to price terrorism risk. Generally speaking, insurers use sophisticated actuarial models to set premiums based on two key factors: the probability of occurrences and the size of losses. In their assessments following 9/11, insurers concluded that terrorism represented potentially unlimited losses with unpredictable frequency. Without an actuarial basis for setting premiums, insurers are simply unable to calculate how much to charge for terrorism coverage. The American Academy of Actuaries characterized the nature of the problem in an April 2002 report: "Extreme events such as the Sept. 11 terrorist attacks are infrequent, possibly unprecedented, unanticipatable and 'unthinkable' in their consequences."[7]

Table 1. Largest Insured Losses from Terrorism, 1970-2001 (losses in millions of 2001 dollars).

Event	Country	Victims	Insured Loss
Attack on World Trade Center and Pentagon (2001)*	U.S.A.	3,014	>$40,000
Bombing in London's City (1993)	U.K.	1	$907
Bombing in Manchester (1996)	U.K.	0	$744
First World Trade Center bombing (1993)	U.S.A.	6	$725
Bomb explodes in London's financial district (1992)	U.K.	3	$671
Table 1. (cont.)			
Suicide bombing at Colombo Airport (2001)	Sri Lanka	20	$398
Bombing at London's South Key Docklands (1996)	U.K.	2	$259
Oklahoma City bombing (1995)	U.S.A.	166	$145
PanAm Boeing 747 explosion at Lockerbie (1998)	U.K.	270	$138
Three hijacked airplanes dynamited in Zerga (1970)	Jordan	0	$127

* Estimates from Associated Press and Hartwig, "Impacts."

Source: Swiss Re.

[7] American Academy of Actuaries, "Terrorism Insurance Coverage in the Aftermath of September 11th," 4/17/2002, 1.

Even natural disasters such as hurricanes and earthquakes have a recorded history of a century or more, allowing insurers to predict aggregate potential losses over time. By comparison, the history of terrorism losses provided no warning of the potential magnitude of losses. As can be seen in Table 1 above, the nine largest insured losses from terrorist attacks prior to 9/11 totaled just $4.1 billion combined, only about one-tenth the estimated losses of 9/11.

The first segment of the insurance industry to restrict coverage of terrorism losses was the reinsurers. The insurance industry consists of two tiers. The first tier is made up of primary insurers, which are the traditional insurance companies from whom businesses purchase insurance.[8] Companies in this category include Prudential, AIG, and Hartford Insurance. Primary insurers, in turn, sell some of their acquired risk to the second tier, the reinsurers. Reinsurers, in essence, provide insurance to insurance companies. Reinsurers deal solely with primary insurers and include such firms as Berkshire Hathaway, Lloyd's of London and Munich Re. Reinsurance is a mechanism for primary insurers to diversify globally their risk exposure. Without reinsurance, primary insurers would be forced to greatly reduce their exposure to losses (through lower limits or coverage restrictions), dramatically increase their premiums, or both.

The financial impact on reinsurers has been much greater than on the overall insurance industry. Industry experts expect that 60 percent to 80 percent of the insurance payments for the 9/11 attacks will ultimately come from reinsurers.[9] Depending on the ultimate size of the losses, 9/11 claims will exhaust upwards of one-quarter of the reinsurance industry's surplus.[10] Because of this financial impact and the inability to predict the frequency or size of losses from future terrorist attacks, reinsurers began to stop covering losses due to terrorism. Quite simply, reinsurers reasoned that "the peril of terrorism exposes their finite capital to risk of loss that they cannot determine or withstand."[11]

Once the reinsurers stopped covering terrorism losses, the primary insurers had little choice but to follow. However, unlike reinsurers, primary insurers must obtain approval from state regulatory

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[8] Terrorism insurance issues apply primarily to commercial lines of insurance.
[9] American Academy of Actuaries, 6.
[10] Franklin W. Nutter, "Rebuilding Commercial Insurance Markets with a Public/Private Partnership," Statement of the Reinsurance Association of America to the NAIC Reinsurance Task Force Hearing, 1/17/2002.
[11] American Academy of Actuaries, 7.

agencies when implementing new coverage restrictions.[12] Thus, after the 9/11 attacks, the Insurance Services Organization, on behalf of insurance companies, filed requests for permission to include terrorism exclusion clauses in new policies. As of May 2002, 45 states, the District of Columbia and Puerto Rico had approved the insurance industry's applications for terrorism exclusion language.[13] The states that have not approved the new exclusion are California, Florida, Georgia, New York and Texas, accounting for about 35 percent of the commercial insurance market.[14]

Exclusion clauses are typically written to exclude war and acts of terrorism. Definitions of terrorism can vary, but the standard definition specifies that a terrorist act is one that results in at least $25 million in property damage, or kills or seriously injures at least 50 people. In addition, any attack that employs nuclear, chemical or biological weapons is classified as a terrorist attack. Acts of cyberterrorism are also generally excluded.[15]

III. The Cost and Availability of Terrorism Insurance

Terrorism insurance policies are available on a limited basis today. Policies are more available and affordable today than in the weeks after 9/11. However, terrorism insurance is still very expensive, terms are restrictive and coverage limits are frequently too low, when it is available at all. Unfortunately, aggregate data on the cost, availability and terms of terrorism coverage are not available, since policies vary widely from business to business. In addition, it could take over a year for full implementation of terrorism exclusion provisions, since they must be written into each new policy as the old ones expire. Nonetheless, some evidence is available that illustrates the scope of the problem.

A recent Standard & Poor's analysis found that there is only a "very limited market that still exists for terrorism insurance."[16]

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[12] Because reinsurers operate in the global marketplace with sophisticated buyers, they are not bound by the same laws and regulations that bind primary insurers.

[13] Insurance Services Organization, "Status of Terrorism Filings," 5/15/2002, online at www.iso.com/filings/cl.htm.

[14] U.S. General Accounting Office, 5.

[15] For additional detail on insurance exclusions, see Jeff Woodward, "The ISO Terrorism Exclusions: Background and Analysis," International Research Management Institute, *IRMI Insights* (February 2002), online at www.irmi.com/insights/articles/woodward006.asp.

[16] Standard & Poor's, "Terrorism Coverage Remains in Doubt," 4/15/2002, online at www.standardandpoors.com/europe/francais/Fr_news/Terrorism-Coverage-Remains-in-Doubt_15-04-02.html.

Another report found that there are only seven insurers that are active in offering stand-alone terrorism insurance policies.[17] Independent analyses report that terrorism insurance can only be obtained with limits of just $75 million to $500 million, far short of the actual value of many properties, some worth more than $1 billion.[18] As Moody's reported in March 2002, "At this time, only a handful of carriers are writing terrorism coverage. ... The policies that are being written simply do not patch the terrorism exclusion to bring it to equivalence of what was available pre-September 11th."[19]

For many businesses, terrorism coverage is prohibitively expensive. Terrorism risks generally carry a much higher price to insure than other (non-terrorist) risks. Fitch Ratings reports that the "cost of the premiums for these separate [terrorism] policies is many multiples of basic all-risk policies."[20] In a survey of insurance agents and brokers, 72 percent of respondents indicated that none of their customers purchased terrorism coverage, when it is available, due to the excessive cost.[21] A survey of large banks by the Federal Reserve Board found that close to one-third (30 percent) have experienced weaker demand for high profile or heavy traffic commercial real estate projects due to the affordability of terrorism insurance.[22]

For the terrorism coverage that is available, the terms of coverage are frequently restrictive.[23] Many terrorism policies impose high retention levels, with deductibles as great as $25 million. Business interruption policies often require a 30-day waiting period before benefits become available. Terrorism coverage policies can also include a 30-day cancellation notice, which makes policyholders

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[17] Betterley Risk Consultants, "The Terrorism Coverage Market: Hope for Coverage in a Difficult Market," *The Betterley Report* (April 2002), 1.

[18] Moody's Investors Service, "CMBS: Moody's Approach to Terrorism Insurance for U.S. Commercial Real Estate," 3/1/2002, 5; National Association of Insurance Commissioners, "An Update of State Insurance Regulatory Actions Taken in Response to the Terrorist Attacks of September 11, 2001," 2/27/2002; Hartwig, "One Hundred Minutes," 138; and Betterley Risk Consultants, 3.

[19] Moody's Investors Service, *CMBS*, 5.

[20] Fitch Ratings, "Terrorist Insurance: Two Steps Forward, One Step Backward," *Real Estate Update* (May 2002), 3.

[21] Independent Insurance Agents of America and the Alliance of American Insurers, "Effects of Terrorism Exclusions on the Property/Casualty Market: A Survey by IIABA and AAII, Summary Report," 4/18/2002.

[22] Board of Governors of the Federal Reserve System, "The April 2002 Senior Loan Officer Opinion Survey on Bank Lending Practices," 5/10/2002, 14.

[23] See Betterley Risk Consultants.

nervous that insurers might cancel their policies during a period of increased tension.

Although some categories of businesses are able to find terrorism insurance without great difficulty, for many others the options are extremely limited. Sometimes terrorism coverage is included in standard policies, but subject to lower sub-limits. For other businesses, terrorism insurance is excluded completely from their policies. In such cases, businesses must either go "bare" and assume all risk themselves, or they must obtain (if possible) a separate terrorism policy.

Properties for which terrorism insurance is particularly problematic include those located in central business districts of large cities, well-known businesses, and high profile or trophy[24] properties. In addition, businesses in sectors deemed to have greater risk include those in real estate, construction, transportation, energy and utilities. Any businesses located near high-risk targets (such as the White House and critical infrastructure) are also considered to be at higher risk of suffering collateral damage from a terrorist attack directed elsewhere.[25]

The following list provides some concrete examples of businesses and organizations that have had difficulty obtaining terrorism insurance. Although anecdotal, these examples highlight the nature and extent of the problem.

- The Federation of Jewish Philanthropies (FOJP), in New York City, runs several major non-profit hospitals and social service agencies. FOJP's old policy provided $8 billion in coverage, including terrorism coverage. In February, FOJP testified that its new policy excluded terrorism losses, and the organization was still looking for separate terrorism coverage. FOJP received one quote for terrorism insurance that offered just $50 million in coverage (on $8.5 billion in assets) for a staggering $4.24 million.[26]

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[24] Trophy properties are high-profile properties with significant cultural, business, or historical value, such as the Empire State Building or Chicago's Sears Tower.

[25] For example, although the terrorists directly attacked the two World Trade Center towers, an additional 10 buildings surrounding the towers were either partially or completely destroyed.

[26] Lisa Kramer, Federation of Jewish Philanthropies, Prepared Testimony to the U.S. House Committee on Financial Services, Subcommittee on Oversight and Investigation, 2/27/2002.

- The insurer for the Cleveland Municipal School District has notified the district that its new policy will exclude losses due to terrorism.[27]
- Numerous professional sports teams and facilities are struggling to obtain terrorism insurance:
  - The Seattle Mariners are reported to have secured just $1 million in terrorism insurance coverage for their $517 million stadium.[28]
  - Last year, the insurance policy for the Milwaukee Brewers stadium facility cost just $255,000 and included terrorism coverage. This year, a policy with terrorism coverage costs $2.25 million. Taxpayers in the Milwaukee area will have to bear 70 percent of that cost.[29]
  - The San Francisco Giants saw their liability premiums alone jump roughly 200 percent, and even then the team has "very, very little" terrorism insurance.[30]
  - An "unspecified number" of National Football League teams currently have no terrorism insurance. Teams that have been reported to not have terrorism insurance include the New York Giants, Dallas Cowboys, Chicago Bears, Washington Redskins, and Baltimore Ravens.[31]
- The International Economic Development Council, which is a block from the White House, has had its insurance policy dropped altogether due to the organization's proximity to the White House. Other businesses and organizations located near the White House are also expecting large price increases and/or terrorism exclusions.[32]

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[27] U.S. Department of the Treasury, Office of Public Affairs, "Examples of Terrorism Insurance Difficulties," 4/8/2002, online at www.treas.gov/press/releases/po2074.htm.

[28] Frank Vinluan and Bill Kossen, "Terrorism Insurance Dries up for Owners of High-Profile Sites," *The Seattle Times*, 5/19/2002.

[29] Don Walker, "Insurance Increase Hit Sports Teams Hard," *Milwaukee Journal Sentinel*, 5/3/2002.

[30] "Area Stadiums Pay to Play," *San Francisco Business Times*, 3/15/2002.

[31] Charles Elmore, "Ticket Price Increase Likely to Cover Cost of Terrorism Insurance," *Cox News Service*, 4/17/2002.

[32] Tom Ramstack, "D.C. Insurance Policies Reflect Terrorism Threat," *The Washington Times*, 4/3/2002.

- The St. Louis Art Museum's insurer informed the museum that it would no longer cover terrorism losses. The result will be higher costs for the museum, and could very well prevent touring shows, such as the Vincent van Gogh show the museum hosted prior to 9/11.[33]
- A real estate firm that owns trophy properties in several U.S. cities has been unable to find terrorism insurance to cover the value of its properties. Prior to 9/11 the firm had $1 billion in coverage (including terrorism losses). After 9/11, the firm reported that it had received only one quote from an insurer willing to offer terrorism insurance, but for just $25 million in coverage.[34]
- A collection of Midwestern airports reported that the aviation liability premium jumped 280 percent following 9/11, and the policy excluded terrorism losses. A separate policy covering war risk and terrorism was offered by the group's insurer: a $1 million premium for $50 million in coverage.[35]

Businesses have responded in several ways. Some have chosen to simply go without terrorism insurance. Other businesses have turned to alternative insurance mechanisms, such as forming captive insurance companies or pooling together with similar firms. Another option is to secure "layered" insurance, in which businesses purchase multiple "stacked" policies from several insurance companies. For example, a firm could buy $100 million each from five different insurance companies, with a prearranged order in which the policies pay out. Although layered insurance deals are becoming more common, they are still inadequate for some policyholders and in any instance are difficult to arrange. For instance, insurance broker Aon estimates layered deals can provide property insurance coverage up to a maximum of $500 million to $1 billion, an amount that nonetheless falls far short of the market value of many properties.[36]

IV. Economic Importance of Terrorism Insurance

Diversification of risk through insurance is an indispensable ingredient of economic growth. Any economic activity – from purchasing a product or service to loaning capital to a business start-up – entails some amount of risk. Private sector growth is predicated on businesses and entrepreneurs taking calculated risks. Insurance is a

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[33] Diane Toroian, "Museums Struggle with Rising Costs of Terrorism Insurance," *St. Louis Post-Dispatch*, 4/29/2002.
[34] U.S. General Accounting Office, 10.
[35] U.S. General Accounting Office, 11.
[36] American Academy of Actuaries, 16.

mechanism by which businesses can shed some of that risk and engage in activities that they would not otherwise perform. Without insurance, economic activity would be severely shackled.

There is a growing amount of evidence that the difficulty and cost of obtaining terrorism insurance pose a very real threat to sustained economic growth. This threat manifests in at least three chief respects. First, the lack of terrorism insurance prevents some business deals and projects from going forward. Second, the high cost of terrorism insurance for firms and projects can result in the misallocation of scarce resources, which is harmful to economic growth. Finally, the coverage limits on terrorism insurance available today are very low relative to the value of the insured properties, leaving a large amount of exposure in the event of another catastrophic terrorist attack.

Economic Threat 1: Lack of Terrorism Insurance as a Drag on Business Activity

The inability of some businesses to obtain suitable terrorism insurance can result in the cessation of business activity. Especially since 9/11, many financing arrangements require that the borrower carry terrorism insurance. If the borrower is unable to secure sufficient coverage, then banks and lenders may be unwilling to make loans available. Even for some existing loans, there has been discussion about whether lack of terrorism coverage puts the borrowers in technical default of loan covenants.

The impact of the scarcity of terrorism insurance is particularly apparent in lending for properties perceived to be at high risk for attack, such as trophy buildings. Two national lenders have stopped making key loans related to trophy properties. The GMAC Commercial Holding Corp (which produced $20 billion in loans in 2001) announced in February that it had stopped making loans for "trophy-type" projects that lacked terrorism insurance.[37] Similarly, Mutual of Omaha stopped making loans for trophy properties as well as for properties located near trophy properties.[38]

The lack of a federal backstop to the insurance industry is having tangible effects on commercial real estate financing. In the continued absence of a federal backstop, Moody's Investor Service is preparing to downgrade the ratings on numerous large loan

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[37] "Lack of Terror Coverage Killing Real Estate Deals," *Philadelphia Business Journal*, 2/22/2002.

[38] Karen Sibayan, "CMBS Players Continue to See Opportunity in the Sector," *Asset Securitization Report*, 4/15/2002.

transactions.[39] *The Wall Street Journal* reports that the market is already demanding higher interest rates on debt for trophy-type properties, such as Rockefeller Center.[40]

The following anecdotes provide some specific examples of business activity that has been suspended or cancelled due to the lack of terrorism insurance.[41]

- In New York City, a plan to build a 30-story residential building would have employed approximately 500 workers. The bank financing the project required the project to obtain terrorism coverage. The project was put on hold because the backer was unable to find terrorism insurance.[42]
- A real estate deal to purchase a property that generates $75 million each year in rent was cancelled. The lenders required $300 million in insurance coverage. The prospective buyer had originally budgeted $750,000 for all its insurance needs, but after 9/11 the terrorism coverage alone would have cost $6 million.[43]
- Prior to 9/11, the prospective buyer of a New York City trophy property was close to securing $200 million in financing. After the attacks, the lenders refused to approve the loan unless the buyer could find terrorism insurance to cover the replacement value of the property. The deal was halted because the prospective buyer was unable to find the required terrorism insurance.[44]
- The Hyatt Corporation paid $400 million for a site in downtown Chicago for a new office building. However, prospective financial backers will not make the loans unless Hyatt obtains sufficient terrorism coverage. Since the necessary coverage has been unavailable, construction on the project – estimated to create 2,500 jobs – is on hold.[45]

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[39] Peter Grant, "Property Downgrades," *The Wall Street Journal*, 5/15/2002.
[40] *Ibid.*
[41] Anecdotes, by their very nature, provide incomplete information. The examples given here portray only part of the picture, and may not necessarily support broad generalizations. In particular, these examples attribute business problems to terrorism insurance, when there may be other issues contributing to the problem.
[42] U.S. General Accounting Office, 13.
[43] U.S. General Accounting Office, 13-14.
[44] U.S. General Accounting Office, 14.
[45] U.S. Department of the Treasury.

- A $2 billion project in Las Vegas has been halted because the developer has been unable to secure the terrorism insurance coverage that his lenders require. The project was expected to generate an estimated 16,000 jobs.[46]
- Fleet Bank put two large loans on hold due to lack of terrorism insurance. The loans would have gone to a $300 million real estate purchase and a $100 million construction project, both in New York.[47]

Economic Threat 2: Cost of Insurance as a Drag on Business Activity

The second threat to the economy comes in the form of the higher cost of doing business for those firms that are able to find terrorism insurance.[48] Even prior to 9/11, the commercial insurance market had already begun to impose large price hikes after a decade of soft pricing. The Commercial Insurance Market Index, prepared by the Council of Insurance Agents and Brokers, indicates that premiums for most commercial insurance policies increased 10 to 30 percent in the first quarter of 2002. For property and umbrella insurance, most price increases were in excess of 30 percent.[49]

The events of 9/11 only served to exacerbate the already hardening markets. Now, coinciding with across-the-board price hikes, firms must also deal with additional terrorism insurance costs. The combination of an already hardening market for insurance with the altogether new cost of terrorism insurance creates a one-two punch for businesses. The examples listed in the preceding and following sections illustrate the extent of high insurance costs.

The price increases are not limited to terrorism coverage. Property, liability, umbrella and workers compensation policies all are experiencing price hikes. For example, prior to 9/11 an office building in Jersey City, New Jersey had an $80 million insurance policy that included terrorism losses, at a cost of $60,000. The current policy has

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[46] Daniel Aronowitz, "Special to the National Law Journal," *National Law Journal*, 4/29/2002; and U.S. Department of the Treasury.

[47] Jackie Spinner, "Insuring Against Terror Costly," *The Washington Post*, 2/26/2002.

[48] For more information on the economic costs of terrorism generally, see Robert Keleher, *The Economic Costs of Terrorism*, Joint Economic Committee of the U.S. Congress (May 2002.).

[49] Council of Insurance Agents and Brokers, "Commercial Insurance Market Index Indicates Need for Federal Terrorism Backstop," Press Release, 4/16/2002.

a premium of $400,000 for property-casualty damage insurance and another $400,000 for terrorism insurance.[50]

A survey of trucking companies found that such firms are experiencing dramatic increases in the cost of insurance. Since 9/11, companies reported that premiums for general liability policies were increasing an average of 37 percent, compared to an average of 30 percent prior to 9/11. For umbrella insurance policies, the average price hike jumped from 74 percent prior to 9/11, to 120 percent after 9/11. In other words, the 9/11 attacks have caused an already hardening market to increase prices even further.[51]

Economic Threat 3: Low Coverage Limits Leave Large Exposure

The third, and perhaps most pernicious, threat is the impact on the economy that another catastrophic terrorist attack would have given the limited insurance coverage currently in place. As insurers have dramatically scaled back their coverage of terrorism losses, either through refusal to provide coverage or tight policy limits, businesses are forced to bear a much larger amount of risk themselves. The following examples illustrate problems typical for many businesses and organizations.

- Baylor University in Waco, Texas had a policy that provided $1 billion in coverage (including terrorism insurance) at a cost of $500,000. Today, Baylor has just $600 million in non-terrorism coverage, and only $60 million in terrorism coverage, for a cost of $1 million.[52]
- The large real-estate investment trust Equity Office Properties (EOP) owns 670 office buildings with 128 million square feet of space. Although EOP obtained $200 million in insurance coverage that includes terrorism losses, the portfolio contains numerous properties worth more than the $200 million limit.[53]
- Prior to 9/11, the owner of a portfolio of 100+ non-trophy commercial and residential properties on the East Coast paid $1 million for $300 million in insurance (including terrorism coverage). After the attacks, the same coverage cost $5 million, with no terrorism coverage. A separate policy for

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[50] U.S. General Accounting Office, 13; U.S. Department of the Treasury.

[51] American Trucking Associations, *Truck Insurance Survey* (January 2002), 4-5.

[52] U.S. Department of the Treasury.

[53] "Equity Office Buys Terror Coverage," *Commercial Mortgage Alert*, 3/22/2002.

terrorism provides a meager $75 million in coverage, at a cost of $1.125 million.[54]

- Last year, New York City's Metropolitan Transportation Authority, which runs the city's subways, tunnels and bridges, paid $6 million for a $1.5 billion policy. Today, MTA pays $18 million for a $500 million policy that excludes terrorism losses. A separate terrorism policy was obtained, but it provides just $70 million in coverage at a cost of $7.5 million.[55]
- Gwinnett County, Georgia (a suburb of Atlanta) had $300 million in terrorism insurance to cover its facilities and property. That terrorism coverage was part of a $1.8 billion insurance policy that cost $349,000. Since 9/11, Gwinnett's policy limits dropped to $500 million in property-casualty coverage and $1 million in terrorism coverage; the cost, however, increased to $502,000. The county purchased a separate terrorism insurance policy: $50 million in coverage at a cost of $390,000.[56]
- The City of Houston, Texas has $4.6 billion worth of property. Last year, the city paid $2.4 million for a $300 million policy. The new policy has a price tag of $3.5 million for just $25 million in property coverage with no terrorism coverage. A separate terrorism policy was under consideration; it would cost $2 million for $100 million in coverage.[57]
- The Golden Gate Bridge, with a $2.1 billion replacement value, currently has no coverage for damage due to terrorism.[58]

Although heavy, the direct economic costs of the 9/11 attacks were largely covered by insurance payments. The economic impact of 9/11 was mitigated, to a certain degree, by the fact that insurers uniformly stepped forward and said that they had the resources and intentions to cover losses from the attacks. Now that insurers have stepped back and introduced strict coverage limits for losses due to terrorism, it seems clear that insurers will bear a much smaller share of

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[54] U.S. General Accounting Office, 11-12

[55] William Sherman, "Putting a Premium on Disaster," *Daily News (New York)*, 4/28/2002.

[56] U.S. Department of the Treasury.

[57] The jump in Houston's insurance costs are partly due to Tropical Storm Allison, which hit Houston in June 2001 and caused $2.5 billion in losses. "Property Insurance Costs Strain Municipal Budgets," *BestWire*, 4/29/2002.

[58] Abraham McLaughlin, "Insurance Rates Spiral up in Wake of Sept. 11," *The Christian Science Monitor*, 4/8/2002.

the losses if there is another attack. Instead, it will be the businesses and consumers who bear the cost of the attack. As noted by the U.S. General Accounting Office,

> If another terrorist event of similar magnitude [to the 9/11 attacks] were to take place, all those losses would still be incurred. However, depending on the timing of the event, the effect would be very different, because even today the reinsurers would be responsible for a much smaller share of the losses. As the event moves farther into the future and primary insurers successfully exclude terrorism from insurance coverage, **the losses will increasingly be left to the affected businesses and their employees, lenders, suppliers, and customers.** Because these entities lack the ability to spread such risks among themselves the way insurers do, **another terrorist attack similar to that experienced on September 11th could have significant economic effects on the marketplace and the public at large. These effects could include bankruptcies, layoffs, and loan defaults.**[59] *(Emphasis added.)*

[59] U.S. General Accounting Office, 8.

To illustrate, consider a hypothetical situation in which there is another catastrophic terrorist attack, with economic losses of approximately $50 billion. This time, however, assume that insurers have *a priori* limited their exposure to just one-half (or less) of that loss. The remaining $25 billion would be left to businesses to bear. After 9/11, most affected busi-nesses were able to reopen and rebuild because they had insurance. Following a similar event today, the same businesses would have much fewer resources with which to rebuild. A $100 million office building may only have $50 million of terrorism insurance coverage; it certainly would not be able to rebuild completely. Even worse, busi-nesses that lack coverage might not be able to rebuild at all. The secondary economic devastation could be far worse than the direct economic cost of losses, since businesses would lack the resources to rebuild unless the government intervened with a massive bailout.

Table 2. High-Rise Buildings in the U.S.

City	Number of Buildings with 50+ Floors
Atlanta	8
Boston	2
Charlotte	1
Chicago	39
Cleveland	2
Dallas	10
Denver	3
Detroit	1
Houston	11
Los Angeles	10
Miami	2
Minneapolis	4
New Orleans	2
New York	67
Philadelphia	5
Pittsburgh	2
San Francisco	1
Seattle	5
Tulsa	2
Total U.S.	**177**

Source: Skyscapers.com.

It is also important to realize that the threat of catastrophic terrorist attack is not limited to the obvious targets of New York City or Washington, D.C. Terrorists have already shown an affinity for high-rise office buildings, and such buildings are harder to insure. Buildings with 50 or more stories are found in 19 cities spread through 16 different states (Table 2). Even sites such as the St. Louis Art

Museum and the Mall of America in Minneapolis, Minnesota have struggled to obtain terrorism insurance.[60]

Similarly, although New York features the densest concentration of real estate value in the U.S., other cities in the U.S. have similar value densities. A study by the Risk Management Society compared two areas of Manhattan (the financial district and midtown) to three other cities (Chicago, Los Angeles, and San Francisco). The study estimated that all five areas concentrated $50 billion within the area of a circle with a 1,000 meter radius.[61]

Insurance Industry

Although the insurance industry had the resources necessary to cover the costs of the claims from the 9/11 attacks, another attack of similar magnitude could seriously destabilize the entire industry. One indicator of the financial stability of the industry is the ratings of insurers by independent rating firms. In the aftermath of 9/11, Standard & Poor's lowered the financial ratings on 14 insurers, and Moody's downgraded 17 insurers.[62] Insurers that suffered lower ratings include such industry stalwarts as Lloyd's of London, Chubb, CNA Financial and St. Paul Companies.[63]

Although insurers are universally moving to limit their exposure to terrorism losses, there remain two critical areas that raise serious concerns: workers compensation insurance and laws covering losses due to fire. For workers compensation, the issue revolves around the prohibition in all 50 states against any sort of exclusion (even for "acts of war"). In addition, there are no policy limits; insurers are expected to cover all losses.

Historically, workers compensation has not been a source of extreme losses. But in the context of a major terrorist attack, the loss of life at even a small organization could have sizable costs. For example, a firm with 100 employees could generate $50 million in losses (assuming the industry standard of a $500,000 death benefit).[64] Prior to 9/11, such risks were made affordable through reinsurance, an option that is no longer universally available. Since insurers are unable

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[60] Toroian; and "Simon Yields to GMAC on Terror Insurance," *Commercial Mortgage Alert*, 3/22/2002.

[61] Risk Management Society, *Managing Risk in the Aftermath of the WTC Catastrophe* (2002), 6.

[62] Standard & Poor's; Moody's Investors Service, "Insurers Face the Challenges of a Post September 11th World," 1/2002.

[63] The 9/11 attacks resulted in one small insurer (Japan-based Taisei) to fail, and a second insurer (Copenhagen Re) to stop writing new policies.

[64] American Academy of Actuaries, 13.

to limit their exposure for workers compensation (either through reinsurance or terrorism exclusions), they are forced instead to demand dramatic price increases or to stop writing policies. The change in the way insurers view workers compensation was summarized by Tony Taylor, president and CEO of Montpelier Re Holdings: Six months ago, "Workers compensation on office block was the best business you could get. Today it's probably the worst you can get, and you might struggle to get it insured."[65]

The second problem for insurers comes from the Standard Fire Policy (SFP) requirements that are found in 29 states accounting for approximately 70 percent of the property insurance coverage.[66] Although subject to interpretation, the SFP requirements are often assumed to mean that regardless of a terrorism (or any other) exclusion, property insurance policies must still cover any damage caused by fire, regardless of what started the fire. Thus, if a terrorist bomb goes off and causes a fire, any subsequent damage is covered.[67] In effect, the SFP requirements can expose an insurer to exactly the catastrophic losses, which it intended to limit via the terrorism exclusion clause. This sort of unpredictable loss, of potentially enormous magnitude, poses a real stability threat to the industry.

The ongoing risk of terrorism exposure to the insurance industry is reflected in independent assessments that another attack could have dire consequences for the industry. The American Academy of Actuaries warns that "[t]he enormous financial consequences of additional extreme terrorist events could overwhelm industry capacity."[68] Robert Hartwig of the Insurance Information Institute echoes that conclusion:

> Another terrorist attack of a magnitude similar to that of September 11 would seriously destabilize the global non-life insurance industry and could push a significant number of insurers into insolvency. Larger

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[65] Office block refers to a group of workers in an office setting. Alliance of American Insurers, "Reinsurers Cite Need for Terrorism Backstop at Alliance Annual Meeting," Press Release, 5/1/2002.

[66] Woodward; and Frank J. Coyn, "Trial by Fire: Terrorism and Nuclear Exclusions Are Limited in States that Adhere to the Standard Fire Policy," *Best's Review* (April 2002), online at www.bestreview.com/2002-04/is_trial.html.

[67] In the case of the World Trade Center, most of the damage (including the buildings' collapse) was caused by fire, not by the direct impact of the planes. Federal Emergency Management Agency, *World Trade Center Building Performance Study* (May 2002), 2.

[68] American Academy of Actuaries, 16.

attacks could wipe out larger numbers of insurers all together.[69]

Commercial Real Estate

One sector that has been particularly impacted by the cost and scarcity of terrorism insurance is commercial real estate, as well as related construction projects. The debt financing for many real estate deals typically carries a stipulation that the project must carry sufficient insurance, including terrorism insurance, to protect the lenders. To the degree that real estate deals are unable to find or afford terrorism insurance, they may be unable to secure financing.

This effect has already manifested in the commercial mortgage-backed securities (CMBS) market. According to a survey by the Bond Market Association, $7 billion worth of commercial real-estate loan activity has been suspended or cancelled due to issues of terrorism insurance, representing about 10 percent of CMBS market.[70] The American Academy of Actuaries report found that "[t]here is reluctance to finance projects of $100 million or more, and some investors are reluctant to buy bonds tied to individual office towers, apartment buildings, and shopping malls."[71] In addition, overall CMBS activity in the first quarter of 2002 was down 26 percent from the same period last year.[72]

Data on the broader category of all commercial mortgage lending echoes the CMBS trend. Despite the recession that began in early 2001, commercial mortgage lending was strong throughout all of last year. However, commitments for new commercial mortgages dropped 16 percent in the first quarter of 2002 from the same period last year. The impact was particularly pronounced for offices and hotels, the lending for which was off by 37 percent and 86 percent respectively.[73]

V. The Federal Role in Terrorism Insurance

Given the obvious disruption to economic activity and the potential threat of another major terrorist attack, there have been proposals for the federal government to assume some limited role in

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[69] Hartwig, *Études*, 126.

[70] Bond Market Association, "Lack of Terrorism Insurance Hurts the CMBS Market," Policy Brief, 4/18/2002.

[71] American Academy of Actuaries, 8.

[72] Part of the decline may be due to the recession that began in March 2001. "GMAC, Morgan Stanley Lead CMBS Issuance," *Commercial Mortgage Alert*, 4/12/2002.

[73] Mortgage Bankers Association of America, "Commercial Mortgage Lending Slows in Q1, 2002," Press Release, 5/14/2002.

making terrorism insurance available. The U.S. House of Representatives passed a version of terrorism insurance legislation (H.R.3210) on November 29, 2001, and several proposals are pending before the U.S. Senate.[74]

There are credible arguments for a federal role in terrorism insurance. First, there is the current risk to the economy, in which the scarcity and cost of terrorism insurance could inhibit recovery from the recession that began in early 2001. Second, establishing a federal role now would alleviate the potentially devastating effect of another catastrophic terrorist attack. Finally, if substantial amounts of terrorism risk continue to be borne by businesses, political realities suggest that a federal bailout would be inevitable given another catastrophic terrorist attack. In such a circumstance, the federal intervention would likely by hastily constructed, involve larger amounts of aid, and would not have the same beneficial economic effects as would a program implemented today. In essence, federal involvement now would ensure that insurers remain engaged in covering terrorism losses, thus limiting potential future government (and hence taxpayer) liabilities.

There are also valid arguments against creating a federal role in terrorism insurance. One argument centers on concern about subsidizing insurance company profits, although proponents argue that a temporary federal role would mainly benefit the economy as a whole, not just a single industry. A second argument against a federal role stems from concern about creating a permanent federal bureaucracy that introduces inefficient distortions to the free market. For example, excessive government subsidies or regulations could result in market distortions that alter behavior in risky and inefficient ways. Long-standing government programs in areas such as flood insurance and banking have been criticized on such grounds.[75] Finally, some critics of federal legislation argue that the market will correct itself and thus no intervention is required.

The private market can and will respond to the relatively recent emergence of major domestic terrorist threats. There have already

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[74] For additional detail on the different bills, see Rawle O. King, "Terrorism Risk Insurance: A Summary of Legislative Proposals," Congressional Research Service, Report RL31209, 12/7/2001.

[75] See, for example, Armen Hovakimian and Edward J. Kane, *Risk-Shifting by Federally Insured Commercial Banks*, National Bureau of Economic Research, working paper no. 5711 (August 1996).

been infusions of capital into the insurance industry.[76] In response to actuarial hurdles, some insurance researchers are exploring the use of game theory, which offers insights into how players respond to different situations, to predict the frequency and targets of terrorist attacks.[77] Moody's has already developed a preliminary framework for assessing terrorism risk in commercial market real estate.[78] Reinsurers will also respond, perhaps by forming international syndicates that allow them to increase the amount of terrorism risk they are able to assume.

It may also be worth considering the likely government response in the event of another major terrorist attack. With limited terrorism insurance in place, the business sector will be forced to bear directly the cost of such an attack. Faced with the prospect of major business bankruptcies, it does not seem realistic to expect the federal government to simply stand by and watch. A federal bailout would almost certainly be demanded, and that federal role, developed in haste and under intense political pressure, might lead to a much larger, more costly and poorly designed role. It would seem prudent, then, for the government to assume a temporary and limited role now that will allow markets to resolve the actuarial and financial barriers they currently face.

The arguments listed above suggest that the appropriate role for the federal government should be limited and temporary. A limited federal role is one that preserves the private markets as the primary means of insuring against terrorism losses. Federal aid would become available only on a temporary basis (such as a loan) or only for events with aggregate losses greater than a pre-determined threshold. A temporary program would include a provision that sunsets the federal program after a predetermined period of time. A program that does not meet these two criteria risks creating a program that potentially does more harm than good. All the versions of federal terrorism insurance legislation currently under consideration by the U.S. Congress contain a "sunset" provision that terminates the program in two to three years.

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[76] However, Fitch Ratings predicts that industry surplus will be essentially flat in 2002 relative to 2001. Fitch Ratings, "Review & Outlook: 2001/2002 U.S. Property/Casualty Insurance," 1/17/2002, 9.

[77] John A. Major, "Advanced Techniques for Modeling Terrorism Risk," Guy Carpenter & Company, 2/2002; and Gordon Woo, "Quantifying Insurance Terrorism Risk," National Bureau of Economic Research Insurance Project Workshop, 2/1/2002.

[78] Moody's Investors Service, *CMBS*.

Whatever role the federal government ultimately assumes, there should also be recognition of the fact that existing laws and regulations may prevent a market-based response. Anti-trust regulation, for instance, prohibits certain collaborative ventures.[79] Insurers and reinsurers could, in theory, form a market-based and industry-run insurance pool from which to pay claims for losses due to terrorism. As such, some form of government action would seem appropriate to grant the markets additional flexibility to develop solutions to terrorism insurance problems.

The Liability Provision

An important aspect of crafting a federal role in terrorism insurance is the liability provisions. The House-passed version of terrorism insurance contains several incremental provisions curbing litigation. Injured parties could still sue for damages, but punitive damages against parties not involved in the terrorist act would be prohibited. Non-economic ("pain and suffering") damages would also be permitted, but the bill would limit a party's liability to their portion of responsibility for the terrorist act.[80] In addition, attorneys' fees would be capped at 20 percent of the award or settlement, and lawsuits would be consolidated in federal court. Similar provisions regarding punitive damages and consolidation in federal court are contained in some of the Senate versions of the bill. Litigation provisions would still allow lawsuits against the responsible terrorists and terrorist organizations.

The rationale behind liability provisions is relatively straightforward: if taxpayers are to help pay for losses caused by terrorist attacks, then they should not also have to bear the cost of lawsuits. Lawsuits are turning out to be a principal driver of the cost of the 9/11 attacks. With lawsuits stemming from 9/11 already estimated to cost as much as $20 billion, litigation reform would seem to be an obvious element to mitigating the economic cost of another catastrophic terrorist attack. As previously noted, liability costs are estimated to constitute the largest single cost of the 9/11 attacks, and could easily excede the property damage, life insurance, and workers compensation payments combined.

Since such lawsuits typically pay 33 percent to 40 percent of the award to the plaintiffs' lawyers, there are concerns that lawyers could use a catastrophe to enrich themselves at the taxpayers' expense.

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[79] See American Academy of Actuaries, 17.

[80] In other words, if a business is found to be 20 percent responsible for a terrorist act, then that business would only be liable for 20 percent of the pain and suffering damages.

Moreover, given the incentive such a payment structure creates to file frivolous and numerous lawsuits, excessive litigation could prove a serious drag on the economy. Businesses could end up spending more on legal fees and settlements than on rebuilding.

Terrorism Insurance Abroad

Although the cost of the 9/11 terrorist attacks dwarfs that of any previous terrorist attack, other counties have had problems with terrorism for decades and have often responded with some form of government program. In the United Kingdom, a series of terrorist bombings in London and elsewhere prompted the government to create in 1993 a voluntary-participation reinsurance pool to pay for terrorism losses. Policyholders and insurers contribute to the resources of the pool, and the government is responsible for losses that exceed these contributions.[81] In Israel, the government runs a mandatory insurance program that pays for all terrorist losses, funded by tax revenue.[82] France has multiple state-run programs that provide coverage for terrorism losses.[83] Spain maintains a mandatory-participation, government-run program, financed by premiums based on property values.[84] In response to the 9/11 attacks, other countries, including Australia, Canada and Germany, are considering government-backed solutions to insure against terrorist acts.[85]

VI. Conclusion

The terrorist attacks of September 11, 2001 caused an unprecedented loss of life, property and economic activity. Total insurance payments for claims from the attacks will likely total $40 billion to $50 billion. Due to financial and actuarial concerns of insurers, it has become extremely difficult for many businesses to find terrorism insurance coverage equal to pre-9/11 levels. A growing body of evidence reveals that terrorism insurance has become a significant threat to the economy. The cost and scarcity of terrorism insurance is proving to be a drag on economic activity. In addition, a substantial amount of business value is not covered by terrorism insurance.

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[81] Tillinghast-Towers Perrin, "*Pool Re and Terrorism Insurance in Great Britain,*" 10/2001.

[82] Robert C. Meder, "Global Terrorism Coverage," *Risk Management Magazine*, 5/2002.

[83] *Ibid.*

[84] *Ibid.*

[85] Dennis Shanahan, "Canberra Plans Terrorism Cover," *The Australian*, 5/16/2002; Lloyd Hackett, "2002 Legislative Forecast: Canada," *Risk Management Magazine*, 2/2002; and "Germany to Fund Terror Insurance," *AP Online*, 4/26/2002.

Another catastrophic terrorist attack could have an even more destructive impact on the economy, since businesses would not have the resources to rebuild as they did following 9/11.

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VICE CHAIRMAN'S STATEMENT AND DEMOCRATIC STAFF REPORTS

Vice Chairman's Statement

I. Introduction

The U.S. economy struggled unsuccessfully this year to mount a strong, sustainable recovery. Sluggish growth in overall demand for goods and services, together with strong growth in productivity (output per hour), has meant that employers have been able to expand output sufficiently to meet demand without adding many new workers to their payrolls. Thus, the unemployment rate remained high, fluctuating in the narrow range of 5.5 to 6.0 percent over the first 10 months of the year. Economic growth showed signs of faltering in the fourth quarter, and in November the Federal Reserve cut interest rates for the first time in nearly a year. Starting in the summer, forecasters became more pessimistic about the economy's growth prospects over the next 6 to 12 months, but most expected the economy to avoid slipping back into recession. Nevertheless, a robust rebound and strong recovery remain elusive.

The federal budget outlook weakened along with the economic outlook. The Federal budget deficit was $159 billion in 2002, compared with a $127 billion surplus in 2001 and a $236 billion surplus in 2000. Some of this shift from surplus to deficit reflected legislative actions, most notably the economic stimulus package enacted in March and the additional spending enacted in response to the September 11, 2001 terrorist attacks. Federal revenues also declined unexpectedly for reasons related to the stock market decline and other factors.

In the short run, these policy changes may have helped keep the economy from weakening even more than it did. However, declining spending and tax increases at the state and local level blunted their impact. More troubling for the economy, however, was the deterioration in the long-term budget outlook. In March, the Congressional Budget Office (CBO) projected a cumulative surplus of $2.4 trillion for 2003-12. In its August update, CBO's projection for cumulative 2003-12 surpluses had shrunk to just $1 trillion. This substantial deterioration of the long-run budget outlook probably had a negative impact on longer-term interest rates.

The average American family did not fare very well in economic terms over the past year. The poverty rate went up while inflation-adjusted median household income fell. State and local governments suffered budget crises, which limited their ability to respond to rising levels of need. The response has also been limited at the Federal level. For example, though long-term unemployment remains high, the extended

benefits program enacted last year to provide an extra 13 weeks of unemployment insurance benefits to those who have exhausted their regular benefits is about to expire, and it has not yet been renewed.

Trends in Output and Employment

The economy is still feeling the effects of the recession that began in early 2001. Since the fourth quarter of 2000, real (inflation-adjusted) gross domestic product (GDP) has grown at an average annual rate of just 1.4 percent. With such sluggish growth, it is no surprise that the unemployment rate went from an average of 4.0 percent in 2000 to an average of 5.7 percent this year. Through early November, new claims for unemployment insurance remained relatively high. Moreover, the average length of an unemployment spell remained near 18 weeks, the highest level since early 1996.

It is an open question whether the economy is still technically in a recession, but there is little question that it is still in an economic slump. The acknowledged arbiter of when recessions begin and end is the Business Cycle Dating Committee of the National Bureau of Economic Research (NBER), a private organization, and they have not yet made a determination. The NBER defines a recession as "a significant decline in activity spread across the economy, lasting more than a few months,..." Real GDP started growing again in the fourth quarter of 2001, and, if that growth is sustained, the NBER may ultimately decide that the recession ended at that time. But the economy is still in a slump, in the sense that growth has been too slow to make much of a dent in the unemployment rate or the percentage of the nation's productive capacity that is lying idle.

Given recent trends in productivity and labor force growth, the economy has to grow at a little more than 3 percent per year just to keep the unemployment rate from rising. Even stronger growth is necessary to bring down the unemployment rate. In the first three quarters of 2002, growth averaged just 3.1 percent at an annual rate. But that growth was driven by special factors such as inventory adjustments in the first quarter and new car purchasing incentives in the third quarter. Underlying demand as measured by final sales (GDP less inventory change) grew at a more modest 1.8 percent at an annual rate. Moreover, it seems that the economy is losing steam rather than picking up, which prompted the Fed to ease monetary policy by cutting its interest rate target by one-half percentage point in early November.

Although this recession has been milder than some in terms of lost output, it has been more typical in terms of job losses. Strong productivity growth has allowed output to keep growing even though employment has stagnated. Output per hour in the nonfarm business sector has grown at an average annual rate of 3.1 percent since the end of 2000, suggesting that the productivity boom of the late 1990s may be continuing. For the longer term, strong productivity growth is good news, because it translates into higher wages and a rising standard of living for American workers. In the current slump, however, strong productivity growth has translated into inadequate job creation. In fact, the number of employees on nonfarm payrolls was about the same in October 2002 as it was in January 2000.

The current downturn has also been unusual in other respects. It appears to have been precipitated by a sharp drop in business investment that was cushioned by continued strong demand by consumers for motor vehicles and housing. More typically, consumer spending slows first, which then prompts businesses to cut back on their investment. Recovery is typically accompanied by a revival of household spending on housing and durable goods, which then prompts businesses to step up their investment. The ongoing strength of household spending in the current slump means that there is less scope for the kind of surge that typically sparks a strong rebound. The risk that the slump will be prolonged, or worse, that the economy will dip back into recession, arises from the fact that consumer spending may begin to flag before business investment picks up. That risk is especially relevant if the stock market declines further.

International developments have also contributed to prolonging the slump in economic activity. The lingering effects of a sharp appreciation of the dollar in the late 1990s are reflected in a large trade deficit, with U.S. exports of goods and services substantially less than U.S. imports. Given the attractiveness of the United States to foreign investors in the late 1990s, the rise in the dollar was most likely unavoidable, but a strong dollar makes foreign goods cheaper for U.S. consumers and U.S. goods more expensive for foreign purchasers. The dollar weakened somewhat in 2002, but sluggish growth among our trading partners remained a drag on U.S. export performance.

Inflation continued to be well-contained in 2002. As productivity grew, labor costs per unit of output remained stable. At the same time, the relative weakness in overall demand discouraged many businesses from raising the prices of their products. As a result, the core consumer price index (which excludes the effects of changes in food and

energy prices) rose at an average annual rate of just 2.1 percent through September.

Monetary Policy

The Federal Reserve responded quickly to signs of slowing economic activity and eased monetary policy substantially in 2001. The Fed acts directly by cutting its target for the federal funds rate (the interest rate banks charge each other for overnight loans). In general, a cut in the federal funds rate leads to an expansion of money and credit and a reduction in other interest rates as well, including the longer term interest rates that affect business expenditures on plant and equipment and consumer expenditures for housing, cars, and consumer durables such as furniture and appliances. Between January and December of 2001, the Fed cut its federal funds target from 5.5 percent to 1.75 percent. However, notwithstanding the Fed's aggressive easing of monetary policy, longer-term interest rates remained stubbornly high for a while in 2001. Those rates have come down some this year, but there is still a large spread between the short-term interest rates that respond quickly to Fed actions and the longer-term rates that matter for most interest-sensitive spending. In addition, the spread between interest rates on treasury securities and the rates on corporate bonds has widened, indicating that the market sees increased risks to private investment.

The Fed took no further monetary policy actions for most of this year. At the beginning of the year, the conventional wisdom was that the economy was on the road to recovery—though risks remained. The consensus forecast for growth this year and in 2003 became more pessimistic late in the summer, and by early November there were sufficient signs of weakness that the Fed cut interest rates again. The target for the federal funds rate is now 1.25 percent, which seems to leave the Fed limited room for further aggressive easing should the need arise. In testimony to the JEC, however, Federal Reserve Chairman Alan Greenspan indicated that the Fed had sufficient alternative tools – such as purchasing long-term securities – if there was need for additional stimulative policies.

The Near-Term Outlook

For much of the year, forecasters have been downgrading their predictions for near-term growth. The most recent Blue Chip consensus—the average forecast of approximately 50 leading private-

sector forecasters—expects a slowing in real GDP growth to 1.6 percent (annual rate) in the current quarter. The consensus forecast for growth is 2.3 percent this year and 2.8 percent next year. Given current trends in labor force growth and productivity, that growth is too slow to bring down the unemployment rate, which the Blue Chip consensus forecast expects to remain near its current level through 2003. The consensus forecast expects inflation to remain moderate at 2 to 2.3 percent through the end of next year.

II. Government Budgets

Deterioration of the Federal Budget Outlook

The Federal budget deficit was $159 billion in 2002. This is in marked contrast to the $127 billion budget surplus last year, and the $236 billion surplus in 2000. Lower receipts accounted for about half of the $286 billion budget swing from last year. While the tax cuts enacted in 2001 and 2002 were partly responsible for the decline, most of the drop off in receipts occurred for reasons other than policy changes.

Non-interest spending increased by $184 billion in 2002, while interest payments were $37 billion less than in 2001. Increased defense spending account for 22 percent of the overall increase in non-interest spending—the single largest dollar increase. Outlays for unemployment compensation and Medicaid were also up sharply in 2002.

A temporary return to deficits may be the appropriate policy during an economic slowdown, but the deterioration of the long-term budget outlook is more worrisome for future economic growth. As recently as March of this year the Congressional Budget Office projected a cumulative surplus of $2.4 trillion for 2003-12. In its August update, the CBO lowered its projection of the ten-year budget surplus to just $1 trillion. Most of that decline is due to a worsening outlook for Federal revenues over the next ten years as a result of the stock market collapse.

More telling, however, is how far the budget picture has deteriorated since the projections of record long-run surpluses less than two years ago. In January 2001, the CBO projected a cumulative surplus of $5.6 trillion over the ten years from 2002-2011. As of this past August, CBO's projected surplus for 2002-2011 had shrunk to $336 billion, with 96 percent of that remaining cumulative surplus occurring in 2011 (under the assumption that last year's tax cut expires as scheduled at the end of 2010).

According to CBO, that $5.3 trillion deterioration of the budget surplus is explained by a combination of legislative actions, changes in the economic forecast, and changes resulting from "technical" re-estimates. The largest single factor is the 2001 tax cut, which reduced the ten-year surplus by over $1.6 trillion, accounting for 31 percent of the downward revision. Changes in the economic forecast because of the recession contributed 15 percent, and changes resulting from technical re-estimates (modifications to the budget forecast not directly related to enacted legislation or to revisions in CBO's economic forecast) accounted for 29 percent. The tax cut's 31-percent contribution to the decline in the surplus is twice that of increased spending for defense, homeland security, and international programs (totaling 16 percent), while increases in domestic spending outside of homeland security account for just 4 percent of the decline in the surplus.

Moreover, the current projections assume the entire tax cut expires at the end of 2010. A permanent version of the tax cut would be responsible for a much larger share of the deterioration of the ten-year surplus. For example, in 2010 alone—when the tax cut is fully phased in—the tax cut is responsible for 42 percent of the deterioration in the surplus.

The Social Security Surplus

The Social Security surplus continues to increase—revenues exceed benefit payments, which allows the Trust Funds to add to the stock of accumulated assets, held in the form of Treasury securities. However, the Social Security program is treated as "off budget." As a result CBO projects that the "on-budget" accounts of the Federal government will show a cumulative deficit of $1.5 trillion over the next ten years. In these circumstances, money from the securities held by the trust funds offsets other borrowing that would be necessary to finance the deficit, so that effectively some of those off-budget surpluses are being used to help pay for "on budget" items.

Over the current budget window (the ten year period over which CBO makes budget projections) the Social Security system will continue to collect more in revenue than it pays out in benefits, because the large baby boom cohort will not start to receive retirement benefits until the end of the projection period. Shortly beyond the budget window, however, Social Security benefit payments will start to exceed the system's tax revenues. At this point, interest on trust fund reserves and redemptions of assets will be needed to supplement tax revenues. Social Security

surpluses will no longer be available to finance on-budget deficits, and unless there are on-budget surpluses, additional government borrowing will be required. If the large on-budget surpluses projected in early 2001 had materialized, some of those surpluses could have been used to cushion the effects of the shortfall in Social Security, and possibly, to allow a transition to a fully-funded system. But in the absence of surpluses, the shortfall in Social Security will become an even more difficult problem to solve.

Impacts on State Budgets

State budgets have also been hurt by the economic downturn. Reduced revenues cause major problems for many states because their constitutions require them to have balanced budgets. States had to take actions to close budget gaps for fiscal year 2002, and are now putting in place spending cuts and tax increases as part of their fiscal year 2003 budgets.

Fiscal year 2002 budget gaps at the state level totaled at least $37.2 billion, according to the National Conference of State Legislatures (NCSL), and around a dozen states reported budget gaps in excess of 10 percent of their general fund budgets. Initial estimates for fiscal year 2003 are even bleaker, suggesting an aggregate budget gap of $49.1 billion, with California's $15.1 billion gap accounting for nearly 31 percent of the total.

The budget shortfalls result from both greater spending and declining revenues, but the revenue losses have been the more significant factor. State revenues have dropped dramatically: nationwide, revenues for the second quarter were over 10 percent lower than a year ago, and several states suffered from 20- to 25-percent declines. In general, states relying on high-tech and financial industries for their corporate revenues, and states with more progressive personal income tax structures, have seen the greatest revenue losses.

States were unable to adjust quickly to fiscal year 2002 revenue shortfalls while in the middle of the fiscal year. But in enacting their fiscal year 2003 budgets, many states passed tax or fee increases. Most states will also be cutting spending. This will hurt programs such as Medicaid, where need usually rises during a recession. Some states may be required to limit coverage or reimbursements to providers under Medicaid to meet their budgets. State budget constraints are also likely to limit the amount of aid that can be given to needy families, whose

numbers typically increase as jobs become harder to find. Since the Temporary Assistance to Needy Families (TANF) program became a block grant in 1996, all of the risks associated with rising levels of need are now borne by the states.

III. Tax Cuts and the Economy

The 2002 Economic Stimulus Package

In March 2002, the economic stimulus package became law. The stimulus package provided tax relief for businesses through enhanced depreciation deductions for new investment and more liberal rules for allowing currently unprofitable firms to receive refunds of past taxes. The stimulus package also extended unemployment benefits for the long-term unemployed whose regular benefits had run out.

Specific investment incentives can promote investment and foster longer-term economic growth, but they must be carefully designed if they are to provide stimulus rather than simply shifting expenditures from one accounting period to another. The stimulus package included more generous first-year depreciation deductions, which cost about $16 billion over the ten-year budget window. But companies can take advantage of this greater first-year depreciation allowance until September 2004—and that 3-year window of opportunity means that companies may well hold off on new investments until after the recovery is well underway. As a result, there has been little effect on business investment so far; investment growth is still significantly below the very high rates seen in the late 1990s. Tax incentives can only do so much to stimulate investment in any case, because businesses are unlikely to invest unless they see opportunities for reasonable rates of return. A business with no profits has no need of tax breaks. As a result, such tax breaks probably do little to motivate investment that wouldn't have occurred otherwise. For most businesses, tax considerations are now outweighed by current economic and geopolitical uncertainties.

The 2001 Tax Cut

Beyond the economic stimulus package, no substantial new tax cuts were enacted in 2002. The 2001 tax cuts continue to phase in, however. Only a portion of the tax cut enacted in 2001 has actually taken effect. The tax cuts in place are quite different from the tax cuts scheduled to take effect in later years. In contrast to the first round of

income tax cuts, which were broadly distributed across income-tax-paying families, the benefits of the future scheduled tax cuts are heavily skewed toward the highest-income households. Two-thirds of the future income tax cuts go to the top 20 percent of taxpayers, and 60 percent go to the top one percent. Including the effects of repealing the estate tax skews the benefits still further. More than 70 percent of all the future income and estate tax cuts goes to the top 10 percent of taxpayers.

The provisions of the 2001 tax cut that are not yet in place will cost about $600 billion over the 2003-2012 period, assuming that the tax cut is not allowed to expire in 2010. The entire 2001 tax cut will cost $1.7 trillion over the same period. Thus, provisions of the 2001 tax cut that have yet to take effect account for over one-third of the 10-year cost of the entire tax cut. (For further details see the attached studies, "Rethinking the 2001 Tax Act One Year Later" and "A Tale of Two Tax Cuts.")

Tax Cuts as Economic Stimulus

The 2001 tax cuts have had some beneficial effect on the economy in the short term. The initial installment of the tax cut, which went into effect in 2001, was the $40 billion in tax rebates and reduced withholding that began in July 2001, only four months after the official start of the recession. Although the rebates did not go to all U.S. households, they went broadly to households who pay income taxes, and middle-income households received rebates similar in size to the highest-income households ($600 per married household and $300 per single filer).

Tax cuts that go broadly to all income taxpayers stimulate the economy more than tax cuts that are tilted towards high-income households, because high-income households are less likely to spend any tax savings immediately. Lower- and middle-income families are more likely to spend any additional dollar of income, which produces greater immediate economic stimulus. (See "Rethinking the 2001 Tax Act One Year Later," attached.)

Tax Cuts and Entrepreneurial Activity

There is also very little evidence that marginal rate reductions of the size enacted in the 2001 tax act will stimulate new economic activity. The rate reductions in the upper tax brackets will make higher-income households better off. But when people are better off economically, they

can actually reduce the amount of work they do while enjoying the same standard of living. Furthermore, research shows that risk taking may actually be discouraged when personal tax rates are reduced, because deductions for business losses are not worth as much.

Some argue that small business owners in particular will be encouraged to invest and produce more as a result of the reductions in the top personal income tax rates. But these potential effects on entrepreneurial activity are greatly exaggerated. Tax return data from the late 1990s indicate that only a very small fraction of small business owners faced the top marginal income tax rates and thus stand to benefit the most from the rate cuts.

Repeal of the Estate Tax

One part of the Administration's tax cut agenda that has not yet been completed is the permanent repeal of the estate tax. Proponents of the repeal argue that it would promote capital formation and create more long-run investment and growth, and that the tax imposes crippling and unfair burdens on family businesses and farms. In fact there is little evidence to support these claims.

Theoretically, repeal of the estate tax could cause saving either to rise or to fall. Being able to leave tax-free estates might cause people to save more, if tax avoidance is a major concern, but it might cause them to save less, if their goal is to provide an estate of a specific size. For heirs, the tax repeal would just mean an increased inheritance, which would almost certainly result in some increase in spending. The actual numbers suggest the estate tax does not have a big effect on saving and investment. As of 2002 the estate tax already has an exemption level of $2 million per couple—meaning that only those estates valued over $2 million after various deductions will owe any estate tax, and only on the taxable portions above that high threshold. Estates passing between spouses are not subject to tax. Moreover, even under the lower threshold of $600,000 in 1999, only about 2.2 percent of adult deaths produced taxable estates.

Claims that the estate tax imposes large burdens on family farms and family-owned businesses are grossly exaggerated as well. Most farms and small businesses are worth less than $2 million, and often several family members own shares, reducing the amount that would be taxed as part of any one estate. Further, farms and family-owned businesses already have higher allowances under the estate tax. Most taxable estates are not farms or family-owned businesses. In 1999, for example, farm

assets were a majority of the gross estate of only 642 taxable estates—1.4 percent of the 47,482 taxable estates; small business assets were a majority of the gross estate for only 1.1 percent.

The estate tax is very small relative to household net worth. In 1999 the gross value of taxable estates represented less than 3/10ths of one percent of household net worth, and the estate tax itself less than 6/100ths of one percent. Logically, therefore, the estate tax simply cannot affect capital accumulation significantly, because it affects very few people and has an extremely small effect on the economy's overall cost of capital. The repeal of the tax would provide a very large windfall for the very rich, and would cost the Federal government an estimated $740 billion in 2013-2022. This large revenue loss during a time of budget deficits will potentially increase the burden on other taxpayers, who will be called upon to make up these revenues. (For more discussion, see "Repealing the Estate Tax Will Not Promote Economic Growth," attached.)

Permanently Extending the 2001 Tax Cuts

Permanent extension of the fully-phased-in tax cut would have little beneficial effect on the economy over the short run, and would likely have adverse effects over the longer run. Compared with the tax cuts already in place, the parts of the 2001 tax cut that have not yet taken effect would be less effective at providing short-term economic stimulus, because the benefits of the remaining tax cut are heavily tilted toward higher-income households. These future cuts involve dramatically growing revenue losses as the tax cut phases in, while the economic activity that will be induced by these tax cuts is unlikely to be large—in other words, a small bang for big bucks. Moreover, the adverse consequences for the longer-term budget outlook may put immediate upward pressure on longer-term interest rates, threatening current economic activity. (For further discussion see the attached studies, "A Tale of Two Tax Cuts" and "Rethinking the 2001 Tax Act One Year Later.")

The future scheduled rate cuts and the phasing out of the estate tax disproportionately benefit the highest-income households. The loss of tax revenue will reduce public saving, just at a time when the retirement of the baby boomers will begin to place severe demands on the budget. The private-sector saving response to the rate cuts and estate tax repeal is highly unlikely to make up for the reduced government saving. The pool

of national saving available to finance new investment will fall, hurting future economic growth.

IV. How Families Are Faring

Household Incomes

Many households have seen their income remain stagnant or even decline in real terms in this recession. Estimates of income and poverty rates from the Census Bureau show that the majority of Americans were worse off in 2001 than they had been the year before. The proportion of people in poverty rose to 11.7 percent, reversing the trend of falling poverty rates since 1992. Median household income (adjusted for inflation) also declined significantly for the first time in a decade, by 2.2 percent. The real median household income of African-American families declined 3.4 percent in 2001.

Households in the lowest three-fifths of the income distribution experienced the largest decreases in average incomes. The share of total income going to the bottom three-fifths of all households declined, while that going to the top fifth rose. The top one-fifth of households in the distribution of income now receive more than half of all income, and the top 5 percent alone get more than 22 percent. In contrast, the bottom three-fifths of households together receive less than 27 percent of total household income. Their share declined by about 2 percent over the past year.

Poverty rates also rose in 2001 for the first time since 1992. This increase in poverty affected Americans of all ages and types. The poverty rate for the population as a whole rose from 11.3 percent in 2000 to 11.7 percent this past year. There were almost 33 million people in poverty (under the official Census Bureau definition) in 2001, an increase of about 1.3 million since 2000. (Under the Census definition, the poverty line for a family of three, for example, was just over $14,000 in 2001.)

Almost one out of every six American children is poor. The poverty rate for children under 18 years old was 16.3 percent in 2001, up slightly from the previous year.
Black and Hispanic Americans also continue to have very high poverty rates. The poverty rate for African Americans was 22.7 percent in 2001; the rate for Hispanic Americans was 21.4 percent. (See "Poverty Rates Rise While Incomes Fall For Low- and Middle-Income Families," attached.)

Aid to Needy Families

Temporary Assistance to Needy Families (TANF) is the major program providing cash assistance to families based on financial need. TANF was established in the 1996 welfare reform act and is up for reauthorization this year. It has not yet been reauthorized, but the deadline for reauthorization has been extended to December 31, 2002.

Since 1996, the number of families receiving welfare through TANF has fallen by fifty percent. While there are many success stories of families who have moved off welfare and into the workforce, this reduction in TANF rolls does not automatically mean that all of these families are better off financially. Welfare-leavers who are working tend to be in low-skill, low-paying jobs. Research on people who have left welfare shows that most of those who are employed are in service or clerical jobs with average hourly wages between $5.50 and $8.80. By one estimate, more than three-quarters of those welfare leavers did not get health insurance through their employers, either because it was not offered or because they could not afford it. So while many families may have higher incomes than they did when they were on TANF, they may still be at or close to the poverty line. These workers are at high risk for losing their jobs in a weak job market.

About one-third of former TANF recipients are not working. Non-workers generally face one or more barriers to employment: lack of skills, poor health for themselves or a child, lack of affordable child care, or transportation problems. The Administration has proposed requiring TANF recipients to work an additional ten hours per week, even if they have preschool age children, without providing sufficient funding to allow former welfare recipients to overcome their barriers to work. These changes only exacerbate the challenges faced by some families in making the transition to employment.

In an economic slump, more people are likely to need TANF assistance. States are already facing fiscal difficulties, but Federal funding for TANF would be essentially frozen at current levels under the Administration plan. States may have to cut back their current programs in areas such as child care and training to deal with this budget crunch. Quality, affordable child care is an essential element in the economic well-being of working families, and without it parents may not be able to enter or stay in the labor force. While many working families feel the burden of child care costs, low-income families spend a significantly

higher share of their income on child care. Families below the Federal poverty line ($17,960 for a family of four in 2001) pay about 23 percent of their income for child care, even with existing subsidies. In contrast, high-income families pay about 6 percent of their income on average for child care.

Unemployment Compensation

The current economic slowdown has been especially hard on the long-term unemployed. Of the 8.2 million people who were unemployed in October, nearly 3 million had been jobless for at least 15 weeks, and nearly 1.7 million had been without work for at least 27 weeks. Many of the unemployed are now exhausting their additional benefits under the temporary extensions that went into effect in March. Without further extensions of unemployment insurance, many of the jobless will have to either take less productive jobs than is appropriate for their skills or leave the labor force entirely.

In March of this year, the Congress extended unemployment benefits for workers whose regular benefits have run out before they have found a job. Under that legislation workers in all states may receive an additional 13 weeks of unemployment benefits after they have exhausted their first 26 weeks of benefits. In addition, a further 13 weeks are available in states with exceptionally high unemployment rates. This extension expires on December 31, 2002, and it has not yet been renewed. About 2.2 million workers are expected to exhaust their benefits by the end of this year.

Unemployment insurance benefits are important in helping families that experience a temporary job loss, but not all unemployed workers qualify for benefits. Low-income workers including former TANF recipients are particularly likely to lack coverage. In order to qualify for benefits, workers must have a minimum amount of earnings over the course of one year. In thirty-eight states and the District of Columbia, the most recent quarter of work is not included in determining eligibility for benefits, effectively requiring a longer period of work to qualify for benefits. Thirty states do not cover part-time workers. Therefore, people who have just recently entered the workforce or who work part-time because of child care responsibilities, for example, may not qualify for benefits. By one estimate, less than half of those who are currently unemployed qualify for unemployment insurance benefits.

Unemployment compensation is an excellent example of a counter-cyclical program—its outlays rise during recessions and fall during expansions, automatically acting to stabilize household incomes and spending. Expanding unemployment benefits to cover more of the work force and providing extended benefits during economic slowdowns would provide additional targeted short-term stimulus without contributing to expanding deficits when the economy is strong.

Health Care

Fewer Americans had access to affordable, quality health care this year than in recent years. After declining in each of the past few years, the number of people without health care insurance increased in 2002. Both employees and employers face the prospect of steadily rising health insurance premiums. Congress failed to reach a consensus on any important health care legislation, which means that many families will continue to lack health insurance coverage and that seniors will go another year without a prescription drug benefit as out-of-pocket health care costs continue to rise.

The recession has reduced the availability of health care coverage for working American families. The Census Bureau's report on health insurance in the United States found that, reversing a two-year decline, 1.4 million additional Americans were uninsured last year (41.2 million overall). More than 30 percent of poor people were without health insurance in 2001. (See "More Americans Went Without Health Insurance in 2001, as Working Families Feel the Burden of the Recession," attached.)

Americans with health insurance were also hurt by the recession and by rising health care costs. In 2002, employer health insurance premiums rose 12.7 percent, following an 11 percent increase in 2001. A survey by the Kaiser Family Foundation and the Health Research and Educational Trust found that 17 percent of covered workers were subject to health benefit cuts in 2002.

Although more than two million additional Americans were enrolled in Medicaid and other public programs in 2001, state budget cuts could threaten future increases. Medicaid and the State Children's Health Insurance Program (SCHIP) have been successful safety net programs deserving of Federal government protections. Many states are facing large projected shortfalls in their Medicaid programs as other sources of health care coverage become less available, however. Some states have

already cut back on eligibility and reimbursements to health care providers, and more may be forced to do so if the recession continues. A number of proposals have been made to help states. These include: increasing the Federal match rate in the Medicaid program (FMAP) to temporarily assist states; allowing states additional time to spend unused SCHIP monies and eliminating the "CHIP dip" funding shortfall expected over the next few fiscal years; and encouraging states to improve the non-group private insurance market, where premiums are currently very high and insurers maintain the right to refuse coverage.

Seniors also continue to experience increasing out-of-pocket medical care costs. Rising drug costs are a major factor. Consumer spending on prescription drugs, and drug costs in general, have risen dramatically over the last decade. A recent study of Medicare beneficiaries in eight states found that, in 2001, almost one in four seniors spent at least $100 a month on prescription drugs. While several proposals to pay for at least some prescription drugs through Medicare were discussed this year, no agreement was reached. The House plan, preferred by the Administration, would provide only a meager benefit for most seniors and would do little to reduce out-of-pocket costs. Medicare recipients would be required to pay an undetermined yearly premium, a $250 deductible, and 20 percent of the costs between $250 and $1000 for their prescription drugs. Since the average out-of-pocket drug costs for all Medicare beneficiaries was less than $500 in 2000 (according to AARP estimates), those with modest drug costs would likely pay even higher out-of-pocket costs under the House plan than they currently do.

Education

At the outset of 2002, Congress passed the bipartisan No Child Left Behind Act (NCLB) to improve the quality and accountability of our nation's elementary and secondary schools. Despite these efforts to improve the quality of public schools, the President's budget does not provide adequate funds to implement proposed improvements in K-12 public education.

The Administration and Republican leaders have introduced several proposals to allow families to claim a tax credit or deduction for the cost of sending their child to private school. Most of the proposed tax credits range in value from $1,000 to $2,500 per student for educational expenses – broadly defined as tuition, fees, books, transportation, Internet access and other costs associated with education. The President's budget proposed a credit of up to 50 percent of the first $5,000 of qualified

education expenses for students currently enrolled in a public school that has failed to make adequate yearly progress, as defined by NCLB. Other proposals would expand existing tax deductions and credits for higher education, such as the HOPE credit and the higher education deduction, to include tuition and fees for K-12 students.

But tax credits and deductions to help families pay for tuition at private schools will not improve the quality of education for several reasons. Students in private schools are not subject to the same accountability standards as those in public schools—some tax credits will go to schools whose standards and facilities are inadequate. Tax credits are likely to cream the most motivated students—or at least, those with the most motivated parents–from public schools. Public schools will be even less able to compete with private schools because they will have lower-achieving students.

Even with the funds from a tax credit, the cost of private school would still be out of reach for many low-income families. The most recent data available suggest that in today's dollars the average tuition for a non-religious elementary school is about $4,700 per year and more than $13,000 per year for secondary school. This does not include the cost of other expenses such as books and transportation. Even with a tax credit, a family earning $25,000 a year, with one student in elementary school and one in high school, would still have to pay about half of their annual income on tuition. (See "A Risky Investment Strategy: Recent Trends in Federal Financial Aid Policy Do Not Meet the Needs of Low-Income Students" for more detail.)

Low- and middle-income families also face the problem that college costs continue to rise faster than prices in general. According to the College Board, the average tuition and fees at a four-year public university rose 9.6 percent in 2002 over the previous year. This is the largest annual average increase since 1981 – 1982, also during a recession. States facing tough economic times are more likely to cut spending on higher education than elementary or secondary education because they can make up the difference in increased tuition and fees. Private universities have also experienced declining endowments as a result of the decline in the stock market. At the same time, student enrollment tends to increase during periods of economic downturn. The ability of families to save for college has been hampered by declining returns in the stock market and low interest rates. Most states with qualified tuition savings plans (also known as 529 plans) have had negative returns on assets in those plans in the past year. All of this suggests that the demand for financial aid will increase.

The value of a college education continues to grow. More and more jobs in the economy require specialized training. According to the Bureau of Labor Statistics, almost one-third of the growth in employment in this decade is expected to occur in jobs that require at least a bachelor's degree – particularly in fields such as health care and computer science. In 2000, the average income of a male college graduate was almost double that of a high school graduate.

Despite this pressing need to expand access to post-secondary education, low-income students are in danger of being left behind by recent trends in financial aid policy that favor tax incentives. The 2001 tax act further expanded the use of tax credits, deductions and other tax incentives to deliver financial assistance to college students. Families with incomes too low to incur income tax liability or who do not have disposable income to invest in college savings accounts cannot get access to these tax incentives. Only 14 percent of the students who claimed an education tax credit in 1999 came from families with an AGI of less than $20,000. In addition, tax credits and deductions do not meet the cash flow constraints of low-income students. Students get the benefit of the credit or deduction when they file their return in April – several months after their tuition bill was due. Credits and deductions do not cover living expenses, which in some cases can be as much or more than the cost of tuition.

Funding for Federal need-based Pell Grants had a significant increase this year – the maximum award was raised to $4,000. But given the large rise in tuition, this increase is still not enough to make college affordable for the most needy undergraduates. In 1975, the maximum Pell Grant covered about 84 percent of the cost of average tuition, room and board at a public four-year university. In the 2001 – 2002 school year, the maximum Pell Grant covered only about 42 percent of those costs. Grants are an efficient method for targeting aid to low-income students who have fewer financial resources and may be more risk-adverse than their more affluent peers. This is an especially important role for the Federal government as states continue to devote an increasing share of financial aid dollars to merit-based programs, and as state budgets become more constrained. (See "Slamming Shut the Doors to College" for further discussion.)

More Americans Went Without Health Insurance in 2001, as Working Families Feel the Burden of the Recession

Over 41 million Americans, an increase of 1.4 million, were uninsured last year

September 30, 2002

The Census Bureau announced today that 41.2 million Americans, or 14.6 percent of the population, were without health insurance during the entire year in 2001. This represents a 1.4 million increase over 2000 figures and reverses a two-year decline in the number of uninsured.

The report finds that the percentage of uninsured increased at all family income levels. Without action, these numbers are likely to rise this year. The unemployment rate has risen significantly since last year, states are struggling to finance Medicaid programs during the recession, and workers are burdened with higher health care premiums that have increased by 11 percent in 2001 and 12.7 percent in 2002.

In addition, the Census numbers reveal that:

- **Insurance rates for workers, both full or part-time, fell in 2001.** Having a job did not prevent many Americans from losing their health insurance, as the percentage of uninsured full-time workers rose from 15.7 percent to 16 percent. Part-time workers saw a larger increase, from 20.6 percent to 22 percent. In addition, the percentage of Americans with employer-based health insurance fell from 63.6 percent of the population in 2000 to 62.6 percent in 2001.

- **Increases in the number of uninsured were felt more heavily at the top and the bottom of the income spectrum.** Those with family earnings over $75,000 a year were more likely to be uninsured in 2001 than in 2000 (7.7 percent in 2001 vs. 7.1 percent in 2000). For those with family earnings of less than $25,000, 23.3 percent were uninsured in 2001, compared with 22.8 percent the year before.

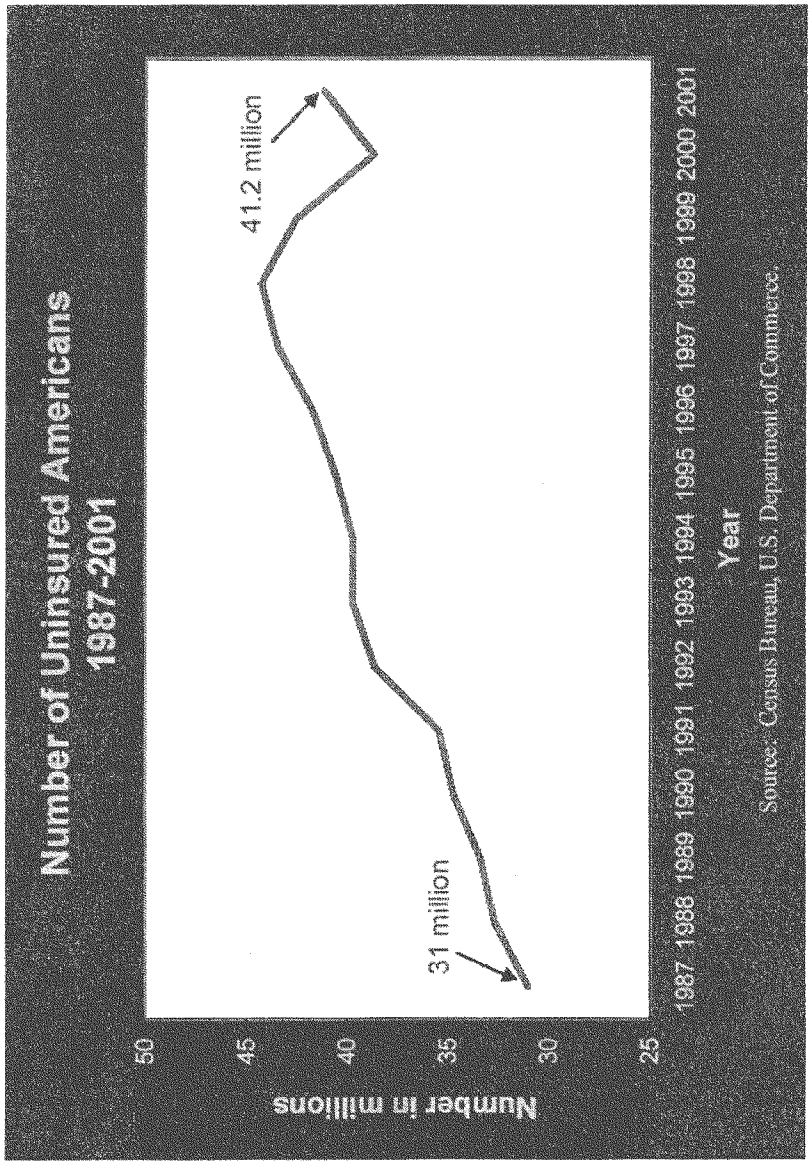
- **Poor Americans still face high risk of being uninsured.** Although more than two million additional Americans were covered by public insurance in 2001 than in 2000, more than 30 percent (30.7 percent) of poor people were uninsured last year.

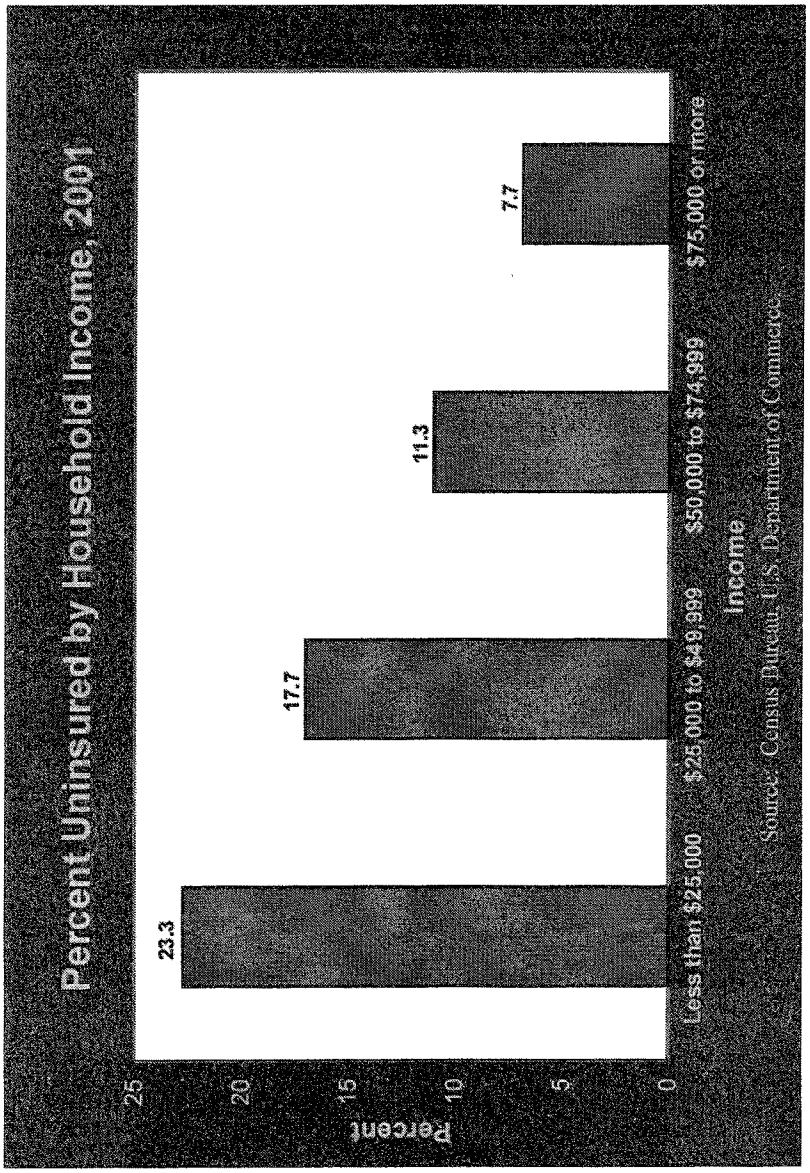
- **The State Children's Health Insurance Program (SCHIP) continues to help reduce the number of uninsured poor children.** With an enrollment of 4.6 million nationwide, SCHIP has been effective at providing low-income children with health insurance. Since 1997, when the legislation was enacted as part of the Balanced

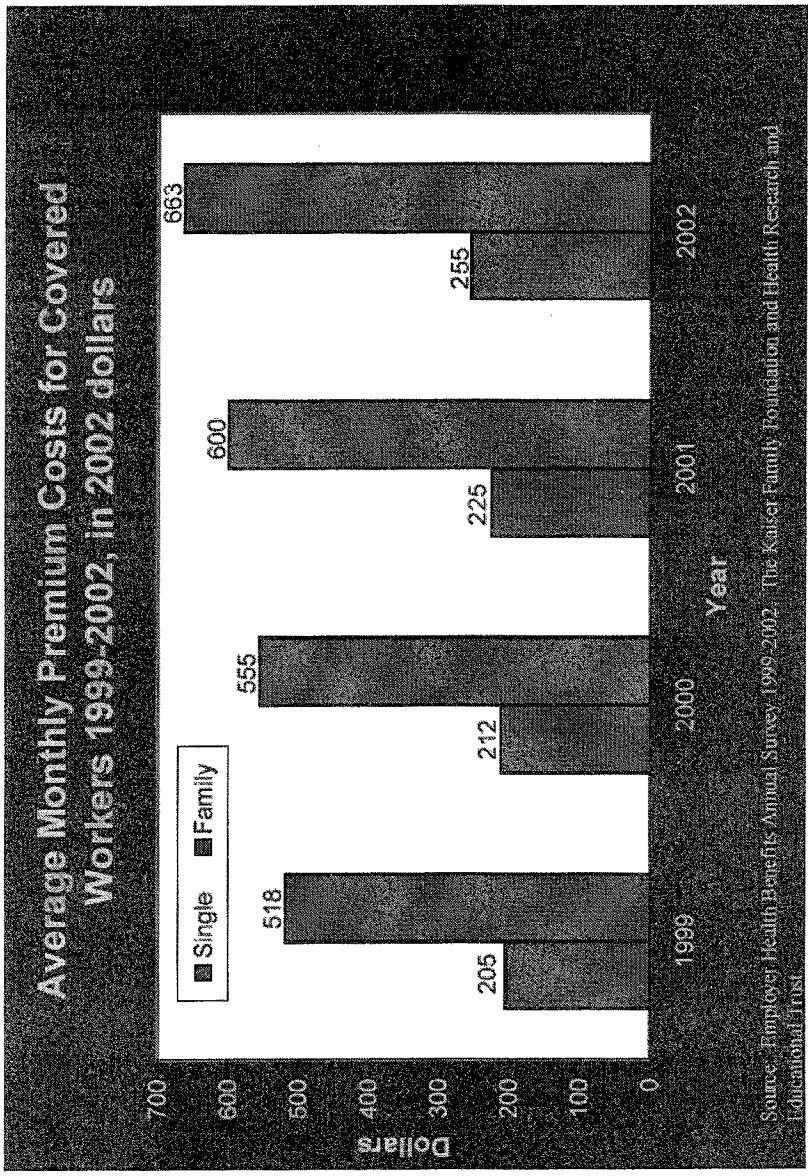
Budget Act, the number of uninsured children under the age of 18 has dropped from 10.7 million to 8.5 million in 2001. However, to ensure future success, further legislation is necessary to correct a funding gap expected in the next three years.

- **The number of uninsured adults rose in 2001**. While the SCHIP program has lowered the number of uninsured children under 18 in the last four years, Americans between the ages of 18 to 24 have consistently been more likely to be uninsured than the rest of the population, and the number of uninsured young adults has increased. In 2001, 28.1 percent of 18 to 24 year olds, up from 27.6 percent in 2000, did not have health insurance. Additionally, individuals 25 to 34 saw their uninsured rates rise to 23.4 percent in 2001, an increase of 1.5 percentage points from 2000.

- **The number of Hispanics and African-Americans without health insurance increased in 2001**. Both ethnic groups experienced no statistical change last year. However, these groups have substantially higher percentages of uninsured individuals than the population as a whole. In 2001, 33.2 percent for Hispanics and 19 percent of African-Americans were uninsured.


Number of Uninsured Americans
1987-2001
41.2 million
31 million
Number in millions
50
45
40
35
30
25
1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001
Year
Source: Census Bureau, U.S. Department of Commerce.


Percent Uninsured by Household Income, 2001
Percent
25
20
15
10
5
0
23.3
17.7
11.3
7.7
Less than $25,000
$25,000 to $49,999
$50,000 to $74,999
$75,000 or more
Income
Source: Census Bureau, U.S. Department of Commerce


Average Monthly Premium Costs for Covered Workers 1999-2002, in 2002 dollars
Single
Family
Dollars
700
600
500
400
300
200
100
0
205
518
212
555
225
600
255
663
1999
2000
2001
2002
Year
Source: Employer Health Benefits Annual Survey 1999-2002. The Kaiser Family Foundation and Health Research and Educational Trust

Percent of People Without Health Insurance Coverage by State

State	3-year average, 1999-2001
New Mexico	23.2
Texas	23.0
Louisiana	19.7
California	19.2
Arizona	18.4
Oklahoma	17.9
Florida	17.8
Alaska	17.7
Nevada	17.2
Idaho	16.5
Montana	16.0
NewYork	15.8
Wyoming	15.6
Georgia	15.3
Mississippi	15.2
Colorado	15.1
Arkansas	15.0
North Carolina	14.2
West Virginia	14.2
District of Columbia	13.6
Illinois	13.6
Utah	13.6
Washington	13.5
South Carolina	13.3
Alabama	13.2
Oregon	13.1
Kentucky	13.0
New Jersey	12.5
Virginia	11.9
Kansas	11.4
Maryland	11.3
North Dakota	10.9
Indiana	10.8
Ohio	10.8
Tennessee	10.8
Maine	10.7
South Dakota	10.4
Michigan	9.9
Connecticut	9.7
Hawaii	9.7
Vermont	9.7
Nebraska	9.6
Delaware	9.5
New Hampshire	9.0
Missouri	8.8
Massachusetts	8.7
Pennsylvania	8.7
Wisconsin	8.5
Iowa	8.0
Minnesota	7.8
Rhode Island	7.2

Source: Census Bureau, U.S. Department of Commerce.

Poverty Rates Rise While Incomes Fall for Low- and Middle-Income Families

September 24, 2002

New estimates of income and poverty rates for American families just released by the Census Bureau show that the majority of Americans were worse off in 2001 than they had been the year before. The proportion of people in poverty rose to 11.7 percent, reversing the trend of falling poverty rates since 1992. Median family income (adjusted for inflation) also declined for the first time in a decade, by 2.2 percent. The largest decreases in income were felt by those in the lowest three-fifths of the income distribution.

These estimates indicate that the recession that started in early 2001 has not only halted the economic growth of the past decade but has also hurt incomes for most American families. Key findings from the income report include:

• **Median income – the income of families in the middle of the income distribution – declined for the first time in a decade (see Figure 1).** The median family experienced a decline of 2.2 percent in its real (inflation-adjusted) income in 2001.

• **Incomes for African-American families fell even more.** The median African-American family lost 3.4 percent of its real income in 2001.

• **The share of total income going to the bottom three-fifths of all families declined, while that going to the top fifth rose.** The top one-fifth of households in the distribution of income now receive more than **half** of all income, and the top 5 percent alone get more than 22 percent **(see Figure 2)**. In contrast, the bottom 60 percent get just 26.8 percent of total income. Their share declined by about 2 percent over the past year.

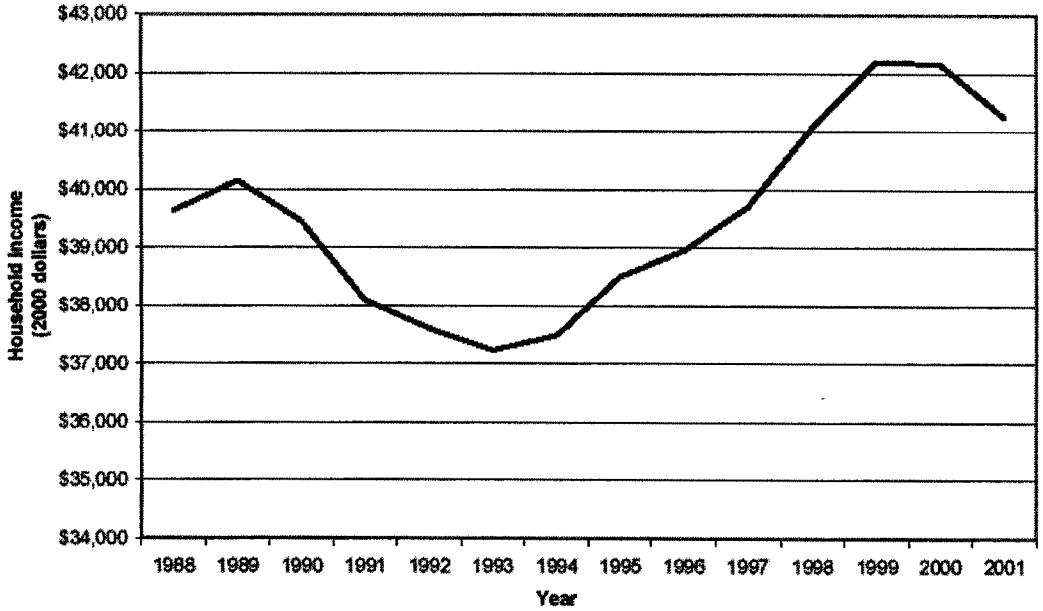
Real economic distress also increased in 2001, as poverty rates rose for the first time since 1992. This increase in poverty affected Americans of all ages and types. Highlights of the new report on poverty show that:

• **The poverty rate for the population as a whole rose from 11.3 percent in 2000 to 11.7 percent this past year (see Figure 3).** There were almost 33 million people in poverty (under the official Census Bureau definition) in 2001, an increase of about 1.3 million since 2000. Under the Census definition, the poverty line for a family of three, for example, would fall at just over $14,000.

• **Almost one in six American children are poor.** The poverty rate for children under 18 years old was 16.3 percent in 2001, up very slightly from the previous year.

• **Black and Hispanic Americans also continue to have very high poverty rates.** The poverty rate for African Americans in was 22.7 percent in 2001, while for Hispanic Americans it was 21.4 percent. While in statistical terms these were not different from the rates for 2000, both rates remain much higher than the rate for the population as a whole.

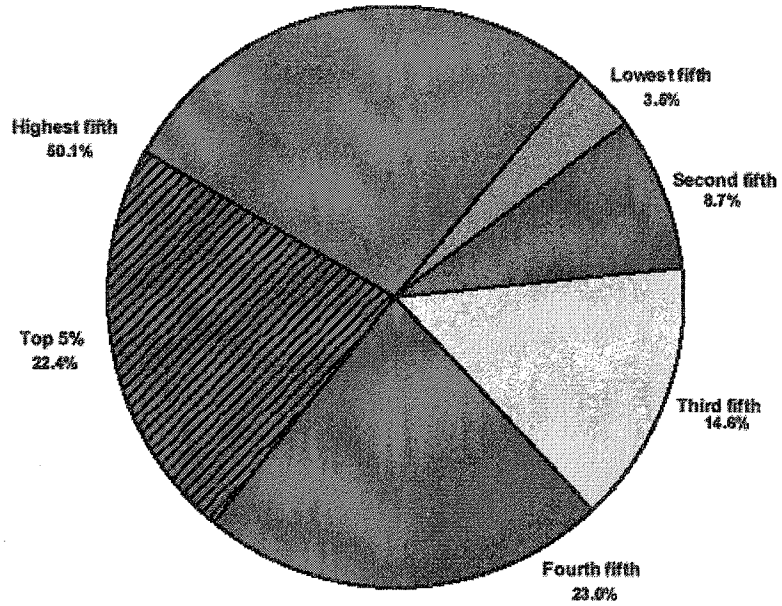
Figure 1
Median Household Income



Source: Bureau of the Census, U.S. Department of Commerce

Figure 2

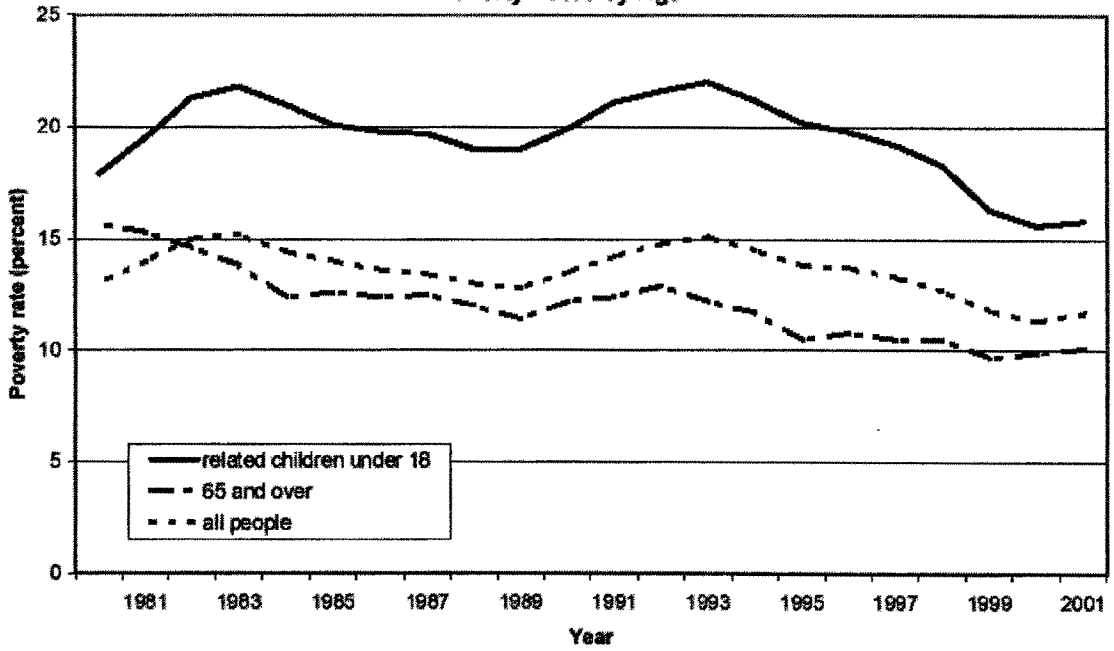
Shares of Total Income in 2001, by Income Category



Source: Bureau of the Census, U.S. Department of Commerce

Figure 3

Poverty Rates by Age



Source: Bureau of the Census, U.S. Department of Commerce

Rethinking the 2001 Tax Act One Year Later

August 13, 2002

Summary

Several provisions of last year's tax cut—the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA)—have not yet taken effect. This study re-examines last year's tax cut by separating the 2001 Tax Act into two parts: the provisions that are currently in effect in 2002 and the remaining provisions that phase in over the life of the Act. It finds that the provisions yet to come are very costly, heavily skewed toward upper-income taxpayers, likely to have a negative impact on the economy, and will make tax filing more complex for millions of taxpayers.

Key findings include the following:

High but hidden costs. Provisions of EGTRRA that are not yet in place will cost about $600 billion over the 2003-2012 period, assuming that the tax cut is not allowed to expire in 2010. The phasing-in of many provisions holds down the cost in the early years. The costs are substantially higher once the tax cuts fully phase in, however, reaching $116 billion per year by 2012. In addition, some of the cost of future tax cuts is offset by tax increases associated with the scheduled expiration of certain provisions. The $116 billion cost in 2012 consists of new tax cuts of $143 billion and tax increases of $27 billion from expiring provisions.

Benefits skewed to upper-income families. Two-thirds of the income tax cuts yet to come benefit the 20 percent of taxpayers with the highest incomes. A full 60 percent of the benefits go to the 1 percent of taxpayers at the very top of the distribution. Including the effects of repealing the highly progressive estate tax tips the scales even further. More than 70 percent of the benefits from scheduled future income and estate tax cuts go to the 10 percent of taxpayers with the highest incomes.

The AMT hides the true cost and distribution. The tax cuts that take place after this year would be even more costly and even more skewed toward high-income taxpayers if the alternative minimum tax (AMT) did

not take back most, and in many cases all, of the tax cut from millions of taxpayers.

No short-term stimulus. The tax cuts already in place may have provided some stimulus and moderated the recession that began in March 2001. Tax cuts that are not yet in effect provide little if any stimulus and will be harmful if their expected impact on the budget leads to higher interest rates.

Harm to long-run economic growth. Fewer than 20 percent of taxpayers will see any further cuts in tax rates. Overall, the reduction in marginal tax rates from tax cuts not yet in effect is one percentage point or less. The likely adverse effects on national saving and long-run growth from larger budget deficits will easily swamp any positive growth effects from those small marginal rate cuts.

Greater complexity. EGTRRA did little to reduce the complexity of the tax code. Moreover, except for the scheduled repeal of restrictions on itemized deductions and personal exemptions, most of the simplifying provisions are already in place. The increased complexity for the millions of taxpayers who will be pushed on to the AMT by the future tax cuts will far overshadow those simplifying provisions.

Preserving a More Progressive Tax Cut. Rather than allowing the costly and heavily tilted future scheduled tax cuts to take effect, Congress could instead extend the tax cuts already in place with some modifications. One possibility is extending the tax cuts in place this year while accelerating to 2003 future scheduled increases in the child tax credit, the earned income tax credit, and the indexing of the 10-percent tax bracket. This would be less costly and more progressive than the full tax cut enacted in 2001, yet still provide tax relief to everyone helped by the original legislation.

Introduction

Sometime soon, Congress will need to address the unfinished business of the Economic Growth and Tax Relief Reconciliation Act of 2001. The 2001 Tax Act left a complicated pattern of future tax rules with provisions that phase-in over many years; others that expire after only a few years; and the complete "sunsetting" of the entire Act in 2011. Added to these complications is the unresolved issue of the individual

Alternative Minimum Tax (AMT). The 2001 Tax Act sidestepped the costly problem of fixing the AMT. As a result, many millions more taxpayers will end up paying taxes under the AMT than would have been the case without the new tax law. Not only will these families need to deal with the complexity and tedium of figuring their income taxes two different ways, but also many will discover that because of the AMT, their taxes are no less than they would have been if the 2001 Tax Act had never been enacted.

Given new budget realities, it is appropriate to step back and evaluate the potential losses and gains from the remaining provisions of the 2001 Tax Act that have yet to take effect. The near-term federal budget environment has changed dramatically since last June when the Tax Act became law. Since then we have entered into a war on terrorism and have had official confirmation that the economy was in a recession. In January 2001, the Congressional Budget Office projected a cumulative budget surplus of $5.6 trillion over the years 2002-2011—a $3.1 trillion surplus excluding the off-budget transactions of Social Security and the Postal Service. Now, most of that surplus is gone. The latest CBO projections show a cumulative budget surplus of less than $1.7 billion in 2002-2011, and a deficit of nearly $600 billion over the same period outside the Social Security program. Recent information on tax collections through April of this year suggests that this summer's revised budget projections will be even bleaker. The claim that the 2001 Tax Act was easily affordable over the next ten years because of huge budget surpluses was dubious at the start. It is now clearly not credible.
While the short-term economic and budget outlook has changed, the longer-term situation has not. The 2001 Tax Act was never really affordable over the long term. We still face the retirement of the baby boom generation starting in less than a decade, and costs for medical care continue to climb. It would cost more than twice as much over the next 75 years to make EGTRRA permanent and to fix the individual AMT than it would to meet the total projected shortfall for Social Security.[1]

In this paper we re-examine the economic and distributional consequences of the 2001 Tax Act by dividing the tax cuts into two parts, those provisions currently in place and those to come after 2002. We compare the 10-year costs under the assumption that the tax cuts extend through 2012, the distribution across family income groups, the possible economic effects, and the impact on tax complexity of the two pieces of

the tax cut. We also consider the economic and distributional effects of permanently extending the provisions of the 2001 Tax Act already in place with some modifications, but foregoing the most costly provisions scheduled for future years.

Reconsidering the 2001 Tax Act One Year Later

The 2001 Tax Act was the largest tax cut in 20 years. EGTRRA introduced a new 10 percent tax bracket, reduced marginal tax rates in higher-income tax brackets, substantially raised child tax credits and expanded the number of families receiving refundable credits, provided tax relief to married couples, increased incentives to save for education and retirement, and repealed the estate tax.

To reduce the 10-year cost of the legislation, Congress chose to phase-in pieces of the 2001 Tax Act over time and to allow some provisions to expire after a few years. Because the original tax bill would have reduced revenues beyond the 10-year budget window, a vote on the bill in the Senate would have been subject to a "point of order" requiring 60 votes for passage. To avoid that requirement, Congress instead voted to allow the entire 2001 Tax Act to expire after 2010.

As a result of the phase-in and eventual repeal of the 2001 Tax Act, what Congress really has enacted is a series of temporary tax cuts and offsetting tax increases in 2002 through 2010. The character of the tax cuts already in place in 2002 differs from the tax cuts and tax increases to come in terms of numbers of families affected, the economic characteristics of those families, and total costs.

Most, but not all, of the key provisions of the 2001 Tax Act that benefit low- and moderate-income families are already in place. These include the new 10 percent tax bracket, a $100 increase in the child credit, extension of the child credit to working families with little or no income tax liability, a new non-refundable credit for pension and IRA contributions, and new and expanded education incentives (Table 1).

Future provisions that will benefit certain moderate- and lower-income families include further increases in the child credit, higher limits on the amount of the credit that is refundable, and new tax benefits for married couples.

Most of the tax cuts scheduled to take effect after 2002, however, help upper-income families. These provisions include further reductions in marginal tax rates in the four highest income tax brackets, repeal of the limits on personal exemptions and itemized deductions, further reductions in the estate and gift tax rate and increases in the estate tax exemption, and repeal of the estate tax in 2010.

In addition to those scheduled tax reductions, the 2001 Tax Act also contains provisions that would raise taxes for some taxpayers in the future. These tax increases include the expiration of the higher AMT exemptions now in place, repeal of the IRA tax credit for low-income workers, and repeal of the new deduction for education expenses.

Budgetary Impacts

Based on projections from the Congressional Budget Office and the Joint Committee on Taxation, if the tax cut were extended for an additional two years the total cost over the period 2002 to 2012 would be $1.6 trillion. In 2012 alone the tax cut would cost about $230 billion.[2]

To date, neither the CBO nor the JCT has provided official estimates that break out the cost of provisions that are already in place from those that are not yet in effect. The Democratic staff of the Joint Economic Committee has prepared estimates of these separate parts of EGTRRA that are consistent with the official estimates for the entire act.[3]

Table 1. *Key Provisions* of EGTRRA 2001
Provisions in Place in 2002 and Provisions That Take Effect in Future Years

	Provisions in place in 2002	Provisions that take effect after 2002	
Income Tax Rates			
New 10 percent tax bracket	Applies to the first $6,000 of taxable income for singles, first $10,000 for heads of households, and first $12,000 for married couples.	Starting in 2008 applies to the first $7,000 of taxable income for singles, and first $14,000 for married couples. No change for heads of households. Indexed starting in 2009.	
Upper tax rate reductions	Change in rate schedule from prior law in 2002: 15 percent → 15 percent 28 percent → 27 percent 31 percent → 30 percent 36 percent → 35 percent 39.6 percent → 38.6 percent	Rate schedule starting in 2004: 15 percent 26 percent 29 percent 34 percent 37.6 percent	Rate schedule starting in 2006: 15 percent 25 percent 28 percent 33 percent 35 percent
Limit on personal exemptions and itemized deductions	No change.	Repeal phased-in over 5 years starting in 2006.	
Child Credit			
Credit amount	Increased from $500 to $600 per child.	Increased to $700 per child in 2005, $800 per child in 2009, and $1,000 per child in 2010.	
Refundable credit	Refundable up to 10 percent of earnings in excess of $10,000, indexed for inflation after 2002.	Refundable up to 15 percent of earnings in excess of the threshold.	
AMT offset	Child credit applies against the AMT. The AMT no longer reduces refundable child credits or the earned income credit.	No further change.	
Dependent Care Credit	No change.	Increase eligible expenses to $3,000 per child, the top credit rate to 35 percent, and the income threshold for the phase-down of the credit to $15,000 in 2003.	
Taxes on Married Couples			
Standard deduction	No change.	Deduction for married couples set at twice the deduction for singles. Phased in over 5 years beginning in 2005.	
End of the 15 percent tax bracket	No change.	Set at twice that for singles. Phased in over 4 years beginning in 2005.	
Income level at which the earned income credit begins to phase out	Increased by $1,000 for married couples.	Increased by $2,000 in 2005, and $3,000 in 2008 for married couples. Indexed starting in 2009.	

Permanently extending the provisions already in place in 2002 would cost $1.1 trillion in 2002 through 2012 in reduced tax revenues and increased outlays from refundable tax credits (Table 2). The cost in 2012 alone would be $118 billion. This includes $91 billion from "permanent" provisions that are in place in 2002, and an additional $27 billion from extending provisions currently in place but scheduled to expire before 2010—the higher AMT exemption amounts, the tax credit for IRA contributions, and the "above-the-line" deduction for educational expenses.

Table 1 (continued). Key Provisions of EGTRRA 2001

Provisions in Place in 2002 and Provisions That Take Effect in Future Years

	Provisions in place in 2002	Provisions that take effect after 2002
Education Provisions		
Education Saving Accounts	Increase contribution limit from $500 to $2,000. Tax-free distributions for elementary and secondary school expenses.	No further changes.
Qualified Tuition Plans	Distributions are tax-deferred.	Starting in 2004, distributions are tax-free.
Employer-provided educational assistance	Permanently extended and expanded to include graduate education.	No further changes.
Student loan interest	Eliminate the 5-year limit for deductions of student loan interest and increase the income eligibility limits.	No further changes.
Deduction for qualified higher education expenses	Deduction of up to $3,000.	Deduction limit increases to $4,000 in 2004. Deduction expires after 2005.
Pensions and IRAs		
IRA contribution limit	Contribution limit increased from $2,000 to $3,000 with catch-up contributions of $500 for people age 50 or older.	Limit increases to $4,000 in 2005 and $5,000 in 2008. Indexed starting in 2009. Catch-up contribution increases to $1,000 in 2006.
Contribution limit for 401(k) and other defined-contribution plans	Contribution limit increased from $10,500 to $11,000, with catch-up contributions of $1,000 for people age 50 and older.	Limit increases by $1,000 per year until it reaches $15,000 in 2006. Catch-up contributions limit also increases by $1,000 per year through 2006. Both limits indexed starting in 2007.
Non-refundable credit for IRA and 401(k) contributions for low-income workers	Credit of up to $1,000 for singles with income of $25,000 or less and married couples with income of $50,000 or less.	Credit expires after 2006.
Alternative Minimum Tax		
Increased exemption	Exemption increased by $2,000 for singles, and $4,000 for married couples.	Exemption increases expires after 2004.
Estate and Gift Tax		
Estate tax	Effective exemption increased to $1 million. Top tax rate reduced from 55 percent to 50 percent.	Phased-in increase in the exemption to $3.5 million in 2009. Phased-in reduction in the top tax rate to 45 percent in 2007. Estate tax repealed in 2010.
Gift tax	Exemption of $1 million for gifts. Top tax rate reduced to 50 percent.	No further change in exemption. Top tax rate equal to top income tax rate of 35 percent in 2010.

Provisions to come after 2002 carry a budgetary cost of $599 billion in 2002-2012 and $116 billion in 2012 alone. The cost in 2012 includes gross tax cuts totaling $143 billion—$97 billion from income tax reductions and $46 billion from repeal of the estate tax. The net cost is lower by $27 billion because some tax cutting provisions currently in place expire before 2010. The gross cost of provisions of the tax act that are still to come will account for over 60 percent of the total budgetary cost of the provisions that will be in place in 2012, if the tax cut is not allowed to expire in 2010.

Table 2. Estimated Budgetary Effects of EGTRRA 2001, by Fiscal Year, Billions of Dollars

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2002-2012
Provisions in Place in 2002													
"Permanent" Income Tax Cuts	-40	-75	-80	-84	-82	-80	-80	-80	-81	-81	-82	-81	-885
Estate and Gift Tax Cuts	0	0	-5	-5	-9	-6	-8	-8	-9	-9	-10	-10	-80
Total, "Permanent" Tax Cuts	-40	-75	-85	-89	-91	-86	-88	-88	-90	-90	-92	-91	-965
Continuation of Expiring Income Tax Provisions	0	0	0	0	-5	-10	-13	-16	-19	-21	-24	-27	-134
Total, All Provisions	-40	-75	-85	-89	-96	-96	-101	-105	-108	-111	-115	-118	-1,099
Provisions That Take Effect After 2002													
Income Tax Cuts	0	0	-1	-14	-29	-56	-65	-73	-81	-93	-97	-97	-606
Estate and Gift Tax Cuts	0	0	0	0	0	0	-5	-6	-7	-19	-44	-46	-127
Total, Tax Cuts	0	0	-1	-14	-29	-56	-70	-80	-88	-112	-142	-143	-733
Repeal of Expiring Income Tax Provisions	0	0	0	0	5	10	13	16	19	21	24	27	134
Total, All Provisions	0	0	-1	-14	-24	-46	-57	-63	-69	-91	-118	-116	-599
All Provisions													
Income Tax Provisions	-40	-75	-81	-98	-111	-135	-145	-153	-161	-174	-179	-178	-1,482
Estate and Gift Tax Provisions	0	0	-5	-5	-9	-6	-13	-15	-16	-28	-54	-56	-206
Total, All Provisions	-40	-75	-86	-104	-120	-142	-157	-168	-177	-202	-233	-234	-1,688

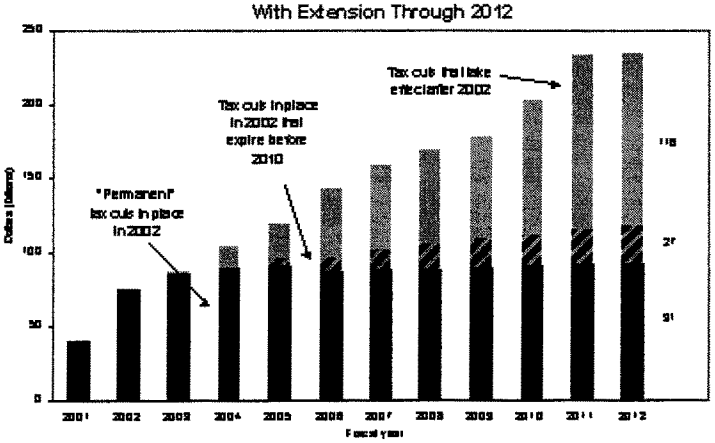
Source: Joint Economic Committee, Democratic Staff.

The annual cost of provisions that are not yet in place rises sharply after 2003 (Figure 1). The cost of repealing the estate tax is particularly heavily back-loaded. The annual cost of estate and gift tax provisions currently in place is negligible in 2002 and about $5 billion in 2003. With no further cuts the cost would rise to about $10 billion by the end of the decade. This is a modest fraction of the annual cost of full repeal, which is about $55 billion in 2011 and 2012. The additional cost of full repeal in 2010 is more than double the cost of the estate tax reductions in place in 2009, by which time the estate tax exemption will have reached $3.5 million and the top estate tax rate will have dropped to 45 percent.

Distributional Effects

For some taxpayers, last summer's rebate is representative of the size of the annual tax cut they can expect over the life of the act. For others, however, the rebate was just a small downpayment on the full tax cut promised by 2001 Tax Act. These findings presented below are based on

Figure 1. Budgetary Effects of EGTRRA 2001, With Extension Through 2012



Source: Joint Economic Committee, Democratic Staff.

an analysis of EGTRRA by the Democratic staff of the Joint Economic Committee using a microsimulation tax model similar to that used by the Congressional Joint Committee on Taxation, the Congressional Budget Office, and other tax analysts. The estimates are for income tax liabilities in calendar year 2010 and include refundable tax credits. They include the major provisions of the 2001 Tax Act except for the education and retirement saving provisions.

Income Tax Cuts

The difference between the distributions of the income tax cuts already in place and the tax cuts to come after 2002 is striking. Taxpayers with incomes up through the 80th percentile of the income distribution (income of about $100,000 or less in 2010) would receive 53 percent of the total tax reduction in 2010 if only the cuts that were already in place in 2002 were continued out into the future (Table 3). In contrast, those taxpayers can expect to receive only about one-third of the tax cuts scheduled to take effect after 2002. Tax cuts to come after 2002 are highly skewed towards higher-income families. About 60 percent of the future cuts go to the 1 percent of taxpayers at the very top (income of about $465,000 or more in 2010). Interestingly, taxpayers with income in the 91st through 99th percentile can expect a net tax increase on average from future scheduled provisions of the 2001 Tax Act. This is

a result of the AMT, as discussed below.

Measured as the percentage change in after-tax income, the tax cuts already in place are generally progressive, with lower-income families having the largest increases in after-tax income, although the 20 percent of tax filers with the lowest income do receive a smaller increase than those higher up, and the highest 1 percent has a slightly larger increase than taxpayers with lower incomes (Figure 2). The cuts to come after 2002, in contrast, are not progressive. The 1 percent of taxpayers with the very highest incomes will see an increase of 3.6 percent in their after-tax income as a result of those cuts while taxpayers in all other income categories will have an increase of less than 1 percent.

It is not surprising that the benefits of the tax cuts to come after 2002 are skewed towards higher-income taxpayers. The further reductions in tax rates apply only to the approximately 25 percent of taxpayers in the four highest

income tax brackets. The disproportionately larger cut in the top tax rate applies to less than one percent of all taxpayers. Even most of the future tax reductions for married couples are not targeted towards lower- and moderate-income families. A recent study found that over 70 percent of the benefits from the increase in the standard deduction and all of the benefits from the extension of the 15 percent bracket for married couples go to families in the upper half of the income distribution.[4]

Estate Tax Repeal

The benefits from repeal of the estate tax are highly concentrated at the top of the distribution. Regardless of whether the burden of the tax is assigned to the estate making the payment or to the recipients of the inheritance, the estate tax is highly concentrated among high-income taxpayers. A recent analysis by the U.S. Treasury determined that taxpayers in the top fifth of the income distribution paid virtually all of the tax, with the top 1 percent of families paying over 60 percent of the total.[5]

EGTRRA provides for gradual reductions in the estate tax until 2010, when it is repealed. The increase in the estate tax exemption and the reduction in the top tax rate currently in place cost relatively little. By 2010, those provisions would amount to about 18 percent of the cost of

Table 3. EGTRRA Income Tax Cuts in 2010, by Income Percentile

Income Category (percentiles)	Total Tax Cut (millions)	Share of Total Tax Cut (percent)	Average Tax Cut (dollars)	Change in After-Tax Income (percent)
		Full Tax Cut		
All Returns	166,403	100.0%	1,240	2.0%
1-20 percentile	2,725	1.6%	110	1.0%
21-40 percentile	16,261	9.8%	610	2.5%
41-60 percentile	21,853	13.1%	820	2.1%
61-80 percentile	32,865	19.8%	1,230	1.9%
81-100 percentile	92,579	55.6%	3,460	2.0%
81-90 percentile	21,153	12.7%	1,580	1.6%
91-95 percentile	7,774	4.7%	1,160	0.8%
96-99 percentile	6,577	4.0%	1,230	0.6%
Highest 1 percent	57,075	34.3%	42,670	4.5%
		Tax Cuts In Place in 2002		
All Returns	90,327	100.0%	680	1.1%
1-20 percentile	2,148	2.4%	80	0.8%
21-40 percentile	10,551	11.7%	390	1.6%
41-60 percentile	12,894	14.3%	480	1.2%
61-80 percentile	22,114	24.5%	830	1.3%
81-100 percentile	42,550	47.1%	1,590	0.9%
81-90 percentile	15,473	17.1%	1,160	1.1%
91-95 percentile	7,860	8.7%	1,170	0.9%
96-99 percentile	7,579	8.4%	1,420	0.7%
Highest 1 percent	11,639	12.9%	8,700	0.9%
		Additional Tax Cuts To Come After 2002		
All Returns	76,076	100.0%	570	0.9%
1-20 percentile	578	0.8%	20	0.2%
21-40 percentile	5,710	7.5%	210	0.9%
41-60 percentile	8,959	11.8%	330	0.9%
61-80 percentile	10,751	14.1%	400	0.6%
81-100 percentile	50,029	65.8%	1,870	1.1%
81-90 percentile	5,680	7.5%	420	0.4%
91-95 percentile	-86	-0.1%	-10	0.0%
96-99 percentile	-1,002	-1.3%	-190	-0.1%
Highest 1 percent	45,436	59.7%	33,970	3.6%

Note: See Notes on Tables and Figures.
Source: Joint Economic Committee, Democratic Staff.

full repeal. Adding in the benefits from future reductions in the estate tax to the distribution of benefits from the income tax provisions widens the dramatic differences between the distributional effects of the tax cuts already in place and those of the cuts that are yet to come (Table 4 and Figure 3). Nearly 80 percent of the combined income and estate tax cuts to come after 2002 go to the 20 percent of taxpayers with the highest incomes in 2010, while just over 60 percent of the benefits go to the top 1 percent of returns.

Notes on Tables and Figures

Tables (3-7) and figures (2-3) showing the distribution of EGTRRA tax cuts include the following income tax provisions: 10-percent tax bracket, rate reductions in the four top income tax brackets, repeal of the restrictions on itemized deductions and personal exemptions, increase and expanded refundability of the child credit, increase in the dependent care credit, tax reductions for married filers, and the temporary increase in the alternative minimum tax exemption. They do not include education and pension provisions. Estate and gift tax cuts are distributed in the same proportion as the pre-EGTRRA distribution of total estate and gift taxes reported in Julie Ann Cronin, "U.S. Treasury Distributional Analysis Methodology," U.S. Department of Treasury, Office of Tax Analysis, Working Paper 85, September 1999, page 24.
Returns of tax filers claimed as dependents on other tax returns are excluded. Income is measured as adjusted gross income plus tax-exempt interest and non-taxable Social Security benefits. Returns with negative income are not included in the lowest income category but are included in the total.

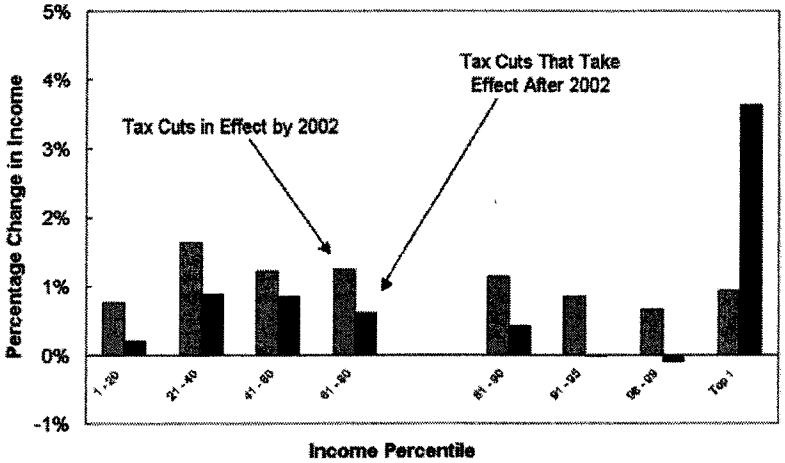
Estimated income limits for the various percentiles in 2010 are:

1 – 20 percentile	$17,630
21 – 40 percentile	$32,510
41 – 60 percentile	$55,630
61 – 80 percentile	$99,940
81 – 90 percentile	$143,570
91 – 95 percentile	$196,530
96 – 99 percentile	$463,650

Alternative Minimum Tax

A feature of the analysis that deserves mention is the impact of the individual AMT. Many taxpayers in the 60th to 99th percentiles (incomes between $55,000 and $465,000 in 2010) will see part, and in some cases all, of the tax cut they would have received under the 2001 Tax Act disappear because of the AMT.

Figure 2. Percentage Change in After-Tax Income From EGTRRA Income Tax Cuts in 2010



Note: See Notes on Tables and Figures.
Source: Joint Economic Committee, Democratic Staff.

For example, by 2010 taxpayers in the 91st to 95th percentile will receive an average tax cut of about $1,170 from provisions of the 2001 Tax Act already in place in 2002, while those with income in the 96th to 99th percentile will see an average cut of $1,420. Even though the tax cuts to come after 2002 include reductions in marginal tax rates in the four top tax brackets and repeal of the restrictions on itemized deductions and personal exemptions, the net effect of all future provisions will be to increase taxes for these taxpayers. This occurs because the higher AMT exemption amounts in place in 2002 expire in 2005.

Fewer than 2 percent of taxpayers are directly affected by the AMT in 2002. This percentage is projected to rise to over 35 percent in 2010 under the 2001 Tax Act, compared with fewer than 18 percent projected under prior law.[6] About 85 percent of taxpayers with incomes between $100,000 and $200,000 and 98 percent of taxpayers with incomes between $200,000 and $500,000 will be on the AMT in 2010.

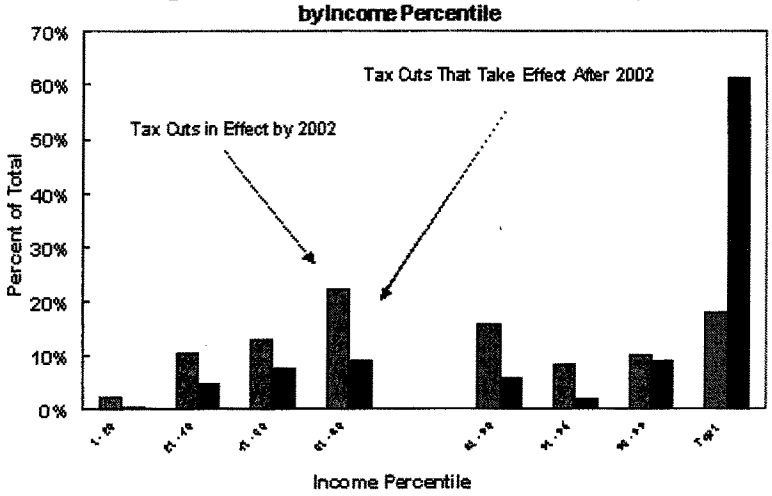
Table 4. EGTRRA Income Tax and Estate Tax Cuts in 2010, by Income Percentile

Income Category (percentiles)	Total Income Tax Cut (millions)	Total Estate Tax Cut (millions)	Combined Tax Cut (millions)	Share of Combined Tax Cut (percent)
Full Tax Cut				
All Returns	166,403	54,000	220,403	100.0%
1-20 percentile	2,725	0	2,725	1.2%
21-40 percentile	16,261	0	16,261	7.4%
41-60 percentile	21,853	0	21,853	9.9%
61-80 percentile	32,865	432	33,297	15.1%
81-100 percentile	92,579	53,568	146,147	66.3%
81-90 percentile	21,153	1,620	22,773	10.3%
91-95 percentile	7,774	2,808	10,582	4.8%
96-99 percentile	6,577	14,472	21,049	9.6%
Highest 1 percent	57,075	34,668	91,743	41.6%
Tax Cuts In Place in 2002				
All Returns	90,327	10,000	100,327	100.0%
1-20 percentile	2,148	0	2,148	2.1%
21-40 percentile	10,551	0	10,551	10.5%
41-60 percentile	12,894	0	12,894	12.9%
61-80 percentile	22,114	80	22,194	22.1%
81-100 percentile	42,550	9,920	52,470	52.3%
81-90 percentile	15,473	300	15,773	15.7%
91-95 percentile	7,860	520	8,380	8.4%
96-99 percentile	7,579	2,680	10,259	10.2%
Highest 1 percent	11,639	6,420	18,059	18.0%
Additional Tax Cuts To Come After 2002				
All Returns	76,076	44,000	120,076	100.0%
1-20 percentile	578	0	578	0.5%
21-40 percentile	5,710	0	5,710	4.8%
41-60 percentile	8,959	0	8,959	7.5%
61-80 percentile	10,751	352	11,103	9.2%
81-100 percentile	50,029	43,648	93,677	78.0%
81-90 percentile	5,680	1,320	7,000	5.8%
91-95 percentile	-86	2,288	2,202	1.8%
96-99 percentile	-1,002	11,792	10,790	9.0%
Highest 1 percent	45,436	28,248	73,684	61.4%

Note: See Notes on Tables and Figures.
Source: Joint Economic Committee, Democratic Staff.

Many taxpayers who would have been subject to the AMT under the law prior to the 2001 Tax Act will receive no benefit from the cut in tax rates. Of the 18 million taxpayers who would have been on the AMT in 2010 in the absence of the Tax Act, some 8.6 million will see their tax cut

Figure 3. Share of EGTRRA Total Tax Cuts in 2010, by Income Percentile



Note: See Notes on Tables and Figures.
Source: Joint Economic Committee, Democratic Staff.

completely offset by the AMT.[7] The Tax Act will push about 17 million additional taxpayers onto the AMT in 2010. Those taxpayers will still receive a tax cut, but it will be less than the full amount that they would have received if not for the AMT.

The 2001 Tax Act, and particularly the provisions that take effect after 2002, would look quite different if Congress had addressed the AMT issue. One way to illustrate that difference is to compare the distribution of the tax cuts currently in place with that of the tax cuts to come after 2002, holding the AMT parameters constant in real terms at their 2002 values.[8]

Taxpayers in the 61st through 80th percentile would get twice the average tax cut from provisions that take effect after 2002 if the AMT were adjusted in this fashion (Table 5). Instead of receiving no tax cut from future provisions of the 2001 Tax Act, taxpayers in the 91st through 95th percentile would see an average tax cut of $2,200 in 2010. Taxpayers in the 96th through 99th percentile would see an average tax cut of $2,800 in 2010, rather than the $200 tax increase they can now expect as a result of the expiration of some provisions of the 2001 Tax Act. There would be little change in the expected tax cut for taxpayers in the top 1 percent if the AMT were adjusted because their income is

generally beyond the income range affected by the AMT.

Of course, the 2001 Tax Act would be much more expensive without the AMT take back. The cost of tax cut provisions scheduled to take effect after 2002 would be more than 80 percent higher than current projections if the AMT were adjusted for inflation.

Fiscal Policy Implications

Although the rationale for the 2001 Tax Act has changed from time to time before, during, and after it was enacted, a consistent argument for tax cuts that reduce marginal tax rates is the potential positive effect on household work and saving in the long term. EGTRRA was not a simple cut in tax rates, however, and other, more costly provisions of the Act do not carry the same potential benefits for economic growth. Most significantly, the Tax Act was far from revenue neutral. By raising federal deficits, the tax cut reduces national saving. In the long term, this will do much more to hurt economic growth than any likely positive effects from additional private saving or increased labor supply.

Short-Term Economic Stimulus

When the National Bureau of Economic Research officially announced last fall that the economy had fallen into a recession in March 2001, the motivation for the tax cut changed temporarily from arguments in favor of long-term growth to almost the completely opposite argument that the tax cut would provide short-term economic stimulus. A cut in individual income taxes provides effective short-term stimulus to the extent that it immediately boosts consumer spending and business investment, even if those increases come at the expense of spending and investment that would have occurred in the future. A tax cut is more likely to help long-term economic growth to the extent that it leads to a sustained increase in household saving and labor supply.

The new 10 percent bracket is potentially the most effective provision of the tax cut as far as providing short-term stimulus. Some 96 million households received advance payments of their income tax cut for 2001 in the form of rebate checks sent out in July, August, and September of last year. The results for consumer spending were mixed, however. Initially there was little evidence that households spent the rebate checks

Table 5. EGTRRA Income Tax Cuts in 2010 With AMT Adjustment, by Income Percentile

Income Category (percentile)	Total Tax Cut (millions)	Share of Total Tax Cut (percent)	Average Tax Cut (dollars)	Change in After-Tax Income (percent)
Full Tax Cut with Adjusted AMT				
All Returns	254,132	100.0%	1,900	3.1%
1 - 20 percentile	2,727	1.1%	110	1.0%
21 - 40 percentile	16,268	6.4%	610	2.5%
41 - 60 percentile	22,422	8.8%	840	2.1%
61 - 80 percentile	47,038	18.5%	1,760	2.7%
81 - 100 percentile	165,527	65.1%	6,190	3.5%
81 - 90 percentile	46,384	18.3%	3,470	3.4%
91 - 95 percentile	27,474	10.8%	4,110	3.0%
96 - 99 percentile	33,913	13.3%	6,340	3.0%
Highest 1 percent	57,757	22.7%	43,180	4.6%
Tax Cuts In Place in 2002 with Adjusted AMT				
All Returns	114,585	100.0%	860	1.4%
1 - 20 percentile	2,148	1.9%	80	0.8%
21 - 40 percentile	10,556	9.2%	390	1.6%
41 - 60 percentile	13,080	11.4%	490	1.2%
61 - 80 percentile	25,150	22.0%	940	1.4%
81 - 100 percentile	63,507	55.4%	2,370	1.4%
81 - 90 percentile	19,894	17.4%	1,490	1.5%
91 - 95 percentile	12,766	11.1%	1,910	1.4%
96 - 99 percentile	18,976	16.6%	3,550	1.7%
Highest 1 percent	11,871	10.4%	8,880	0.9%
Additional Tax Cuts To Come After 2002 with Adjusted AMT				
All Returns	139,547	100.0%	1,040	1.7%
1 - 20 percentile	578	0.4%	20	0.2%
21 - 40 percentile	5,712	4.1%	210	0.9%
41 - 60 percentile	9,333	6.7%	350	0.9%
61 - 80 percentile	21,848	15.7%	820	1.2%
81 - 100 percentile	102,020	73.1%	3,810	2.2%
81 - 90 percentile	26,490	19.0%	1,980	2.0%
91 - 95 percentile	14,707	10.5%	2,200	1.6%
96 - 99 percentile	14,937	10.7%	2,790	1.3%
Highest 1 percent	45,886	32.9%	34,310	3.7%

Note: See Notes on Tables and Figures.
Source: Joint Economic Committee, Democratic Staff.

as personal income rose but personal consumption expenditures remained virtually unchanged.

Economic theory and evidence suggest that consumers are likely to spend more out of a permanent tax cut than a temporary cut, and it may have taken some time for consumers to react to the initial tax rebates. As yet, however, there is no strong evidence to suggest that the tax cut has significantly helped to make this recession shallower and shorter than it

would have been. Because low-income households tend to consume larger fractions of their income than do high-income households, the tax cut might have been even more effective as short-term stimulus if the rebates had been extended to even more lower-income households, such as those households who work and pay payroll taxes, but face no income-tax liability and hence did not qualify for the income-tax rebate.

Economic theory also suggests that households will consider changes in their lifetime income in deciding how much more or less to spend today. This has led some to argue that the future cuts to come after 2002 have had some effect in stimulating additional spending today.

Such an effect seems unlikely. Households are much more responsive to changes in current rather than future income for a number of reasons. Many households are simply constrained in the ability to borrow against future increases in after-tax income, even if they factor in those eventual increases.[9] Many households also heavily discount future income and instead follow rules of thumb based on current income in deciding how much to spend or save. These families would tend to adjust their spending habits only as current after-tax income rises.[10]

Finally, the adverse effects of the tax cut on the federal deficit and national saving can work against the economy in the short-term, via the upward pressure on longer-term interest rates. Although the evidence concerning the effect of federal deficits on long-term interest rates is not conclusive, a recent comprehensive review interpreted the empirical evidence to suggest that the tax cut could raise long-term rates by between 10 and 60 basis points in the first year, and by 75 to 110 basis points over the next 10 years.[11] This adverse effect on interest rates could easily offset the effect of the marginal tax rate reductions on the cost of capital, thus undermining the tax cut's ability to stimulate business investment.

Long-Run Economic Growth

Some proponents of the 2001 Tax Act argue that it is important for promoting longer-term economic growth because it reduces marginal tax rates—the tax on each additional dollar of earnings or income from capital—and thereby creates incentives for increased household labor supply and saving. In addition, they believe that repeal of the estate tax will boost capital accumulation.

The case for strong work and saving incentives from the 2001 Tax Act is greatly overstated. Only a fraction of taxpayers will see any reduction in their statutory tax rate, the cumulative reduction in marginal tax rates is small, and a good portion of that decrease is already in place with the tax cuts in effect in 2002.

Fewer than 20 percent of taxpayers will see any further reduction in statutory tax rates from the provisions of the 2001 Tax Act that take effect after this year. Only about 30 percent of families and individuals filing tax returns receive any reduction in their tax rates from the fully phased-in 2001 tax cuts to begin with. Many taxpayers remain in the 15 percent tax bracket and thus receive no reduction in their tax rate, while others who would have had a rate cut will instead face a higher marginal rate because of the AMT.[12]

About one-third of the 30 percent of taxpayers who will see any reduction in their statutory tax rate are taxpayers who move into the 10 percent tax bracket. Because that rate cut is already in place in 2002, and because future rate cuts apply only to the four top income-tax brackets, less than one-fifth of tax filers will see any further cut in rates from provisions that take effect after this year.

The change in statutory tax rates does not capture the full effect of the 2001 Tax Act on marginal tax rates, however. Other provisions of the Tax Act such as the repeal of restrictions on itemized deductions and personal exemption will lower marginal tax rates for some. The net effect of all provisions of the Tax Act on marginal rates can be measured by the change in the effective marginal tax rate on different types of income—that is, taking account of not only statutory tax rates but all other phase-out and phase-in provisions of the tax code, how much tax is paid on an additional dollar of earnings or income from capital.[13]

Overall, the full effect of the 2001 Tax Act will be to lower the effective marginal tax rate on earnings by less than 2 percentage points, with about 40 percent of the reduction attributable to tax cuts already in place in 2002 (Table 6). Only people in the lowest and very highest income groups will see a reduction of more than 1 percentage point from provisions of the 2001 Tax Act scheduled to take effect after this year—the lowest income group because of changes to the phase-in rate for the child credit, and the 1 percent of taxpayers with the highest incomes because of the disproportionately larger reduction in the tax rate

for the top income-tax bracket. Taxpayers with incomes in the 91st to 95th percentile will, on average, see an increase in the effective marginal tax rate on earnings owing to the phase out of the AMT exemption at higher income levels.

Table 6. Average Marginal Tax Rates Before and After EGTRRA, by Income Percentile

Income Category (percentiles)	Average Marginal Tax (percent)		
	Pre-EGTRRA	EGTRRA as of 2002	Full Effect of EGTRRA
Average Marginal Tax Rate on Wages			
All Returns	27.2	26.5	25.4
1 - 20 percentile	3.7	0.7	-1.0
21 - 40 percentile	18.9	17.9	16.9
41 - 60 percentile	19.9	19.2	18.9
61 - 80 percentile	24.8	23.6	23.4
81 - 100 percentile	32.5	32.1	30.5
81 - 90 percentile	27.8	28.1	27.8
91 - 95 percentile	29.7	29.3	29.9
96 - 99 percentile	34.7	33.9	32.8
Highest 1 percent	40.0	38.8	32.4
Average Marginal Tax Rate on Capital Income			
All Returns	23.5	23.2	22.2
1 - 20 percentile	7.5	6.0	5.6
21 - 40 percentile	12.0	10.8	10.3
41 - 60 percentile	17.8	17.2	16.6
61 - 80 percentile	23.6	23.0	22.0
81 - 100 percentile	26.0	25.7	24.6
81 - 90 percentile	25.8	25.4	25.0
91 - 95 percentile	26.4	26.0	27.1
96 - 99 percentile	28.6	28.5	28.1
Highest 1 percent	25.0	24.7	23.0

Note: See Notes on Tables and Figures. The average marginal tax rate on wages is weighted by total wages. The average marginal tax rate on capital income is the weighted average marginal weight on interest, dividends, and capital gains.
Source: Joint Economic Committee, Democratic Staff.

The change in the effective tax rate on income from capital is even smaller. The full 2001 tax cuts reduce the effective marginal tax on taxable capital income by just over 1 percentage point. The reduction in the marginal rate on all capital is much smaller, however, because a large portion of capital is lightly taxed or is not taxed at all. For example, housing, retirement saving, and a growing portion of saving for education

are all either tax-exempt or tax-deferred. Furthermore, the 2001 Tax Act did not change other taxes on capital such as federal and state corporate income taxes. The change in the total effective marginal rate on all capital is well below one percentage point.

Any change in work and saving depends not only on the change in effective marginal tax rates but also on how households respond to changes in after-tax returns. An extensive body of empirical research over the past 20 years has found that marginal tax rates have very small effects on major economic decisions, such as whether to work, how many hours to work, or how much of one's income to save or consume.[14]

In terms of labor supply, tax rates have little effect on the decisions of primary earners, except through "income effects"– in the case of a tax cut the effect of higher after-tax income is to reduce labor supply, as people try to maintain a certain level of consumption. The evidence suggests that changes in tax rates can have larger effects on secondary earners married to high-earning spouses, probably a reflection of those second incomes being largely discretionary.[15] In terms of saving, most research has found that the sensitivity of household consumption to changes in after-tax rates of return is very small.[16] Thus, reducing marginal tax rates is unlikely to boost private saving by anything but a small amount, and is unlikely to significantly increase the labor supply of anyone but those secondary earners who can afford not to work.

Economists agree that the most effective way to promote economic growth is to insure an adequate level of national saving. Unfortunately, the 2001 tax cut works in the opposite direction, because any potential increase in private saving will fall far short of the certain drop in public saving as federal deficits re-emerge.[17]

Putting all the pieces together, the CBO estimated that the 2001 Tax Act would have a small effect on GDP, in the range of plus or minus 0.5 percent after 5 years. It estimates that by 2006, the tax cut will decrease the average effective marginal tax rate on labor by 1.5 percentage points and the average effective tax rate on capital by 0.5 percentage points. This is equivalent to a 2.8 percent increase in the average effective rate of return to work and a 0.6 percent increase in the rate of return to capital. These small incentive effects will be more than offset by the negative effect from the decline in national saving if the federal

government would have used the surplus to pay down the debt, and the result will be a decline in GDP.[18]

A recent study using a different model came to essentially the same conclusion as the CBO. The study concluded that the incentive effects from the tax cut through lower marginal tax rates would increase GDP in 2011 by about 0.95 percent, increased international capital flows to the U.S. would add another 0.37 percent to GDP, but the decline in total public saving would shave 1.63 percent from GDP, leaving a net reduction of 0.31 percent.[19]

Finally, there is little support for the claim that estate tax repeal would have a large impact on capital accumulation. The estate tax can indeed be viewed as a tax on the return to saving, but there is scant empirical evidence to suggest that it has any noticeable impact on total private savings. A lower estate tax may or may not increase saving by those wishing to leave a bequest. Even if it did, a larger bequest would increase the wealth of those receiving the bequest and thus tend to decrease their saving.[20] Moreover, it is a simple fact that very few people are affected by the estate tax. According to IRS statistics, in 1999, only two percent of the estates of people who died were subject to any estate tax, and more than half of all estate taxes were paid by the 3,300 largest estates, all of which were valued at over $5 million. Tax provisions in place in 2002 have already raised the estate tax exemption to $1 million, with an effective exemption of $2 million for married couples. Further increases in the exemption would still eliminate estate taxes completely for a large fraction of estates and cost much less than complete repeal.

Tax Complexity

Although the 2001 Tax Act contains some provisions that reduce the complexity of the tax code, the overall impact of the tax cut will be to increase the complexity of tax filing and compliance for millions of taxpayers. Many of the complexity-reducing features are already in place in 2002, including simplification of some rules for EITC and no longer allowing the AMT to reduce the child credit, the adoption credit, and refundable credits. A significant simplification feature, the elimination of restrictions on itemized deductions and personal exemptions, does not begin to phase in until 2006, however, and is not fully in place until 2009.

Any positive features of the Act with respect to simplification will be

overwhelmed by the added complexity for the millions of taxpayers who are pushed onto the AMT. The tax act will make future AMT modifications much more costly because many more taxpayers will be on the AMT.

While it would seem that eliminating the estate tax would greatly simplify tax planning for the families affected by the tax, that is not necessarily the case. Over the period when the estate exemption increases from 2002 through 2009, some individuals may need to re-write their estate plans a number of times to account for the changing tax law. Even when the tax is completely repealed, there will still be a need for estate tax planning. The new treatment of capital gains accrued by an estate will require taxpayers to keep records on purchases of assets for many years, even generations.[21]

Finally, there is the issue of the increased complexity of choice. While economists usually believe that unfettered choice is a good thing, one might wonder whether taxpayers really want to have to choose among a dozen different tax incentives for education, where each dollar of educational expenses can only benefit from one provision, or among a half dozen different ways to save for retirement, each with its own rules and requirements.

Possible Modifications

Permanently extending the provisions of the 2001 tax cut that are in effect in 2002 would provide a progressive tax cut that would reduce income taxes for all families except those that lose their tax cuts to the AMT. It would provide more AMT relief than allowing future scheduled provisions of the tax act to go into effect because it would maintain the higher AMT exemption currently in place.

It would be possible to keep certain prospective provisions of EGTRRA as part of permanent extension of the 2002 cuts. We explore three options: (1) indexing the end-points of the 10-percent bracket starting in 2003; (2) increasing the child credit for all families and the starting point for the EITC phase-out range for married couples; and (3) a combination of options one and two.

The first option would index the 10-percent bracket starting next year. The new 10-percent tax bracket created by EGTRRA applies to the first

$6,000 of taxable income for singles, $12,000 for married couples, and $10,000 for heads of households. In 2008 the amounts increase to $7,000 for singles and $14,000 for married couples, but remain unchanged for heads of households. Starting in 2009, all three tax-bracket end points are indexed for inflation.

Indexing the 10 percent bracket starting in 2003 would provide consistent treatment with all other tax brackets. It would leave the end points of the 10-percent brackets in 2010 about where they would be under current law for married couples and singles, but higher than it otherwise would be for heads of households. This modification to permanent extension of tax cuts in place in 2002 would mostly benefit the 60 percent of taxpayers with incomes above the 40th percentile (except for those taxpayers on the AMT) (Table 7). It would raise the cost of extending the 2002 tax cuts by about $7 billion in 2010.

The second option would increase child credits and extend the EITC. Under current law, the child tax credit is currently set at $600 per child. It will increase to $700 in 2005, $800 in 2009, and $1,000 in 2010. The limit on child credit refunds, currently 10 percent of earnings above a threshold, is scheduled to increase to 15 percent of earnings in excess of the threshold starting in 2005. The beginning point of the earned income credit phase-out range for married taxpayers was increased by $1,000 in 2002, and is scheduled to rise by a total of $2,000 in 2005 and $3,000 in 2008, after which it will be adjusted annually for inflation.

Increasing the child tax credit to $1,000 starting in 2003, increasing the credit refund limit to 15 percent of earnings, and raising the starting point for the EITC phase-out by the full $3,000 scheduled increase would provide additional tax relief to moderate- and low-income families with children. Families with children and incomes between the 21st and 60th percentile would see a substantial increase in the tax cut they would receive relative to permanent extension of the 2002 provisions without these modifications (Table 7). Higher-income families with children who could claim child credits would also receive some benefit. Permanent extension of the 2002 provisions with the enhanced child credits and EITC would cost about $19 billion more in 2010 than extending the 2002 provisions without these additional tax cuts.

Combining both options would give taxpayers with incomes up through the 40th percentile essentially the same average tax cuts as they would

receive from fully implementing all provisions of the 2001 Tax Act. Families with incomes up through the 90th percentile would receive only slightly lower average tax cuts than the full EGTRRA cuts under this option. Families with incomes in the 91st through 99th percentiles would actually have slightly higher tax cuts under this option than under the full EGTRRA provisions because they would benefit from the extension of the higher AMT exemption levels that are currently in place but scheduled to expire in 2005. The option would cost about $27 billion more in 2010 than extending provisions currently in place without these additional tax cuts.

The modifications considered here would modestly slowdown the extension of the AMT to greater numbers of taxpayers by extending the higher AMT exemption currently in place. Without indexing the exemption and other parameters of the AMT, the temporary check on the AMT would be short lived. Unfortunately any permanent solution of the AMT problem is costly. Indexing the AMT exemption would cost about $370 billion in 2002 through 2012, for example, while outright repeal costs about $600 billion over the same period.[22]

Table 7. Existing EGTRRA Income Tax Cuts in 2010 With Additional Provisions, by Income Percentile

Income Category (percentiles)	Total Tax Cut (millions)	Share of Total Tax Cut (percent)	Average Tax Cut (dollars)	Change in After-Tax Income (percent)
Tax Cut in Place in 2002 with Indexing of the 10% Bracket				
All Returns	97,565	100.0%	730	1.2%
1 - 20 percentile	2,232	2.3%	90	0.8%
21 - 40 percentile	11,631	11.9%	430	1.8%
41 - 60 percentile	14,957	15.3%	560	1.4%
61 - 80 percentile	24,309	24.9%	910	1.4%
81 - 100 percentile	44,364	45.5%	1,660	1.0%
81 - 90 percentile	16,561	17.0%	1,240	1.2%
91 - 95 percentile	8,296	8.5%	1,240	0.9%
96 - 99 percentile	7,742	7.9%	1,450	0.7%
Highest 1 percent	11,766	12.1%	8,800	0.9%
Tax Cut in Place in 2002 with Child Credit and EITC Increase				
All Returns	109,355	100.0%	820	1.3%
1 - 20 percentile	2,619	2.4%	100	0.9%
21 - 40 percentile	14,637	13.4%	550	2.3%
41 - 60 percentile	17,594	16.1%	660	1.7%
61 - 80 percentile	27,896	25.5%	1,040	1.6%
81 - 100 percentile	46,483	42.5%	1,740	1.0%
81 - 90 percentile	19,078	17.5%	1,430	1.4%
91 - 95 percentile	8,181	7.5%	1,220	0.9%
96 - 99 percentile	7,585	6.9%	1,420	0.7%
Highest 1 percent	11,639	10.6%	8,700	0.9%
Tax Cut in Place in 2002 with Indexing of the 10% Bracket, Child Credit and EITC				
All Returns	116,802	100.0%	870	1.4%
1 - 20 percentile	2,708	2.3%	100	1.0%
21 - 40 percentile	15,825	13.6%	590	2.4%
41 - 60 percentile	19,757	16.9%	740	1.9%
61 - 80 percentile	30,087	25.8%	1,120	1.7%
81 - 100 percentile	48,296	41.4%	1,800	1.0%
81 - 90 percentile	20,165	17.3%	1,510	1.5%
91 - 95 percentile	8,617	7.4%	1,290	0.9%
96 - 99 percentile	7,748	6.6%	1,460	0.7%
Highest 1 percent	11,766	10.1%	8,800	0.9%

Note: See Notes on Tables and Figures.
Source: Joint Economic Committee, Democratic Staff.

Conclusion

Last year's tax cut was a work in progress, with provisions phasing-in and phasing-out and the whole cut scheduled for repeal at the end of 2010. Economic and budget conditions have changed substantially since EGTRRA was enacted. Under these circumstances, it is appropriate to reconsider the direction in which tax policy is headed over the next decade, and whether that path is still in the country's best short-term and long-term interest.

Provisions that have not yet taken effect compose a substantial portion of the tax cut implemented last year. This analysis shows that the tax cuts to come in the future are costly and much less equally distributed than the tax cuts already in place. In particular, the additional tax cuts to come after 2002 are highly concentrated among the highest income taxpayers, in large measure because of the cuts in the top marginal tax rate and the repeal of the estate tax. Furthermore, the future cuts are likely to have a negative impact on the economy both in the short- and long-term.

Permanently extending the provisions of the 2001 Tax Act that are currently in place while repealing the most costly and inequitable provisions yet to take effect would be far less costly and would still provide a substantial portion of the full tax cut to most taxpayers.

Endnotes

[1] The projected 75-year deficit for Social Security is 0.72 percent of GDP. On a long-term basis the 2001 Tax Act is projected to cost 1.86 of GDP. See Richard Kogan, Robert Greenstein, and Peter Orszag, "Social Security and the Tax Cut," Center for Budget and Policy Priorities, April 11, 2002.

[2] Congressional Budget Office, The Budget and Economic Outlook: Fiscal Years 2003-2012, January 2002, p. 47 and The Joint Committee on Taxation, "Estimated Revenue Effects of the "Tax Relief Guarantee Act of 2002," an Amendment in the Nature of a Substitute to H.R. 586. JCX-28-02, April 17, 2002.

[3] The costs of most of the provisions of EGTRRA are estimated using a microsimulation tax model similar to that used by the JCT, the CBO, and other tax analysts. Estimates of calendar year liabilities and refundable tax credits were converted to fiscal year budget costs through a simple assignment of three-quarters of the calendar year amount to the current fiscal year and one-quarter to the next fiscal year. This procedure does not necessarily capture the true timing of how tax liabilities translate into budget receipts and outlays. Nor do these estimates include some of the behavioral effects that JCT includes in its estimates, such as shifts between taxable and nontaxable sources of income. Nevertheless, the budget costs estimated in this study are reasonably close to those reported by the JCT, generally within 5 percent or less of the JCT estimates of the same provisions. The estimates for education and retirement saving provisions and for estate tax repeal were not estimated using the model but are based on the most recent estimates from CBO and JCT of the revenue loss from a two-year extension of the Tax Act beyond 2010.

[4] Len Burman, Elaine Maag, and Jeff Rohaly, "The Effect of the 2001 Tax Cut on Low- and Middle-Income Families and Children," Urban Institute, April 2002.

[5] See Julie Ann Cronin, "U.S. Treasury Distributional Analysis Methodology," U.S. Department of Treasury, Office of Tax Analysis. Working Paper 85. September 1999.

[6] Donald Kiefer, Robert Carroll, Janet Holtzblatt, Allen Lerman, Janet McCubbin, David Richardson, and Jerry Tempalski. "The Economic

Growth and Tax Relief Reconciliation Act of 2001: Overview and Assessment of Effects on Taxpayers," National Tax Journal, volume LV, no. 1, March 2002.

[7] These taxpayers may still benefit from other parts of the 2001 Tax Act such the education and pension provisions.

[8] The simulations index the 2002 exemption, the starting point for the 28 percent AMT tax bracket, and the AMT exemption phase-out threshold for inflation starting in 2003.

[9] In testimony before the Senate Banking Committee, Nobel laureate Joseph Stiglitz emphasized the point that there are liquidity constraints that prevent any large quantitative effect:
"you can't borrow against income that you're going to get in five years. The evidence in this particular episode is very strongly that it has not had any effect."
Testimony before the Senate Banking Committee Hearing on the Economic Outlook, March 12, 2002.

[10] Even economists who generally support the idea that households plan consumption and saving based on lifetime resources find it unlikely that anticipation of the future tax cuts plays any significant role in increasing current consumption. At a recent Senate Banking Committee hearing, Nobel laureate Robert Solow said:
"Even a believer in the permanent income hypothesis theory of consumption, like me, for instance, understands that permanent income is discounted, like other incomes, and increments to anticipated permanent income five years down the line will not generate very large amounts of consumption. I am perfectly at home and comfortable with that way of looking at consumption. But it cannot have any substantial quantitative impact, I think."
Testimony before the Senate Banking Committee Hearing on the Economic Outlook, March 12, 2002.

[11] William G. Gale and Samara R. Potter, "An Economic Evaluation of the Economic Growth and Tax Relief Reconciliation Act of 2001," National Tax Journal, volume LV, no.1, March 2002.

[12] Calculations from simulations of the tax law in 2010 using the Joint Economic Committee, Democratic Staff microsimulation model. Similar

calculations by staff of the Office of Tax Analysis at U.S. Department of Treasury show that 24 percent of all filing units, and 37 percent of all returns with tax liability, will receive at least some reduction in statutory tax rates under the fully phased-in 2001 Tax Act. See Kiefer, et. al., "The Economic Growth and Tax Relief Reconciliation Act of 2001: Overview and Assessment of Effects on Taxpayers," National Tax Journal, volume LV, no. 1, March 2002. p. 97.

[13] Because of discontinuities in tax rules, the effective marginal tax rate is measured as the change in taxes per each additional $100 of income.

[14] See, for example, Joel B. Slemrod, editor, Do Taxes Matter?: The Impact of the Tax Reform Act of 1986. MIT Press, 1990; and Slemrod, editor, Does Atlas Shrug: The Economic Consequences of Taxing the Rich, Harvard University Press, 2000.

[15] See Richard Blundell and Thomas MaCurdy. "Labor Supply: A Review of Alternative Approaches," in Handbook of Labor Economics, vol.3a, Orley Ashenfelter and David Card, editors. Elsevier Science, 1999; Mark R. Killingsworth and James J. Heckman, "Female Labor Supply: A Survey," in Handbook of Labor Economics, vol. 1, Orley Ashenfelter and Richard Layard, editors. Elsevier Science, 1986; Thomas A. Mroz, "The Sensitivity of an Empirical Model of Married Women's Hours of Work to Economic and Statistical Assumptions.' Econometrica, vol. 55, no. 4, July 1987; John H. Pencavel, "Labor Supply of Men: A Survey," in Handbook of Labor Economics, vol. 1, Orley Ashenfelter and Richard Layard, editors. Elsevier Science, 1986; and Robert K. Triest, " The Effect of Income Taxation on Labor supply in the United States." Journal of Human Resources, vol. 25, no.3, Summer, 1990.

[16] See Robert E. Hall, "Intertemporal Substitution in Consumption," Journal of Political Economy, 96(2), April 1988, pp. 339-357.

[17] While some economists claim that private saving may work to offset the declines in public saving (as households compensate for anticipated future burden implied by higher public debt), the empirical evidence of this sort of effect is very weak. See: Douglas W. Elmendorf and N. Gregory Mankiw, "Government Debt," in Handbook of Macroeconomics, Vol. 1, J.B. Taylor and M. Woodford, editors, Elsevier Science Press, 1999, pp. 1615-1699.

[18] Congressional Budget Office, The Budget and Economic Outlook: An Update, August 2001, pp. 34-35.

[19] See William G. Gale and Samara R. Potter, "An Economic Evaluation of the Economic Growth and Tax Relief Reconciliation Act of 2001," National Tax Journal, volume LV, no.1, March 2002.

[20] For further discussion see Repealing the Estate Tax Would Not Promote Economic Growth, Joint Economic Committee Democratic Staff, June 12, 2002.

[21] Prior to the 2001 Tax Act, heirs who sold inherited assets paid capital gains tax only on the appreciation in the assets after the date of inheritance. Under the new law, heirs who sell inherited assets must pay capital gains tax on the full appreciation of the assets, including the portion earned prior to inheritance. The law allows, however, an exclusion of up to $1.3 million of prior appreciation (with an additional $3 million exclusion for assets left to a surviving spouse).

[22] See Jerry Tempalski, "The Impact of the 2001 Tax Bill on the Individual AMT," U.S. Department of Treasury, Office of Tax Analysis, Mimeo, 2001.

Medicaid Estate Recovery: The Other Estate Tax

June 2002

Executive Summary

When they die, most Americans leave estates that are too small to owe any federal estate tax. However, some of those estates may be subject to a Medicaid provision that "taxes" them in order to recover long-term care expenditures made on behalf of program recipients.

This paper analyzes the fairness and cost-effectiveness of Medicaid estate recovery. It also notes that the impulse to remove federal taxation of estates has not yet extended to Medicaid estate recovery. This shows the inconsistency in how we treat the estates of lower- and higher-income elderly people.

The following are the key findings of the paper:

> Federal Medicaid provisions require states to recover the cost of long-term care from the estates of Medicaid recipients aged 55 and over and from those of permanently institutionalized beneficiaries of any age.
>
> The cost of long-term care can be a heavy financial burden. The average cost of a nursing home is about $55,000 per year, and more than half of all elderly nursing home residents rely on Medicaid as their primary source of payment.
>
> In order to qualify for Medicaid, people must have very low incomes and a limited value of assets. In most states, those with more resources must "spend down" their assets by paying nursing home costs themselves until their remaining assets are below the Medicaid asset eligibility limit, which is about $2,000 per person in a typical state.
>
> The estates left by Medicaid beneficiaries are typically small, limiting the amount of money likely to be recovered. In fiscal year 1999, nationwide Medicaid estate recovery efforts recouped only about $200 million—roughly one-tenth of one percent of total Medicaid spending, which was more than $190 billion.
>
> When the costs of recovery are taken into account, the net yield of Medicaid estate recovery is even smaller. States must either hire and train a staff or pay a collection agency. The additional complications introduced into the Medicaid application process

create additional costs both for the states and for the applicants themselves. Finally, families may have to pay for legal assistance to deal with the recovery process in probate.

The federal government has instituted mandatory Medicaid estate recovery regulations, which affect families of modest means and generate little revenue. At the same time, the major tax cut passed last year reduced taxes on the estates of the most wealthy Americans, while reducing revenues by $138 billion between 2001 and 2010.

At the same time very wealthy families will be realizing substantial estate tax savings from the changes enacted in last year's tax act, people of modest means who require long-term care will continue to see their estates diminished by Medicaid estate tax recovery.

Medicare is a federal health insurance program that covers all Americans aged 65 and over as well as younger adults with permanent disabilities, regardless of income or medical history.

Medicaid is a federal-state, means-tested program to provide medical assistance to certain low-income, disabled or medically needy individuals. Each state receives a matching grant from the federal government and administers its own Medicaid program within federal guidelines.

The Long-Term Care Crisis

Paying for long-term care is a heavy financial burden for many older Americans, particularly the low-income elderly. About 1.5 million people aged 65 and over were in a nursing home on an average day in 1999, according to the National Nursing Home Survey. The average cost of such care is about $55,000 per year. Because the average length of time since admission among elderly nursing home residents is two and a half years, total costs for long-term care can easily reach well over $100,000.[1]

Many people do not have sufficient resources or insurance coverage to pay the full amount of these costs. In 1997, only about a quarter of elderly nursing home residents relied primarily on personal funds or private insurance to pay their bills.[2] Long-term care insurance is a growing market, but it is still small. By one estimate, it covers less than one percent of total U.S. spending on long-term care.[3]

Medicare, the federal health insurance program for the elderly, pays for 100 days of nursing home care per stay and only if preceded by three

days in the hospital.[4] Only 15 percent of elderly nursing home residents relied primarily on Medicare to pay their costs in 1997.[5]

Medicaid, the federal/state medical assistance program for low-income people, has become, by default, the primary means of financing nursing home care. More than half of elderly nursing home residents (56 percent) rely on Medicaid as the primary source of payment for their care.[6] Over the course of the year in 1998, 1.6 million Medicaid beneficiaries received long-term care in a nursing home and an additional half million beneficiaries got long-term care in a home- or community-based setting.[7]

When the Medicaid program was created in 1965, it was designed to provide medical assistance to the most financially needy populations in our society. It was not intended to become the primary source of long-term care coverage that it is today. To help limit abuse and trim costs, the federal government has placed strict income and asset rules on the low- and middle-income seniors who apply for the program.

The federal government has also made it mandatory for states to recoup the costs of long-term care from the estates of Medicaid beneficiaries. At the same time, the estate tax for wealthy individuals has been liberalized and will soon be repealed, resulting in a loss of billions of dollars in revenue for both states and the federal government.

Qualifying for Medicaid Long-Term Care Benefits

Seniors seeking Medicaid coverage for long-term care must contend with a complex set of income and asset eligibility requirements that vary from state to state. In addition to meeting the requirements at the time of application, individuals must also look back 36 months to ensure that they did not make any transfer of assets for less than fair market value in order to qualify for Medicaid.[8] They must also look forward to consider the potential impact of estate recovery on their families after their death.

While the requirements vary by state, people can generally get Medicaid coverage if they meet the income qualification for Supplemental Security Income (SSI), which is currently $545 per month and $2,000 in assets for an elderly individual. Some states extend Medicaid coverage to individuals with up to 300 percent of the SSI income limit. Or, individuals can "spend down" their income and assets on long-term care to a state-established level.[9]

Certain non-countable assets are not factored into the eligibility equation. These typically include a house used as the primary residence for the individual, spouse, or dependent child; a pre-paid burial plan; a life

insurance policy (up to a certain cash surrender value); and a car used by the beneficiary.

To ensure that Medicaid qualification does not entirely deplete a family's resources, Congress enacted provisions in 1988 to protect against the "spousal impoverishment" of Medicaid beneficiaries.[10]

Medicaid Estate Recovery

What is Medicaid estate recovery?[11]

Since 1993, federal law has required states to recover the cost of long-term care in a nursing home or in a home or community-based setting (and any related hospital or prescription drug costs) from the estates of Medicaid recipients aged 55 and over. States must also seek recovery for the cost of institutional care of permanently institutionalized beneficiaries of any age. States also have the option of recovering payments for all other Medicaid services provided to these individuals.

This change was made as part of the Omnibus Budget Reconciliation Act (OBRA) of 1993. Prior to that time, the recovery of assets was optional. In an effort to curb abuse and limit spending, Congress enacted several measures to close loopholes that allowed elderly people to transfer or shelter assets in order to qualify for Medicaid.

The Medicaid estate recovery process varies considerably by state, but in all states it adheres to broad guidelines set out in federal law. Recovery cannot begin until after the death of the Medicaid beneficiary and his or her spouse. Nor can it start if the beneficiary has a child who is under the age of 21 or permanently disabled. In states that allow liens, a lien cannot be placed on the home of a beneficiary if it is inhabited by a sibling for at least one year prior to the beneficiary entering a nursing home; or by a son or daughter who has lived there and provided care that allowed the individual to stay at home and out of a nursing facility for at least two years. (See Appendix II for a more detailed description of the Medicaid estate recovery process.)

Federal law includes a broad hardship waiver clause that allows states to waive recovery if it will create "undue hardship." Some states automatically waive recovery of estates below a certain value as part of their hardship provisions.

A portion of recovered funds is returned to the federal government at the state's federal Medicaid match rate. The state can keep the balance to use for any purpose.

How much is recovered?

In 1999, recovered funds were about one-tenth of one percent of Medicaid spending. Approximately $200 million was recovered nationwide from the estates of Medicaid beneficiaries, according to data from the Health Care Financing Administration (HCFA).[12] (See Appendix I.) In that same year, combined federal and state spending for Medicaid was $190 billion.[13]

The amount of money recovered has increased steadily over the last few years. Nationwide, the total amount collected rose 16 percent from 1996 to 1999, and some states drastically increased their estate recoveries. Massachusetts increased collections 66 percent from $13.8 million to $23 million, and Florida had a 105 percent increase from $4 million to $8.1 million. However, even in those states the amount recovered was only a small proportion of Medicaid spending. In contrast, some states have very limited or no estate recovery procedures. In 1999, nine states reported that they had collected less than $1 million. It is important to note that these states, which include Vermont, Nevada and Oklahoma, have fewer Medicaid beneficiaries than other states. Three states – Georgia, Michigan and Texas – have not established an estate recovery program.[14]

Who is affected?

Given the income and asset limits for Medicaid qualification, most of the individuals affected by estate recovery probably have very small estates. There is very little hard data available on the number and average value of the estates that have had Medicaid claims. States are only required to report the aggregate amount recovered to the federal government.

However, court documents from West Virginia show that the average amount recovered in that state since 1995 has been $14,000 per estate, offsetting an average liability of $50,000.[15] A 1999 review of Ohio's Medicaid estate recovery program shows that the average claim per recipient (amount of Medicaid dollars spent per beneficiary) was $57,000 and the state collected an average of $292 per estate.[16] This suggests that the estates available to the states are quite small. (See text box page 5.)

Looking at the elderly population in general, a large portion have limited financial resources. Seventeen percent of elderly adults had incomes below 125 percent of the poverty line in 2000.[17] About half of the elderly – 17.2 million – owned their own home in 1999.[18] The median value of these homes was $96,442 – about 11 percent lower than the median for all homeowners. Almost 20 percent of elderly homeowners reported that their homes were worth less than $50,000.[19]

State Medicaid Estate Recovery Programs

It is difficult to estimate either the number or the average size of estates subject to Medicaid estate recovery because of the limited amount of data and the wide variation in how states implement the program. There are several factors that can influence the amount recovered by a state. One is the number of Medicaid long-term care beneficiaries in the state. A second is how broadly "estate" is defined by the state. Similarly, states also have latitude about which Medicaid services to claim: some make claims only for long-term care; others may claim all Medicaid services. Finally, state laws and regulations may limit the estate recovery process. For example, some states do not seek recovery of estates below a certain value while others may pursue all eligible claims.

Below are examples of how Medicaid estate recovery operates in two states. While these are just two examples, the data suggest that the value of the Medicaid beneficiaries' estates in these states is fairly small.

Ohio:

Ohio Medicaid Estate Recovery Program				
State fiscal year	*Deceased recipients*	*Average claim per recipient (dollars)*	*Total recovered (millions of dollars)*	*Average recovery per recipient (dollars)*
1999*	25,114	57,020	7.8	292
1998	20,151	53,995	5.3	263
1997	19,750	38,772	3.6	180
1996	19,304	20,541	0.9	48

Source: *Medicaid Estate Planning and Estate Recovery in Ohio* August 1999, Ohio Dept of Human Services

* Partial SFY 1999 includes July 1998 – June 1999, and is incomplete re: total recoverable claims.

In fiscal year 1998, Ohio ranked eighth in the nation in Medicaid enrollment with 1.4 million beneficiaries. A report by the state's Department of Human Services notes several factors that limit the total amount recovered in Ohio: a narrow definition of estate, recoveries are not pursued after the death of a surviving spouse or child, no use of liens, state law does not allow recovery from estates of permanently institutionalized individuals of any age, and the state requires the sale of a house after the owner has been institutionalized for six months. By their estimate, the state recovers $10.11 for every $1.00 spent on the collection process.

Medicaid Estate Recovery and the Estate Tax: Policy Inconsistencies

While the federal government has been tightening the regulations for recovery from the estates of lower- and middle-income Medicaid beneficiaries, it has liberalized the tax treatment of higher-income estates. The contrast shows an inconsistency in how we treat the estates of lower- and higher-income elderly people.

Few high-income estates are subject to estate taxes now. The federal estate tax has garnered a significant amount of attention as a "death tax." However, only about 2 percent of deaths each year result in a taxable estate. Most estates are not taxable because federal law exempts transfers to a surviving spouse and charitable gifts, and it applies a sizeable exemption to other transfers. Only 49,870 estates incurred a tax liability in 1999. About 75 percent of the total taxes paid were incurred by estates valued at $2.5 million or more.[20]

In contrast, the estates of lower- and middle-income Medicaid beneficiaries receiving long-term care in a nursing home or in the community are subject to being depleted through recovery. As noted earlier, existing data suggest that the value of these estates is quite small.

The federal estate tax will be completely repealed in 2010. The Economic Growth and Tax Relief Reconciliation Act of 2001 will further reduce the number of estates that will incur any tax liability. The Act raises the federal estate tax exemption from $675,000 to $1 million starting in 2002 and further increases the exemption in steps to $3.5 million by 2009. In 2010, the estate tax is completely repealed. The Joint Committee on Taxation estimates that this change will lead to a $25 billion revenue loss in 2001 through 2006, and a total revenue loss of $138 billion in 2001 through 2011. As noted earlier, estate recoveries under Medicaid total about $200 million per year.

Medicare beneficiaries are not subject to estate recovery for the cost of services. Although the primary purpose of estate recovery is to reimburse the Medicaid program for the cost of services, that standard is not applied universally across all programs. Medicare provides lower-cost health insurance coverage to all Americans aged 65 and over – regardless of income. This means that even the wealthiest elderly people are eligible for federally subsidized medical insurance. However, no

Medicare beneficiary must pay back the cost of care received, including the cost of the limited amount of nursing home care provided by the program.

Kansas:

Kansas Medicaid Estate Recovery Program			
Fiscal Year	*Number of cases*	*Total recovered (millions of dollars)*	*Average recovery per case (dollars)*
2001	2,162	3.8	1,742
2000	2,183	4.5	2,072
1999	1,769	3.3	1,846
1998	1,356	2.6	1,910
1997	1,079	2.3	2,161
1996	824	1.8	2,165
1995	995	1.2	1,229
1994	566	0.7	1,155

Sources: Kansas Department of Social and Rehabilitation Services website.
Average recovery calculated by Joint Economic Committee Democratic staff.

In FY 1998, Kansas ranked 35th in the nation in Medicaid enrollment with 246,598 beneficiaries.

The Costs of Medicaid Estate Recovery

Medicaid estate recovery was enacted to help curb rising costs and limit the amount of abuse or fraud. In practice, however, estate recovery can create new costs for government and society by increasing the complexity of the Medicaid program. While data limitations preclude a precise analysis, the cost of pursuing recovery, the additional compliance costs for Medicaid beneficiaries and their families, and the small size of beneficiaries' estates raise questions about the benefits relative to the costs of the program. The following are some key issues:

Increases in complexity. Sorting through multiple eligibility criteria, determining which services are covered, making payments and meeting reporting requirements mean that navigating the Medicaid program is already a difficult process for states and individuals. The estate recovery process adds further complexity to this process in several ways.

Expansion of the bureaucracy. In addition to providing medical services, every state Medicaid office must also develop and carry out procedures for Medicaid estate recovery. In most

cases, this involves hiring new staff or contracting with a collections agency.

Further complication of the eligibility process. For an elderly individual in need of intensive long-term care, the process of applying for Medicaid can be daunting. In addition to looking back over the last three years to see if they meet the asset test, potential beneficiaries must also consider the impact of estate recovery on their families in the future. Even with legal assistance, it can be difficult to determine the impact, because states vary widely in how they define "estate" for Medicaid recovery purposes, and in how they determine which Medicaid benefits are included in the claim. Also, it is almost impossible to know in advance the cost of Medicaid services, so it is unclear how big a claim will be made against the estate.

In addition to determining the individual's eligibility, states must also notify Medicaid applicants about the estate recovery process. This can involve additional staff training and creating documents to explain the legal issues surrounding this process.

Extension of the Medicaid process. In addition to dealing with their current caseload, states must also continue to deal with the families and estates of Medicaid beneficiaries who have died. This could potentially last for several years since the recovery process cannot begin until after the death of the beneficiary's spouse. This process requires identifying potential cases and then determining if the state has a claim.

A 1999 report by the Washington State Department of Social and Health Services notes that "the estate recovery process is highly labor intensive." The state's Office of Financial Recovery manually researched probate filings and other state records to identify potential claims. In 1998, a full-time staff of eight in the Estate Recovery Unit researched more than 22,000 estates but found that they could make claims against only 579 of them. Once identified, they had to collect data on the type and cost of services delivered to the beneficiary from several different information systems in order to calculate the amount of the claim.[21]

Also, the families of beneficiaries must continue to deal with the Medicaid office and may need to pay for legal assistance to navigate the probate process.

Small returns to the collection effort. As noted earlier, current estate recovery programs yield less than one percent of total Medicaid spending. While estate recovery can potentially bring millions back to a state, these returns must be weighed against the costs of staff salaries, time, and overhead, as well as against the share of recovered funds that must be returned to the federal government at the state's Medicaid match rate.

Maximizing the amount of funds recovered is limited by two factors. First, Medicaid beneficiaries are likely to leave small estates after having depleted their assets to qualify for the program. In addition, existing state laws can limit how much is recovered from the estates of Medicaid beneficiaries. For example, some states do not allow liens to be placed on individuals' property before they die. This means that the state has to wait until after the death of the beneficiary and pursue the matter with a claim in probate court. Time and procedural matters can reduce the probability of a substantial recovery.

Impact on care. The possibility of losing the family home may discourage some people in need of long-term care from seeking Medicaid coverage. While there is no conclusive data showing that this is a problem, anecdotal evidence from an American Association of Retired Persons (AARP) survey of state officials and legal practitioners found some concern that some elderly people may delay or not seek needed care because of the fear of losing their homes or of not being able to pass them on to their heirs.[22]

Conclusion

The high cost of long-term care forces many low- and middle-income elderly Americans to seek Medicaid coverage. Having depleted their resources on nursing home costs, the evidence suggests that very little is left in their estates when they die. In recent years, however, the federal government has made it mandatory for states to recover the cost of long-term care from the estates of Medicaid beneficiaries. At the same time, the tax treatment of higher-income estates has been significantly relaxed.

Given the small estates of Medicaid beneficiaries, estate recovery brings limited benefits while creating additional costs for both individuals and states. In FY 1999, estate recovery efforts nationwide only recouped about one-tenth of one percent of total Medicaid spending. In order to comply with the estate recovery mandate, states must hire and train staff or pay a collections agency. It further complicates the Medicaid application process for individuals and may force their families to pay for legal assistance to deal with the recovery process during probate. Eliminating the estate recovery requirement will reduce the complexity and some of the costs of the Medicaid process for beneficiaries, their families and the states.

The federal government and the states are facing tough budget choices right now. However, those problems cannot be solved by depleting the estates of low-income Medicaid beneficiaries to achieve very small savings. It is neither fair nor effective to try to reclaim small amounts of assets from low- and middle-income families while simultaneously lowering or even eliminating taxes for the very richest.

Appendix I

Medicaid Estate Recovery FY 1999			
State	*Total Estate Recovery (millions of dollars)*	*Total Medicaid Spending (millions of dollars)*	*Recovery as Share of Spending (percent)*
Alabama	2.7	2,519	0.11
Alaska[a]		451	
Arizona	0.9	2,144	0.04
Arkansas	0.9	1,546	0.06
California	37.4	21,656	0.17
Colorado	2.5	1,914	0.13
Connecticut	10.1	3,084	0.33
Delaware	na	491	
District of Columbia[b]	0.6	957	0.06
Florida	8.1	7,135	0.11
Georgia[a]		3,905	
Hawaii	0.2	626	0.03
Idaho	2.9	566	0.52
Illinois	15.4	7,144	0.22
Indiana	3.4	3,151	0.11
Iowa	na	1,475	
Kansas	3.2	1,298	0.25
Kentucky	na	2,780	
Louisiana	na	3,383	
Maine	5.8	1,213	0.48
Maryland	6.6	3,109	0.21
Massachusetts	22.9	6,021	0.38
Michigan[a]		6,799	
Minnesota	12.2	3,303	0.37
Mississippi	na	1,870	
Missouri	3.1	3,760	0.08
Montana[c]	1.1	418	0.26
Nebraska	na	1,044	
Nevada	0.7	578	0.13
New Hampshire	5.9	814	0.73

Medicaid Estate Recovery FY 1999 (continued)			
State	***Total Estate Recovery (millions of dollars)***	***Total Medicaid Spending (millions of dollars)***	***Recovery as Share of Spending (percent)***
New Jersey	4.4	6,036	0.07
New Mexico	na	1,168	
New York	17.4	29,544	0.06
North Carolina	1.3	5,095	0.03
North Dakota	1.0	357	0.28
Ohio[d]	0.1	7,159	0.00
Oklahoma	1.0	1,594	0.06
Oregon	10.3	2,127	0.48
Pennsylvania	na	10,033	
Rhode Island	na	1,088	
South Carolina	na	2,571	
South Dakota	0.8	389	0.21
Tennessee	1.0	4,305	0.02
Texas[a]		11,066	
Utah	1.7	795	0.21
Vermont	0.5	506	0.10
Virginia	0.6	2,603	0.02
Washington	5.9	3,857	0.15
West Virginia	2.1	1,416	0.15
Wisconsin[e]	8.1	2,934	0.28
Wyoming	0.9	213	0.42
National total	**203.9**	**190,010**	**0.11**

***Sources*: Congressional Research Service (CRS) analysis of Medicaid expenditure and third party liability savings trend data from the Centers for Medicare and Medicaid services.** Percentage calculations by Joint Economic Committee Democratic staff.

Notes:
na = not available. Several states merged their MER amounts into other columns on their Form 64 reports to HCFA.
[A]Alaska, Georgia, Michigan and Texas did not have MER programs in FY 1999.
[B]The District of Columbia did not report the amount recovered in the first quarter of FY 1999.
[C]Montana did not report the amount recovered in the fourth quarter of FY 1999.
[D]Ohio did not report the amount recovered in the first, third and fourth quarters of FY 1999.
[E]*Wisconsin did not report the amount recovered in the first, second and fourth quarters of FY 1999.*

Appendix II

The Process of Medicaid Estate Recovery

As noted earlier, there is wide variation in how estate recovery is carried out at the state level and there is not a lot of hard data. Much of the information in this section was taken from state Medicaid office websites, a 1996 survey and a booklet on estate recovery by the AARP Public Policy Institute, and a 1998 survey of estate recovery procedures across the country by the state of North Carolina's Long-Term Care Policy Office of Medicaid.

The recovery process cannot begin until after the death of the Medicaid beneficiary and his/her spouse or if there is a child under the age of 21 or a child who is permanently disabled. Once these conditions are met, the local Medicaid administrative agency calculates the cost of the potential claim on the estate. The claim can only include Medicaid payments made since the state had an estate recovery plan in place. (California, Connecticut, Indiana, Iowa and New York are not required to recover funds from estates of Medicaid beneficiaries with long-term care insurance because they had state plans approved before May 14, 1993.) States have the authority to make a claim for all Medicaid charges– not just those associated with long-term care. A 1998 survey found that 15 states made claims for all Medicaid services provided to a beneficiary.

Some states allow liens to be placed on the property of a Medicaid beneficiary before his or her death if the state determines that the individual will not return home. Federal law prohibits liens under two conditions. A lien cannot be placed on the home of a beneficiary if it is inhabited by one of their siblings; or by a son or daughter who has lived there and provided care that allowed the beneficiary to stay at home and out of a nursing facility for at least two years.

States can waive recovery if it will cause undue hardship. Federal Medicaid law requires states to have a process for determining if recovery will create a financial hardship. Some states determine hardship on a case-by-case basis. In Oregon, the Estate Administration Unit works with the family and community to evaluate the negative impact of a recovery claim. Some states automatically waive recovery of estates or Medicaid claims below a certain level. North Carolina does not make claims on estates worth less than $5,000 or for claims less than $3,000. Pennsylvania waives recovery of estates valued at $2,400 or less, or if the home is income producing (a family farm) and the family's income would be less than 250 percent of poverty without it.

States can broadly define "estate." OBRA 1993 gives states the discretion to use a broad definition of "estate." In 1998, 14 states

reported that, for the purposes of Medicaid Estate Recovery, they defined estate more broadly than their state's probate law definition. In some states, jointly held property and trusts are included in the estate recovery process.

States use different methods to administer the estate recovery process. States can handle the recovery process through an existing state agency. Oregon established an Estate Administration Unit within the Department of Human Services. Pennsylvania handles estate recovery through its Department of Public Welfare. Some states use a collections agency. In 1998, eight states reported that they contracted out the estate recovery process. The average fee was 14.5 percent of collections. Ohio relies on its state attorney general's office to investigate and process estate claims. The office keeps a nine percent finder's fee on any reclaimed funds. At least three states – Georgia, Michigan and Texas – have not established any process for Medicaid estate recovery.[23]

Depending upon state law, the state may either file a claim or place a lien on an estate. When the state submits a claim, it becomes a creditor in the estate's probate process. State claims are typically paid after debts for probate costs, funeral expenses, and taxes. By statute, a state may designate itself as a primary creditor. A lien is a claim against a specific piece of property. As of 1998, 16 states reported that they used or planned to use liens as part of the estate recovery process.

Recovered funds are split between the state and federal government. Funds are returned to the federal government at the state's federal Medicaid match rate. In FY '99 and FY '00, the average federal matching rate was about 57 percent. The state keeps the remaining funds, which can be used for any purpose although many states keep them within the Medicaid program.

Endnotes

[1] Data on number of nursing home residents from: National Center for Health Statistics, Data Highlights of the 1999 National Nursing Home Survey (on-line:http://www.cdc.gov/nchs/about/major/nnhsd/nnhsd.htm). Length of stay data: *Characteristics of Elderly Nursing Home Current Residents and Discharges: Data from the 1997 National Nursing Home Survey*, by Celia S. Gabrel, April 25, 2000. Cost data: *Beyond 50.02: A Report to the Nation on Trends in Health Security*, by AARP, (May 2002).

[2] Gabrel, Table 9.

[3] *A Survey of Employers Offering Group Long-Term Care Insurance to Their Employees: Final Report Prepared for the Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services*, by The Lewin Group, (June 20, 2000).

[4] Medicare only provides coverage for patients in need of "skilled nursing care" – nursing or rehabilitation staff who must manage, observe and evaluate the patient's care. Medicare does not cover "custodial care" – assistance performing daily activities like walking, eating and bathing. Medicare covers 100 days of skilled nursing care following a three-day hospital stay. Only the first 20 days are fully covered. After that, beneficiaries must pay a daily coinsurance fee ($101.50 per day in 2002). The individual cannot get another 100 days of covered skilled nursing care until they have been out of the hospital or nursing facility for at least 60 consecutive days.

[5] Gabrel, Table 9.

[6] Gabrel, Table 9.

[7] This number includes non-elderly Medicaid beneficiaries. Data from *A Profile of Medicaid, Chartbook 2000* by Health Care Financing Administration (HCFA).

[8] To ensure that individuals are not hiding resources in order to qualify for Medicaid, states can review the transfer of any assets in the 36 months prior to the application for benefits. Transfer of assets at less than fair market value renders the individuals ineligible for Medicaid benefits for a penalty period. The length of the penalty is determined as a function of the value of the assets and the cost of nursing home services. Transfer of assets to a spouse, to certain disabled individuals or for purposes other than to qualify for Medicaid are allowed.

[9] *Medicaid's Role in Long-Term Care*, Kaiser Commission on Medicaid and the Uninsured. (March 2001). In some states that observe the 300 percent of SSI rule, this is accomplished through a "Miller Trust."

[10] "Spousal impoverishment" provisions state that the spouse who is not receiving Medicaid – known as the "community spouse" – is entitled to a share of the couple's combined countable assets. This share is set at half the countable assets, with a minimum value of $17,856 and a maximum of $89,280 in 2002. The community spouse is also entitled to a monthly income allowance, between $1,452 and $2,232 in 2002. This is the amount of the Medicaid beneficiary's income that is made available to the community spouse. This allowance is reduced by any income received directly by the community spouse. This information came from www.hcfa.gov/medicaid.

[11] "Medicaid Estate Recovery," Congressional Research Service (CRS) Memorandum, by Julie Lynn Stone, (April 9, 2001).

[12] Health Care Financing Administration data: Third Party Liability Collections Prior Years and "Medicaid Estate Recovery," CRS Memorandum, by Julie Lynn Stone, (April 9, 2001).

[13] *Medicaid Expenditures, FY1999 and FY2000*. CRS Report for Congress by Evelyne P. Baumrucker, (November 19, 2001).

[14] "West Virginia Fights Law that Makes Heirs Sell Homes to Pay Off Medicaid Bill," by Laura Parker. *USA Today*, Wednesday, May 1, 2002.

[15] Case Summary, United States Court of Appeals for the Fourth Circuit, State of West Virginia v. US Department of Health and Human Services, No 01-1443.

The state of West Virginia challenged the constitutionality of the Medicaid estate recovery provision on the grounds that it was coercive to the states to force them to recover money. On May 7, 2002, a federal appeals court upheld the decision that estate recovery did not violate the 10th Amendment. *The Charleston (WV) Gazette* reported that in his decision, Judge Robert Goodwin noted that estate recovery may be hard on families but it is not unconstitutional.

[16] *Medicaid Estate Planning and Estate Recovery in Ohio*. Ohio Department of Human Services, (August 1999). Ohio state law requires the sale of a house if the owner has been institutionalized for at least six months. As a result, few Medicaid beneficiaries leave behind a house that can be claimed by the state and thus reducing the average size of estates.

[17] *A Profile of Older Americans: 2001* by the Administration on Aging, US Department of Health and Human Services.

[18] The Census reports that the homeownership of the elderly in 1999 was 80.1% - this represents the rate of ownership among homes headed by an elderly person. It does not include elderly people who are not the head of household (i.e., living with their adult child).

[19] *Current Housing Reports: American Housing Survey for the United States 1999.*

[20] See *Myths About the Estate Tax: Rhetoric versus Reality* by the Joint Economic Committee, Democratic staff for more information on the estate tax.

[21] *The Estate Recovery Notification Implementation Plan*. Washington State Department of Social and Health Services, Management Services Administration, Research and Data Analysis. December 1999. There are several reasons why the state may not bring a claim – such as a surviving spouse or dependent child, the cases meets the hardship waiver conditions, or no recoverable estate was left.

[22] *Medicaid Estate Recovery: A Survey of State Programs and Practices*. Charles P. Sabatino and Erica Wood. AARP Public Policy Institute, (September 1996).

[23] Parker, "West Virginia Fights Law that Makes Heirs Sell Homes to Pay Off Medicaid Bill."

Repealing the Estate Tax Will Not Promote Economic Growth

June 12, 2002

Proponents of estate tax repeal argue that eliminating the tax would significantly reduce taxes on capital, encourage saving and investment, reward entrepreneurship, and promote economic growth. This paper discusses why these claims are greatly exaggerated and even misleading:

Repeal would affect few families and have little impact on total capital accumulation. The estate tax is simply not a factor for most Americans. Very few estates are large enough to require the filing of an estate tax return; an even smaller number are large enough to owe any taxes. The tax itself is very small relative to family net worth. Repealing a tax with such limited scope will not make much difference in an economy with a capital stock as large as that of the United States.

Repeal would have a small and uncertain effect on private saving. There is no convincing evidence that repeal of the estate tax would increase private saving; economic theory provides plausible reasons why repeal might even decrease saving.

Repeal will reduce national saving and hurt economic growth. The loss of federal and state revenues from repeal of the estate tax would cause a reduction in public saving that would be larger than any increase in private saving. With no offsetting budget changes, national saving would fall; in the long run this would reduce the nation's capital stock and national income.

Repeal would have little impact on family-owned businesses and farms. Most family-owned businesses and farms are too small to owe any estate tax, and evidence is scant that estate tax considerations play an important role in entrepreneurial decisions.

Repeal will not provide substantial compliance cost savings. Arguments that the administrative and compliance costs of the estate tax are large and burdensome are greatly exaggerated, and repeal would provide no significant savings.

Repeal would affect few families and have little impact on total capital accumulation.

Very few estates need to file an estate tax return, and even fewer estates owe any tax. About 100,000 estate tax returns were filed in 1999 and fewer than 50,000 estates incurred any tax. Only about 2.2 percent of adult deaths in 1999 produced taxable estates (Table 1).

Most Americans leave modest estates when they die. Current rules for the estate tax exempt all but the largest estates. As of 2002, only estates valued in excess of $1 million need to file an estate tax return. Many estates that exceed the filing threshold still will not owe any tax. Current law allows an unlimited exemption for transfers to a surviving spouse or gifts to charities, and exempts the first $1 million of the remaining net estate after deducting debts, funeral expenses, and administrative expenses.

Under the provisions of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), the estate tax exemption is scheduled to increase to $1.5 million in 2004, $2 million in 2006, and $3.5 million in 2009. In 2010 the tax is repealed, but it is reinstated in its pre-EGTRRA form in 2011.

Because the exemption applies separately to the estate of each spouse in a married couple, couples who do some simple planning can transfer $2 million (rising to $7 million in 2009) to their heirs without incurring any estate tax.

In addition to these tax-exempt bequests, individuals can make substantial tax-free transfers while they are still living. Gifts of up to $11,000 per recipient per year do not incur estate or gift tax. Thus a couple with two children could transfer $44,000 tax-free each year ($11,000 per parent to each child), and considerably more if they also made transfers to their grandchildren and their children's spouses.

Among taxable estates, those with the highest gross value pay most of the tax. Of the $23 billion paid in estate taxes in 1999, more than 50 percent of the tax was paid by the 6.6 percent of estates with gross values in excess of $5 million (Table 2). The 0.9 percent of taxable estates valued at more than $20 million paid taxes of $5.5 billion, nearly one-quarter of the total.

Total estate taxes paid in any year represent a very small fraction of household net worth. The total net worth of the household sector exceeded $41.6 trillion in 1999.[1] The gross value of taxable estates was $119.2 billion in that year, less than 0.3 percent of household net worth. The estate tax itself claimed less than 0.06 percent of household net worth.

Among taxable estates, the average tax was less than 20 percent of the gross value of the estate (Table 3). The average tax rate was only 5 percent for estates with gross value of less than $1 million. The average

tax rate was lower for estates valued at more than $20 million than it was for estates valued between $2.5 million and $20 million. This reflected proportionately much larger charitable deductions for the highest-valued estates.

Repeal would have a small and uncertain effect on private saving.

If the estate tax were repealed, people planning to leave a bequest might save either more or less than before, depending upon their reasons for saving. But the repeal of the tax would generally cause those receiving an inheritance to save less.

The reasons people leave bequests are complex and not well understood. For those who plan to leave a bequest there is some incentive to save more because each dollar saved contributes more to the eventual bequest. However, because it is no longer necessary to save as much to leave the same size bequest as before (or even a larger bequest), people may end up saving less, particularly if they have a target amount that they wish to bequeath.

But not all bequests are planned. Some people leave bequests by "accident" simply because they accumulate more than they need to meet their needs in old age. For these accidental savers, repeal of the estate tax should have no impact on saving.

While the effect of repealing the estate tax is uncertain for people leaving a bequest, the effect on recipients is clear. As a number of studies have documented, an increase in or even the anticipation of receiving wealth encourages less work and saving among inheritors, particularly those receiving large inheritances.[2] That is, people who receive inheritances can work less and save less while enjoying the same or higher standard of living.

It is sometimes argued that the estate tax discourages saving because it taxes wealth that has already been subject to the income tax. However, a significant portion of the value of estates consists of increases in the value of assets that has occurred since the time they were acquired. Such unrealized capital gains were not subject to income taxes during the person's lifetime. Moreover, under current law, most wealth passed onto heirs will escape the income tax entirely, because the tax basis for any assets with unrealized capital gains is "stepped-up" to the current value of the asset. This eliminates any income tax on appreciation of the asset that occurred prior to the transfer. Thus, heirs are subject to a capital gains tax on these assets only if they later realize the gains (sell the assets), at which point the capital tax applies only to the appreciation that has occurred since the inheritance.

Under the current provisions for estate tax repeal in 2010, accrued but unrealized capital gains would no longer automatically escape taxation, because the tax basis would no longer change when the assets are transferred to heirs. Instead, inherited assets would retain their original basis. The law, however, provides a $1.3 million exemption to this carry-over basis rule with an additional $3 million exemption for transfers to a surviving spouse. Those amounts will be added to the basis of existing assets when they are transferred. The exemption ensures that most people will still pay no tax on the unrealized capital gains in the wealth they inherit. In some cases, where the estate consists of very large accrued capital gains and/or substantial debt, the tax on capital gains with carry-over basis could exceed the tax that would have been paid under the estate tax.

> A recent study estimated that 36 percent of wealth in all taxable estates was in the form of unrealized capital gains that were not subject to the individual income tax.[3] For estates that exceeded $10 million, the figure was 56 percent. Small businesses and farms were even less likely than taxable estates in general to have paid capital gains taxes. The study found that 82 percent of all business and farm assets within estates larger than $10 million were unrealized capital gains. In other words, the value of the majority of large estates and the vast majority of large farm estates has never been taxed by the income tax system.

Repeal will reduce national saving and hurt economic growth.

Economic analysis of the effects of tax changes on economic growth are often based on revenue-neutral exercises, in which any revenue loss from the estate tax is assumed to be offset by a revenue gain somewhere else that leaves public saving unchanged. However, to the extent that repealing the estate tax is an alternative to debt reduction, this analysis is incomplete. The loss in national saving due to less debt reduction or larger deficits is very likely to exceed any gain from the repeal of the estate tax.

The ten-year cost of the estate tax provisions in last year's tax cut mask the permanent cost of repeal. The estate tax is not fully repealed until 2010, and then is reinstated in 2011. The Joint Committee on Taxation (JCT) estimated that the estate tax provisions of the 2001 Tax Act will cost $138 billion between 2002 and 2011, but that the cost of permanent repeal would be $56 billion in 2012 alone. If the annual cost of permanent repeal were to grow only at the same rate as the economy, the revenue loss in the decade after repeal would be in the neighborhood of three-quarters of a trillion dollars.

Federal estate tax repeal would hurt state budgets, too. Current federal law provides a credit for state estate and inheritance taxes that allows estates to reduce their federal estate tax liability dollar for dollar, up to a certain percentage of the federal liability (16 percent for estates over about $10 million). Most states collect a "pick up" tax on the estate based on the dollar amount of the federal credit, as reported on the federal estate tax return. Some states levy their own inheritance tax and collect an additional tax to absorb any remaining federal credit. The 2001 Tax Act gradually phases out the credit for state estate and inheritance taxes beginning in 2002, replacing it with a deduction beginning in 2005; this occurs while the federal estate tax is reduced and eventually repealed. Thus, the 2001 Tax Act will effectively eliminate estate and inheritance taxes for most states as well.

State revenue from "pick-up" and independent estate taxes amounted to $7.5 billion in fiscal year 1999. In most states this revenue is 1 to 3 percent of their total tax revenue. According to one estimate, the revenue loss for the states could be as much as $18.5 billion per year when the federal estate tax is repealed in 2010.[4] Most of that loss would come from the loss of the federal credit for state estate and inheritance taxes, with the remainder due to the likely pressure there would be for states to repeal their own supplemental estate or inheritance taxes.

These losses in government saving are huge relative to any plausible estimate of the stimulus to private saving from repeal of the estate tax. On balance, the net effect of repealing the estate tax will almost surely be a decline in national saving that would hurt capital formation and growth.

Repeal would have little impact on family-owned businesses and farms.

Farms and family-owned businesses already get special treatment under the estate tax through three main channels: a higher effective exemption, tax deferral, and preferential valuation of assets. Qualified family-owned business can deduct an additional $675,000 in addition to other deductions and exemptions. The family-owned business deduction is repealed in 2004 when the exemption amount applicable to all estates rises to $1.5 million. Family-owned businesses can pay the estate tax in installments over 10 years, after deferring payments for up to 5 years. The estate pays only interest for the first five years, with a low interest rate of 2 percent applying to approximately the first $1 million in taxable value. Finally, family farms and certain other businesses can value their land at its value in current use rather than fair market value. To qualify for current-use valuation, heirs must continue to use the land in its current use for at least 10 years.

Most taxable estates are not farms or family-owned businesses. In 1999, only 642 taxable estates—or only 1.4 percent of the 47,482 taxable estates—had farm assets equal to at least half of the gross estate value (Table 4). These farm estates paid an even smaller share of total estate taxes (0.7 percent). Only 1.1 percent of taxable estates had significant small-business assets (with closely held-stock or non-corporate business assets equal to half or more of the gross estate), and these businesses paid just under 4 percent of total estate taxes.

Very few of the farm-owner and business-owner heirs who pay estate taxes lack enough liquid assets to pay the tax. Even without accounting for the special exemptions granted to these family-owned businesses and farms, only 3 to 4 percent of all estates would be at risk of lacking enough liquid assets. Given the larger exemption available to small businesses and farms under current law, a Congressional Research Service analysis concludes that the fraction of these businesses that would be forced to liquidate to pay the tax is "almost certainly no more than a percent or so."[5]

Even if few small businesses actually pay the estate tax, it is sometimes argued that the tax could inhibit business expansion. For example, a 1999 analysis examined a sample of business owners and found a negative correlation between potential estate tax liability (based on the owners' current level of wealth) and employment growth in those businesses.[6] But as other researchers have pointed out, this analysis did not control for the effect of the owner's age and may simply be picking up the natural "life cycle" of businesses.[7] In other words, older owners are more likely to have higher wealth, but they are also more likely to own businesses that have reached a stable size (due to the age of the business rather than the burden of potential estate taxes). In fact, one interpretation of this analysis is that the causation runs the other way: it is not that potential estate tax liability causes firms to grow more slowly, but rather that the fastest-growing, "entrepreneurial" businesses are *not* the ones that would face the estate tax at all.

Repeal will not provide substantial compliance cost savings.

It is sometimes argued that the economic costs of complying with the estate tax are greater than the revenue raised by the tax, suggesting that we would be better off without the tax. But the size of these compliance and administrative costs, and the implications for the economy, have been greatly exaggerated and mischaracterized.

Compliance costs are a small fraction of estate taxes collected. For example, one study combined IRS estimates of the costs of administering gift and estate taxes with survey information from tax and estate practitioners, in order to estimate the combined cost of administration, planning, and compliance. That study concludes that the total cost of all

these activities is only 6 to 9 percent of revenues.[8] Although the range of estimates in the literature as a whole is very broad (in fact reaching up to 100 percent of revenues), the more reliable estimates—given data sources and methodology—are on the lower end of the range.[9] But whatever the number, these are estimates of the entirety of estate tax compliance costs, most of which goes toward the incomes of lawyers, financial planners, and IRS employees. For the most part, these represent redistribution within the economy but not a net loss to the economy.

Most of these costs would not disappear if the estate tax were repealed. Estates would still need to be settled and income taxes filed. The study cited above concludes that the process and effort going into estate planning "would not be substantially different if there were no estate tax." Other estate tax attorneys have said that many *new* types of tax-avoidance schemes would emerge upon repeal of estate and gift taxes, with the focus shifting toward the income tax system and ways to reduce or avoid capital gains taxes. In fact, because of the way EGTRRA changes the treatment of capital gains in return for repeal of the estate tax, the reporting requirements and associated compliance costs will not be reduced. Instead, the emphasis of the IRS will merely shift from determining the value of the taxable estate of the decedent to establishing the "carryover basis" for assets transferred at death.[10] Thus, suggestions that the variety of compliance costs associated with the estate tax would simply disappear if the tax were repealed are extremely unrealistic.

Table 1: Taxable Estate Tax Returns as a Percentage of Adult Deaths, 1990-1999

	Total Adult Deaths	Taxable Estate Tax Returns	Taxable Returns as a Percentage of Adult Deaths
1990	2,079,034	24,456	1.18
1991	2,101,746	26,277	1.25
1992	2,111,617	27,243	1.29
1993	2,168,120	32,002	1.48
1994	2,216,736	32,471	1.46
1995	2,252,471	36,620	1.63
1996	2,314,254	41,331	1.79
1997	2,391,399	42,901	1.79
1998	2,337,256	47,483	2.03
1999	2,314,245	49,870	2.15

Source: Data for 1990 –1996 are from Internal Revenue Service, Estate Tax Returns as a Percentage of Adult Deaths, Selected Years of Death, 1934-1996. SOI Bulletin, Spring 2001. Data for later years are from Internal Revenue Service, Statistics of Income Divisions, unpublished data, and Center for Disease control and Prevention, National Center for Health Statistics, Vital Statistics for the United States, volume 49, Number 8.

Table 2: Taxable Estate Tax Returns Filed in 1999: Distribution of Gross Estate and Estate Tax, by Size of Gross Estate
(Money amounts in thousands of dollars)

Size of Gross Estate	Returns	Gross Values	Net Estate Tax	Total Transfer Tax(1)
All Taxable Returns	49,870	119,176,309	22,950,126	30,209,768
Percent of Total				
0.6 million to 1 million	38.4	13.3	3.5	4.0
1 million to 2.5 million	44.6	27.8	23.3	22.2
2.5 million to 5 million	10.5	14.9	19.9	18.7
5 million to 10 million	4.1	11.8	17.0	16.3
10 million to 20 million	1.5	8.8	12.5	12.6
Over 20 million	0.9	23.3	23.9	26.2

Source: Internal Revenue Service, Statistics of Income Divisions, unpublished data. Revised May 2001.

(1) Net estate tax plus credits for federal gift taxes previously paid, state death taxes, and foreign death taxes.

Table 3: Taxable Estate Tax Returns Filed in 1999: Average Gross Estate, Estate Tax, and Tax Rate, by Size of Gross Estate
(Money amount in dollars)

Size of Gross Estate	Average Gross Estate	Average Net Estate Tax	Average Transfer Tax (1)	Net Estate Tax Rate (percent)	Transfer Tax Rate (percent)
All Taxable Returns	2,389,740	459,598	605,770.	19.2	25.3
0.6 million to 1 million	827,694	42,015	63,462	5.1	7.7
1 million to 2.5 million	1,491,742	239,732	301,141	16.1	20.2
2.5 million to 5 million	3,409,645	876,323	1,081,936	25.7	31.7
5 million to 10 million	6,854,102	1,902,819	2,402,748	27.8	35.1
10 million to 20 million	13,691,073	3,706,864	4,950,883	27.1	36.2
Over 20 million	59,567,291	11,706,552	16,975,197	19.7	28.5

Source: Internal Revenue Service, Statistics of Income Divisions, unpublished data. Revised May 2001.

(1) Net estate tax plus credits for federal gift taxes previously paid, state death taxes, and foreign death taxes.

Table 4: Taxable Estate Tax Returns Filed in 1998: Gross Estate and Estates with Farm or Business Assets Equal to at Least Half of Gross Estate (Money amounts in thousands of dollars)

Size of Gross Estate	Number of Returns	Gross Estate	Net Estate Tax	Percent of Returns	Percent of Gross Estate	Percent of Net Estate Tax
All Taxable Returns	47,482	103,020,298	20,349,840	100	100	100
Returns with Farm Assets Equal to at Least Half of Gross Estate (1)	642	939,120	150,873	1.4	0.9	0.7
Returns With Business Assets Equal to at Least Half of Gross Estate (2)	521	4,138,873	791,459	1.1	4	3.9
Returns With Business and Partnership Assets Equal to at Least Half of Gross Estate (3)	776	5,614,943	1,061,468	1.6	5.5	5.2

Source: U.S. Treasury, Office of Tax Analysis, unpublished tabulations.

(1) Farm and farm real estate assets equal to at least half of gross estate.

(2) Closely held stock and non-corporate business assets equal to at least half of gross estate.

(3) Closely held stock, non-corporate business, and partnership assets equal to at least half of gross estate.

Endnotes

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[7] Gale, William G. and Joel Slemrod, "Rethinking the Estate and Gift Tax: Overview," in *Rethinking Estate and Gift Taxation*, William G. Gale, James R. Hines, Jr., and Joel Slemrod, eds. Brookings Institution Press, 2001.

[8] Davenport, Charles and Jay A. Soled, "Enlivening the Death-Tax Death-Talk," *Tax Notes*, July 26, 1999, pp. 591-631.

[9] See Gale and Slemrod, "Rethinking the Estate and Gift Tax: Overview."

[10] Noto, Nonna A., "Estate and Gift Tax Law: Changes Under the Economic Growth and
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A Risky Investment Strategy

Recent Trends in Federal Financial Aid Policy Do Not Meet the Needs of Low-Income Students

May 2, 2002

Since the passage of the GI Bill in 1944, which allowed thousands of returning veterans to attend college, the federal government has made a significant investment in higher education – primarily through the provision of direct financial aid to students. In the 2000 – 2001 school year, the federal government dispensed $50 billion in aid. As a nation, we have reaped the rewards of this investment: a highly skilled workforce; enhanced productivity and economic growth; and higher wages for college graduates.

Over the last fifty years, the number of students pursuing postsecondary education has grown seven-fold to almost 15 million.[1] The demand for highly educated and skilled workers will only continue to grow in the future. Most of the fast growing professions – such as health care and computer science – require at least a bachelor's degree. Jobs that require some type of postsecondary certification (a vocational award or higher) are expected to have faster-than-average employment growth in the coming decade and account for about 42 percent of total job growth from 2000 to 2010.[2]

Recent economic and financial aid policy trends, however, may keep many young people from being able to pursue higher education at a time when the nation most needs it. The problem is particularly acute for low-income students. Since the early 1970's, average tuition and fees at four-year public universities have more than doubled (in constant 2000 dollars).[3] For households making $25,000 a year, annual tuition and living expenses at a public university would consume almost half of their annual income. These prohibitive costs are part of the reason that low-income high school graduates enroll in college at a consistently lower rate than their higher-income peers.

Federal financial aid has not kept pace with rising costs. The Higher Education Act of 1965 outlined a federal commitment to give equal access to college for all students. It created the programs that have become the cornerstone of federal assistance – need-based aid, guaranteed student loans and work-study. Traditionally, this aid has

been targeted toward the most risk-averse and cash constrained students. However, recent policy decisions have devoted a growing share of federal financial aid resources to middle- and upper-income students, primarily through the growth of the student loan program, tax credits and other tax incentives. At the same time, Pell Grants for low-income students have declined in purchasing power over the last 25 years.

To meet the future demands of our increasingly technological and skill-based labor market, we need to continue to invest in higher education and increase the number of people with access to postsecondary education and training. Federal financial assistance for students who already have sufficient resources to afford college does little to increase the number of highly educated workers. The most efficient and effective use of federal dollars would be to concentrate them on those students who cannot otherwise afford postsecondary education.

I. Investing in Higher Education

Federal investment in higher education generates economic benefits in several ways:

Meeting the Demand for a Highly Skilled Workforce. More and more jobs in our economy require technological or specialized training. The need for workers with postsecondary training is expected to increase at a faster rate than the need for low-skill workers in the coming decade. According to estimates by the Bureau of Labor Statistics, almost a third of the growth in employment from 2000 to 2010 is expected to occur in occupations that require at least a bachelor's degree. Two of the fastest growing fields – computer science and health care – require at least a college education. Another 13 percent of job growth is expected to occur in fields that require an associate's degree or postsecondary vocational training, such as medical assistants and computer support specialists. These high-skill jobs also typically pay wages significantly above the average for all workers. Low-skill jobs are predicted to account for a larger share of employment

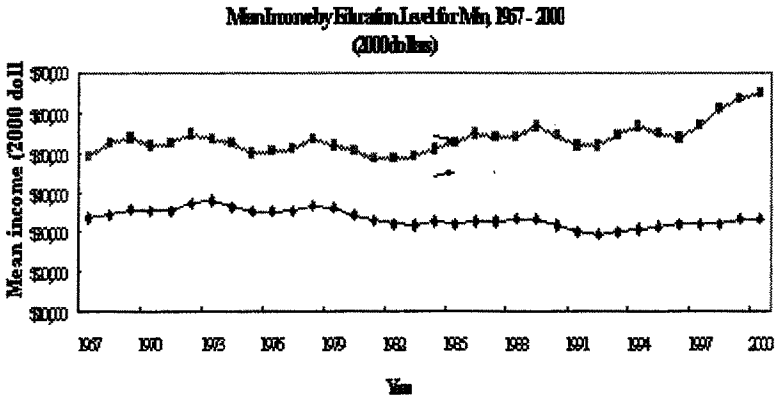
growth. But most of these positions, such as food preparation, pay very low wages.[4]

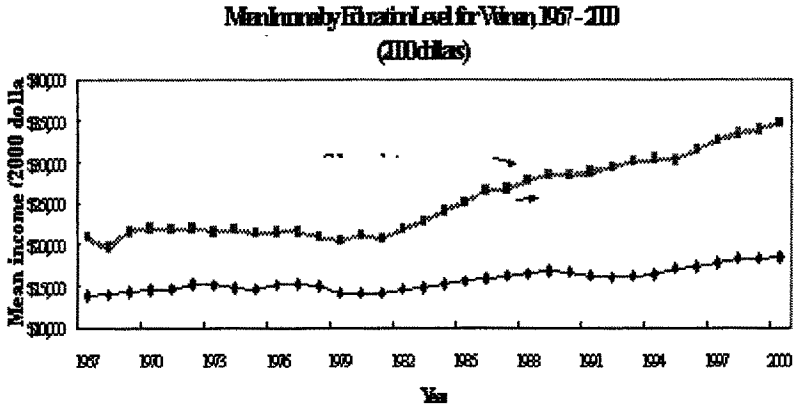
Enhancing Productivity. A key to long-term economic growth is an increasingly productive labor force. Workers become more productive both by having new and better equipment with which to work, and by acquiring new skills and knowledge. Improvements in labor force skills and "improvements in knowledge" account for a significant part of economic growth. Several researchers conclude that education alone accounts for about 15 to 20 percent of the growth in national income, with about a quarter of that stemming from higher education.[5]

Expanding the Labor Force. Individuals with higher levels of education are more likely to be in the labor force. About 80 percent of adults with a bachelor's degree or higher were labor force participants in 2000. However, less than half of adults without a high school diploma were working or actively seeking work.[6] College educated workers are also less likely to be unemployed. In 2000, the unemployment rate for workers with a bachelor's degree was only 1.8 percent, according to the Bureau of Labor Statistics. High school graduates, however, had an unemployment rate that was almost twice as high. This holds true even during a recession. During the 1990 – 1991 recession, the March 1991 unemployment rate for high school graduates (6.7 percent) was more than twice as high as that of college graduates (2.9 percent).

Increasing Wages. College graduates have always earned more, on average, than those with less education. Since the 1980s, however, college graduates have experienced a much faster growth in average income than high school graduates. The gap widened during the economic boom of the 1990s. In 2000, the average income for a man with a college education was almost double that of a man with a high school diploma. Women with a college education had an average income that was almost 90 percent greater than women with a high school degree (see Graph 1). With higher wages, families have less need for social services and more disposable income to increase consumption.

Graph 1

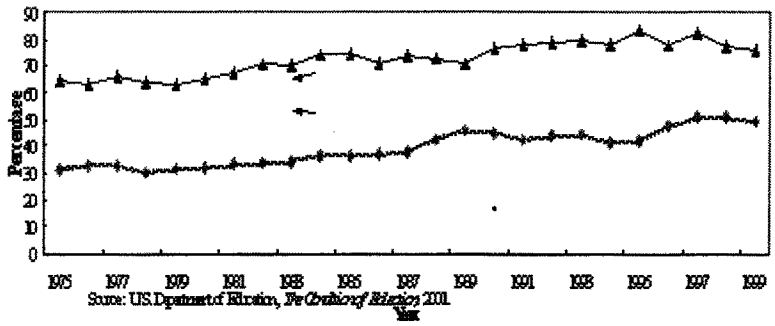




Source: Bureau of the Census, U.S. Department of Commerce

Inequities Persist

Despite the availability of federal student aid, there is still a persistent income gap in college attendance and completion. Low-income students are less likely to enroll and stay in college than high-income students. Every year for the last 25 years, less than half of high school graduates from families in the lowest income quintile proceed to college directly compared with more than three-quarters of students in the highest income quintile (See Graph 2).



In the 1999 – 2000 academic year, only 13.3 percent of financially dependent undergraduates came from families with incomes less than $20,000. Compared to higher income students, they were more likely to be members of a minority group and have parents with only a high school education or less.[7]

Lack of adequate academic preparation appears to account for only a portion of this difference in enrollment. Students from low-income families are more likely to attend lower-quality public schools and may not be as well prepared to enter college. But even when we look at those with adequate preparation, the gap persists. A study of

academically qualified 1992 high school graduates found that only about half of the students from families who made less than $25,000 a year (1992 dollars) enrolled in a four-year college, compared with more than 80 percent of students from families that made $75,000 or more (1992 dollars). If we narrow our focus to the most academically prepared students – who would likely have the greatest motivation to go to college – the income gap is just as large. Among students with the highest standardized test scores, only 58 percent of students from families in the lowest income quartile enrolled in college within two years compared with 86 percent of students from families in the highest income quartile.[8]

Despite the clear advantages to both the individual and society, some academically prepared students may not pursue higher education because of the high cost. Given the higher average wages for college graduates, students without enough cash on hand should be able to borrow against future earnings. But evidence suggests that students are much more sensitive to the high direct costs of going to college than the prospect of future income.[9] A high degree of uncertainty surrounds the investment in higher education. There is no guarantee that students will complete their degrees. There is no guarantee of their future salary level. This uncertainty can make individuals less willing to take out loans. This is particularly true for low-income and minority students who may be more financially risk-averse than their wealthier peers.

Without a well-educated workforce, productivity and the economy could suffer. The federal government intervenes in the form of grants and guaranteed loans to help lower the cost of education and provide the means for people to pursue a college degree.

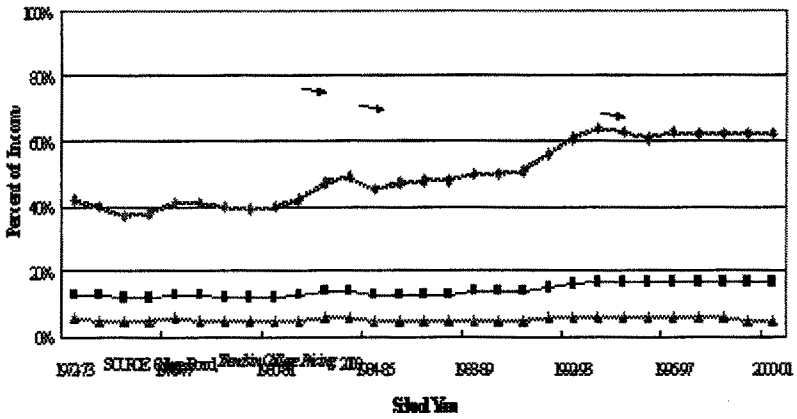
The Rising Cost of a College Education

Low-income families have been hardest hit by the skyrocketing increases in college tuition over the last twenty years. Since the 1980s, average tuition has risen at twice the rate of inflation. For families in the top income quintile, the cost of college has remained steady at five to six percent of income because those families enjoyed rapid income growth over the same period.

But for families in the lowest income quintile, who earned an average of $10,190 in 2000, the cost of college as a percentage of income has risen dramatically. In 2000–2001, the average public university cost would have consumed about 62 percent of income for these families. Adding books, transportation and other expenses pushes the in-state cost of one year at a four-year public university even higher. The full cost is more than the mean income of families in the lowest income quintile and almost half the income of families in the next quintile. The cost of a private university was even more staggering — 166 percent of income.[10]

The situation is poised to become worse in the coming academic year. Historically, public university tuition increases are counter-cyclical — increasing when unemployment rates are rising.[11] With the recent economic downturn, several states have already announced double-digit increases in tuition. In Washington, the legislature is considering a 16 percent increase in in-state tuition to make up for a $54 million cut in state university budgets. The University of Kansas may double the price of tuition over the next five years. To meet these costs, lower income students need substantial financial aid.

Cost of Attendance at a Public University as a Percentage of Income, 1972-2000



II. Financial Aid Trends

The federal government is by far the largest provider of direct financial aid to students enrolled in postsecondary education and training. In the 2000 - 2001 school year, almost 70 percent of all direct student aid – about $50 billion – came from federal sources. The amount of federal dollars devoted to student aid has grown by more than 80 percent over the last decade. In addition to direct aid, the government also provides funding to universities and colleges to help make college more affordable.[12]

Federal financial aid policy has gradually been moving away from its primary focus and commitment to helping the most financially needy students afford a college education. The share of federal need-based aid has dropped from 80 to 60 percent of all federal student aid over the last twenty years.[13] Policy decisions about how much aid to offer and how to deliver the aid to students has meant that a much greater share of financial aid dollars is going to middle- and upper-income students.

Unsubsidized student loans, tax credits and other tax incentives have replaced grants as the primary vehicle for delivering federal financial aid. None is efficient at targeting low-income students. Loans are not an appealing option to low-income students who are likely to be financially risk-averse. Students cannot take advantage of non-refundable tax credits or deductions if they do not have any income tax liability. Tax-advantaged college savings accounts offer little help to families with limited disposable income.

Shift to Loans

Over the last twenty years, federal financial aid has shifted from a system based predominantly on grants to one based on loans. In 2000, roughly two-thirds of federal student aid was in the form of loans.[14] Twenty years ago, however, loans made up only about 40 percent of federal aid to students. Over the last decade, the amount of loan aid has increased by more than 135 percent.[15]

Loan aid has increased primarily due to the creation of unsubsidized Stafford loans in 1992. Unlike subsidized loans aimed at lower-

income students, these loans are open to all students regardless of income. At the same time, Congress increased the maximum loan amount. Today, almost half of all federal education loans — $18 billion in 2001 — are unsubsidized loans to students or parents. The majority of these federal aid dollars are going to middle- and upper-income students. In 1999, more than 80 percent of unsubsidized loans were to students with family incomes greater than $40,000.

Tax Credits and Tax Deductions

A *tax credit* is used to reduce an individual's income tax liability. The recipient generally must complete an income tax return to get the credit. If the credit is refundable, amounts in excess of a filer's tax liability are paid to the individual. The value of a tax credit is the same for all income levels.

A *tax deduction* reduces an individual's taxable income. Unlike a tax credit, a tax deduction increases in value for filers in higher tax

While the creation of unsubsidized loans has helped middle- and upper-income students with college costs, the availability of loans is less likely to induce students from low-income families to enroll in higher education. Most of these students cannot rely on their parents to help them financially either during or after college. A great many of them may be the first generation in their family to go to college. Low-income and minority students may have a greater level of uncertainty about their future earnings and they are more likely to be financially risk-averse. As a result, the availability of funds for school in the form of loans is not sufficient to make them think seriously about pursuing postsecondary education and training. Grants do not carry the same sort of financial risk for the student. Low-income and minority students are more likely to respond to grant aid rather than loans. [16]

Shift to Tax Credits and Deductions

With the introduction of the HOPE and Lifetime Learning credits in 1997, more financial aid is being delivered through the tax code. The Economic Growth and Tax Relief Reconciliation Act of 2001 expanded existing tax incentives, such as eliminating the federal income tax on withdrawals from state college tuition savings plans. It also created an above-the-line deduction for higher education expenses. [See box for descriptions of tax credits and incentives.] (The Act also included other higher education tax incentives – such as student loan deductions and loan forgiveness. This paper concentrates on tax provisions designed to help students pay tuition while they are in

school.) Overall, the Joint Committee on Taxation estimates that these higher education tax credits and deductions will cost $8 billion in FY 2002.[17]

While tax credits, deductions and incentives help ease the financial burden of college for middle- and upper- income students, they have almost no impact on low-income students. For the most part, financial assistance delivered through the tax code is inaccessible to low-income students, it does not meet their funding needs and it does not offer them the same amount of benefits as it does for higher-income students.

Financial aid delivered through the tax system is relatively inaccessible to low-income students for several reasons:

> **In order to claim one of the tax credits or the deduction, families must have income tax liability.** Students from families with incomes too low to incur taxes are not able to get any benefits. Families with low tax liability (less than the maximum amount of the credit) will have the value of the credit reduced so it does not exceed their tax liability. This means that the poorest students are ineligible for the HOPE and Lifetime Learning credits and the higher education deduction. Income tax data from 1999 show that less than 20 percent of filers who claimed a HOPE or Lifetime Learning credit had incomes below $20,000 while almost 40 percent had incomes between $50,000 – $100,000.[18]

If existing higher education tax credits were made refundable, they would be more accessible to low-income students. With a refundable credit, students with no tax liability would be eligible for the credit and students with low tax liability would not have their credit reduced. However, students would still have to file a federal income tax return – even if they do not owe income taxes – in order to get the credit. This step adds another layer of complexity to the federal financial aid process.

> **Low-income families are less likely to have sufficient disposable income to take advantage of the new tax incentives for savings.** The new tax changes raise the contribution limit on Coverdell accounts from $500 to $2,000

annually. Families can also now make contributions to both a Coverdell account and a state tuition savings plan in the same year. These changes may increase the amount of saving in middle- and upper-income families. However, low-income families are much less likely to have the funds necessary to make these investments over time so they cannot reap any benefits from these tax incentives.

Tax incentives deliver the greatest benefits to those with the highest incomes:

The amount of the credit or deduction is reduced by other financial assistance. The credits or deduction can only be applied toward money spent by the student on tuition and fees. Any scholarship or grant funds reduce the amount of award. To receive the maximum credit, students must have at least $2,000 in tuition and fees. As a result, low-income students who receive a Pell Grant or attend a lower cost college are probably not eligible for the maximum credit or deduction. In 1999, income tax data show that the average amount received by high-income filers who claimed a HOPE or Lifetime Learning Credit was almost twice as much as the average for the lowest-income filers who received a credit.[19]

The value of a tax deduction increases with income. Families in higher tax brackets get a larger benefit from the higher education tax deduction than those in lower tax brackets. For example, a family in the 15 percent tax bracket would save $15 by deducting $100 in qualified higher education expenses. A family in the 27 percent bracket would save $27. Families with no income tax liability would not be able to take the deduction at all.[20] This means that tax deductions disproportionately help the highest income students.

Tax credits do not help meet the cash flow constraints of low-income students:

Tax credits and deductions do little to help low-income students pay the tuition bill when it is due. Families do not receive the benefits of a tax credit or deduction until they file

their tax return – which is likely to be several months after they have paid the tuition bill. A tax credit or deduction does not help lower income families who must struggle to come up with the funds in September and January to pay tuition costs.

The value of the credit is not clear in advance. The value of the education tax credits is calculated as a fraction of funds spent and taxable income. Students, therefore, do not know exactly how much they will receive until after their tuition dollars are spent. This uncertainty makes it difficult for students to rely on tax credits as a steady source of funding, so credits may have little impact on their assessment of the affordability of college.

Tax credits do not cover living expenses. Even if low-income students can lower their tuition costs with grants or by attending a less expensive school, they are still faced with the reality of living expenses. Based on a survey of college students, the College Board estimates the living expenses of an in-state public university student to be more than $8,000 annually.[21] In many cases, these costs exceed the price of tuition. Neither the education tax credits nor the higher education deduction can be used for these costs.

Higher Education Tax Credits and Deductions

Below is a brief description of existing higher education tax credits and deductions, including changes and additions as a result of The Economic Growth and Tax Relief Reconciliation Act of 2001. The Act also included other higher education tax incentives — such as student loan deductions and loan forgiveness. This paper concentrates on tax provisions designed to help students pay tuition while in school.

Tax Credits and Deductions:[22]

HOPE Scholarship and Lifetime Learning Tax Credits

The HOPE and Lifetime Learning tax credits were introduced as part of the Taxpayer Relief Act of 1997. The HOPE credit is for undergraduates in their first two years of postsecondary education. In 2001, the maximum credit was $1,500: 100 percent of the first $1,000 of qualified tuition and fees and half of the next $1,000. As of 2002, the maximum credit will be indexed to inflation. Students enrolled in any year of postsecondary education can claim the Lifetime Learning credit. The maximum credit is $2,000 — 20 percent of the first $10,000 of qualified expenses. Only one credit can be claimed per student in any tax year.

Both credits are non-refundable so a student must have income tax liability to claim them and the amount of the credit cannot exceed the filer's tax liability. They are targeted to lower- and middle-income students. Both credits phase out between $40,000 and $50,000 for single filers and between $80,000 and $100,000 for joint filers. (These income thresholds will be indexed to inflation as of 2002.) The credit can be used for tuition and required fees. The amount of qualified expenses is reduced by scholarships, Pell Grants, veteran's educational benefits or employer-provided tuition reimbursements. The Joint Committee on Taxation estimates that these two credits will cost $4.3 billion in FY 2002.

Higher Education Deduction

The Higher Education Deduction was enacted through the Economic Growth and Tax Relief Reconciliation Act of 2001. This is an above-

the-line deduction that reduces the taxpayer's adjusted gross income. The deduction has higher income limits than the education tax credits. In 2002 and 2003, individuals with modified adjusted gross income of up to $65,000 and joint filers up to $130,000 can take a maximum deduction per return of $3,000.

In 2004 and 2005, the maximum deduction rises to $4,000 with the same income limits. In addition, individuals with modified gross income of more than $65,000 but less than $80,000 and joint filers with modified gross income of more than $130,000 but less than $160,000 will be eligible for a $2,000 deduction. The deduction can be used for tuition and fees in any year of postsecondary education. It is set to expire on January 1, 2006. The Joint Committee on Taxation estimates the deduction will cost $1.5 billion in FY 2002.

Tax-Advantaged Savings Accounts:

Coverdell Education Savings Accounts[23]

Formerly known as education IRAs, Coverdell education savings accounts are tax-advantaged personal investment accounts for education expenses (including tuition, room and board and books). Contributions to an account are not deductible, but distributions are not taxed. The Economic Growth and Tax Relief Reconciliation Act of 2001 made several changes to current law that became effective on January 1, 2002. Coverdell accounts can now be used for any year of education – kindergarten through college. The annual contribution limit per beneficiary has been raised to $2,000. This maximum contribution amount phases out for individuals with modified adjusted gross income between $95,000 and $110,000 and for joint filers between $190,000 and $220,000. Students can get a Coverdell distribution and claim a HOPE or Lifetime Learning credit in the same year but not for the same expenses. Contributions can be made to a Coverdell account and a qualified tuition savings plan in the same year. Taxpayers cannot take the higher education deduction for expenses paid for with funds from a Coverdell. Funds from a traditional or Roth IRA can be used for qualified higher education expenses without having to pay a penalty for early withdrawal. The funds are taxed as income however. The Joint Committee on Taxation estimates the exclusion of earnings for donations to Coverdell accounts will cost $300 million in FY 2002.

Qualified Tuition Savings Plans[24]

There are two types of qualified tuition savings plans (QTPs). In a *prepaid tuition plan* individuals purchase tuition credits at current prices at eligible postsecondary schools. *College savings plans* are state-sponsored investment accounts that can be used for any institution of higher education. QTPs are state-run so there is considerable variation from state to state. About 22 states have prepaid tuition plans and 46 states have college savings plans. The Economic Growth and Tax Relief Reconciliation Act of 2001 allows private institutions to establish prepaid tuition plans.

In most states, there is no income limit for contributors. Earnings accumulate tax-free and, as of January 1, 2002, there is no federal income tax on withdrawals from state-sponsored QTPs. The funds can be used for qualified higher education expenses which include tuition, fees, books, supplies, and equipment required for enrollment or attendance, and reasonable costs for room and board for students attending at least half-time.

Contributors can establish accounts for the same student in several states. Contributions can be made to a Coverdell account and a QTP in the same year. A HOPE or Lifetime Learning credit can be claimed in the same year as a withdrawal from a QTP but they cannot be used for the same expenses. Taxpayers cannot take the higher education deduction for any expenses paid with funds from a QTP withdrawal.

Distributions from a prepaid tuition plan reduce the student's cost of attendance in the calculations for federal financial aid. However, assets in a college saving plan owned by someone other than the student's parent (e.g., grandparent) are not reported on the FAFSA.

Changes in federal tax treatment of QTPs that were the result of The Economic Growth and Tax Relief Reconciliation Act of 2001 are slated to sunset on December 31, 2010. The Joint Committee on Taxation estimates the exclusion of earnings on contributions to QTPs will cost $50 million in FY 2003, but that the cost will reach over $250 million by FY 2010.

III. Declining Grant Aid

Declining Purchasing Power of the Pell Grant

The Pell Grant program is designed to target the lowest-income students with grants that can be used toward tuition and living expenses. While this is an efficient mechanism for targeting appropriate aid to poor students, the size of the grant has not kept pace with rising costs.

Pell Grants were authorized by Congress in 1972 to provide financial assistance to the neediest undergraduates. Measured in constant dollars, the maximum and minimum awards have declined since mid-1970's.

In the 1975– 1976 school year, about 1.2 million students received a Pell Grant. The maximum award was $4,484 and the average award was $2,436 (both in 2000 dollars).[25] The maximum Pell Grant covered about 84 percent of the average tuition, room and board of a public four-year university.[26]

For the 2001 - 2002 school year, about 9.4 million students applied for a Pell Grant, an increase of 9.8 percent over the previous year and significantly higher than the five-year average growth of 1.1 percent per year. 4.3 million students received a grant. The maximum award was $3,750 and the average award was $2,299.[27] The maximum Pell Grant covered about 42 percent of a student's educational expenses at a public, four-year university.[28]

This represents a 50 percent decline in the purchasing power of a Pell Grant since 1975. Low-income students now must make up more of the difference in college costs with loans. Close to 90 percent of Pell Grant recipients who graduated from college in 1996 had borrowed a student loan, while less than 45 percent of all graduating students had loan debt.[29]

State Grants

At the state level, the majority of student financial aid is need-based, but the share of merit aid is rising. The amount of money devoted to

merit aid has grown by over 300 percent since the early 1980's. Need-based aid has grown by 88 percent over the same period.[30] In 2000 – 2001, 24 percent of state aid was not need-based, compared with 15 percent in 1995 – 1996.[31]

In 1972, Congress established a program that is now called the Leveraging Educational Assistance Partnership (LEAP) to encourage states to set up need-based grant and work-study aid programs. States are awarded funds through a formula and they must match federal funds dollar-for-dollar. In 1999 – 2000, more than $900 million in need-based aid was awarded in addition to the $25 million in federal funds appropriated for the program. Almost half of the dependent undergraduates who received LEAP funds came from families with incomes of $20,000 or less.[32]

When the program was first started, only half the states had a need-based grant program. Today, all fifty states and the District of Columbia offer need-based grants and work-study aid. However, the President's fiscal year 2003 budget did not request any funds for this program.

IV. Not Meeting the Need

These shifts in the amount and type of aid available mean that low-income students are coming up short in trying to pay their tuition bill and living expenses.

An analysis by the Department of Education of students in the 1995 – 1996 school year found that the unmet need of dependent students in the lowest income quartile far exceeded that of those students from high-income families. Unmet need is calculated as the cost of tuition and expenses minus financial aid and the expected family contribution. The unmet need of low-income dependent students at a public university is almost 10 times greater than that of students in high-income families.

Financial Aid Falls Far Short of Need

Family Income Quartile	Unmet Need, 1995-96 (1995$)
Public 2-Year College	
Lowest quartile	**$3,200**
Second quartile	$2,700
Highest quartile	$ 100
Public 4-Year College	
Lowest quartile	**$3,800**
Second quartile	$3,000
Highest quartile	$ 400
Private 4-Year College	
Lowest quartile	**$6,200**
Second quartile	$4,900
Highest quartile	$3,000

SOURCE: U.S. Department of Education, *College Access and Affordability*, 1999

Two-year community colleges are often seen as a more affordable option for low-income students. But while the overall tuition cost may be lower, the out of pocket cost to the low-income student appears to nearly as high as that of a four-year college. It is unclear exactly how low-income students cover their unmet need — most likely through a combination of work and parental loans.[33]

Looking Ahead

These challenges are likely to become more acute in the coming years. The demand for postsecondary training will increase – as will the demand for financial aid. By the end of this decade, the number of high school graduates will top three million. A large share of these students will want to continue their education. The Department of Education expects college enrollment to jump to 17.7 million students by 2011 — a 20 percent increase over current levels.[34] At the same time, members of the baby boom generation will be retiring and our labor force will need an influx of educated and skilled workers.

A large share of these students will likely be from low-income families. Analysts from the Educational Testing Service have estimated that 80 percent of the increase in new students between 1995 and 2015 will be minorities.[35] It is difficult to predict accurately how many of these new students will come from low-income families. But given the strong correlation between ethnicity and income, we can expect that more low-income students will be applying to college and they will need significant financial assistance.

Despite the increasing demand for highly educated workers, our federal financial aid policy is shifting away from need-based grants to loans, tax credits and other tax incentives. Students from low-income families are less able to access these forms of aid and they do not provide adequate or appropriate assistance. Federal policies that provide sufficient support for need-based grant aid are most likely to induce and enable more low-income students to enroll in college and acquire the skills they need for the future.

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[3] All figures in this report are in 2000$ unless otherwise noted.

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[16] Linsenmeier et al 2001 found that the enrollment rate of low-income minority applicants increased by about six percentage points when loans were replaced with grants in financial aid packages for low-income students. Jackson 1990 found that black college applicants responded more positively to scholarship aid than white college applicants – they were 11 percentage points more likely to enroll. Black applicants responded to scholarship aid more positively than loan aid. This study only looked at those who have decided to apply, it does not test the impact on high school students.

[17] This total includes the HOPE and Lifetime Learning credits, the higher education expenses deduction, exclusion of earnings in Coverdell accounts, exclusion of earnings of qualified tuition programs, exclusion of scholarship and fellowship income and exclusion of employer-provided education assistance benefits. It does not include the cost of the deduction for student loans.

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[28] According to the *Trends in College Pricing 2001* by The College Board, the average tuition, room, and board for a four-year public university was $9,008. Therefore, the maximum Pell Grant of $3,750 is 42 percent of the cost of attendance.

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Slamming Shut the Doors to College

The State Budget Crisis & Higher Education

May 2, 2002

There is bad news on the horizon for America's college students: state colleges, facing the worst state budget crunch in a decade, are proposing the largest tuition hikes in recent history.

The shaky economic recovery has not caught up with state budgets. The states face a total deficit that is greater than $40 billion, according to the National Governors Association. The National Conference of State Legislatures reports revenue shortfalls in 45 states and the District of Columbia. Nearly every state is legally required to balance their budgets. Education, which comprises more than one-third of state budgets, is inevitably in line for cuts.

States have already proposed to cut $5.5 billion in state higher education funding. To offset state budget cuts, colleges and universities in California, Idaho, Illinois, Indiana, Massachusetts, Pennsylvania, Minnesota, Mississippi, Virginia, and Washington have proposed double-digit tuitions increases for this fall, according to the American Association of State Colleges and Universities. Private colleges seeing similar drops in endowment income and slowed growth in charitable giving may also be forced to raise tuition.

If these trends continue, an additional 110,000 students could be unable to afford college next fall. No longer a luxury for the elite, two-year and four-year college educations are increasingly important for all Americans' economic security. Over the course of a lifetime, a college graduate can expect to earn $1 million more than a high school graduate.

At the same time, the Bush Administration has failed to recognize this need. Its budget cuts Pell grants from $4,000 to $3,900 and gives financial aid to 375,000 fewer students. It has proposed raising interest rates on existing student loans.

Projections are not destiny. In the next several months, state and federal policymakers will write next year's budgets. Their decisions will impact millions of current and prospective college students. To

prevent the state budget crunch from limiting college opportunity, Congress must invest substantially more in student aid to help more college students.

KEY FINDINGS

States Have Already Cut $5.5 Billion from Higher Education. Although the economy is improving, states are still struggling with the legacy of the economic slowdown: budget deficits that exceed $40 billion.

> This year, 30 states have rescinded a total of $1.5 billion in higher education funding.
>
> For next year, pending budget proposals fall $4 billion short of maintaining current services in the face of inflation and rising enrollment.

Higher Tuitions Could Close the Doors of College to 110,000 Students. In past recessions, colleges have raised their tuitions by 11 percent or more—nearly twice the average in other years. Such an increase could make public college unaffordable for an estimated 110,000 students graduating from high school this year.

The Bush Administration's Student Aid Budget Would Serve 375,000 Fewer Low-Income Students. According to the Congressional Budget Office, under the Bush budget, the maximum Pell grant would be cut to $3,900. The Pell grant program needs a $1.8 billion increase over the Administration's budget to keep pace with growing enrollments and provide a $4,400 maximum grant to match tuition increases.

College Opportunity Remains Uneven. An analysis by the Joint Economic Committee concludes that:

> The demand for workers with postsecondary training is growing rapidly. College nearly doubles workers' income, on average.

Even academically qualified low-income students are far less likely to go to college than their wealthier peers, largely due to the cost of college.

Currently, federal financial aid falls short of making college affordable for all. Recent policy initiatives have not been well designed to advance the fundamental goal of student aid: ensuring that all Americans can finance a college education.

State Budget Deficits Lead to Cuts in College Funding

Most States Are Facing Mid-Year Fiscal Crises

In December 2001, states faced a collective budget deficit of approximately $40 billion, according to the National Governors Association. Nearly every state has constitutional or statutory balanced budget requirements. At least 40 states and the District of Columbia have (or expect to) cut spending to address fiscal year 2002 shortfalls (National Conference of State Legislatures, April 2002).

Some states, including Florida and Virginia, have delayed implementation of previously enacted tax cuts. Several states, including Alabama, North Carolina, and Ohio have enacted tax hikes to balance state budgets. Finally, a number of states, like Massachusetts and Arizona, have drawn down "rainy day" savings funds to balance their budgets (Center on Budget and Policy Priorities, January 2002).

States Cutting Higher Education

Public Colleges Have Already Felt a $1.5 Billion Mid-Year Cut. States have already made $1.5 billion in mid-year cuts to higher education funding in their 2002 budgets, according to a Congressional survey of 49 state budget officers (see Table 1). That survey found:

Thirty states made mid-year cuts in higher education.

New York alone has cut $425 million (or 10 percent) from its previously enacted 2002 budget in the aftermath of the September 11th attacks. Other states like Florida, Indiana, and Missouri have made comparable cuts in percentage terms.

The 49 surveyed states funded public colleges at approximately $56.8 billion, before cutting $1.5 billion. Those institutions serve 11.9 million students.

Education Will See Cuts. Education funding comprises more than one-third of state budgets (U.S. Department of Education, *Digest of Education Statistics*, 2000). Because of the magnitude of the budget shortfalls, education cuts have proven inevitable in most states.

States Are More Likely to Cut Higher Education than K-12 Funding. Budget cuts to education have fallen disproportionately on higher education (Compare Senate HELP Committee and House Education and Workforce Committee, *Education in Crisis: The State Budget Crunch and Our Nation's Schools*, October 2001). According to state analysts, state officials believe that public colleges can offset revenue losses more easily than school districts by raising tuition and fees.

Additional Cuts Are Expected this Fall

State Budgets Face Hangover from the Recession. Even as the economy begins to recover, state revenue growth is expected to lag. More often than not, income tax receipts lag behind income gains by as much as six months. Corporate taxes and capital gains tax receipts regularly lag more than a year due to loss carry-forward tax provisions and delayed sale of assets in stronger economic times. Overall state tax receipts typically lag an economic recovery by 12 to 18 months, according to the National Association of State Budget Officers.

The National Conference of State Legislatures reports that, in addition to the more than 40 states experiencing deficits in 2002, 37 states and the District of Columbia are projecting deficits in their 2003 budgets. As of the end of March, 24 states were failing to meet even projections that had been revised downward.

Table 1. In 2002, $1.5 Billion in Mid-Year Cuts to State Higher Education (Dollars in millions)

State	2002 Public Enrollment	Original Enacted 2002 Budget	Mid-Year Cuts
Alabama	207,820	$1,117.6	$2.5
Alaska	27,074	$555.1	$0.0
Arizona	291,186	Not Available	Not Available
Arkansas	108,906	$867.3	$14.0
California	1,784,008	$10,042.0	Not Available
Colorado	231,286	$764.7	$10.6
Connecticut	102,063	$579.8	$11.3
Delaware	38,887	$200.9	$3.6
Florida	570,179	$1,828.1	$111.6
Georgia	250,231	$1,753.7	$4.0
Hawaii	48,989	$428.8	$2.9
Idaho	55,456	$357.5	$11.0
Illinois	562,332	$2,667.0	$105.0
Indiana	243,274	$1,472.0	$115.0
Iowa	140,976	$701.6	$28.3
Kansas	165,571	$706.9	$0.0
Kentucky	154,472	$1,166.9	$17.3
Louisiana	198,756	$934.5	$0.0
Maine	42,528	$224.7	$0.0
Maryland	232,733	$1,295.9	$13.3
Massachusetts	191,316	$1,011.0	$6.8
Michigan	486,764	$2,242.5	$25.0
Minnesota	218,678	$1,380.0	Pending
Mississippi	127,923	$765.8	$32.1
Missouri	210,087	$1,150.5	$95.0
Montana	40,406	$138.8	$0.0
Nebraska	93,159	$525.2	$8.8
Nevada	89,875	$381.6	$0.8
New Hampshire	36,813	$103.8	$0.2
New Jersey	277,995	$1,285.5	$64.3
New Mexico	108,694	$605.2	$0.0
New York	596,887	$4,312.0	$425.0
North Carolina	338,662	$1,802.0	$66.0
North Dakota	37,881	$176.0	$0.0
Ohio	433,764	$2,565.1	$121.0
Oklahoma	163,750	$860.5	$21.6
Oregon	156,179	Not Available	Not Available
Pennsylvania	355,124	$1,826.0	$34.6
Rhode Island	40,737	$174.9	$0.4
South Carolina	161,785	$894.7	$36.6
South Dakota	36,044	$131.7	$0.3
Tennessee	204,103	$1,083.7	$12.0
Texas	908,834	Not Available	Not Available
Utah	127,068	$606.9	$20.7
Vermont	21,691	$71.8	$1.8
Virginia	328,359	$1,573.4	$28.5
Washington	277,639	$1,362.6	$0.0
West Virginia	80,923	$437.1	$0.0
Wisconsin	263,087	$1,258.3	$0.0
Wyoming	29,453	$359.8	$0.0
Total	**11,900,404**	**$56,751.3**	**$1,452.1**

NOTES: Enrollment figures from the *Chronicle of Higher Education*. Budget figures from congressional staff survey of state budget offices. California figures were not available at press time. Oregon operates on a biennial budget; for FY02-03 the higher education budget is $808 million. Texas operates on a biennial budget; for FY02-03 the higher education budget is $15.4 billion.

State Revenue Is Still Dropping. The current economic cycle lag between state revenue and overall economic growth is already evident. According to the Rockefeller Institute of Government at the State University of New York at Albany:

> During the third quarter of 2001, gross domestic product (GDP) shrank at an annual rate of 1.3 percent, according to the Bureau of Economic Analysis. In that same quarter, state revenues declined by 3.1 percent.
>
> During the fourth quarter of 2001, GDP *grew* at an annual rate of 1.7 percent, but state revenues again declined — this time by 2.7 percent.

States Plan $4 Billion in Additional Cuts to Higher Education. According to a Congressional survey of state budget officers, additional cuts in higher education funding are planned for next school year (See Table 2).

> States plan an additional $4 billion in cuts to higher education, after funding is adjusted for inflation and enrollment growth.
>
> Total cuts are likely to grow above $4 billion as states grapple with continued shortfalls. New Jersey's governor, for example, estimates that the state will have a budget deficit of $6 billion in 2003. In February, California's Legislative Analyst raised its estimate of California's biennial 2002 and 2003 deficit by $5 billion.

Table 2. In 2003, $4 Billion in Cuts to State Higher Education

(Dollar figures in millions.)

State	2003 Enrollment	2003 Current Services	2003 Governor's Proposal	Shortfall
Alabama	211,369	$1,191	$1,146	$45
Alaska	27,536	$592	$621	$29
Arizona	296,159	$972	$888	$84
Arkansas	110,765	$925	$867	$57
California	1,814,475	$10,705	$10,222	$483
Colorado	235,235	$815	$789	$26
Connecticut	103,806	$618	$594	$24
Delaware	39,551	$214	$201	$13
Florida	579,917	$1,949	$1,859	$89
Georgia	254,505	$1,869	$1,678	$191
Hawaii	49,825	$457	$438	$19
Idaho	56,403	$381	$317	$64
Illinois	571,936	$2,843	$2,641	$202
Indiana	247,428	$1,569	$1,458	$111
Iowa	143,383	$748	$664	$84
Kansas	168,398	$754	$706	$47
Kentucky	157,110	$1,244	$1,159	$85
Louisiana	202,150	$996	$936	$60
Maine	43,254	$240	$232	$7
Maryland	236,707	$1,381	$1,351	$31
Massachusetts	194,583	$1,078	$997	$81
Michigan	495,076	$2,391	$2,243	$148
Minnesota	222,412	$1,471	$1,464	$7
Mississippi	130,108	$816	$618	$198
Missouri	213,675	$1,226	$1,081	$145
Montana	41,096	$148	$147	$1
Nebraska	94,750	$560	$546	$14
Nevada	91,409	$407	$456	$50
New Hampshire	37,442	$111	$107	$4
New Jersey	282,742	$1,370	$1,221	$149
New Mexico	110,550	$645	$597	$48
New York	607,080	$4,597	$3,882	$715
North Carolina	344,445	$1,921	$1,797	$124
North Dakota	38,528	$188	$182	$6
Ohio	441,172	$2,734	$2,589	$145
Oklahoma	166,547	$917	$858	$60
Oregon	158,846	Not Available	Not Available	Not Available
Pennsylvania	361,189	$1,946	$1,808	$138
Rhode Island	41,433	$186	$181	$5
South Carolina	164,548	$954	$896	$58
South Dakota	36,659	$140	$138	$2
Tennessee	207,589	$1,155	$1,218	$63
Texas	924,355	Not Available	Not Available	Not Available
Utah	129,238	$647	$634	$13
Vermont	22,062	$77	$73	$3
Virginia	333,967	$1,677	$1,470	$207
Washington	282,381	$1,452	$1,379	$74
West Virginia	82,305	$466	$424	$42
Wisconsin	267,580	$1,341	$1,287	$55
Wyoming	29,956	$384	$364	$20
Total	12,103,637	$61,469	$57,428	$4,042

NOTES: Based upon a congressional survey of state budget officers. Total enrollment based on data from the *Chronicle of Higher Education*. Adjusted for enrollment growth and higher education inflation as per the Higher Education Price Index published by Research published by Research Associates of Washington. The Governor's recommendation for Mississippi for 2003 does not include $40 million in additional Medicaid revenue to the state University Medical Center. Oregon operates on a biennial budget; for FY02-03 the higher education budget is $808 million.

Private Colleges Face Decline in Endowment Earning and Donations after September 11th

Private Colleges Are Also Feeling the Lingering Impact of the Recession. Even though the economy shows some recent signs of improving, some independent institutions were dealt a double blow last year: a drop in endowment income and in donations. Students on many of these campuses will feel the sting of higher tuition bills this fall.

Last Year, College Endowments Suffered the Worst Losses in 17 Years. According to National Association of College and University Business Officers, the average endowment showed a negative 3.6 percent return on investment (*2001 Endowment Study,* March 2002). NACUBO found that:

> While some institutions showed gains, two of every three endowments declined in value. Boston University was hit hard with a 27 percent loss. Carleton College suffered a 20 percent loss. Emory University had the second largest endowment loss in the country — a drop of $712 million or 14 percent.
>
> The good times have stopped for many private institutions, large and small. The financial picture may be particularly bleak for those institutions that rely on endowment income to pay for faculty salaries, student financial aid, and other operating expenses. The lower and longer the financial markets lag, the larger the budget impacts on these institutions and the greater the pressure to raise tuition to offset endowment losses.
>
> Because endowment earnings make up over one-fourth of its annual operating budget, Texas Christian University announced last year that tuition would have to increase an additional 2 percentage points due to a $72 million loss in investment income. Consequently, new students and returning sophomores at the university will pay $16,300 in tuition and fees this fall, an increase of $1,300 or 8.7 percent.

The Sluggish Economy Has Undercut College Fundraising as Well. Many potential donors are waiting for better performance in the financial markets before committing to big gifts. Donations to higher education institutions slowed to a 4.3 percent increase last year, compared to 13.7 percent the previous year (RAND Council for Aid to Education). However, this small increase was prior to the attacks on September 11th.

> September 11th put a damper on education fundraising. Twice as many education organizations reported decreases in funds raised in October than did in the month before the attacks (Association of Fundraising Professionals, *Study of the Impact of the Events of September 11 on Charities,* 2002).

> The associate vice president for marketing for the University of Cincinnati Foundation commented last fall, "Fair to say that private giving is down. The climate is not particularly good for planned gifts and major gifts. We hear that many if not most fund-raising organizations are experiencing this" (*Cincinnati Enquirer,* October 11, 2001).

Past Recessions Have Led to Higher Tuitions

College Tuition Increases Nearly Twice as Fast During Recessions. Tuition grows nearly twice as fast during recessions (see Table 3). Across sectors of higher education, tuition grew by double-digit percentages in three of the last four recession years. Over the last 20 years, on average:

> Tuition at four-year public colleges rose by 11.5 percent during recessions and only 6.5 percent in other years;

> Tuition at four-year private colleges rose by 11.3 percent during recessions and only 6.7 percent in other years; and

> Tuition at two-year public colleges rose by 10.9 percent during recessions and only 6.4 percent in other years.

Cuts in State Funding Is the Number One Cause of Higher Tuition. The U.S. Department of Education recently completed a comprehensive, Congressionally chartered study of why college costs are rising so quickly (*Study of College Costs and Prices, 1988-89 to 1997-98*, December 2001). The Department concluded,

> "For public four-year institutions, revenue from state appropriations remains the largest source of revenue and is the single most important factor associated with changes in tuition. ... Decreasing revenue from government appropriations (in which state governments make up the majority) was the most important factor associated with tuition increases."

Table 3. Recessions Lead to Larger Tuition Increases
(Recession Years Shaded)

Academic Year	Public Four-Year Tuition	% Change	Public Two-Year Tuition	% Change	Private Four-Year Tuition	% Change
1976-77	$617	N/A	$283	15.51%	$3,977	N/A
1977-78	$655	6.16%	$306	8.13%	$4,240	6.61%
1978-79	$688	5.04%	$327	6.86%	$4,609	8.70%
1979-80	$738	7.27%	$355	8.56%	$5,013	8.77%
1980-81	**$804**	**8.94%**	**$391**	**10.14%**	**$5,594**	**11.59%**
1981-82	**$909**	**13.06%**	**$434**	**11.00%**	**$6,330**	**13.16%**
1982-83	**$1,031**	**13.42%**	**$473**	**8.99%**	**$7,126**	**12.58%**
1983-84	$1,148	11.35%	$528	11.63%	$7,759	8.88%
1984-85	$1,228	6.97%	$584	10.61%	$8,451	8.92%
1985-86	$1,318	7.33%	$641	9.76%	$9,228	9.19%
1986-87	$1,414	7.28%	$660	2.96%	$10,039	8.79%
1987-88	$1,537	8.70%	$706	6.97%	$10,659	6.18%
1988-89	$1,646	7.09%	$730	3.40%	$11,474	7.65%
1989-90	$1,780	8.14%	$756	3.56%	$12,284	7.06%
1990-91	$1,888	6.07%	$824	8.99%	$13,237	7.76%
1991-92	**$2,117**	**12.13%**	**$936**	**13.59%**	**$14,258**	**7.71%**
1992-93	$2,349	10.96%	$1,025	9.51%	$15,009	5.27%
1993-94	$2,537	8.00%	$1,125	9.76%	$15,904	5.96%
1994-95	$2,687	5.91%	$1,192	5.96%	$16,602	4.39%
1995-96	$2,848	5.99%	$1,239	3.94%	$17,612	6.08%
1996-97	$2,987	4.88%	$1,276	2.99%	$18,442	4.71%
1997-98	$3,110	4.12%	$1,314	2.98%	$19,070	3.41%
1998-99	$3,229	3.83%	$1,327	0.99%	$19,929	4.50%
1999-2000	$3,349	3.72%	$1,338	0.83%	$20,706	3.90
2000-01	$3,506	4.69%	$1,359	1.57%	$21,907	5.80%
Recession Average		**11.52%**		**10.93%**		**11.26%**
Non-Recession Average		**6.45%**		**6.67%**		**6.43%**

NOTES: Data from the U.S. Department of Education, *Digest of Education Statistics 2001*, Table 316. Data for four-year colleges not available before 1976-77. Data represent the average annual undergraduate tuition and required fees charged to in-state students for public colleges and all students for private colleges, weighted by enrollment. Tuition is not adjusted for inflation. An academic year was treated as a "recession year" if a recession occurred in the months prior to the beginning of that year, when policymakers generally set tuition. The recessions in the time period under analysis, as determined by the National Bureau of Economic Research, are the "double dip" recession of January 1980 until July 1980 and July 1981 until November 1982 (treated here, as elsewhere, as a single recession) and from July 1990 until March 1991. The Congressional Research Service helped collect and analyze this data.

The Early 1990s Recession Restricted College Opportunity. The National Center for Public Policy and Higher Education analyzed the impact of the early 1990s recession on higher education (*Coping with Recession*, 2002). It found that:

Over three years, California cut funding by 19 percent for the University of California, 12 percent for California State University, 1 percent for California community colleges, and 15 percent for state student aid programs. This was a total cut of $590 million in state support for higher education.

Between 1990 and 1995, tuition at New York colleges rose from 4.2 percent to 7.7 percent of median family income. Tuition at California public colleges rose from 1.7 percent to 3.1 percent of median income.

The report concluded, "When higher education faces cuts in state funding, the state and higher education institutions are likely to shift shortfalls to students and their families by raising tuition. Formulas for setting tuition are early victims of tight budgets."

Higher Tuitions Reduce College Opportunity

Financial Aid Falls Far Short of the Need. Even with financial aid, low-income students fall $3,200 short of being able to afford even community colleges. Low-income students have an average unmet need of $3,800 at four-year public colleges and $6,200 at four-year private colleges (U.S. Department of Education , *College Access and Affordability*, 1999).

Tuition Increases Will Push College Costs Out of Reach for More Americans. Economists estimate that each $1,000 increase in tuition will reduce the college enrollment rate by 5 percentage points (Thomas Kane, *The Price of Admission*, p. 114).

College Opportunity Is at Risk for at least 110,000 Americans. States have proposed to cut $5.5 billion from higher education. At the same time, President Bush proposes to cut federal financial aid. If colleges respond by raising tuition at their historic average during recessions, public colleges could become unaffordable for 110,000 graduating seniors who would otherwise attend next year (see Table 4). In addition, higher tuition without greater student aid may force college students to drop out and deny adults the opportunity to return to school.

Table 4. Projected Tuition Hikes Could Deny College to 110,000 Graduating Seniors

High School Graduating Class of 2002	2,849,000
Projected Increase in College Tuition	$772
Students Priced out of College	**110,000**

NOTES: Graduating class from U.S. Department of Education, *Projections of Education Statistics until 2011*, Table 23. Projected increase in tuition from Table 3, as well as unpublished calculations for two-year private colleges, weighted by enrollment. Projected decline in enrollment is based on the assumption that a $1,000 increase in tuition reduces the percent of graduating seniors who enroll in college within 20 months by 5 percentage points (Thomas Kane, *The Price of Admission*, pp. 19,114); estimate does not include current college students or adults returning to school.

The Bush Budget Leaves More than 375,000 College Students Behind

Higher Education Is at One of Its Most Difficult Moments in Recent History. Higher education institutions must cope with massive cuts in state funding, a drop in endowments, and soft private giving at a time of a record number of individuals who want a college education. It is a time when a strong investment in federal student assistance has never been more important.

A Record 15.8 Million College Students Are Projected to Enroll in 2003. Enrollments are expected to continue to grow through 2011. A greater share of these students will be from families requiring federal financial assistance to make their dream of a college diploma for their children a reality (U.S. Department of Education, *Projections of Education Statistics until 2011*).

Colleges and Universities Face Unprecedented Demand. Americans value education and understand that a higher education is essential in order to be successful in today's global economy. They believe that the federal government has a vital role to play in leveling the playing field so that all Americans, regardless of their income status, have access and opportunity to go to college. For example, 81 percent of respondents in a recent nationally recognized poll indicated that providing enough student aid for low-income students to enter and

complete college is a good reason to increase federal spending on education (Ipsos-Reid poll released March 19, 2002).

President Bush's FY 2003 Budget Leaves More than 375,000 College Students Behind. The Bush budget makes no effort to meet the increased challenge of making college more affordable for a growing number of low-income students facing double-digit tuition and fee increases.

In fact, the Bush budget cuts student financial assistance programs $1.4 billion below the amount needed just to accommodate higher education inflation and enrollment growth.

As a result, more than 375,000 fewer college students would receive federal student financial assistance compared with a current services budget. (Table 5)

Even with an additional $1.4 billion, a current services budget would fall short of what is needed to fulfill the growing need for college aid for all who qualify.

Table 5: Bush Budget Leaves More Than 375,000 College Students Behind

(Dollars in Millions)

	FY 2002 Appropriation	FY 2003 Current Services	FY 2003 Bush Budget	Bush Cuts from Current Services	
				Dollars	Students
Pell Grants	$10,314	$11,944	$10,863	-$1,081	-101,000
Memo: Pell Grant maximum award in dollars	*$4,000*		*$4,200*	*$3,900*	*-$300*	*N/A*
Supplemental Educational Opportunity Grants	$725	$774	$725	-$49	-83,000
College Work Study	$1,011	$1,079	$1,011	-$68	-65,000
Perkins Loans	$168	$179	$168	-$11	-48,000
Leveraging Educational Assistance Partnerships	$67	$72	$0	-$72	-72,000
Loan Forgiveness for Child Care Providers	$1,000	$1,067	$1,000	-$67	0
TRIO	$803	$856	$803	-$54	-55,000
GEAR UP	$285	$304	$285	-$19	51,000
Byrd Fellowships	$41	$44	$41	-$3	-2,000
Javits Fellowships	$10	$11	$10	-$673	0
Graduate Assistance in Areas of National Need	$31	$33	$31	-$2	-200
Thurgood Marshall Scholarships	$4	$4	$0	-$4	-400
B.J. Stupak Olympic Scholarships	$1	$1	$0	-$1	-200
Total	**$13,460**	**$15,302**	**$13,937**	**-$1,365**	**-375,800**

NOTES: Committee staff estimates. FY 2003 current services level for Pell Grants is the Congressional Budget Office estimate of the cost to pay a $4,200 maximum Pell award - the FY 2002 maximum Pell award level inflated by a projected 4.8% higher education inflation rate for FY 2003. The FY 2003 current services levels for other programs are calculated by multiplying their FY 2002 appropriations by a 4.8% higher education inflation rate and by a 1.8% higher education enrollment growth projection by the National Center for Education Statistics in *Projections of Education Statistics to 2011*. FY 2002 Appropriation column excludes Bush Administration Pell Grant supplemental request of $1,276,000,000 for shortfalls in the 2001 and 2002 academic years. The FY 2003 Bush budget states that the Pell grant request would support a $4,000 maximum award; however, the Congressional Budget Office estimates that the Bush FY 2003 budget would support only a $3,900 maximum award. Calculations of the number of students served are derived from Congressional Budget Office estimates for Pell grants and from estimates of student awards in the *Department of Education FY 2003 Justifications of Appropriations Estimates to the Congress* for the other programs.

The Bush Budget Cuts Pell Grants, Leaving over 100,000 Low-Income Students Behind. Pell college scholarships for low-income students are the foundation of federal efforts to ensure that all qualified Americans can attend college. Because of the economic downturn, there has been an unprecedented expansion in the number of students applying for Pell Grants. More temporarily unemployed adults are going back to school and more families are qualifying for need-based financial aid. In the 2001 academic year, over 9.3 million students applied for a Pell Grant — the most ever.

Last year, Congress insisted that the maximum Pell grant be increased by $250 to $4,000 for the 2002 school year. Nevertheless, the purchasing power of Pell grants has eroded to only about half its level 25 years ago (See infra, Joint Economic Committee, *A Risky Investment Strategy*, page 34).

The Congressional Budget Office estimates that $11.9 billion is needed to support a $4,200 maximum Pell grant in the 2003 school year, the award level needed just to offset the effects of higher education inflation.

Another $723 million ($12.7 billion in total) is needed to provide an increase in the maximum Pell grant to $4,400 to keep pace with expected tuition increases.

However, the Bush Pell grant request of $10.9 billion is <u>$1.1 billion</u> below the current services level. Moreover, the Congressional Budget Office estimates that the President's request would actually <u>cut the maximum Pell award to $3,900</u>. Under the Bush request, about <u>100,000</u> fewer low-income students would receive Pell awards than under a current services funding level.

The President has submitted a supplemental spending request of $1.3 billion for Pell grants to fund shortfalls for the 2001 and 2002 school years caused by unprecedented applications due to the weak economy. The Administration, however, has asked Congress to rewrite last year's budget to pay for Pell by cutting mentoring, teacher training, rural education, and other K-12 education programs. It would "rob Peter to pay Paul" to address the unexpected increase in low-income student enrollment.

The Bush Administration Proposed Higher Rates on Student Loans. In April, the Administration proposed raising $1.3 billion in revenue by raising interest rates on refinanced student loans. Student debt is skyrocketing as college tuitions rise. Low student interest rates are critical to maintaining college affordability. The Administration's plan would require a student with a $25,000 loan to pay more than $6,000 in additional interest over a 15-year term of the loan.

The Bush Budget Includes No New Funds for Campus-Based Programs, TRIO, and GEAR UP, Leaving 200,000 Low-Income Students Behind. The Bush FY 2003 budget requests no additional funding to offset inflation or accommodate enrollment growth for the campus-based programs — College Work Study, Supplemental Education Opportunity Grants (SEOG), and Perkins Loans — or for TRIO and GEAR UP.

In total, the $3.0 billion budget freeze for these programs is $201 million below a current services level.

Under the Bush budget, 200,000 fewer low-income students will receive campus-based aid and college preparation support than under a current services funded budget (Table 5).

The three campus-based programs help the most needy students overcome financial barriers to enrolling in and graduating from college. Approximately 38 percent of College Work Study recipients report incomes less than $20,000. Approximately 45 percent of SEOG recipients report incomes below $12,000. About 41 percent of Perkins Loan recipients report incomes below $20,000 (U.S. Department of Education FY 2003 Justifications of Appropriations Estimates to the Congress).

The TRIO program helps first-generation college students succeed in college. Two-thirds of TRIO students come from families with incomes below $24,000. (Student Aid Alliance, 2002)

GEAR UP helps disadvantaged middle school students get ready for college by providing counseling, tutoring, mentoring, and scholarships to raise their educational aspirations and assure them that college is both attainable and affordable. GEAR UP projects

are targeted to schools in which at least 50 percent of the students are low-income students.

The Bush Budget Eliminates LEAP, Leaving 72,000 Students Behind. The Leveraging Educational Assistance Partnerships program (LEAP) encourages states to continue to expand their own need-based student assistance programs and is especially important when states are experiencing budget difficulties. Approximately 62 percent of LEAP recipients report incomes of less than $20,000. However, the Bush budget proposes to terminate the program in FY 2003, eliminating assistance to 72,000 students compared to a current services level (Table 5).

The Bush Budget Cuts Other Scholarships. The Bush budget eliminates scholarship programs targeted to students pursuing legal studies and to Olympic athletes, and includes no additional funding for merit-based and graduate fellowships. In total, these programs are cut $11 million below the current services level. As a result, approximately 2,800 students would not receive awards (Table 5).

Case Studies: Tuitions Rising in States Across the Nation

Wisconsin: Students Left in the Lurch as the State Assembly Slashes the University of Wisconsin's Budget

Thousands of prospective students were left in the lurch on March 8th when the University of Wisconsin abruptly halted undergraduate admissions due to uncertainty about whether the University could accommodate additional students next year in the face of severe state budget cuts.

One single mother from Appleton, Wisconsin, with an associates degree who hopes to enroll at the four-year campus in Oshkosh this fall said, "I've proven myself, I have my letters of recommendation; I have my grade-point average. And now they're telling me it's all for nothing. Why am I being punished?" (*New York Times*, March 15, 2002).

State legislators continue to rework the state's previously adopted biennial budget because of a $1.1 billion budget deficit — the largest in

Wisconsin's history. Meanwhile, the University of Wisconsin, which has begun taking applications for admissions again, faces the unwelcome prospect of imposing sharp tuition increases, eliminating 400 to 500 positions, cutting back on enrollment, and scuttling an initiative to recruit more minority students in order to close the budget gap for the upcoming school year.

The University of Wisconsin already has had to cut $20 million out of its current budget, and is being asked to absorb even deeper reductions next year. While the Governor proposed a $40 million cut and the state senate proposed a $20 million cut for the 2002-03 academic year, the state assembly has proposed an even deeper $108 million cut — about 12.5 percent of the state's allocation to the university.

These budget differences must be resolved over the next few weeks, but either way students at the University's 26 campuses inevitably face tuition increases of 8 to 10 percent this fall. The 28,000 undergraduate students at the flagship Madison, Wisconsin campus, for example, could face a tuition and fee bill of about $4,500, an increase of $700 or 19 percent over two years. Tuition and fee increases for the 2003 school year will be determined next year, but will likely build upon the 2002 school year fee hikes.

Ohio: College Students Pay the Price for State Cuts

Students will pay the price for the higher education cuts in Ohio. The budget gap in Ohio this year is projected at $725 million and it is expected to grow to nearly $800 million in 2003. To compensate, the Governor implemented a 6 percent across-the-board budget reduction. Additional cuts are expected for 2003.

Ohio State University's share of the state cuts is $20 million. In order to address the funding shortfall, the university initially proposed a 35 percent tuition increase for all incoming students. It has decided to phase in the increases over the next three years.

This fall, the 43,000 current Ohio State University undergraduates will pay $5,217 in tuition and fees, the second consecutive 9 percent increase. Meanwhile, incoming freshman will be charged an additional $475—an 18 percent increase—for a total of $5,692 in tuition and fees.

And, under the University's plan, students can expect to see at least 9 percent annual increases for the next several years.

Other Ohio universities also plan tuition increases as a result of the state's fiscal squeeze. For example, Ohio University announced that tuition for continuing students will increase by 9.9 percent to $6,036, while incoming freshman will pay $6,336, a 15 percent increase. The University of Cincinnati will increase tuition for in-state undergraduates by 9.5 percent to $6,936.

Ohio students are worried about their ability to pay for their education. A high school senior in Ohio lamented, "My dad just lost his job.... We're applying for scholarships, but that's never enough. [A tuition hike] would affect me a lot." *(Cincinnati Enquirer,* February 3, 2002*)*

One financial planner cautioned, "It's going to be a struggle for parents, and kids are going to walk away with debt. There's no doubt about it" (*Cincinnati Enquirer,* February 11, 2002*)*.

Pennsylvania: State Cuts Force Double-Digit Tuition Increases

The souring economy has created a $622 million 2002 budget shortfall for the state of Pennsylvania, causing Governor Mark Schweiker to implement a $366 million across-the-board reduction in order to close the budget gap. As a result, Pennsylvania students will see double-digit tuition increases next year.

State funding for Penn State University is expected to decrease by 5 percent, from $335 million in 2001 to $318 million in 2002 — the second largest cut in the
University's history. Penn State University President Graham Spanier explained, "we could not see any tuition increase in the single digits without additional funding from the state" *(Pittsburgh Post-Gazette*, February 27, 2002). One Penn State dean warned, "further cuts could worsen the problem, meaning fewer new faculty, larger class sizes and tuition increases for students" (*The Collegian*, January 14, 2002).

The combination of increased operating costs and declining state funding is forcing Penn State to contemplate tuition increases of as much as 14 percent for the upcoming academic year. More than 40,000 students are enrolled in the university. Freshman undergraduates who enrolled at Penn State in 2000 paid $6,852 in tuition and fees that year and $7,396 in 2001. If tuition and fees were to increase by 14 percent in 2002, their tuition charges would climb to $8,431 — a $1,579 or 23 percent increase over two years.

Tuition and fee increases for 2003 have yet to be determined. However, it is likely that tuition for the 2003 academic year will build upon previous tuition hikes.

The deep cut in state subsidies is expected to generate a 13 percent tuition hike for the 99,000 students enrolled in the 14 universities that make up the Pennsylvania state system of higher education – each student would pay about $500 more per year. Moreover, students at Temple University and Lincoln University may see increases of about 10 percent, which would mean paying about $700 and $600 more per year, respectively, at each institution.

Iowa: Mid-Year Cuts and Stiff Tuition Increases

Iowa is experiencing the lowest revenue growth in 50 years. Iowa's universities and other state agencies implemented three waves of budget cuts during the current fiscal year as the state wrestled with a $200 million budget shortfall. The Governor's revised fiscal year 2003 budget would have addressed the immediate needs of Regents' universities, while maintaining support for community colleges and tuition grants. However, the Iowa Legislature has proposed additional cuts in state support of higher education for fiscal year 2003.

Iowa's Regents' universities —the University of Iowa, Iowa State University, and the University of Northern Iowa—were hit by cuts totaling almost $81 million or about 12 percent of their state appropriations in fiscal year 2002. To put that into perspective, the reduction was the equivalent of the entire state appropriation for the University of Northern Iowa.

Looking at this bleak picture, the Iowa State University student government president lamented, "If the water gets any deeper, we're drowning" (*Daily Iowan*, March 1, 2002).

The state budget cuts have been steep and painful, particularly because they occurred mid-year. One college official noted, "Any cut at this time of the year will be very, very bad . . .There is nothing left through attrition to cut" (*Daily Iowan*, February 26, 2002). The Regents' universities have attempted to protect the quality of educational programs, but have been forced to make difficult decisions to limit course offerings, reduce financial aid and close and consolidated academic programs.

For the 2002-2003 academic year, the Iowa Board of Regents has approved an 18.5 percent tuition increase for the flagship universities. In all, over 55,000 undergraduates will pay the tuition hike next fall. A freshman undergraduate at the University of Iowa who enrolled two years ago paid tuition and required fees of $3,204 in 2000 and $3,522 in 2001, but will pay $4,191 in 2002 — a two-year increase of $987 or 31 percent. Tuition rates for the 2003-2004 academic year have not yet been set, but additional increases could be considered by November.

Iowa's community colleges are experiencing similar pressures. State aid for general operating expenses have been cut by $9 million from one year ago, a reduction of roughly 7 percent. On average, tuitions rose 13

percent over the past year. As a result in the current academic year, revenues from tuition are expected to exceed state aid for the first time.

California: Budget Cuts Could Deny Students Access to Higher Education

As a result of the worst one-year decline in state revenue since World War II, California's colleges and universities slashed current academic year budgets twice this year to generate their share of an approximate $3 billion cut from California state agencies. They may face additional reductions as the state legislature works to close a budget shortfall that the State Legislative Analyst says could reach $17.5 billion in 2002-2003.

California's dire financial condition could force state legislators to consider increasing in-state fees at the University of California and California State University, a proposal suggested by the State Legislative Analyst, but shunned by many state legislators. Such increases are not included in the Governor's budget proposals. Non-resident students are more likely to see stiff tuition increases. California State University, for example, has proposed to increase non-resident tuition this fall by 12 percent from $9,256 to $10,336.

While the Governor has proposed $261 million in 2002-2003 to accommodate additional enrollment at the University of California, California State University and the California Communities Colleges, the ability of these campuses to handle an influx of new students will be sorely tested.

One example is the Los Angeles Community College District (LACCD). The LACCD, comprised of nine community colleges, faces significant financial challenges. It may have to turn away 10,000 to 17,000 students — 7 to 12 percent of current enrollments — because of inadequate funding to hire the necessary faculty to teach courses. In response to the dire budget situation, the LACCD Chancellor noted, "We're really at the end of our rope" (*Los Angeles Times*, March 17, 2002).

Massachusetts: Budget Crunch Puts State Universities on the "Bleeding Edge, Not the Leading Edge"

Double-digit fee increases are on the table for Massachusetts' public college students, as the state's universities scramble to adjust to the state budget crunch. Plummeting revenues could lead to a 2003 state budget deficit as high as $3 billion.

University of Massachusetts (UMass) officials already have had to shave $25 million from this year's operating budget. At the state's flagship campus at Amherst, the university shut down seven of its varsity sports teams, closed academic departments, eliminated the child care center, and downsized campus security in order to come up with its $10 million share of the cuts. Plans to build a separate campus are in limbo. One U Mass faculty member decried, "We can't become a national research university with this terrible budget — cut after cut puts us on the bleeding edge, not the leading edge" (*Boston Globe*, March 17, 2002).

In January, Governor Jane Swift called for additional higher education cuts of $14 million in 2002-2003, of which $3.5 million is proposed for the university system. The Governor's plan also calls for an 8 percent cut for state colleges and a 7 percent cut for the community colleges.

In February, the University of Massachusetts board of trustees voted to raise student fees at four campuses. Fees will increase at the Amherst, Lowell, Boston and Dartmouth campuses by 13 percent, 13 percent, 14 percent, and 24 percent respectively.

Conclusion

Although the economy now shows promising signs of recovery, the recession has left a bitter legacy: the worst state budget crunch in a decade. Forty states have been forced to cut a combined $5.5 billion from their higher education budgets. Students can expect double-digit tuition increases this fall—increases that could lead an estimated 110,000 students to give up on college altogether.

In the coming months, Congress will face a choice. It can provide additional resources for student aid to keep college affordable for low-income students facing double-digit tuition increases. Or it can turn

their back on this challenge, as the Bush Administration's budget does, and let the power of student aid programs erode.

More and more, education beyond high school is critical to America's lifelong economic security. Congress' decision will have long-lasting impact on the lives of hundreds of thousands of Americans.

A Tale of Two Tax Cuts

April 15, 2002

Introduction

Americans are filing their first tax returns under the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), the legislation passed last June that implemented the Administration's tax cut. For some taxpayers, last summer's rebate is representative of the size of the tax cut they can expect over the life of the act, which includes a sunset provision that repeals the entire tax cut at the end of 2010. For others, however, the rebate was just a small downpayment on the full tax cut promised by the act.

Summary of Findings

This note examines the distributional effects of EGTRRA by separating the income tax cuts into two parts: the provisions that are currently in effect in 2002 and the remaining provisions, which will be phased in over the life of the act. The analysis looks only at the main income tax components. It does not include the effects of repealing the estate tax. Key findings include the following (see the accompanying table and chart):

In 2010, when all provisions of EGTRRA are fully in place and the last year before the tax cut's scheduled repeal, provisions that are not in effect this year, including the reductions in marginal tax rates scheduled for 2004 and 2006, will account for about 44 percent of the aggregate income tax cut.

In 2010, the distributional effects of the income tax cuts in place in 2002 are very different from those of the additional tax cuts to come after 2002.

55 percent of the full income tax cut goes to the 18 percent of taxpayers with incomes of $100,000 or more and 33 percent goes to the less than one percent of taxpayers with incomes of $500,000 or more.

Looking only at the income tax cuts that are already in place, 46 percent go to taxpayers with income of $100,000 or more and 12 percent go to those with incomes of $500,000 or more.

Even without accounting for repeal of the estate tax, the tax cuts to come after 2002 are heavily skewed toward high income taxpayers: two-thirds go to those with incomes of $100,000 or more; almost 60 percent go to those with incomes of $500,000 or more, less than 1 percent of taxpayers.

Analysis

These findings are based on an analysis of EGTRRA by the Democratic staff of the Joint Economic Committee using a microsimulation tax model similar to that used by the Congressional Joint Committee on Taxation, the Congressional Budget Office, and other tax analysts. The estimates are for income tax liabilities in calendar year 2010 and include refundable tax credits. The model incorporates the following elements of EGTRRA:

10-percent bracket. Under prior law, taxpayers paid a 15 percent marginal income tax rate on their taxable income, up to a maximum amount based on their filing status (single, married filing jointly, etc,). EGTRRA carved a new 10 percent bracket out of the first part of the old 15 percent bracket. For 2001, taxpayers received an advance rebate equivalent to their likely tax saving from the new bracket. For 2002-2007, the amount of taxable income at which taxpayers stop paying the 10 percent rate and begin paying a 15 percent marginal rate is not indexed for inflation. That level of income is increased in 2008 and indexed thereafter.

Upper-bracket rate cuts. Under prior law, income was taxed in brackets with rates ranging from 15 percent up to 39.6 percent. EGTRRA cut all rates above 15 percent in three stages, with an immediate 1 percentage point reduction, followed by additional reductions in 2004 and 2006.

Changes in deduction and exemption limits. EGTRRA phases out restrictions on itemized deductions and personal exemptions starting in 2006.

Child credit. EGTRRA increased the child credit from $500 to $600 in 2001 for each child under age 17. The credit will be increased again in 2005 and 2009 before it reaches $1,000 in 2010. The Act also made the credit refundable for eligible taxpayers with more than $10,000 of earnings but who owe no income taxes.

Taxes on married couples. Most of the changes designed to deal with the "marriage penalty" do not go into effect until 2005. Starting then, two provisions are gradually phased in: the standard deduction for married couples filing jointly is increased until it is twice that of single taxpayers; the end-point for the 15 percent bracket is increased for married couples to twice that of singles. A third provision that increases the income level at which the earned income tax credit phases out for married couples went into effect this year, with further increases to come starting in 200

AMT exemption. The amount of income exempt from the alternative minimum tax is increased in 2001 to 2004, but then reverts back to the 2001 level, which is not indexed for inflation.

The analysis does not include the provisions of EGTRRA that gradually repeal the estate tax. Nor does it include the education provisions of the act or the pension and IRA provisions. The latter are relatively small and would not change the distributional analysis very much. Repeal of the estate tax, in contrast, would cost well over $50 billion in 2010 and the distributional effects would be highly concentrated at the top of the distribution. An analysis by the U.S. Treasury assigns almost all of the estate tax to the top fifth of the income distribution, with a very high percentage going to the top 1 percent.[1]

EGTRRA provides for gradual reductions in the estate tax until 2010, when it is repealed, hence the estate tax provisions currently in place are relatively small. An analysis that included the effects of the estate tax would produce even more dramatic differences between the distributional effects of the tax cuts already in place and those of the cuts that are yet to come.

A second feature of the analysis that deserves mention is the impact of the alternative minimum tax (AMT), which limits the use of deductions to reduce tax liabilities. In 2001, fewer than 2 percent of taxpayers are subject to the AMT. This percentage is projected to rise to over 35 percent in 2010 under EGTRRA, compared with less than 18 percent under prior law. The AMT reduces the size of the tax cut for upper income taxpayer, and completely eliminates the cut for many (although those with the very highest incomes are not affected).[2] EGTRRA provides modest AMT relief, but that relief is repealed after 2004. More aggressive efforts to provide relief from the AMT would most likely result in an even wider gap between the two sets of distributional effects reported in this paper.

Conclusion

A substantial portion of the tax cut implemented last year is composed of provisions that have not yet taken effect. This analysis shows that the tax cuts people have already received are much less unequally distributed than the tax cuts that will come in the future. In particular, the additional tax cuts to come after 2002 are highly concentrated among the highest income taxpayers, in large measure because of the cuts in the top marginal tax rate.

Last year's tax cut was a work in progress, with provisions phased-in and phased-out and the whole cut scheduled to be repealed at the end of 2010. In addition, economic and budget conditions have changed substantially since EGTRRA was enacted. Under these circumstances, the Congress is debating proposals ranging from

immediate and permanent implementation of the full tax cut to a freeze on further cuts (or even a repeal of some cuts already in place). This analysis provides information helpful in evaluating the distributional effects of some of these proposals.

[1] See Julie Ann Cronin, "U.S. Treasury Distributional analysis Methodology," U.S. Department of Treasury, Office of Tax Analysis. Working Paper 85. September 1999.

[2] For an analysis of the AMT, see Jerry Tempalski, "The Impact of the 2001 Tax Bill on the Individual AMT," U.S. Department of Treasury, Office of Tax Analysis, Mimeo, 2001.

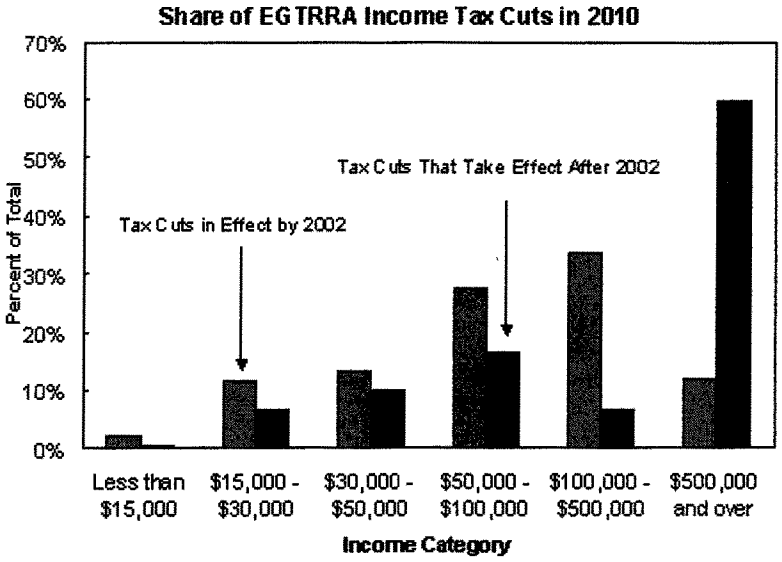
Full Tax Cut				
Adjusted Gross Income Category (2010 dollars)	Percent of Total Returns (percent)	Total Tax Cut (millions)	Average Tax Cut (dollars)	Share of Total Tax Cut (percent)
Total Returns	100.0%	167,789	1,140	100.0%
Less than $15,000	23.9%	2,132	60	1.3%
$15,000 - $30,000	19.5%	15,789	550	9.4%
$30,000 - $50,000	17.2%	19,833	780	11.8%
$50,000 - $100,000	21.6%	38,063	1,200	22.7%
$100,000 - $500,000	17.0%	36,371	1,450	21.7%
$500,000 and over	0.8%	55,602	48,650	33.1%

Tax Cuts In Place in 2002				
Adjusted Gross Income Category (2010 dollars)	Percent of Total Returns (percent)	Total Tax Cut (millions)	Average Tax Cut (dollars)	Share of Total Tax Cut (percent)
Total Returns	100.0%	93,334	630	100.0%
Less than $15,000	23.9%	1,866	50	2.0%
$15,000 - $30,000	19.5%	10,789	380	11.6%
$30,000 - $50,000	17.2%	12,317	490	13.2%
$50,000 - $100,000	21.6%	25,788	810	27.6%
$100,000 - $500,000	17.0%	31,459	1,250	33.7%
$500,000 and over	0.8%	11,114	9,720	11.9%

Additional Tax Cuts To Come After 2002				
Adjusted Gross Income Category (2010 dollars)	Percent of Total Returns (percent)	Total Tax Cut (millions)	Average Tax Cut (dollars)	Share of Total Tax Cut (percent)
Total Returns	100.0%	74,455	510	100.0%
Less than $15,000	23.9%	266	10	0.4%
$15,000 - $30,000	19.5%	5,000	170	6.7%
$30,000 - $50,000	17.2%	7,516	300	10.1%
$50,000 - $100,000	21.6%	12,275	390	16.5%
$100,000 - $500,000	17.0%	4,912	200	6.6%
$500,000 and over	0.8%	44,488	38,920	59.8%

Note: Tables include the following EGTRRA provisions: 10-percent tax bracket, rate reductions in the four top income tax rates, repeal of the restrictions on itemized deductions and personal exemptions, increase and expanded refundability of the child tax credit, increase in the dependent care credit, tax reduction provisions for married filers, and the temporary increase in the alternative minimum tax exemption. The tables do not include education, pension, and estate and gift tax provisions.

Source: Joint Economic Committee, Democratic Staff.



Note: Tables include the following EGTRRA provisions: 10-percent tax bracket, rate reductions in the four top income tax rates, repeal of the restrictions on itemized deductions and personal exemptions, increase and expanded refundability of the child tax credit, increase in the dependent care credit, tax reduction provisions for married filers, and the temporary increase in the alternative minimum tax exemption. The tables do not include education, pension, and estate and gift tax provisions.

Source: Joint Economic Committee, Democratic Staff

Drilling in ANWR: Economic Costs and Benefits

March 14, 2002

Executive Summary

In the current debate over long-term energy policy, the question of whether to open the Arctic National Wildlife Refuge (ANWR) to oil exploration and drilling has been hotly contested. The September 11 terrorist attacks have brought increased focus on the subject, as concerns about dependence on foreign oil increased. A close look at the facts reveals that many of the purported employment, economic, and security gains that would arise if ANWR were opened to drilling are overstated. These claims appear to flow from a fundamental mischaracterization of the functioning of oil markets, questionable assumptions about the oil resources ANWR holds, and simply outdated information. Specifically, the frequently cited assertions that drilling in ANWR would yield 735,000 jobs and allow the United States to achieve independence from Middle Eastern oil suppliers are unsupportable. A more realistic assessment suggests that the potential economic impacts of opening ANWR are less than one-tenth the size of these claims, and that drilling in ANWR can do little to address national security concerns.

Economic Issues

Proponents of drilling argue that opening ANWR would boost the economy and create 735,000 new jobs. These projections rely on an outdated analysis funded by the oil industry, however. The study is based on a series of unrealistic assumptions that inflate the estimated benefits of drilling.

Specifically, the study:

- Assumes that there is about 50 percent more oil in ANWR than is estimated by the U.S. Geological Survey;
- Relies on outdated and unreal-istically low assumptions about world oil demand;
- Assumes that peak oil production in ANWR could be achieved as much as 22 years earlier than the Department of Energy considers plausible;
- Assumes that world oil prices would be over $45 per barrel by 2005 (as compared to $21.70 as projected by the Department of Energy); and

Underestimates increases in labor productivity over time, thus overstating any employment impacts that might arise as a result of drilling.

Any one of these assumptions might lead to a relatively small overestimate of the potential benefits of drilling. Together their effects are compounded, resulting in an extremely misleading assessment.

Using more realistic assumptions reduces the projected increase in employment by 93 percent. Instead of generating 735,000 jobs, drilling in ANWR would provide no substantial new employment for the next ten years and would generate modest employment gains in the long run, peaking at an estimated 65,000 new jobs nationwide in 2020. This would be an increase in projected employment of less than one-tenth of one percent.

National Security Issues

Drilling in ANWR would not provide enough oil to insulate the U.S. from swings in the global oil market, nor could it free the U.S. from the threat of politically motivated supply interruptions from foreign oil producers. Because oil prices are determined in the global marketplace, the U.S. can only influence the price it pays for oil by influencing world prices, and the amount of oil in the ANWR reserves is not large enough to have a significant impact on world oil supplies.

No oil at all could come out of ANWR for about a decade, which means that there could be no short-run impact on prices or import levels. Even in the long run, drilling in ANWR would increase our projected share of world oil supply in 2020 from 4.1 percent to about 5 percent at the most, which is simply not enough to control prices. By comparison, OPEC currrently supplies about 40 percent of the worlds's oil and is projected to supply 50 percent before ANWR production could reach its peak.

Conclusion

Opening ANWR to oil companies would provide few benefits to the nation as a whole, while at the same time allowing a significant piece of America's natural heritage to be destroyed forever. This policy would create a very small number of jobs almost 20 years from now, and would not enhance national security. For American consumers, ANWR oil might lower gasoline prices by a penny per gallon, with even smaller impacts on overall inflation. However, oil companies – many of them foreign owned—could reap substantial profits from the approximately $180 billion dollars worth of oil that is estimated to be recoverable from ANWR.

Introduction

There have been several recent proposals to open the Arctic National Wildlife Refuge (ANWR) to oil exploration and drilling. For example, the President's National Energy Policy proposal released in the spring of 2001, and HR 4, which passed the House of Representatives in August 2001, both specifically call for the development of ANWR oil resources. Proponents of this policy assert that allowing drilling in ANWR has the potential to reduce substantially or even to eliminate U.S. dependence on foreign sources of oil, a goal that has assumed a higher priority in the wake of the September 11 attacks. Additionally, drilling advocates assert that large employment benefits and economic gains would result from this policy.

In fact, however, any economic or security-related benefits in opening ANWR to drilling would be very small and would not occur for at least 10 years. The frequently cited assertions that drilling in ANWR would yield nearly 750,000 jobs and allow the United States to achieve independence from Middle Eastern oil suppliers are unsupportable. A more realistic assessment suggests that the potential economic impacts of opening ANWR are less than one-tenth this size and ANWR does not hold enough oil to raise the U.S. share of the world oil supply significantly.

The full environmental and ecological costs of drilling in ANWR are unknown at this time and may not be fully understood until they become irreversible. Responsible energy policy requires a careful balancing of the potential costs and benefits of policy alternatives. While drilling in ANWR offers few economic and national security benefits, there are clearly some costs that are potentially high and irreversible. Drilling in ANWR would impose substantial risks for little potential reward, failing the cost-benefit test.

Economics of World Oil Markets

Oil is a commodity, and as with most commodities, its price depends almost exclusively on supply and demand. Unlike automobiles, for example, where product quality and characteristics vary among producers, oil produced by one supplier is generally indistinguishable from oil produced by another.[1] Because of this, the main factor buyers and sellers consider in buying or selling oil is its price. For individual buyers and sellers, nationality and geography are largely irrelevant.[2]

Another important feature of oil markets is their global nature. Although the U.S. is a relatively large player in the market, accounting for over 8 percent of global supply and 26 percent of global demand in 2000, the price of oil is determined largely outside of our borders. This

is because the Organization of Petroleum Exporting Countries (OPEC) supplies about 40 percent of the world's oil and frequently adjusts its output levels to manipulate prices (DOE 2000a).

It is easy to see, for example, that a U.S. buyer could not buy Saudi Arabian oil for less than a Japanese buyer was offering nor could a U.S. producer sell to a Japanese buyer for more than a Saudi Arabian producer was asking. It is important to recognize that buyers and sellers are bound by the world market even when they are both located in the same country. A Californian buyer could not offer below-market prices for Alaskan oil and expect to buy it; neither could an Alaskan producer demand more than the world market price from a Californian buyer and expect to sell it. In the first case, the Alaskan producer could simply sell to a foreign buyer offering full price, while in the second case the Californian buyer could find a foreign seller willing to undercut the high Alaskan price.

Oil price fluctuations during the Asian financial crisis of the late 1990s illustrates this point well. When Asian oil demand dropped steeply, prices paid by American refineries fell by about 41 percent between 1996 and 1998. Importantly, the price of oil purchased by American refineries from domestic oil producers fell by a similar amount, about 43 percent. This reflects the fact that lower demand and prices elsewhere had a substantial impact on domestic prices, even as domestic demand rose slightly (DOE 2000a).

Even countries that are self-sufficient (i.e. produce enough oil to meet their own needs) are affected by the world market. While oil in self-sufficient countries may be relatively inexpensive because of low transportation costs, prices will still rise and fall with the world market. Because buyers and sellers must compete with their foreign counterparts, they cannot ignore the rise and fall of the world market price. Prices in every region and every open economy are thus dependent on one another.

There is one exception to this rule of interdependence. A self-sufficient country that banned both oil imports and exports could effectively sever itself from the world market. This exception is important not because it is common, but rather because it is rare. As long as domestic buyers and sellers interact with foreign ones, a country cannot insulate itself from fluctuations in world oil prices. The only way an open economy can influence the price it pays for oil is to influence the price the entire world pays.

While the U.S. is incapable of controlling world oil prices, controlling domestic oil prices is not considered to be a serious alternative either. To do so, the government would likely have to ban the sale of domestic oil to foreign buyers and would further require that the government intervene heavily in the wholesale crude oil market. To maintain low domestic prices when world prices were high, the

government would essentially have to buy oil from foreign producers at the world price and resell the oil to domestic refiners at a loss, while simultaneously requiring that domestic crude producers sell at the same below-market price. Not only would this require a large amount of federal assets, but it would also discourage domestic oil production as producers would be forced to sell at an artificially low price. Alternately, when world prices were low, the government would have to resell foreign oil at a profit, artificially maintaining high energy prices and inflation while allowing domestic oil producers to charge artificially high prices. Both of these situations would distort market incentives to produce and consume oil resources efficiently. Artificially low prices would blunt incentives to use oil and refined products wisely when resources were scarce while leading to under-production of domestic resources. Artificially high prices would lead to unnecessarily high inflation and over-production of domestic resources.

The geographic concentration of oil supplies combined with the importance of oil to economic growth make the balance of supply and demand critical to oil consumers and policy-makers. In 2000, global oil demand was about 76 million barrels per day (mbd). About 40 percent of that was produced by OPEC, whose members are concentrated in the politically sensitive Middle East. By 2020, world demand is expected to rise to about 120 mbd, while OPEC's share of that is expected to rise to nearly 50 percent (DOE 2000b). Such a concentration of supply gives OPEC substantial power to influence global oil prices, as it has demonstrated in the past.

In addition to being relatively abundant, Middle Eastern oil is also relatively inexpensive to extract and deliver. The geophysical characteristics of Middle Eastern oil fields make the costs there as low as $2.50 per barrel for Iraq and $4 per barrel for Saudi Arabia. In contrast, some American oil fields have extraction costs as high as $15 per barrel. The cost of extracting and delivering oil from Alaska's North Slope to the West Coast (its nearest market) is between $9.70 and $10 per barrel, almost 25 percent higher than the U.S. onshore average of about $8.10 per barrel.

Because American oil tends to be harder to extract and therefore, less profitable, American suppliers are often among the first to cut output when prices fall. When prices began falling from their 1996 peak of over $22 per barrel, U.S. production also began to fall, declining about 3.25 percent between 1996 and 1998 when prices bottomed out at just below $13 per barrel. At the same time, output from OPEC increased about 8.7 percent, and total non-U.S. output grew by about 6 percent. Output from OPEC did not begin to fall until 1998, and even then, U.S. output still fell more quickly (DOE 2000a).[3]

Even if ANWR held enough oil to reduce world oil prices significantly (which it does not), lower oil prices would likely cause other

domestic producers to cut back on their output as they did in the late 1990s, offsetting some of the increases in domestic production resulting from ANWR development. Rather than replacing oil im-ports, opening ANWR would shift some oil development from one domestic location to another.

Assessing ANWR's Potential Resources

Despite all the attention it has received, the actual size of the oil resource beneath ANWR is still not known with precision, and may never be known unless drilling actually begins. Before discussing current estimates of the resource, several important distinctions must be made. Broadly speaking, the oil underlying ANWR can be put into three categories, from largest to smallest: oil in place, technically recoverable oil, and economically recoverable oil. Oil in place is the total amount of oil that exists beneath the site. Technically recoverable oil is the amount of oil in place that could be extracted given current and expected recovery technologies. Economically recoverable oil is the amount of technically recoverable oil that could be extracted and sold at a profit. The relevant measure for any oil resource, including ANWR, is the amount of economically recoverable oil. Oil that is inaccessible or too expensive to extract is unavailable for consumption. In discussions surrounding ANWR, this critical distinction is often ignored.

A second important distinction is between currently restricted and unrestricted portions of the ANWR area. The Coastal Plain is the section of ANWR that is believed to contain oil. The Alaska National Interest Lands Conservation Act of 1980 set a portion of that land aside from oil exploration and extraction. This area is commonly referred to as 'Area 1002' after the relevant section of the Act. The oil resource is not contained entirely within the federally restricted lands of Area 1002, however. Rather, about 26 percent of the oil resource is estimated to lie beneath adjacent state and native lands where federal consent is not required to allow drilling. To date, oil companies have been unwilling to attempt to extract oil from the unrestricted area unless Area 1002 is also open for access.

In its 1999 assessment of the ANWR resource potential, the U.S. Geological Survey (USGS) identified three possible scenarios and assigned probabilities to each (USGS 1999). In the 'high resource' scenario, there would be about 16 billion barrels of technically recoverable oil; in the 'low resource' scenario, there would be about 5.7 billion barrels of technically recoverable oil. The USGS assigned a 5 percent probability to the high resource scenario and a 95 percent probability to the low resource scenario. The 'mean scenario' under which 10.3 billion barrels would be technically recoverable has a 50 percent probability. Factoring out the oil that is already open for development beneath state and native lands, the technically recoverable

resources under the high, mean and low resource scenarios fall to 11.8, 7.7, and 4.3 billion barrels respectively.[4] Only a portion of this oil would be economically recoverable.

A major factor in determining how much oil is economically recoverable is the price of oil on the world market. This cannot be known with certainty in advance. The Energy Information Administration (EIA) of the Department of Energy (DOE) estimates that at $26 per barrel, about 80 percent of the oil in ANWR would be economically recoverable. The EIA currently estimates that the world price of crude oil would remain at or below this level through 2020. Applying this to the above assessments lowers the recoverable oil estimates for Area 1002 to 9.4, 6.1, and 3.4 billion barrels for the three scenarios. **Table 1** summarizes the resource potential under the three scenarios.

It would also take a substantial amount of time for any ANWR oil resources to reach the market. The EIA estimates that the time between approval of ANWR extraction and first production would be anywhere from 7 to 12 years. After production starts, it would take a number of years before production could reach peak levels. The EIA based its extraction rates on volumes that could be developed "within practical drilling and operational limits." The actual development rates would depend on the number of wells drilled each year as well as the rate at which individual wells were developed.[5]

Under both of the extraction rates that EIA examined, extraction of ANWR oil would not reach peak levels until somewhere between 17 and 24 years after development began. Under the mean resource scenario and a rapid development rate, the entire coastal plain could meet less than one percent of world oil demand by 2020. More moderate assumptions about development rate and time to first production could bring this estimate below one-half of one percent.

National Security Issues Relating to Drilling in ANWR

The role of national security as it relates to energy markets is loosely defined, but there are two closely related and commonly cited security concerns. One deals with the economic uncertainty associated with relying on international oil markets and foreign oil suppliers. Because petroleum is a major source of energy, the price fluctuations associated with the frequently volatile world oil market can subject the economy to uncontrollable and often unpredictable influences. The second security concern involves the dependence of the United States on foreign suppliers to provide both crude oil to be refined in the U.S. and finished petroleum products that have been refined elsewhere.

The U.S. currently imports about 52 percent of its total petroleum (DOE 2001b). Many are concerned that this leaves the U.S. vulnerable to politically-motivated supply disruptions from foreign suppliers, such as the ones seen in the 1970s and early 1980s. This vulnerability is one reason for our ongoing military and political involvement in the Middle East. Opening ANWR to drilling has been proposed as a way to alleviate these economic and national security concerns and allow the U.S. greater self-determination in both political and economic processes. However, ANWR resources could not significantly change U.S. dependence on oil imports.

Any country that imports or exports petroleum and maintains reasonably open markets is bound by world energy markets. ANWR oil could only provide the U.S. with greater control over energy prices if there were enough of it to influence world oil markets.

However, even at peak production levels the addition of ANWR oil to U.S. production would only raise our projected share of world output from 4.1 percent to 5 percent by 2020. At the same time, OPEC output is expected to increase to about 50 percent of world oil supply by then. The potential ANWR resource is simply not large enough to offset the market power that OPEC will have. Even if the OPEC coalition stopped deliberately influencing oil prices or fell apart, the U.S. would not control enough of the world's oil production to control prices. Drilling in ANWR would thus do little if anything to promote energy or economic stability.[6]

According to the EIA, the U.S. imported about 52 percent of our crude oil and refined petroleum consumption in 2000. This is expected to increase to about 64 percent by 2020 (the latest date for which the EIA produces forecasts). Assuming that oil extraction in ANWR were to begin 10 years after Congressional approval (EIA estimates it would take 7 to 10 years), the mean resource scenario and moderate extraction rate provided by the EIA would reduce our import dependence by less than one percentage point, to 63.3 percent by 2020. Under the more optimistic assumption that extraction began 7 years after approval (a time frame viewed as highly optimistic by most of the oil industry[7]) and assuming a more rapid development rate (which would provide more oil in early years and lead to more rapid depletion), the import share would only fall to about 62.8 percent.

If OPEC's share of U.S. imports rises proportionately with OPEC's share of world output, then even in the optimistic scenario we would import 31.4 percent of our petroleum needs from OPEC, down just over one percentage point from 32.7 percent without ANWR. Even in the low probability (5 percent) resource scenario with a high extraction rate, ANWR would reduce our dependence on OPEC imports by only 2 percentage points.[8] Because it would not significantly reduce our dependence on foreign and OPEC oil and would not insulate us from

price swings in the global oil market, it is clear that extracting ANWR oil would not shield the U.S. economy from manipulation by foreign oil producing countries.

While OPEC supplies a substantial share of the world's oil needs, non-OPEC members provide 60 percent of global oil supply. In the extreme event of a complete OPEC oil embargo against the United States, there would be more than enough oil from other sources available to fill our needs, although oil prices would certainly rise sharply. OPEC's power comes not from the physical ability to keep oil from flowing into the U.S., but rather from its ability to make oil so expensive that we are forced to consume significantly less of it while paying higher prices for the oil that we do consume.

Even if we didn't import any oil from OPEC, its control over oil prices would still make stability in the Middle East a major political and economic concern. The real security issue is not that we are heavily dependent on foreign oil, but that we are heavily dependent on oil at all. Oil prices are important to us because oil is important to us. Until we diversify our energy sources and increase our energy efficiency, large swings in oil prices will continue to produce large swings in the economy, and we will remain dependent on world oil markets and foreign oil producers. Drilling in ANWR will do nothing solve this problem.

Macroeconomic Effects of ANWR Oil Production

Another argument made in favor of developing ANWR oil resources is that it would create substantial economic benefits in terms of both employment and national income. Proponents often cite the estimate that drilling in ANWR would generate 735,000 additional jobs. In reality, however, the job impacts are likely to be less than one tenth of that.

The frequently-cited job estimate comes from a 1990 study by the modeling and forecasting firm, WEFA, Inc., prepared for the American Petroleum Institute (API). The study, "The Economic Impact of ANWR Development" (WEFA 1990), attempted to assess the impacts of development under a number of different scenarios, including various world oil price projections and oil resource estimates. One of these scenarios produced an estimated employment impact of 735,000 additional jobs at the peak of ANWR production.

Importantly, the main benefit found by WEFA to result from drilling in ANWR would not be the additional jobs that might result from opening new oil fields, but rather the lower inflation rates and trade deficits that the study suggests would result from a massive drop in world oil prices caused by ANWR oil coming to market. These benefit estimates are based on a set of unrealistic assumptions that inflate the impact that drilling in ANWR could have, however. Additionally, the

information and predictions that drive these results are now long out-of-date.

The WEFA study is now nearly 12 years old, and economic and political conditions have changed dramatically since it was done. The study assumed that ANWR production would reach its peak in 2005, when world oil demand was projected to be about 56 million barrels per day (mbd). In reality, world demand has greatly outstripped WEFA's projections, exceeding 75 mbd in 2000. Demand is projected to reach nearly 120 mbd by 2020, which is well before ANWR extraction now could be expected to peak. The larger world oil demand is, the less impact any given amount of ANWR oil would have on world oil prices. Merely updating these projections would cut the expected employment impacts of drilling in ANWR by more than half.

In addition to being based on outdated oil market information and projections, the WEFA report also overestimated the likely price of oil when ANWR oil would reach the market. WEFA projected that world oil prices would exceed $45 per barrel in 2005, rising to about $47.50 by 2010. The Department of Energy projects far lower prices, as does WEFA itself in its more recent work (DOE 2001b and WEFA 1997). In both cases, world oil prices are projected to remain below $26 per barrel through 2020. Overestimating prices inflates the benefits of drilling, because the price relief that a given amount of additional oil could provide is higher when supplies are tight and prices are high. Replacing WEFA's assumptions with newer ones reduces the remaining projected employment benefit from ANWR drilling by half again.

Productivity tends to grow over time, and WEFA's productivity projections are also outdated. According to the WEFA projections, in 2005 the U.S. economy will produce about 13,500 jobs per billion dollars of national income, a measure that falls as productivity increases. In part because the 1990s saw productivity gains that would have been difficult to predict at the beginning of the decade, the economy produced about 13,350 jobs per billion dollars of national income in 2000, well ahead of WEFA's projections. Assuming that this measure of productivity improves at just 1 percent per year (it improved 1.3 percent per year from 1981-2000 and 1.4 percent per year from 1991-2000), jobs per billion dollars of income would fall to just under 11,000 by 2020. All else equal, this alone would reduce the employment impacts of ANWR drilling by about 15 percent.

In addition to relying on outdated data, the WEFA analysis is also based on assumptions that are indefensibly optimistic. Relying on information supplied by the American Petroleum Institute (API), WEFA assumed that there would be 9.25 billion barrels of economically recoverable oil beneath ANWR, roughly corresponding to the 5 percent probability assessment of Area 1002 developed by the USGS (see Table 1). The USGS mean assessment of this resource is 6.1 billion barrels,

about one-third less than WEFA assumed. The size of the resource is important both because it helps determine the value of the oil once it is extracted and also its impact on the world market. Less oil means a smaller reduction in the trade deficit, as we would need to import more oil than WEFA assumed. But it also means that ANWR oil would have lessimpact on the world oil market, providing smaller benefits in terms of energy costs and inflation than WEFA's analysis suggests.

Two other assumptions that serve to overstate the impacts of drilling in ANWR are the rate at which ANWR oil would be extracted and the lag between Congressional approval of drilling and peak ANWR production. WEFA, again relying on information supplied by API, assumed that 1) oil extraction could begin seven years after drilling leases were granted (which WEFA notes is "generally regarded as highly optimistic by most of the industry"), 2) that leases would be granted in 1990, and 3) that peak production would be reached in 2005, eight years after first production and 15 years after leases were granted.

According to the EIA, peak production under the most rapid development scenario it considered would not occur until 17 years after first production. First production, in turn, would not occur until 7 to 12 years after leases were granted. A more moderate production schedule would peak 25 years after first production. Rather than the 15-year lag between approval and peak development assumed by WEFA and API, peak production under federal government scenarios would not take place until 24 to 37 years after approval.

Not only does the WEFA analysis overestimate how quickly benefits of drilling in ANWR would be felt, but the rapid development rate that WEFA assumed also overstates the peak impacts of development. WEFA's forecast of an additional 735,000 jobs at peak production is a major component of its estimated benefits from drilling in ANWR. Five years after peak production, the employment gains fall by nearly half as ANWR production slows. The peak employment impact is highly sensitive to the development rate, and the rapid rate assumed in the study serves to exaggerate the impact of development. A more rapid development rate would also exhaust the resource more quickly, so that the employment gains would dissipate more rapidly.

If Congressional approval were granted immediately, and production began 10 years after that, then under the most rapid development rate considered by EIA and a resource assessment of 8.26 billion barrels, ANWR production would be no more than 789 thousand barrels a day by 2020, about 60 percent lower than WEFA's assumed peak development rate of 1.9 million barrels per day.[9] Any remaining economic benefits of drilling in ANWR would be reduced by about the same 60 percent.

The WEFA analysis relies on assumptions that, in general, inflate the benefits that might result from drilling in ANWR. While any one of

these assumptions might lead to a relatively small over-estimate of the impacts, together their effects are compounded, resulting in an outdated and excessive assessment. Replacing WEFA's string of unrealistic assumptions with more moderate ones reduces its job creation estimate by about 93 percent. Instead of creating 735,000 jobs, drilling in ANWR would not produce any notable employment gains for the next ten years. The largest impact it could have over the next 20 years would be to create about 64,700 jobs in 2020, an employment gain of less than one-tenth of one percent of the U.S. workforce as a whole.

Conclusions

As the debate continues over whether or not to open the Arctic National Wildlife Refuge, proponents of drilling suggested that it would provide both increased national security and large economic benefits. A review of the economics of oil markets and the U.S. resource potential reveals, however, that drilling in ANWR would do little to reduce either political or economic risks. In fact, if increased production in ANWR is used as a substitute for increased energy efficiency, we will become more dependent on foreign oil than we otherwise would. As a result, we would actually become more susceptible to political and economic influence from OPEC and other foreign oil producers.

The economic benefits from drilling in ANWR would also be small. A more realistic assessment of the impacts of drilling in ANWR finds benefits less than one-tenth the size estimated by some proponents. The vast majority of the benefits of extracting ANWR oil would go to the oil companies that would sell the oil. For the average American, opening ANWR would do little to spur economic growth and job creation or to lower energy prices significantly. In fact, in today's terms, drilling in ANWR would lower gasoline prices by no more than 1 penny per gallon.

While the goals of economic growth and national security are laudable, drilling in ANWR would do little to promote them. A more successful approach to reducing our dependence on foreign oil would be to reduce our dependence on oil altogether. Enhancing energy efficiency would insulate the economy from the political and economic uncertainties of global oil markets, while providing substantial economic benefits in both new technology development and reduced energy expenditures. This approach could provide substantial long-term benefits, as opposed to the relatively minor and ultimately temporary benefits drilling in ANWR might provide, without the risk of permanently damaging sensitive ecologies.

Appendix

This Appendix provides a more detailed examination of the WEFA analysis. The first section summarizes the approach that the analysis

takes and identifies several important assumptions used by WEFA that drive its conclusions. The second section details problems with these assumptions and how WEFA's projected peak-year benefit of 735,000 jobs falls to 64,700 as each assumption is reconsidered.

Inflated Estimates of the Impacts of ANWR Development

The estimate of impacts that the Administration and other proponents of drilling choose to cite come from a 1990 study by the modeling and forecasting firm, WEFA, Inc., prepared for the American Petroleum Institute, entitled "The Economic Impact of ANWR Development." (WEFA 1990). The study attempted to assess the impacts of development under a number of different scenarios, including various world oil price projections and oil resource estimates. The scenario that produced the735,000 job creation estimate uses WEFA's baseline forecasts of world oil prices and assumes a high level of ANWR oil resources. (Other scenarios include high and low oil price scenarios as well as low and zero ANWR oil assumptions; these scenarios all produced smaller impacts than the one examined here).

Written in 1990, the study assumed that permission to drill was granted in that year, and that development would begin in 1997. The study further assumed a fairly rapid development rate, so that peak production was reached in 2005. The high resource scenario assumed that 9.25 billion barrels of oil would be economically recoverable from ANWR. Peak daily production is assumed to be about 1.9 million barrels per day (mbd), or about 3.4 percent of global oil supply. This is just below the physical capacity limit of the Trans-Alaska Pipeline of 2 million barrels a day and could only be achieved if output from other non-ANWR Alaskan wells was reduced to nearly zero. The increased output puts downward pressure on oil prices, causing other producers to cut back on their supply, either because it is no longer profitable to extract and sell oil at the lower price or because suppliers with the power to influence the market (like the OPEC cartel) cut output in a deliberate attempt to sustain higher prices.

The combined effect of the increased ANWR production and reduced production from other sources in 2005 is projected to be an increase of about 1.1 mbd, or just over 2 percent of world oil supply. As a direct result, world oil prices in 2005 are almost 11 percent lower than they would otherwise have been (as projected by WEFA's baseline).

ANWR production would have two principal impacts on U.S. employment. The first, direct impact is the increased demand for labor in the extraction and refining industries. These increases would lead to additional economic activity, as increased employment and production in these industries would lead, for example, to increased demand for consumer goods and services by newly employed refinery workers. The WEFA report does not report figures from this direct effect. They are

likely to be small, however, for a number of reasons. The first is that any new drilling activity will compete with other drilling already taking place in the state. Unless there is a large pool of unemployed oil industry workers, any increase in employment will simply hire workers away from other drilling sites. The second is that any additional drilling in Alaska is likely to be at least partially offset by reductions in drilling elsewhere in the U.S. In either case, the "new" drilling activity in ANWR is in part only a shift of resources away from other drilling sites.

The second, indirect impact would be much larger than the direct impact and can be broken down into two components. One results from the fact that lowering global oil prices reduces the amount of money producers have to spend on energy to produce any given level of output which in turn results in lower prices for goods and services.

At the same time, lower oil prices reduce the amount households have to spend on any given amount of direct petroleum consumption (heating oil and gasoline, for example). Individuals and the nation as a whole would be able to buy more goods and services with a given level of income. This will be referred to as an 'income effect' because lower prices effectively raise real national income.

The second component is the trade impact that results from importing less oil than would otherwise be the case. Every dollar of oil purchases that goes to an Alaskan producer rather than a foreign one reduces net imports by a dollar, improving our balance of trade and national income. Together, the trade and income effects make up the vast majority of the economic benefits that would result from extracting ANWR oil. Adding these two dollar values provides a convenient measure of the economic benefits of drilling in ANWR.

According to the WEFA study, in its peak year, the reduction in oil prices would free up about $29.4 billion of national income that could be spent on other goods. The fact that more of our oil consumption comes from domestic sources adds another $28.1 billion dollars that would have gone to foreign oil suppliers. Together, these two impacts would effectively add about $57.5 billion to national income in 2005, which WEFA assumed would be the peak production year. WEFA's projected employment gains of 735,000 amount to about 12,750 jobs per billion dollars, slightly lower than the average of about 13,500 jobs per billion dollars of national income in its baseline scenario for the same year.

Correcting the Analysis

There are several factors and assumptions that explain why the WEFA study arrived at its conclusions. These include assumptions about the state of the world oil market, the quantity of oil underlying ANWR, the rate of ANWR development, labor productivity, and the responsiveness of domestic and foreign oil producers to an increase in

global supply. A close examination shows that in many cases, these factors and assumptions are overly optimistic and produce results that are unrealistically high.

One important caveat to the WEFA results is the temporary nature of the jobimpacts. The frequently cited 735,000 job creation estimate is WEFA's estimate of employment creation in the peak year of ANWR oil production (assumed to be 2005). WEFA's results are reported in five-year increments, so it is impossible to know exactly how long these jobs last, but by 2010, the employment impacts fall by nearly half to 372,000 additional jobs.

A more accurate description of the employment impacts would be to measure the average annual additional employment or the number of additional job-years (calculated as the product of additional employment and the duration of employment in years). Because the results are reported in 5-year increments, it is impossible to calculate either of these precisely. However, assuming that employment impacts change in step-wise fashion (e.g. that all 735,000 additional jobs in 2005 last until 2010 after which 372,000 additional jobs remain which in turn last until 2015) yields a rough estimate of average annual impacts of 393,000 additional jobs over the first 20 years of ANWR oil extraction.[10]

Using updated and more realistic inputs, this analysis will produce a more reliable estimate of the impacts of drilling in ANWR for both the average of the 20 years as well as the peak year.

World Oil Market Projections

Two important inputs in the WEFA analysis are the oil price and production levels that were projected in both its baseline and ANWR extraction scenarios. In addition to being a decade old at this point, the study under-predicted global production and over-predicted the price by a wide margin.

The model predicted that by 2005, without ANWR, world producon would be 55 million barrels per day (mbd) and the price would be over $45 per barrel. With ANWR production, these were projected to be 56 mbd and $40.50 per barrel. In contrast, we now know that by 2000, world oil production had already exceeded 76 mbd. By 2015 (a time frame roughly equivalent to 2005 in the WEFA analysis), production is expected to reach almost 107 mbd (nearly twice WEFA's 2005 forecast) and 120 mbd by 2020. Additionally, prices are expected to be considerably lower than the WEFA projections. Using current EIA projections, world oil prices in 2015 are expected to be much lower, around $22.50 per barrel rising to just under $23 in 2020. In fact, a more recent projection from WEFA, a 1997 analysis of the Kyoto Protocol on climate change, produced baseline oil price forecasts much closer to the EIA projections, about $24 in 2015 and just over $25 in 2020.

Both of these are very important to the analysis. Revising production levels is important because, for any given amount of oil that might come out of ANWR, a higher world production level means that the ANWR oil will be less important relative to world supplies and will thus have a smaller impact on oil prices. The projected price levels are also important because price impacts depend on percentage changes in prices.[11] In the WEFA analysis, ANWR production is projected to reduce world oil prices by about 11 percent in 2005. At the higher prices predicted by WEFA, this is about $4.77 per barrel. At the lower updated prices from EIA, this impact is much smaller in dollar terms, reducing prices by $2.37 per barrel.

Updating these two numbers results in lower estimates of the income and trade benefits associated with drilling in ANWR. Simply updating the production numbers alone cuts the benefits approximately in half, as the price impact falls from 10.5 percent to 5.4 percent, because ANWR oil is about half as important as WEFA predicted it would be (1.77 percent of world oil supply as opposed to 3.45 percent). Updating the price forecasts further reduces the benefits, so that instead of lowering prices by $4.77 per barrel, prices would fall by about $0.73 per barrel.

Together, updating these two numbers reduces the income benefit from $29.4 billion to $7.5 billion and reduces the trade impact from $28.1 billion to $14.7 billion, lowering the total impact from $57 billion to $22.2 billion. Assuming that $1 billion continues to generate about 12,750 jobs, this would reduce the peak year employment impacts from 735,000 to 283,000.

Quantity of Oil

As mentioned above, the EIA and USGS assessed several different scenarios for the potential oil resource underlying ANWR. The size of the resource is important because it helps determine not only the value of the oil once it is extracted but also the impact extracting it would have on the world market. The WEFA study assumed that there would be 9.25 billion barrels of economically recoverable oil beneath ANWR, which corresponds roughly to the EIA 5 percent probability assessment of oil underlying Area 1002. The mean assessment of this resource, as shown above in Table 1, is 6.1 billion barrels. The high assumed level of economically recoverable oil appears to be due, at least in part, to the high oil prices WEFA projected, which would make more of the technically recoverable oil profitable to extract. Reducing the potential ANWR resource from 9.25 billion to 6.1 billion barrels (and assuming that the extraction rate falls proportionally) lowers the economic benefit further. Combining this with the other corrections above reduces the income effect to just under $5 billion and the trade effect to $9.9 billion. This total effect of about $15 billion would reduce the employment impacts further to about 191,000 new jobs. Using the higher resource assessment of 8.27 billion barrels that includes the entire coastal plain

(rather than just Area 1002) reduces the benefits by a smaller amount, to $19.9 billion with employment impacts of 255,000.

Development Rate

Two other assumptions that overstate the impacts of drilling in ANWR are the rate at which ANWR oil is extracted and the lag between the time that Congress approves drilling and when ANWR production reaches its peak. WEFA, using information supplied by the API, assumed that oil extraction could begin seven years after drilling leases were granted (which WEFA notes is "generally regarded as highly optimistic by most of the industry"), that leases would be granted in 1990, and that peak production would be reached in 2005, eight years after first production and 15 years after leases were granted. According to EIA and USGS, peak production under the most rapid development scenario they considered would not occur until 17 years after first production, which in turn would not occur until 7 to 12 years after leases were granted. A more moderate production schedule would peak 25 years after first production. Rather than the 15-year lag between approval and peak development assumed by WEFA and API, peak production under federal government scenarios would not take place until 24 to 37 years after approval.

Not only does the WEFA analysis thus overestimate the how quickly benefits would be felt, but the rapid development rate also overstates the peak impacts of development. The forecast of an additional 735,000 jobs is the largest impact in any single year in the 20-year forecast. As noted above, five years after peak production, the projected employment gains fall to 372,000. The peak employment impact is highly sensitive to the development rate, and the rapid rate assumed in the study serves to exaggerate the impact of development. A more rapid development rate would also exhaust the resource more quickly, so that the employment gains dissipate more rapidly.

If Congressional approval was granted immediately and production began 10 years after that, then under the more rapid development rate assessed by EIA and a resource assessment of 8.26 billion barrels, ANWR production would be as high as 789,000 barrels a day by 2020. Using this as the peak production magnitude and date, and maintaining WEFA's other assumptions about the reaction of world oil markets to ANWR production, world oil supplies would increase by about 469,000 barrels. This is an increase of about 0.4 percent, leading to a reduction in price of about 2.02 percent, as compared to WEFA's assumption that world supply would increase by 2.05 percent leading to a price reduction of over 10 percent. Correcting this reduces the income effect to $2.8 billion and the trade effect to about $6.1 billion. Together, this comes to $8.9 billion with employment impacts of 112,000 jobs. Using the more modest development rate lowers this further to $5.9 billion and 75,000 jobs.

Other Factors

Because the majority of the economic benefits from extracting ANWR oil would come from the indirect impact of lowering world oil prices, WEFA's assumptions regarding the response of world oil markets are critical to its projections. As noted above, WEFA projects that in 2005, ANWR production would be approximately 1.9 mbd, but that world oil supply would increase by only 1.13 mbd because some production becomes unprofitable at lower prices or due to market manipulation by large suppliers like OPEC.

WEFA assumed that peak ANWR production would reduce world oil prices by about 10.5 percent, leading to supply cuts of about 1.4 percent by OPEC and other oil suppliers, implying a supply elasticity of about 0.13. While elasticities can be difficult to determine with precision, the value used by WEFA is at the decidedly low end of estimates of long-term oil supply elasticity. In fact, a survey of the literature found supply elasticities ranging between 0.144 and 0.98, with an average of 0.38 (Huntington 1991). This is important, because the rate at which other suppliers respond to ANWR production will largely determine what, if any, impact ANWR oil will have on world oil prices. Using a more moderate elasticity of supply would further reduce the expected benefits of drilling, as OPEC and other producers would offset more ANWR production with cutbacks of their own.

Finally, another problem resulting from the age of the WEFA analysis is the growth in labor productivity. In 2000, the U.S. economy produced about 13,350 jobs per billion dollars of national income, similar to the rate projected by WEFA for 2005, and slightly higher than the rate WEFA projected as a result of ANWR drilling. As productivity increases over time, however, this rate will fall. Over the last 20 years, this rate fell by over 20 percent – an annual rate of about 1.27 percent. Using a more moderate rate of just 1 percent per year would reduce the projected 2020 employment gains by about 15 percent. This would lower the peak year employment gains to 96,800 under a rapid development rate or 64,700 under the more moderate rate.

Over the next 19 years, the average increase in employment for any given year would be about 27,600 jobs in the rapid depletion rate and 19,500 jobs at the moderate development rate (about 0.013 percent of projected average annual employment). By any measure, these projected impacts are vastly smaller than those implied by the WEFA analysis, which appears to overstate the employment impacts by a factor of more than 10.

End Notes

[1] While there are different types of oil, defined by sulfur content and density, similar types of oil are easily substitutable for one another regardless of producer.

[2] The main role that geography plays in oil markets is in transportation costs. The relevant measure for crude oil consumers is the price of the oil plus transportation costs. These costs are generally moderate. In 2000, the average landed cost of oil imported to the U.S. was about $27.58 per barrel, while domestic oil cost $25 per barrel.

[3] Unless otherwise noted, all prices in this report are in 2000 dollars, deflated with the GDP implicit price deflator.

[4] Some argue that since the unrestricted lands require no further Congressional action for drilling to commence, these lower resource levels are the relevant measure of the amount of oil that would become available if Area 1002 were opened. It is not clear, however, why oil companies have not already drilled these available areas. Given that substantial additional pipelines would have to be built to connect the ANWR oil sites to the Trans-Alaska pipeline, oil companies may feel that it is not profitable enough to invest in the pipeline and other capital requirments to extract and transport ANWR oil unless the entire Coastal Plain is available. Wherever relevant, this discussion will address both the total and the Area 1002-only resources.

[5] Unlike the oil at Prudhoe Bay, which is a single giant oil field, the ANWR oil resource is likely spread out among many small accumulations, which would require a large number of wells to develop.

[6] Further, unlike OPEC where output decisions are made by political leaders, U.S. production levels are determined by individual decisions made by several different oil companies based on business considerations. Even if the U.S. dominated world oil markets, U.S. companies would not be likely to change output levels in order to achieve some political goal. Their output decisions would instead be made to achieve their business goals, as they are now.

[7] See WEFA 1990, p. 29

[8] These estimates themselves exaggerate the benefits of drilling because they assume that none of the oil extracted from ANWR is exported and that it does not offset any domestic production, reducing only imports. While it is impossible to know in advance how much domestic production would be offset by ANWR oil, if it were proportionate to consumption patterns, the import reduction would fall by about 25 percent. These calculations are based on the oil assessment of the entire coastal plain. Applying this analysis to only the restricted 1002 area would reduce the impacts by a further 26 percent.

[9] This estimate is also unrealistic because it would require almost the full capacity of the Trans Alaska Pipeline, the pipeline, which is projected to re-main between 640,000 and 960,000 barrels per day through 2020. Instead of increasing domestic oil supply by the stated 1.9 mbd, the pipeline is projected to have only enough excess capacity to carry an additional 1.04 to 1.36 mbd over the next 20 years.

[10] Because no drilling or extraction occurs prior to 1995, the 20-year time span relevant for the WEFA analysis is 1995 to 2015.

[11] The relevant measure is called an 'elasticity', which measures the percentage change in price caused by a percentage change in production.

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Health Insurance Tax Credits: The Wrong Prescription for the Uninsured

February 2002

Executive Summary

Despite a strong economy over the last decade, there are still millions of working adults who lack health insurance. High costs and difficulty in gaining access to care are the primary barriers to insurance coverage both for workers and for the unemployed. Many low-income workers are not offered insurance benefits through their employers. For them, the cost of private, non-group insurance plans can be prohibitively expensive. High costs also force some workers to decline employer-sponsored coverage because they cannot afford the employee share of the premiums. The unemployed face similar problems, and for them finding affordable health insurance coverage can be even more difficult.

Providing tax credits for health insurance is one approach that has been proposed as a means of reducing the ranks of the uninsured. The Bush Administration, for example, has proposed a refundable tax credit for uninsured individuals and families. But tax credits cannot fully address the problems of access and affordability for the vast majority of the uninsured in the United States.

The purpose of a tax credit is to lower the cost of health insurance premiums sufficiently to allow more people to buy coverage. Proponents argue that a health insurance tax credit would expand coverage by giving people money – either a fixed percentage of premium costs or a flat dollar amount – to use toward purchasing a plan in the private, non-group market.

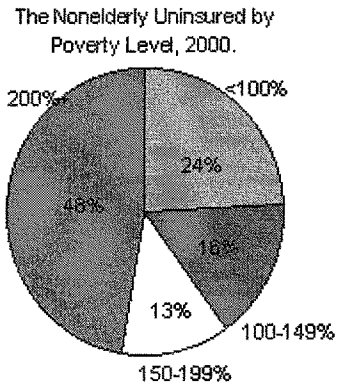
To be effective, the credit must be large enough to allow the low-income uninsured to afford coverage and to give private insurers an incentive to provide that coverage. Under current tax credit proposals, however, health insurance would still be out of reach for most low-income Americans. Many very poor families would have to spend more than half of their annual income on health insurance to receive coverage under these plans. Tax credits alone would also do little to improve access to coverage, because providing coverage to people with health risks will not be profitable for insurers unless premiums are very high or better methods of pooling risks are developed. As a result, insurance providers may still turn away some uninsured because of age or health status, even if the applicants can afford to pay somewhat higher-than-normal premiums.

A more effective way to guarantee health coverage for the poor would be to extend coverage through existing public programs such as Medicaid and SCHIP. Most proposals would grant free coverage to the very poor and allow the near poor to buy into public programs at reduced rates. The advantage of these proposals is that they would virtually eliminate the problem of health insurance coverage for the poor, without spending public resources to subsidize those who can already afford and gain access to health insurance. In the longer run, offering tax advantages for health insurance for higher-income employees who are not covered by employer plans may even induce some employers to drop their plans, raising public costs for health insurance even further.

I. Why Do More Than 38 Million Americans Lack Health Insurance?

In 2000, more than 38 million Americans did not have health insurance at any point during the entire year, and many more lacked insurance for at least part of the year. Further, many of those who did have some insurance did not have enough coverage to allow them to pay for all their health care needs. These problems occurred in spite of record levels of employment, the most common source of health insurance. As the economy slows and unemployment increases, the number of uninsured will continue to rise.

Most of those without insurance are working adults under the age of 65. More than 75 percent of the uninsured – some 30 million Americans – are between the ages of 18 and 64. Most of them are working poor. The overwhelming majority (75.9 percent) worked either full or part-time during the year, yet more than half of the non-elderly uninsured have household incomes that are less than 200 percent of the federal poverty level (FPL), which in 2000 was about $17,500 for a family of four.



Source: JEC Democratic Staff analysis of Congressional Research Service and U.S. Census Bureau data.

Barriers to Coverage: Access and Affordability

There are two primary barriers to coverage for the low-income uninsured – access and affordability. The cost of a comprehensive health insurance plan can be a significant share of a low-income family's monthly budget. After paying rent and buying food, many simply cannot afford to pay insurance premiums.

Access to coverage is also a serious problem. Many people are uninsured because they do not meet the eligibility requirements for group plans or for public programs such as Medicaid. Those who have past or present health problems may be unable to find an insurer willing to cover them in a private, non-group plan, and these plans often exclude existing medical problems and are very expensive when they do exist.

The problems of affordability and access plague all three markets for health insurance – employer-sponsored group insurance, public programs, and private non-group plans.

Employer-sponsored group insurance

Most Americans with health insurance are covered by a plan offered by their employer. However, many of the uninsured do not have access to an employer-based plan. The majority (80 percent) of those who are working but uninsured are not offered or are not eligible for an insurance plan at work.[1] Smaller firms, which tend to employ more low-wage workers, are much less likely than large firms or those with a higher proportion of high-wage employees to offer health insurance benefits. Even if an employer offers health benefits, many part-time and temporary employees are not eligible to participate. While employer contributions and tax advantages make employer-sponsored plans generally more affordable than non-group plans, the cost of the employee share of the premiums may still put insurance out of reach for low-income workers. In 2001, workers paid an average monthly premium of $150 for a family health insurance plan.[2] A worker making minimum wage would earn $716 a month after deducting social security payroll taxes; therefore, such health insurance premiums would cost about 20 percent of the worker's monthly take-home pay.[3]

Public coverage

Medicaid offers an insurance safety net for some very low-income families, but not all. Federal law established a stringent set of eligibility guidelines for the program. Very few adults without children can qualify, regardless of how poor they may be. More than 80 percent of uninsured adults with incomes below 200 percent of poverty do not qualify for

Medicaid coverage.[4] Many of these adults are disabled, but even their poor health does not necessarily qualify them for coverage. In most states, non-working individuals with a chronic disability are not eligible for Medicaid unless their incomes are below 74 percent of the poverty line (about $6,800 for a single adult). A disabled adult being supported by a spouse or parent making the minimum wage, for example, would not qualify for Medicaid. The disabled cannot get Medicare coverage until they have been receiving Social Security disability benefits for two years. So while public insurance programs have been very effective in expanding coverage to the elderly and poor children, a large portion of the low-income population remains uninsured.

What is COBRA?

The Consolidated Budget Reconciliation Act of 1985 (COBRA) requires employers with 20 or more employees to offer the option of continuing group health insurance coverage if an employee is fired, has his or her hours reduced, retires, dies, or gets divorced or separated. Workers who are fired or have their hours reduced can continue coverage for 18 months, otherwise they can carry it for 36 months. Employers do not pay any share of the premiums. The individual must pay the full cost of the health insurance premium as well as a 2 percent administrative fee.

Private non-group insurance

The only avenue left for people without access to employer-sponsored coverage and who do not qualify for public programs is private, non-group insurance. But securing coverage in the private market is very difficult. Insurers in most states have the right to refuse coverage based on health risk and age. This means that people who have had a heart attack or who suffer from chronic health problems may not be able to find an insurer willing to cover them. One-third of insurance applications from people with mild to severe health problems are rejected.[5] Even those who are accepted may not be able to get insurance that covers their pre-existing health problems.

Even if someone is able to get coverage, the cost of a plan with adequate benefits can be prohibitive. Insurers in most states can charge higher premiums based on a person's age or health status. The high costs put this type of insurance out of reach for many people. In the group market, on the other hand, insurers can pool their risk and keep premiums lower. Low-cost insurance plans do exist, but the benefits are very limited – some do not even cover basic maternity care – and the deductibles can be as high as $5,000 per year.

A Growing and Persistent Problem

As unemployment continues to rise and health care costs increase, the number of uninsured people is expected to grow in 2002. More than 60 percent of Americans get their coverage through an employer-sponsored plan.[6] When people lose their jobs, they are at greater risk of becoming uninsured. One estimate suggests that the number of people without health insurance could increase by 2.4 million this year.[7]

The Consolidated Budget Reconciliation Act of 1985 (COBRA) (see box) allows many people who have insurance coverage through their jobs to continue it after they are laid off. The vast majority of laid-off workers either cannot or choose not to take advantage of this opportunity, however. Over 40 percent of workers and their adult dependents, often those in the lower-income brackets, fail to meet COBRA's eligibility standards. Small firms, for example, are not obligated to offer COBRA coverage to workers. High costs prohibit many of the remaining 50 to 60 percent of unemployed workers from participating. Under COBRA, employees must shoulder the entire burden of the premium costs plus an additional 2 percent administrative fee.

The increase in the cost of health insurance for the individual losing a job can be substantial because, on average, employers pay almost three-quarters of the cost of the health insurance they provide as a fringe benefit for their employees.[8] Few continue to pay a share of health insurance premiums when workers become unemployed, however. In 2001, the average monthly premium (including both employee and employer shares) for an employer-sponsored plan was $221 for an individual and $588 for a family[9]. This means that average workers with family coverage would see their share of premiums rise from $150 a month when they were employed to $588 a month when they were unemployed and using COBRA.

Even those workers who are employed may find health insurance more difficult to get in tough economic times. As the job market gets tighter, employers have less incentive to offer health insurance benefits to lure new employees. They may stop offering insurance or shift a greater share of the premium cost to employees.

II. Can a Health Insurance Tax Credit Help the Uninsured?

Tax credits have been proposed as one option to help reduce the ranks of the uninsured. A health insurance tax credit would give people money – either a fixed percentage of premium costs or a flat dollar amount – to use toward the purchase of a health insurance plan in the private, non-group market. (Some proposals would also allow the credit to be used toward COBRA coverage or the employee share of premiums in an employer-sponsored plan.) Refundable credits would allow any eligible individual to get the credit, even if he or she does not have any income tax liability.

Proponents argue that health insurance tax credits can help expand coverage by giving people the resources to purchase coverage and allowing them the freedom to choose among the options in the private market. However, tax credits are an inefficient and relatively high cost tool to expand health insurance coverage, particularly for low-income people. Tax credits do not address some of the fundamental problems with access and affordability of coverage in the private, non-group market.

Affordability of Insurance with Tax Credits

The tax credits proposed to date are too small – relative to the cost of premiums in the private, non-group market – to allow many of the low-income uninsured to buy adequate coverage. Even with the additional funds, insurance premiums can be a significant share of income for poor individuals and families. For some young and healthy individuals who can find inexpensive coverage fairly easily, a tax credit could make coverage more affordable. But premiums for non-group coverage can be significantly more expensive for and less healthy people.

Timing of payments is also a crucial part of making insurance affordable. People need the money on a monthly basis to pay their premiums. Tax credits are typically paid out as annual, lump-sum payments.

What is a Tax Credit?

A *tax credit* is used to reduce an individual's tax liability. The recipient generally must complete an income tax return to get the credit. If the credit is refundable, amounts in excess of a worker's tax liability are paid to the worker. As opposed to a *tax deduction*, which reduces an individual's taxable income, the value of a tax credit is the same for everyone and does not increase for those in higher tax brackets.

Health insurance premiums can be a significant share of income for poor families, even with the added funds from a tax credit. Very poor families – even with the benefit of a tax credit – would likely have to spend half or more of their annual income in order to purchase a health insurance plan. According to the Employer Health Benefits Survey 2001, the cost of an employer-provided family plan was about $7,000 in 2001. The Administration's tax credit proposal would give a $1,000 per adult and $500 per child for a maximum of $3,000 for a family. It is important to note that these estimates are based on the cost of premiums for *group* policies offered through an employer. A *non-group* plan that included the same type of benefits could be twice as expensive and would consume an even greater share of family income.

Cost of Group Health Insurance As a Percentage of Family Income
Credit = $1,000 per adult, $500 per child

With a $2,000 tax credit, one adult, two children		With a $3,000 tax credit, two adults, two children	
Family Income (2001$)	Percentage of Income	Family Income (2001$)	Percentage of Income
$7,100 approximately 50% of poverty	70%	$9,000 approximately 50% of poverty	45%
$14,300 approximately at poverty level	35%	$18,000 approximately at poverty level	22%
$21,400 approximately 150% of poverty	23%	$25,000 approximately 140% of poverty	16%

Source: HEC Democratic Staff calculations.

A tax credit would do little toward making insurance affordable for these individuals and families. An alternative approach that would do more to make insurance affordable would be to cap the cost of premiums paid by poor people. For example, federal law caps the cost of premiums for low-income families enrolled in the State Children's Health Insurance Program (SCHIP) to 5 percent of family income. This approach would help to target federal subsidies for health insurance toward those who need them most.

Premiums in the non-group market are generally more expensive than comparable employer-provided or public insurance plans. Insurers can and do increase the cost of a plan based on a person's health status. In one study, almost half of all accepted applications had premiums above the standard rate because of a pre-existing health problem. The added costs are not just for people in very poor health. Common afflictions such as hay fever and sports-related knee injuries can also raise the price of insurance in the non-group market.[10] Premiums also increase with age. In some cases, a healthy 55 year-old can be charged twice as much as a 25 year-old for the same type of coverage.[11]

People need the money on a monthly basis. Insurance payments are due every month, but most tax credits are single, lump-sum payments. Without a monthly flow of funds, health insurance will not be affordable for many low-income households. To best help low-income households that face tight

Recent Tax Credit Proposals

Examples of recent health insurance tax credit proposals include:

In its FY 2003 budget, the Bush Administration has proposed a refundable income tax credit for the purchase of health insurance in the private, non-group market for people under age 65.

- The maximum value of the credit would be $1,000 per individual, $500 per child, maximum credit would be $3,000 for a family.
- The credit would be targeted to low-income people. It would begin to phase out for individuals without dependents with an adjusted gross income (AGI) of $15,000 and for families with two or more children and an AGI of $25,000.
- Starting in July 2003, recipients could receive the credits in advance.
- Eligibility for the credit would be based on the prior year's income.
- The IRS would not seek to reconcile advance payments with actual earned income at the end of the year.
- The credit could not be used to pay premiums for employer-sponsored or public health insurance plans.
- Starting in 2004, states could allow certain individuals to use the credit to purchase private insurance through a state-sponsored purchasing pool.

The economic stimulus package passed by the House of Representatives in December 2001 included a temporary, refundable health insurance tax credit for unemployed workers that would pay up to 60 percent of health insurance premiums for a plan under COBRA or one purchased in the private, non-group market.

- Only workers who were laid off after March 15, 2001 and eligible for unemployment compensation or are certified by a state as eligible for benefits but are beyond their benefit year or have exhausted their maximum benefit levels, would be eligible for the credit.
- There is no income eligibility requirement.
- The credit would only be available for 12 months.
- Eligible individuals would file for a health insurance credit eligibility certificate as part of the process for applying for unemployment compensation. Individuals would pay 40 percent of their premium to their insurance company, and the federal government would directly reimburse the provider for the balance.

monthly cash constraints, financial assistance for health insurance needs to be spread throughout the year. The current tax system is not structured to meet this demand. Changes would have to be made – new procedures, new tax laws, new tax forms – to an already complicated tax code in order to get the health insurance tax credit funds out on a monthly basis.

The availability of low-cost plans is limited and the benefits are poor. Given the high cost of comprehensive insurance plans, one option for the uninsured would be to purchase a plan equal to the size of the tax credit. While there are some low-cost insurance plans ($1,000 or less annual premium for an individual) available in the private, non-group market, recent surveys suggest that these plans are not abundant, they are not always available nationwide and they are generally poor in quality of coverage.

A study by Families USA found that six of twenty-five states surveyed did not have any $1,000 plans available for a healthy 25 year-old woman. Eighteen states did not have $1,000 plans for a healthy 55 year-old woman. Because insurance coverage for families and people in less-than-good health is more expensive, it is likely that people in those circumstances will have even fewer options. And even when low-cost insurance plans are available, there is no guarantee that insurance providers will approve specific applicants for coverage.

The low-cost plans that do exist have limited coverage and are of little use to the low-income uninsured. Almost no existing insurance plans with annual premiums of $1,000 or less cover maternity care and many do not cover emergency care, mental health services or prescription drugs. The deductibles are very high – often ranging from $500 to $15,000 for a family plan. After the deductible is met, many plans also have a coinsurance fee that would require the insured to pay a certain percentage of the costs of any medical services they used. Some argue that deductibles, co-insurance fees and co-payments help limit the "moral hazard" problem in health insurance by creating an incentive for people to limit unnecessary treatment. However, the extremely high cost of some deductibles and coinsurance rates can put health care completely out of reach for many low-income people.

Supporters of tax credits suggest that families could set aside funds in tax-advantaged flexible savings accounts (FSAs) to cover the cost of deductibles. While this may be a good option for some people with access to an FSA and sufficient disposable income, it would not help most of the low-income uninsured. First, workers can only access an FSA through their employer. Part-time workers and workers in small firms are less likely to have or be eligible for an employer-sponsored FSA. Second, workers must have sufficient disposable income to contribute to the account. Low-income workers on tight budgets would be less likely to be able to afford regular contributions. They would also get less of a tax break on their savings than higher-income

workers. Even if FSAs are modified to allow workers to rollover contributions from year to year (currently, a worker must forfeit any unused funds at the end of the year), it could still take a long time for a low-income worker to accumulate sufficient funds to make a $5,000 or higher deductible affordable.

Insurance companies have little incentive to offer low-cost insurance plans because they are not likely to be very profitable. The market for these plans is limited because their coverage is poor and most people without known health problems would get little benefit from them, so insurers do not have a large pool over which to spread their risks. If a significant number of people with low-cost plans incur high medical costs, the insurers could lose money.

Access to Insurance with Tax Credits

Money is not the only barrier to coverage for the uninsured. There is no guarantee of coverage in the private, non-group insurance market. Insurers in most states have the right to deny or limit coverage based on age and health condition.[12] Even with funds from a tax credit, some of the uninsured may simply not be able to find a private insurance firm willing to offer them adequate coverage. A tax credit does nothing to address this problem.

Crowding Out

If the government offers a tax credit for health insurance, there is a risk that some people will drop their employer-sponsored coverage in order to collect the money and purchase a private plan. This is called *crowding out*. This raises the possibility that, over time, employers will be less likely to offer insurance so that their employees can take advantage of the tax credit. Without the option of affordable, group insurance that mandates coverage, more people may become uninsured.

The problem of access also extends to the tax credit itself. If eligibility for the credit is based on prior-year earnings, as has been suggested, people in need of health insurance assistance this year may not qualify for the credit.

More than a third of applications for non-group coverage may be denied due to mild or serious health conditions, according to a recent study.[13] Further, more than 60 percent of the accepted applications imposed some kind of restriction based on pre-existing health conditions. Even minor problems can cause difficulties. In one case, some insurance carriers rejected a woman with hay fever and more than 80 percent of her acceptances came with coverage exclusions. A coverage exclusion means that the insurance plan will not cover costs relating to a specific illness or a part of the body. So while money is an important part of the equation for expanding health insurance coverage, it will not help people who are effectively shut out of the market as a result of their age or health status.

In initial descriptions of its tax credit policy, the Administration suggests that the uninsured could get access to insurance through state-sponsored insurance purchasing and high-risk pools. However, in their cur-form, high-risk pools would not be much better than the privatemarket. Not all states have a high-risk pool, and those that do have them usually limit the number of enrollees. Only about 110,000 people nation wide are insured through these pools. While people may be able to get an offer of coverage, the premiums are often very high – an average of $3,083 for an individual plan in 1999 – and the deductibles and coinsurance rates are also high. In addition, many pools have a six to twelve month waiting period before an applicant can get coverage.[14]

People who need financial assistance the most may not be able to access the tax credit. Most recent tax credit proposals have addressed the problem of eligibility for very low-income individuals by making the credits refundable—allowing people to get the credit even if they have no tax liability from which to deduct it. Most tax credits can only be used to offset taxes owed, but a refundable credit can be paid directlyto people even if they do not have taxable incomes. However, even refundable credits are not generally available until tax returns are filed, which maybe a year or more after a worker has become uninsured. This would do little to help those who need health care coverage now.

Some tax credit proposals would deal with this problem by paying insurance subsidies to those with low incomes as soon as they become unemployed or lose insurance, without requiring reconciliation at the end of the year. This means that people could get the credit without having to go back at the end of the year and verify that their incomes for the year as a whole remained below the eligibility guidelines. Having to do so would be a major administrative headache and could expose

some workers to large, unexpected tax liabilities. But such a system has great potential to be abused if no income verification is ever required.

To allow the credit to be pre-paid – without requiring those who turn out to be ineligible to pay it back – proposals generally base eligibility on the prior year's earnings. This means that people who lose their job or suffer a significant financial setback this year would likely not be able to claim the credit if they had good incomes last year. At the same time, those who have good incomes now but did not last year could qualify for the credit based on last year's tax return.

III. Implementation Problems with a Health Insurance Tax Credit

There are inherent problems in using the tax system to get money to the people who need it the most, when they need it the most. The tax system is based onan annual accounting of income and annual payments of refunds and credits. But an individual's income and expenses, particularly for low-income households,
can vary greatly on a monthly basis. In order for a health insurance tax credit to be effective, people need to get the money every month to pay their premiums. Making a health insurance tax credit "advanceable" – delivering subsidies on a monthly basis – poses serious hurdles to effective implementation.

Making the Tax Credit Advanceable

Current tax credit proposals do not fully address all aspects of the process they would use to advance money on a monthly basis. Most tax credit proposals acknowledge the need to make the credit advanceable so that people will have the money on a monthly basis. However, there is not an existing process by which to do this and most proposals offer only a limited description of how they will implement their idea. For example, the Bush Administration proposes that the credit would be paiddirectly to health insurance providers. Individuals would pay their monthly share of the premium and, using a tax credit identification number, providers would be directly reimbursed by the Treasury Department.

Implementation Questions

What process would be used to determine income?

As noted above, there are problems in using the prior year's income to determine eligibility for a tax credit because some people who need the money now may not qualify if they had good earnings last year. If the income tax return is used to determine income eligibility for the tax credit, it would create two problems. First, people who were not required

to file an income tax return last year, but otherwise would be eligible for the tax credit, would not be able to get it. Second, people would need to apply for the tax credit throughout the year – not just in April when they file their return.

What process would be used to distribute checks on a monthly basis?

If a tax credit were to be paid directly to the insurance provider, it raises the question of how the government would determine what constitutes an eligible provider. In order to guard against fraud, a process would have to be developed to make sure that insurance providers are legitimate. This could certainly delay the process of implementation.

What incentive would health insurance providers have to participate?

It is unclear whether health insurance providers would have sufficient incentive to participate. While they would get new business under this scenario, they would have to weigh that benefit against the costs of devoting time and resources to accounting for a new stream of funds. If the government does not issue the monthly premium checks in a timely manner, the insurance company could be forced to carry the cost of unpaid premiums. In addition, insurers would have to be held harmless for any fraudulent use of health insurance tax numbers by individuals.

Advancing the Tax Credit through Payroll Deductions

Another option for getting the money into people's hands on a monthly basis is to lower the withholding in their paychecks. This would require the cooperation of employers. Almost all of the people who would be claiming this credit would be working in firms that did not offer health insurance. It is unlikely that these employers would want to take on the added burden of paperwork and adjusting withholding. Of course, individuals who do not work would not beable to claim the credit with this method.

The Earned Income Tax Credit (EITC) offers an example. Data show that almost all recipients opt to take the credit as a lump-sum payment as part of their tax return. As few as one percent of recipients opt to submit the necessary paperwork to their employer in order to receive the credit throughout the year in their paycheck. Economic theory would suggest that low-income individuals on tight budgets would prefer to receive the money over the course of the year to help meet basic expenses. While there is no evidence about why most EITC recipients opt for the lump sum, it raises the possibility that the added paperwork burden and the involvement of employers may discourage some people.

Access to State-Sponsored Pools

As noted earlier, the Administration has recommended state-sponsored purchasing and high-risk pools as one avenue for the uninsured to get access to coverage. This raises some implementation questions:

How will the federal government encourage the formation of state-sponsored pools?

Only 29 states currently have high-risk insurance pools and many of these limit the number of people who can join. According to a recent report by The Commonwealth Fund, all of the existing high-risk pools operate at a financial loss. While some limited funds are contributed by insurance companies, state budgets are left to make up the bulk of the shortfall. The initial descriptions of the Administration's tax credit proposal do not include any funding or reimbursements to states to encourage them to establish or expand a state-purchasing pool. As states face tighter budget constraints, many states will not have the necessary resources to cover the pools.

How will the government pool risk?

Uninsured individuals will likely turn to state-sponsored purchasing pools after they have been rejected by insurers in the private market. This means that the vast majority of people in these pools will have past or present health problems that make them a poor risk in the eyes of the insurance provider. The insurance coverage options available to such a high-risk pool will be limited and carry high premiums.

IV. Conclusion

Despite dramatic increases in wealth and prosperity during the 1990's, the lack of health insurance – particularly among low-income individuals – remains a persistent problem. While health insurance tax credits may help some healthy people with good incomes to buy coverage, millions of Americans will not be helped by this approach.

Tax credits do little to address the fundamental reasons why so many low-income people are not able to get adequate health insurance in this country. The size of proposed tax credits would not make health insurance more affordable for many of the uninsured. Premiums for adequate health insurance would consume a significant share of income for poor households – even with the boost from a tax credit. Low-cost insurance plans are not widely available and their benefits are quite limited. And tax credits do nothing to address the serious problem of access to insurance coverage. Even with the necessary funds, many of the uninsured could be turned away from insurance providers because of their age or health status.

Expanding public insurance programs avoids some of the inherent problems with tax credits. Most current proposals would grant coverage

free to the very poor and allow the near poor to buy into public programs at reduced rates. Expanding a public program to everyone below a certain income level, regardless of age and health status, would have a dramatic effect on the ability of the low-income uninsured to access coverage. The clear advantage of these proposals is that they would virtually eliminate the problem of health insurance coverage for the very poor.

In order to solve the persistent problem of the uninsured, the nation will
need to make a significant investment. Over the long-term, the cost of having millions of people without health insurance and thus without access to basic care will put pressure on public health services and reduce earnings among people who can least afford it.

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[9] *Employer Health Benefits Annual Survey 2001.*
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[11] *A 10-Foot Rope for a 40-Foot Hole: Tax Credits for the Uninsured.* Families USA Foundation, September 2001.
[12] Fifteen states require insurers to guarantee coverage for all participants in non-group plans. However, half of these states only require insurers to offer a basic plan. Even with a guarantee of coverage, insurers in almost all states can charge higher premiums based on health status and age.
[13] Pollitz et al.
[14] Achman and Chollett.

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