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HOUSE OF REPRESENTATIVES

REPORT
107–347

THE 2001 JOINT ECONOMIC REPORT

REPORT

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

ON THE

2001 ECONOMIC REPORT
OF THE PRESIDENT

TOGETHER WITH

ADDITIONAL VIEWS

U.S. GOVERNMENT PRINTING OFFICE
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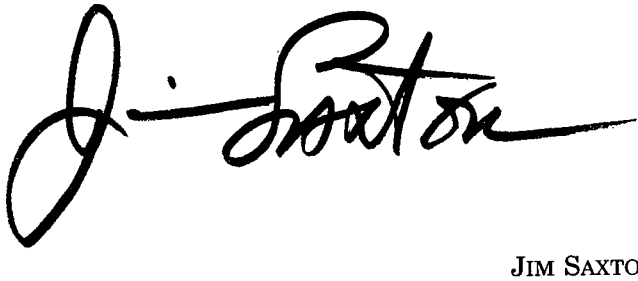
LETTER OF TRANSMITTAL

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC, December 19, 2001.

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 2001 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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107TH CONGRESS, *1st Session* | HOUSE OF REPRESENTATIVES | REPORT 107–347

THE 2001 JOINT ECONOMIC REPORT

DECEMBER 19, 2001.—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 2001 Economic Report of the President

OVERVIEW OF CURRENT MACROECONOMIC CONDITIONS

After ten years, the longest U.S. economic expansion on record ended in March of this year, according to the National Bureau of Economic Research (NBER). Most economists would identify several contributing factors to the economic slowdown in 2000, although they might disagree as to the relative importance of each:

1. Tighter monetary policy beginning in mid-1999;
2. A sharp increase in energy prices in 1999–2000; and
3. A sharp decline in equity prices.

Those contributing factors were not independent of each other.

First, the Federal Reserve intended to slow the growth of the economy. Between June 1999 and May 2000, the central bank raised interest rates six times and by a total of 175 basis points, sending the federal funds rate up to 6.5 percent, its highest level since 1991. According to the statements of the Federal Open Market Committee (FOMC), the central bank believed that even with the extraordinary productivity growth, economic demands were outpacing growth in supply—a condition that could not be sustained without some acceleration in inflation. The FOMC's intent was to head off such an inflationary surge before it arrived. The central bank's restrictive monetary policy affected financial (includ-

ing equity) markets, some (though not all) interest sensitive sectors of the economy, as well as several categories of business investment. Secondly, substantial energy price increases in 1999–2000 also had an adverse effect on the economy. Consumers, spending more on higher-priced energy products, had less to spend on discretionary items. The rise in energy prices also raised the cost of energy inputs to production, squeezing businesses' earnings and profits in the non-energy sectors.

Third, these factors worked in concert with other forces to weaken a somewhat overvalued stock market. This, in turn, reduced household wealth, thereby weakening household consumption. The higher cost of capital associated with declining equity prices may also have diminished incentives for businesses to invest. For the most part, those factors were in operation by the middle of 2000. To some extent, however, they have reversed their effects during 2001. In particular, the Federal Reserve has lowered interest rates eleven times since the beginning of the year, cutting the funds rate by a total of 475 basis points. Additionally, energy prices retreated to levels that are well below their peaks. As a consequence, by late summer, many economists were expecting a near-term economic rebound.

The Terrorist Attacks

The economic impact of the terrorist attacks of September 11, however, changed this outlook in several important ways. In the short-term, the attack increased overall uncertainty and apprehension in financial markets and affected consumption and investment as confidence waned. Moreover, the attacks had direct impacts on certain industries, most notably airlines, aerospace, travel, insurance, hotels, and related areas. Employment in air travel, travel services, lodgings and recreation has declined significantly since August. In response to the attacks, business investment and government spending to repair and replace buildings and shore-up our security, intelligence, and defenses will increase.

Current Prospects

As a consequence of the events of September 11, the prospects for the economic outlook have changed considerably. The expected economic rebound has been pushed back in time and two quarters of negative real growth appear likely. Currently, the consensus forecast is that the recovery will begin during the first half of 2002.

Macroeconomic Policy Response

The prospects for a rebound, of course, are due, in part, to recent policy actions. The Federal Reserve continued to lower interest rates following September 11 to 1.75 percent, a forty year low. The Administration and Congress have enacted a series of measures to support the economy, and some may provide additional support before the end of the year.

Uncertainties and Risks

Despite consensus forecasts of a near-term economic rebound, currently there is little hard evidence that a turnaround has begun. Furthermore, a number of significant uncertainties and risks—mostly on the downside—now litter the economic landscape, sug-

gesting a robust rebound is by no means assured. Debt burdens are sizable and will take time to work off. The international economy appears quite weak and vulnerable with no obvious source of strength. The risks of further terrorist attacks remain. All of this suggests that substantial risks exist and pose substantial challenges to economic policymakers.

The preponderance of downside risks suggests that a further stimulus package may be prudent. Such a package should address the weakness in the economy that has led to the recession and aim to offset the adverse effects described above.

REPRESENTATIVE JIM SAXTON,
Chairman.

SENATOR JACK REED,
Vice Chairman.

CHAIRMAN'S STATEMENT

OVERVIEW OF THE CURRENT MACROECONOMY

Background

According to the National Bureau of Economic Research (NBER), the recent economic expansion peaked in March 2001. This expansion was the longest on record; it followed the second-longest peacetime expansion on record, which lasted for most of the 1980s. The recession between the expansions was mild and just eight months long. Accordingly, over the last 20 years, the U.S. economy experienced exceptionally sustained economic growth.

The Mid-2000 Slowdown

While the expansion officially peaked in March 2001, the growth of the economy began to slow much earlier from the robust rates experienced in the mid and late 1990s. The slowdown became obvious in mid-2000. Real GDP growth slowed dramatically from its rates of the late 1990s. The growth of key components of GDP, especially investment, also fell sharply. Growth in fixed nonresidential business investment has fallen significantly in recent quarters. The growth of consumption has registered more modest declines. The declines were reinforced by a weakening manufacturing sector; industrial production and capacity utilization of industry fell sharply. The National Association of Purchasing Managers (NAPM) index also weakened starting in mid-2000.

The labor market was affected by the slowdown. Employment gains slowed significantly; average monthly payrolls increased much more slowly after mid-2000. Manufacturing employment fell sharply after July 2000, and the unemployment rate began to increase in the autumn.

Causal Factors

The speed of the slowdown surprised most economic forecasters, who quickly revised their projections downward. Although forecasters were surprised, they had already been worried about several factors that contributed to the slowdown: (1) tightening monetary policy, (2) a sharp increase in energy prices in 1999–2000, and (3) a concomitant sharp decline in stock prices.

(1) The Federal Reserve raised interest rates six times, by a total of 175 basis points, from June 1999 to May 2000. The Federal funds rate peaked at 6.5 percent, the highest level since 1991. For the most part, the Federal Reserve acted without convincing evidence that a resurgence of core inflation was imminent. Restrictive monetary policy affected financial markets (including the stock market), interest-sensitive sectors of the economy, and investment.

(2) Substantial energy price increases in 1999–2000 hurt the economy. Consumers spent more on energy and had less to spend on other things. Energy price increases had a negative impact on economic activity, since purchasing power was transferred to oil-producing countries from the United States and other countries that are net consumers of oil. The price increases also affected the supply side of the U.S. economy, by raising costs, reducing aggregate supply, and leading to reductions in output. Higher energy costs squeezed business earnings and profits, which affected the firms' stock prices.

(3) These factors and other forces weakened a somewhat overvalued stock market, reversing the stock market's "wealth effect" boost to consumption. The associated higher cost of capital also contributed to a slowdown in investment activity. The reverse wealth effect has become potentially more significant because of the spread of stock ownership in recent years. This is the first downturn the United States has faced in which more than half of households are invested in the stock market. Widespread stock ownership has led to a more sophisticated appreciation of the workings of financial markets on the part of the public, and to the realization that Americans' economic welfare is now closely related to the performance of stocks they own either directly or indirectly (through mutual funds, 401(k) plans, or other retirement and pension plans). Perhaps this realization explains broader popular support for economic stimulus legislation to enhance incentives for investment.

Most of the factors contributing to the slowdown were in place by mid-2000, but because of long and variable lags, their full influence was not felt for some months afterward. As the economy remained sluggish, many of the factors that had contributed to the slowdown reversed themselves in 2001. The Federal Reserve lowered interest rates; energy prices retreated and stabilized well below their earlier peaks; and the stock market stopped falling and began to stabilize. As a consequence, by late summer 2001 many economists were expecting an economic rebound to begin soon.

The Terrorist Attacks

The terrorist attacks of September 11 changed the economic outlook. In the short term, the attack increased uncertainty and apprehension in financial markets, and affected consumption and investment as confidence waned. The attack had a direct impact on the airline, aerospace, travel, insurance, and hotel industries.

There will be long-term effects of the terrorist attacks as well. The economic costs of a permanently increased terrorist threat will likely bring major changes to our way of life. Americans will bear an increased cost of security; in effect, an added "security tax." The "tax" will take the form of travel delays, additional security checks, longer cross-border transfers, higher insurance costs, additional

identification requirements, and other inconveniences. It will require spending money on new security guards and buying metal detectors, which do nothing to increase the quantity or quality of goods and services provided. The "security tax" will raise the cost of doing business, stifle gains from free exchange, add inefficiencies, and hence constitutes a negative supply shock to the economy.

The attacks will spur near-term investment and defense spending to repair or replace buildings and shore up our security, intelligence, and defenses. However, the total private capital stock will be less than it would otherwise have been. The so-called "peace dividend"—the reduction in defense spending made possible by the end of the Cold War—will be lessened. Money for a necessary security buildup will to some extent crowd out private investment. Thus, the attacks will adversely affect aggregate supply and the longer-term potential growth rate of the economy.

Current Prospects

The effects of the September 11 attacks tilted the economy into recession and changed considerably its prospects for the near future. The expected economic rebound has been pushed back, and two more quarters of negative growth (the fourth quarter of 2001 and the first quarter of 2002) appear likely. Even so, the chances for an economic rebound in 2002 look promising; current recessionary conditions appear to be short and mild. With an inventory correction near completion, energy prices lower than a year ago, a substantial easing of monetary policy in the pipeline, tax cuts in place, and a stock market that has recovered from its lows of a few months ago, projections for a rebound are plausible.

Macroeconomic Policy Response

The prospects of a rebound are due in part to recent macroeconomic policy action. The Federal Reserve has lowered short-term interest rates eleven times this year, reducing the Federal funds rate 475 basis points to a 40-year low of 1.75 percent. Several of its rate cuts came after September 11. Fiscal policy has also become less restrictive since September 11. Congress may yet take some additional fiscal action (in the form of tax cuts and spending increases) to provide economic stimulus. The combined monetary and fiscal response should help shorten the current slowdown.

Uncertainties and Risks

Despite a consensus among forecasters that an economic rebound will begin soon, currently there is little hard evidence that it has in fact begun. Furthermore, downside risks litter the economic landscape. The effects of the "security tax" will weigh on the economy for some time. Debt burdens are sizable and will take time to work off. The international economy appears quite weak. The risk of further terrorist attacks remains. Substantial risks exist, posing substantial challenges to economic policymakers.

The preponderance of downside risks suggests that a further stimulus "insurance" package may be prudent. Such a package should address the weakness in investment that has led the economic slowdown and aim to offset the adverse effects of the "security tax." Accelerating depreciation allowances, liberalizing expens-

ing provisions, and front-loading scheduled cuts in tax rates would be especially appropriate elements of such a package.

REPRESENTATIVE JIM SAXTON,
Chairman.

REPUBLICAN STAFF REPORTS

THE PERFORMANCE OF CURRENT MONETARY POLICY INDICATORS

INTRODUCTION

The Federal Reserve necessarily uses intermediate indicators in implementing a price-stabilizing monetary policy because of the well-known lags involved as well as the need for occasional pre-emptive action. With a quasi (informal) inflation targeting approach in place, the Fed's intermediate indicators must provide reliable signals of future changes in inflation. In recent years, however, mainstream economists (and their favored indicators) have done a relatively poor job of forecasting inflation. Inflation has been routinely overestimated: i.e., forecasted inflation has been higher than actual inflation. "Standard tools" or conventional indicators commonly used for forecasting inflation in many of these models involve the gap between actual unemployment and NAIRU[1] or between actual and potential GDP. In recent years, these policy guides (and models making use of such guides) have faired poorly, persistently overestimating inflation.

This paper briefly reviews the poor performance of these indicators in recent years and describes important problems of using real economic variables to forecast inflation. An alternative approach using market price indicators is briefly described, its advantages outlined, and its performance reviewed. These market price indicators consistently provided accurate signals as to future movements in core inflation and, accordingly, appear to have outperformed the conventional indicators.

The Policy Framework

A great deal of agreement has emerged in recent years as to the proper goal of monetary policy. In particular, under current exchange rate arrangements, the credible maintenance of price stability or a stable value of money has come to be viewed as the proper ultimate objective of monetary policy.[2] The obvious nature of this monetary policy goal was perhaps best summarized by Swedish economist Knut Wicksell more than a century ago:

> There is no need to waste words proving how important it is that the exchange value of money or, what is the same thing seen from the opposite angle, the general level of ...prices, remains as stable and constant as possible. Money is the standard of all values, the basis of all property transactions, and daily becomes more and more so. All commodities are exchanged for money, and moreover, we produce only in order to exchange, and to exchange for money. What then can be more important

[1] NAIRU is an acronym for non-accelerating inflation rate of unemployment. If actual unemployment falls below NAIRU, inflation is projected to increase (and vice versa).

[2] The case for and advantages of price stability have been made elsewhere and will not be repeated here. See, for example, Robert Keleher, "Establishing Federal Reserve Inflation Goals," a Joint Economic Committee study, April 1997.

than that what constitutes the standard of everything else, should itself remain a constant magnitude.[3]

In pursuit of price stability, the Federal Reserve in recent years has in effect adopted a quasi (informal) inflation targeting procedure, which has succeeded in lowering and containing inflation.[4] With price stability the central focus of monetary policy, the policy apparatus chosen should be that which best contributes to achieving this goal. Key elements of this policy apparatus are the intermediate indicators or guides used to achieve price stability. Such intermediate indictors are essential to this effort because of well-known policy lags, the frequent need for pre-emptive policy action, and other well-known problems with direct price targeting.[5] Appropriate intermediate indicators should be reliable forerunners or proxies for inflation or inflationary expectations: indicators or guides that reliably signal future changes in inflation or changes in inflationary expectations.

Currently, there is a good deal of disagreement among economists as well as Federal Reserve policymakers as to the best set of intermediate indictors to use in obtaining the Fed's goal. Conventional analysts, for example, use models that typically embody a "Phillips curve" relationship relating inflation positively to an "output gap." That is, these analysts employ the gap between actual unemployment and NAIRU or the gap between actual GDP and potential GDP as key inflation indicators or guides.[6] These are among their standard tools for forecasting inflation.[7]

Forecast Errors of Mainstream Models

In recent years, however, the inflation forecasts of mainstream economists (and their models) have been inaccurate and off the mark. Analysts generally agree that, for the most part, economists have done a poor job forecasting inflation. In particular, inflation has generally been overestimated; inflation forecasts have been persistently higher than actual inflation. An evaluation of inflation forecasts by the Congressional Budget Office (CBO), for example, indicates that the Blue Chip consensus persistently overestimated (two-year average) inflation rates from 1991-1992 to 1998-1999.[8]

---

[3] Wicksell, Knut, "The Influence of the Rate of Interest on Commodity Prices," in Knut Wicksell: Selected Papers on Economic Theory, edited by Erik Lindahl, Harvard University Press, Cambridge, Mass., 1958, p. 67 (originally published in 1898).

[4] See, for example, the testimony of Federal Reserve Chairman Alan Greenspan: *The Economic Outlook and Monetary Policy*, Hearing before the Joint Economic Committee, Congress of the United States, One Hundred Fifth Congress, First Session, October 29, 1997. See especially page 14.

[5] See, for example, Manuel Johnson and Robert Keleher, Monetary Policy: A Market Price Approach, Quorum Books, Westport, Conn., 1996, p. 23.

[6] If actual unemployment falls below NAIRU, inflation is projected to increase (and vice versa). If actual GDP growth exceeds potential GDP growth, inflation is projected to increase (and vice versa).

[7] Relationships similar or analogous to these are ingredients in approaches used by the Congressional Budget Office and by the staff at the Federal Reserve Board. See, for example, Douglas Hamilton, "Description of Economic Models," CBO Paper, November 1998, p. 7; and David Reifschneider, Robert Tetlow, and John Williams, "Aggregate Disturbances, Monetary Policy, and the Macroeconomy: The FRB/US Perspective," Federal Reserve Bulletin, January 1999, p. 7.

[8] See Matthew Solomon, "Appendix B: Evaluating CBO's Record of Economic Forecasts," The Budget and Economic Outlook: Update, CBO, July 2000, Table B-4, p. 61. Analysis of forecasts by St. Louis Federal Reserve

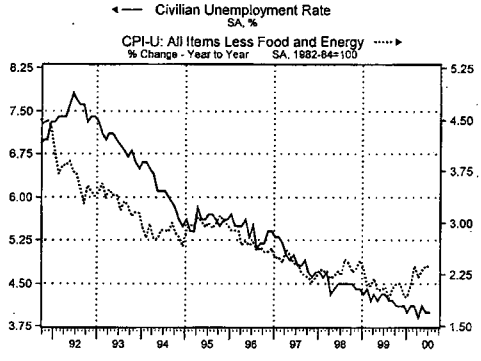
Part of the reason for these inaccurate forecasts relates to unreliable indicators used in forecast formulation. In particular, models using the actual unemployment rate relative to NAIRU (or actual GDP relative to potential GDP growth) as key ingredients in their inflation forecasts were inaccurate; these models persistently overestimated inflation. For example, CBO -- which employs such variables as important ingredients in its inflation forecasts -- assessed its recent forecasts and established that CBO has persistently overestimated inflation since the early 1990s.[9] Similarly, staff at the Federal Reserve Board (FRB) recognized inadequacies of inflation forecasts based on Phillips Curve or NAIRU concepts. A recent FRB study of such relationships, for example, found that actual inflation consistently fell short of their model's predictions of inflation over a recent five-year period.[10] This led them to remark that:

> The tendency of our baseline equations to significantly overpredict inflation since the mid-1990s... is an indication of structural change... or of misspecification.[11]

Some Simple Observations

It is not necessary, however, to engage in sophisticated forecast assessment to recognize the inadequacies of these Phillips curve-type guides as indicators of inflation. These inadequacies can readily be observed with a few simple graphs. For most of the past eight years, for example, the unemployment rate and core inflation have fallen together (see Chart 1[12]). During this lengthy period, there is little sign of an inverse relation between these two variables as is sometimes suggested by Phillips curve proponents.

Chart 1



Bank Economists draws similar conclusions. See William T. Gavin and Rachel J. Mandal, "Mixed Signals?" National Economic Trends, Federal Reserve Bank of St. Louis, July 2000.

[9] See Solomon, *op. cit.*, p. 61.

[10] Flint Brayton, John M. Roberts, and John C. Williams, "What's Happened to the Phillips Curve?" Division of Research and Statistics, Federal Reserve Board, Washington, DC, September 1999.

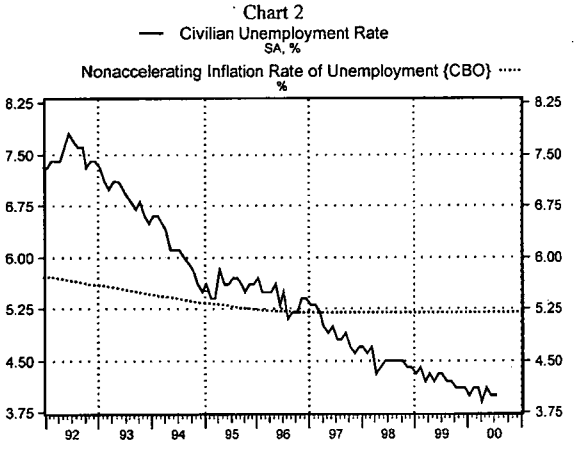
[11] *Ibid.*, p. 4.

[12] The source for all graphs is Haver Analytics.

As Chart 2 reveals, the civilian unemployment rate has fallen for eight years, has remained below 6 percent for more than six years, below 5 percent for more than three years, and has vacillated in the neighborhood of 4 percent during the past year. As late as the mid-1990s, estimates of NAIRU were typically in the neighborhood of 6 percent.[13] As Robert Gordon noted in 1998:

> In contrast to the near universal forecasts of accelerating inflation that would accompany a dip in the unemployment rate below 6 percent, inflation actually decelerated significantly between 1994 and 1998.[14]

Chart 2



Accordingly, as unemployment continued to fall with no signs of accelerating inflation, erroneous estimates of NAIRU were downward-revised. Current (downward-revised) CBO estimates of NAIRU are also shown in Chart 2. Even with a downward-revised estimate of NAIRU, the unemployment rate has remained below NAIRU for almost 3 1/2 years. Yet the core rate of inflation, as measured, for example, by the core CPI, has remained relatively well behaved, as Chart 3 illustrates. In short, these charts suggest that in recent years the unemployment rate, either alone or relative to NAIRU, has not been a reliable guide or indicator of future inflation.

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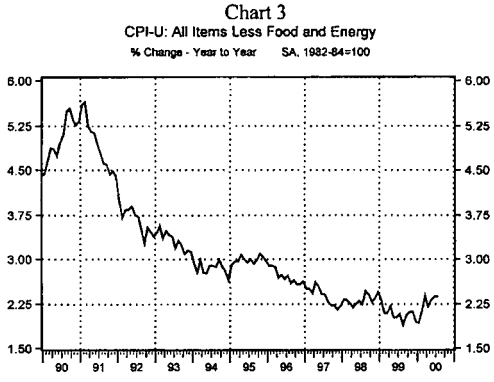
[13] See, for example, Arturo Estrella and Frederic S. Mishkin, "Rethinking the Role of NAIRU in Monetary Policy: Implications of Model Formulation and Uncertainty," NBER Working Paper No. 6518, April 1998, p. 1.

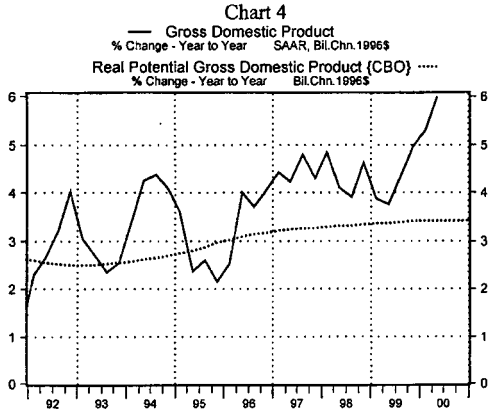
[14] Robert J. Gordon, "Foundations of the Goldilocks Economy: Supply Shocks and the Time-Varying NAIRU," February 3, 1999. Revision of paper presented at the Brookings Panel on Economic Activity, September 4, 1998, p. 1.

Chart 3



As Chart 4 indicates, similar observations about the inadequacies of inflation guides can be made with respect to the growth of actual GDP relative to estimates of potential GDP growth. Real GDP growth has consistently exceeded estimates of potential GDP growth (on a year-over-year basis) since the mid-1990s: i.e., for almost five years. Yet for the most part core inflation decelerated over this period. And analogous to NAIRU, as this gap persisted while core inflation continued to decelerate, (erroneous) estimates of potential GDP have repeatedly been revised upward, from the neighborhood of 2 1/2 percent to about 3 1/2 percent. Nonetheless, the conclusion remains inescapable: this actual GDP-potential GDP gap has been an unreliable guide to future movements of inflation.

Chart 4



The charts depicted here lead to a number of observations. In particular, in recent years:

- Low unemployment, even when it is low relative to downward revised estimates of NAIRU, has not been reliably associated with increased inflation.

- Economic growth persistently in excess of (upward-revised) estimates of potential GDP growth has not meaningfully stimulated core inflation or inflationary expectations.

- The gap between actual unemployment and NAIRU as well as the gap between actual GDP growth and potential GDP growth have been inaccurate guides to or indicators of inflation. These variables have contributed to inaccurate inflation forecasts. Indeed, for much of the late 1990s, these variables sometimes have not even predicted the correct direction of core inflation movements; core inflation has often continued to decelerate when these gaps have widened.

Problems with using conventional "gap" models to forecast inflation.

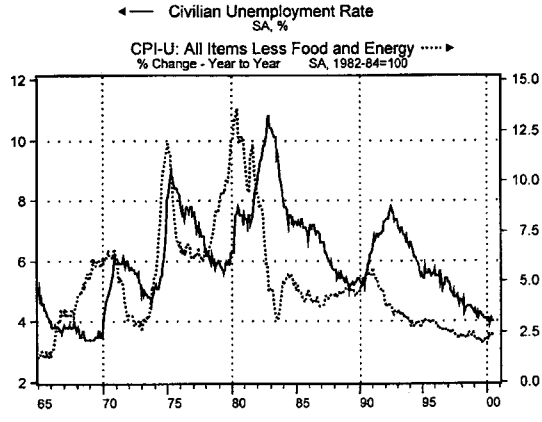
There are a number of theoretical and empirical problems with using real economic variables -- such as the gap between actual and " non-inflationary" unemployment or the gap between actual and potential GDP growth -- to forecast inflation. These problems, for example, include the following:

- The relationship between real economic activity and inflation is ambiguous. For decades it was generally believed that prices were pro-cyclical: i.e., that output and prices were positively correlated. Often, some form of Phillips curve relationship (associated with demand-side disturbances) was used to rationalize such correlation.[15] Recent evidence, however, indicates that properly assessed, this correlation is negative over the post-war period.[16] And from a long-term trend perspective, unemployment and inflation move together i.e., they are positively correlated as indicated in Chart 5. This suggests that robust real economic activity does not necessarily lead to higher inflation.

[15] See, for example, Wouter J. den Haan, "The Comovement Between Output and Prices," Journal of Monetary Economics, 46 (2000), p. 4.

[16] See, for example, Michael Pakko, "The Cyclical Relationship between Output and Prices: An Analysis of the Frequency Domain" Journal of Money, Credit, and Banking, Vol. 32, No. 3, August 2000, part 1, p. 382 and the evidence cited therein.

Chart 5



Part of the reason for this ambiguity is that using real economic activity to forecast inflation often does not adequately distinguish between demand-side and supply-side disturbances. These respective disturbances, however, can have very differing impacts on the output-price relationship. Demand-side stimulus, for example, can produce short-term output gains with increases in inflation. On the other hand, supply-side stimulus such as productivity advances can produce output gains with falling inflation. Furthermore, stable, decelerating inflation can serve to promote economic growth. The unreliability of this output/inflation relationship suggests that real economic variables may be misleading policy guides for the Federal Reserve in an inflation-targeting monetary policy strategy.

- Potential GDP and NAIRU are unobservable and the latter cannot be estimated with precision: Since both potential GDP and NAIRU are unobservable, there is an inherent problem of estimating or measuring these variables. The only truly foolproof way to determine or verify whether actual GDP is meaningfully above or below potential is to observe aggregate price movements. Similarly, the only foolproof way to truly verify whether actual unemployment is in the vicinity of NAIRU is to observe price or wage movements.

  Furthermore, recent research has demonstrated that NAIRU cannot be estimated with much precision; there is significant uncertainty in the empirical estimates of NAIRU. Empirical analysis by Staiger et. al., demonstrates that estimates of NAIRU are quite imprecise with large, wide confidence bands.[17] This suggests a

[17] Staiger, Douglas, James H. Stock and Mark Watson, "How Precise are Estimates of the Natural Rate of Unemployment?" in Reducing Inflation: Motivation and Strategy, edited by Christina D. Romer and David H.

lack of confidence as to the actual estimates. In assessing the Staiger et. al., analysis, for example, one commenter stated:

> ...The data are incapable of distinguishing between a wide range of estimates of the natural rate... a variety of plausible models yield widely differing estimates of the natural rate at a point in time... The standard errors of the estimated natural rates are quite large -- a typical 95% confidence interval runs from 5 to 8 percent... Even with forty-two years of monthly time-series observations, the data just do not provide precise estimates.[18]

For all practical purposes, the size of this imprecision and uncertainty precludes the use of NAIRU as a reliable guide for a price-stabilizing monetary policy.

- Potential GDP (or NAIRU) is constantly changing in unpredictable ways: In a dynamic economy, potential GDP and NAIRU are constantly changing in unpredictable ways. NAIRU, for example, was estimated to be around 5% in the 1960s, 7% in the 1970s, and 6% in the early to mid-1990s. More recently (and following NAIRU's poor inflation forecasting record) estimates of NAIRU have been revised down again. These changes in NAIRU are related to a number of factors including changing labor force demographics, government unemployment programs, or regional economic disturbances among other factors.[19] In practice, these unpredictable changes contribute to forecasting error and make NAIRU an unreliable policy guide in a price stabilizing monetary policy regime.

In short, there are a number of theoretical, empirical, and practical problems associated with the use NAIRU or potential GDP as policy guides in a price-stabilizing monetary policy strategy. These problems, together with the recent poor forecasting record of these variables, suggest that alternative policy guides should be considered.

Some Alternative Monetary Policy Indicators: Market Price Guides to Monetary Policy

An alternative set of monetary policy indicators appropriate for price stability goals has recently been proposed. A detailed description of the approach using these indicators has been given elsewhere and will only be briefly summarized here.[20] This approach uses certain market price indicators -- broad indices of commodity prices, various measures of the foreign exchange value of the dollar, and long-term bond yields -- as guides for a 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. Being

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Romer, University of Chicago Press, Chicago, 1997(a); Staiger, Douglas, James H. Stock and Mark Watson, "The NAIRU, Unemployment, and Monetary Policy," Journal of Economic Perspectives 11:33-49, 1997(b).

[18] Alan B. Krueger, "Comment," in Reducing Inflation: Motivation and Strategy, edited by Christina D. Romer and David H. Romer, University of Chicago Press, Chicago, 1997, pp. 242-3.

[19] John Judd, "NAIRU: Is it Useful for Monetary Policy?" Federal Reserve Bank of San Francisco, Economic Letter No. 97-35; November 21, 1997, p. 2.

[20] For a through description of this approach see Manuel Johnson and Robert Keleher, Monetary Policy, A Market Price Approach, Quorum books, Westport, Connecticut, 1996.

prices, these indicators signal movements in demand relative to supply and accordingly potentially can be more useful than the above-described "gap" models. 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" of monetary policy.

These market prices have a number of 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 plaque 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.[21] 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.

Recent Performance

Recently, while conventional models were overestimating actual inflation, market price indicators provided relatively reliable signals as to future movements of general prices. In particular, these indicators accurately foretold the persistent disinflation of core CPI prices, for example, and have accurately suggested that no important resurgence of inflation was imminent. These guides indicated that monetary policy generally remained in an anti-inflation mode rather than "easy" as suggested by the above-cited conventional "gap" models.

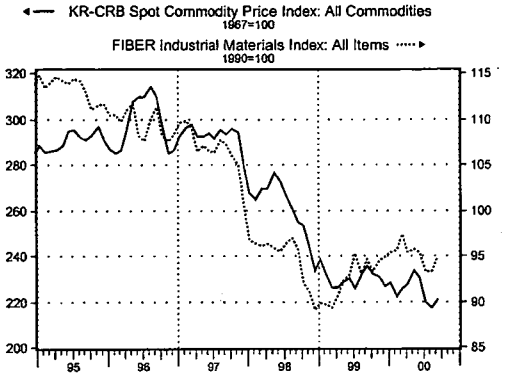
Each major market price indicator contributed to this interpretation as follows:

- Commodity prices: Since the mid-1990s, broad indices of commodity prices have generally signaled that monetary policy remained in an anti-inflation mode. Broad indices of core commodity prices have generally remained stable or persistently trended down since 1995 with some commodity prices indices remaining below commodity price levels registered in the early 1980s. The KR-CRB spot index (which does not include energy prices), for example, has persistently trended down since the mid-1990s and remains at levels below those registered in the early 1980s[22] (see Chart 6). This commodity price measure, therefore, served as a reliable forerunner of persistent downward trends of core CPI inflation during the latter half of the 1990s.

[21] 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.

[22] The source for the Commodity Research Bureau Commodity (KR-CRB) price indices is Knight-Ridder financial.

Chart 6



Various other indices of commodity prices provide some variation of this general picture but generally corroborate the central theme. The KR-CRB futures index (which includes energy prices) has trended down from 1995, but ticked up with energy prices early in 1999 before cooling in mid-2000. Similarly, as shown in Chart 6, popular indices of industrial materials prices (which also include energy prices) generally trended down after 1994 but ticked up with energy prices in 1999 and early 2000 before cooling in mid-2000[23]. Apparently, the recent energy price increase generated some heightened inflationary expectations during 1999. Abstracting from the effects of energy prices, therefore, for the most part these commodity price indices signaled that from the mid-1990s, core inflationary pressures were benign with no significant resurgence of inflation expected. These indictors, therefore, suggested that monetary policy remained in an anti-inflation mode during the second half of the 1990s. They served as accurate forerunners of the persistent lower trends in core inflation as measured, for example, by core CPI (as depicted in Chart 3).

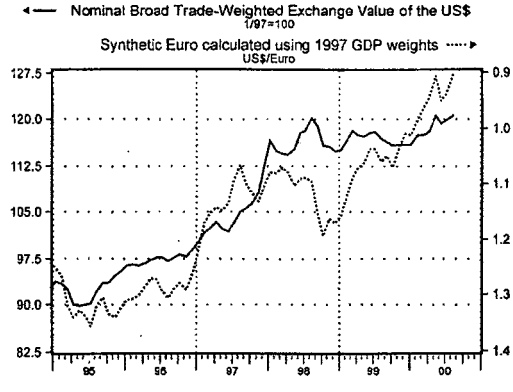
- Foreign Exchange Rates: Various measures of the foreign exchange rate of the dollar also yield potentially important information about future inflation and inflationary expectations (relative to other countries). In recent years, and especially since 1995, certain bilateral and most multilateral measures of the dollar's value have steadily appreciated, thereby persistently signaling (other things equal) that U.S. monetary policy has been firm relative to that in other countries.[24] In particular, as Chart 7 indicates, the dollar has firmed on (various measures of) a trade-weighted basis, against the yen until 1998, and especially against (synthetic measures of) the Euro. Notably, this persistent

[23] Popular indices of industrial materials prices include the FIBER (Foundation for International Business and Economic Research) industrial materials price index or the JOC-ECRI (Journal of Commerce-Economic Cycle Research Institute) industrial price index.

[24] Exchange rate movements measure changes in the value of money relative to other monies.

appreciation occurred during a period when core CPI continued to decelerate (as depicted in Chart 3 above), suggesting that (other things equal) these dollar movements accurately signaled a continuing disinflationary environment despite unemployment falling below NAIRU and robust (above potential) GDP growth. In short, during the period after the mid-1990s, this market price indicator continued to yield accurate signals as to the inflationary environment while "gap" models persistently overestimated inflation.

Chart 7

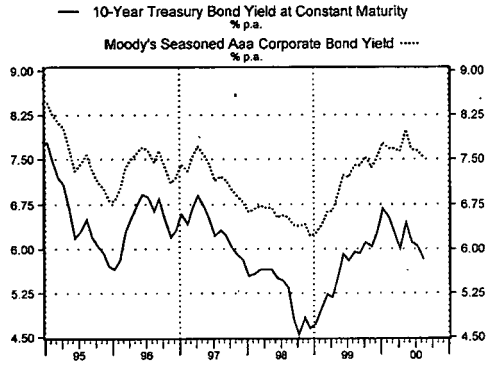


- Long-Term Interest Rates: Another market price indicator that provides useful information in assessing the prospects for inflation and expected inflation is long-term interest rates. From early 1995 to early 1999, for example, bond market yields trended down, thereby presaging a benign inflationary environment. Early in 1999, however, changes in several factors impacted the bond market. Sharp increases in energy prices influenced most general inflation indices even though core measures of inflation remained relatively well-behaved. This generated an increase in inflationary expectations as measured, for example, by some survey and market-based gauges.[25] Partly because of these altered expectations, anticipations about Federal Reserve policy began to change; the market began to expect tighter Fed policy in the future. The Fed did raise the fed funds rate six times beginning in June 1999, hiking the rate 175 basis points to 6.50 percent by May, 2000. These factors worked to increase long-term interest rates during 1999, before these rates cooled in 2000 as Chart 8 indicates. But while long-term rates advanced during this period, short-term rates increased even more, inducing the yield spread to narrow and by some measures to invert, signaling a more restrictive monetary

[25] For example, year-ahead household inflation expectations as measured by the University of Michigan's Survey of Consumers as well as market-based measures based on inflation indexed Treasury securities both indicated that inflationary expectations increased beginning in early 1999.

policy.[26] By mid-2000, therefore, long-term rates had fallen from their peak and expectations of inflation had again moderated; the inflationary environment had regained a tamer demeanor.

Chart 8



- A Joint Assessment of Market Price Indicators: The market price indicators discussed here all provide useful information as to the inflationary environment and therefore to monetary policymakers. While useful, these market price indicators are not infallible; each has drawbacks. These indicators, therefore, should be assessed jointly or in conjunction with one another in order to minimize misinterpretation. Such joint assessments provide superior information than indicators analyzed in isolation.[27]

Generally, during most of the post-1995 period, these guides consistently indicated that a resurgence of core inflation was not a serious concern. More specifically, for most of the post-1995 period, broad indices of "core" (ex-energy) commodity prices remained weak, various bilateral and multilateral measures of the foreign exchange value of the dollar remained strong, and except for the early 1999-Spring 2000 period, bond yields remained benign. For the most part, these indicators suggested that a resurgence of inflation was not likely and that significant inflationary pressures were not an important concern. The inflation message of these indicators was consistent with the actual benign core inflation that characterized the period. In this sense, these market price indicators provided more accurate inflationary signals than the above-described "gap" models that consistently predicted higher than actual inflation.

[26] Some moderation of long-term U.S. government security rates during the later portion of this period reflected diminished issuance and the debt paydown program. Nonetheless, spreads between the fed funds rate and quality corporate bond yields showed a similar pattern during this period.

[27] For a discussion of the rationale for such joint assessments, see Johnson and Keleher, *op. cit.*, especially pp. 39-40 and Chapter 11 (pp. 183-216).

SUMMARY AND CONCLUSIONS

Price stability is currently a central focus of U.S. monetary policy. Because of well-known policy lags and the need for preemptive policy action, the Federal Reserve necessarily uses intermediate indictors to help attain its inflation goals. Currently, there is a good deal of disagreement among economists as well as Federal Reserve policy makers as to the proper set of intermediate indictors to use in conducting a price stabilizing monetary policy.

Some analysts, for example, use models that typically embody a "Phillips curve" relationship relating inflation positively to an "output gap" typically using the gap between actual unemployment and NAIRU or the gap between actual GDP and potential GDP as inflation guides. In recent years, however, these models have not performed well; their inflation forecasts have persistently been higher than actual inflation. There are a number of problems associated with the use of NAIRU or potential GDP as policy guides in a price stabilizing monetary policy strategy. These problems, together with the recent poor inflation forecasting record of these variables, suggest that alternative policy guides should be considered.

Market price indicators are such an alternative useful set of guides to a price stabilizing monetary policy. These indicators -- commodity price indices, the foreign exchange value of the dollar, and long-term bond yields -- have a number of advantages as policy guides, especially when they are jointly assessed in conjunction with one another. Recently, these indicators consistently provided reliable signals as to the direction of, and to future movements in, core general prices. The inflation signals of these indicators were consistent with the actual benign core inflation that characterized the period. In this sense, these indicators provided more reliable inflationary signals than the above-described "gap" models that consistently predicted higher than actual inflation.

Assessments of this period add further empirical support to a market price approach to monetary policy and suggest that when jointly assessed in conjunction, these market price indicators are viable, useful intermediate guides to monetary policy, particularly in a (quasi) inflation targeting regime.[28]

[28] Empirical support for these market price indicators is presented in Johnson and Keleher, *op. cit.* (see chapters 8-10, 12, 13).

INFORMATION TECHNOLOGY AND THE NEW ECONOMY

The superior performance of the U.S. economy in the late 1990s has led many commentators to speculate that a "New Economy" has emerged in which heavy investment in information technology (IT) has led to an era of sustained economic growth. Although the recent economic slowdown has dampened some of the enthusiasm for the idea of a New Economy, a fundamental question remains: can the output growth experienced in the late 90's, which was significantly higher than that observed in previous decades, be traced back to IT?

This paper addresses this question by looking at the behavior of labor productivity, a key measure of economic well-being that grew at a significantly faster rate in the late '90s. The New Economy hypothesis to be examined is whether investment in IT caused the acceleration in productivity. The evidence suggests a growing consensus on two conclusions:

- Information technology is an important factor in the recent acceleration in productivity growth.
- Both the production and the use of IT contributed to the productivity revival.

Seen in this perspective, the idea of the New Economy is not as fanciful as some recent skeptics would claim.

While forecasting productivity growth is a chancy and often unsuccessful enterprise, there is some reason to believe that the acceleration in labor productivity could persist for several more years. This guarded optimism is informed by a recurrent theme in the literature that investments in IT manifest themselves in higher productivity with a lag of a few years. Thus, the enormous investments made by U.S. firms in IT in the late 90's could possibly show up in productivity numbers well into the first decade of the 21st century.

The rest of the paper is organized as follows: section I introduces some general concepts of productivity analysis, section II explains growth accounting, the standard framework for understanding productivity growth, section III applies this framework to the question of IT's impact on productivity, section IV looks at this question with methods other than growth accounting, and section V concludes.

I. PRODUCTIVITY

In its simplest form, productivity is the amount of output that can be produced with a given amount of input. Labor productivity, then, measures the amount of output produced with a given amount of labor. At the aggregate level this means GDP divided by the total number of hours worked in the economy. This definition highlights why labor productivity is considered such an important measure of the long-term performance of the

economy: growth in labor productivity increases the amount of goods and services available for consumption without a corresponding increase in the amount of time spent working. For this reason productivity growth often proxies for the change in the standard of living--the variable that, in the final analysis, most people really care about.

To measure growth in labor productivity involves calculating the ratio of the change in *real* (inflation-adjusted) GDP to the change in hours worked. While determining hours worked presents relatively few measurement problems, calculating the change in real GDP has been a research topic at the center of the New Economy debate. Nominal GDP, which is easily measured, is the product of the price index and the quantity of goods and services sold in the economy. Thus, the percent change in nominal GDP is approximately equal to the percent change in prices (inflation) plus the percent change in quantities (real GDP growth). The problem is how to attribute changes in nominal GDP between changes in prices and changes in quantities. If the type and quality of goods consumed changes very little from year-to-year, as could be expected in an industrial "Old Economy" era, then measuring changes in quantities should be trivial. If, on the other hand, the type and quality of goods available changes rapidly, as is the case with many IT-related New Economy products, then making accurate quality-adjustments to the change in quantities becomes crucial in gaining a true idea of what's going on in the economy. For example, although the price of desktop computers has not changed greatly over the past decade, the quality and power of those computers has soared. To incorporate this observation, the price per unit of computing power, rather than per computer, should have plummeted over this period. In fact, the two agencies responsible for constructing the productivity numbers, the Bureau of Labor Statistics and the Bureau of Economic Analysis, have recognized this problem and have exerted considerable effort in order to insure their numbers accurately reflect the rapid pace of change caused by technological innovation. Despite these efforts, the measurement issues surrounding the New Economy have left lingering debate.

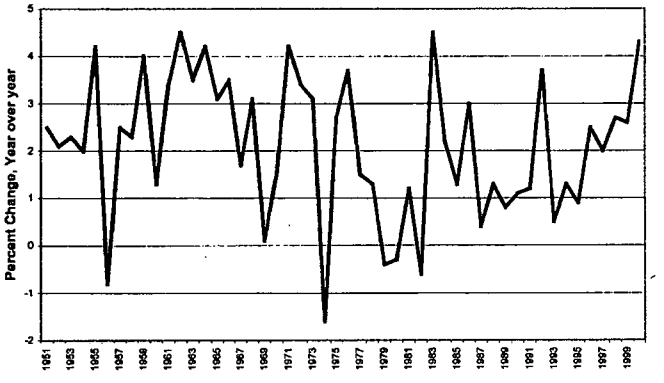
The annual labor productivity growth rates for the past 50 years are presented in Chart 1 (see below). One noteworthy aspect of this series is its procyclical variability. While the relation between the business cycle and productivity has been a topic of intense controversy in recent decades, one feature of this correlation deserves mention. In the presence of fixed costs of hiring and firing workers, economic theory suggests that labor productivity should be procyclical. This idea, known as the 'labor hoarding' theory of procyclical productivity, holds that because firms cannot costlessly adjust the amount of labor input used in response to shifts in output, we can expect aggregate hours to change less than one-for-one in response to changes in aggregate output. Sudden contractions or expansions in output (recessions or recoveries) usually generate drops or jumps in measured labor productivity because firms don't meet these contractions or expansions with immediate and proportional increases or decreases in employment[1].

The procylicality of productivity has two points of relevance for the present discussion. First, this feature of the data indicates why the contraction in labor productivity in the first quarter of 2001 should not necessarily be seen as the death knell

[1] For further discussion, see Basu and Fernald (1999).

of the productivity revival, but rather as a cyclical adjustment. Second, some had claimed that the productivity revival in the late '90s was, in large measure, a reflection of the procyclicality of the productivity series. This view, however, has been subjected to the critique that the cyclical aspect of productivity is usually felt at the beginning of a recovery whereas the productivity revival picked up steam several years into the expansion of the '90s.

Chart 1.
Aggregate Labor Productivity 1951-2000
(Nonfarm Business, BLS)



The productivity growth rates of the recent past can be divided into two sub-periods: 1973-1995, the era of the "productivity slowdown", and 1995-1999[2], the New Economy. Though measurement methodologies differ from study to study, the estimates of average annual growth in aggregate labor productivity for these periods tend to cluster around one and one-half percent for the earlier period and two and one-half percent for the latter period.

This one percentage point difference may not appear terribly important. Yet if permanent, this difference would mean living standards doubling every 28 years rather than every 46 years. Consequently, understanding the determinants of productivity growth has been a major project of contemporary economics.

Nevertheless, both the productivity slowdown and its more recent revival have been somewhat of a puzzle to economists. The deceleration in productivity growth in the 70's and 80's has attracted many candidate causes: among others, high energy prices, increased labor and environmental regulations, and monetary instability. The productivity

[2] This is not to say the New Economy ended in 1999, rather this is the last full year for which the final revision of productivity numbers is available.

revival, on the other hand, has focused attention on one possible explanation--the increased prevalence of IT in the American economy. In order to quantify the impact of IT on labor productivity, economists commonly use a decomposition known as growth accounting.

II. GROWTH ACCOUNTING

The cornerstone of growth accounting is the decomposition of labor productivity growth into a weighted sum of effective capital growth and effective labor growth plus a residual term known as total factor productivity (TFP)[3]. Or,

$$\%\Delta LP = a \cdot \%\Delta k + (1 - a) \cdot \%\Delta l + \%\Delta TFP$$

where uppercase delta refers to change and a is a parameter.[4] Effective capital growth, k, refers to the growth in the aggregate flow of capital services minus the growth in aggregate hours worked. Growth in effective capital, also know as capital deepening, has a positive effect on labor productivity because a larger amount of capital per worker should increase the output of that worker. As we will see, capital deepening can be measured for different classes of capital, in particular for deepening of IT capital. Growth in effective labor, l, captures the effect of changes in labor quality.[5]

The residual in the growth accounting equation, TFP, is commonly equated with technological change. TFP represents all the increase in output that cannot be accounted for by an increase in any other input. In this sense it is a costless expansion of the economy's set of possible production bundles. It is sometimes said that TFP is "a measure of our ignorance" in that any productivity increase we cannot attribute to a growth in an input factor we lump in with TFP.[6] This is a valid criticism and because of this we should be mindful that TFP can pick up increases in productivity due to process innovations or efficiencies generated by organizational changes. Despite its limitations, growth accounting is a useful framework and remains the starting point for the analysis of economic growth.

III. PRODUCTIVITY AND IT

Information technology can affect aggregate labor productivity through two channels: the *production* of IT and the *use* of IT. Few question that IT production has exhibited phenomenal productivity growth. This is probably best illustrated in the case of semiconductors. In the 1960's Gordon Moore, the founder of Intel, predicted that microprocessor power would double every 18 months. The prediction was accurate

[3] Also known as the Solow residual of multifactor productivity (MFP).
[4] Specifically, under standard assumptions, a is the share of output paid to capital.
[5] The more familiar decomposition of *output* growth is obtained by adding the change in aggregate hours to both sides of the labor productivity growth equation. In either case, TFP is identical.
[6] For a discussion of TFP see Hulten (2000).

enough that it became known as Moore's Law. Even accounting for R&D expenditures, the technological progress of the IT manufacturing sector has been remarkable and has contributed to the acceleration in labor productivity. In growth accounting terms, this contribution should appear as an increase in the TFP of IT-producing industries.

The second avenue through which information technology has the potential to increase labor productivity is though its use. The rhetoric of the New Economy proponents often focuses on the efficiencies that will accrue to firms engaged in activities other than the production of IT but which nevertheless successfully integrate the use of IT into their existing operations. Firms that use IT could expect productivity gains for two reasons. First, the rapid decline in the price of computing power has spurred huge investments in IT. This investment, like any other form of capital spending, should raise the productive capacity of those firms that undertake it. Second, IT has the potential to allow firms to implement efficiency-enhancing changes in the way they do business. These two effects would show up in a growth accounting equation as a capital deepening in IT-using firms and an increase in TFP of IT-using firms. Table 1 summarizes where we would expect the productivity contributions from the use and production of IT to appear in a growth accounting exercise.

Table 1.

	Use of IT	Production of IT
$\%\Delta k$ (Capital deepening)		
IT-capital	X	
All other capital		
$\%\Delta l$ (Labor quality)		
$\%\Delta TFP$ (Total factor productivity)		
IT-producers		X
All other industries	X	

The possible effect of IT use on TFP has attracted considerable attention. It is in this sense that IT could be considered a General Purpose Technology (GPT). As defined by Helpman (1998) a GPT is a "drastic innovation [that] has the potential for pervasive use in a wide range of sectors in ways that drastically change their mode of operation." Similarly, Bresnahan and Trajtenberg (1995) speak of GPT's as "'enabling technologies' opening up new opportunities rather than offering complete, final solutions." A classic example of a GPT is electricity. Around the turn of the century American industry underwent radical change due to the widespread utilization of electricity. Firms invested heavily in electric machinery as the price of electivity relative to other forms of power fell. If these firms didn't change their production process they could still expect an increase in productivity due to this capital deepening. However, as David (1990) points out, the switch from steam to electric power also allowed firms to change the floor plans of their factories in a way that increased efficiency. Thus, firms did change their

production process' and hence experienced a second productivity 'kick' from using electricity.

The distinction between production and use of IT has been critical in the debate concerning the impact of IT upon productivity. In a series of papers, Gordon (1999, 2000) has argued that IT's contribution to the acceleration in productivity experienced in the late '90s has been solely through the more efficient production of IT. The use of IT, Gordon claims, has not added to the uptick in productivity. In a certain sense, this distinction is immaterial: nobody denies that productivity did accelerate in the period under question. In another sense, Gordon's interpretation, if true, would have certain implications about the sustainability of the New Economy. The narrow concentration of productivity growth in one sector would make the economy's continued health vulnerable to disruptions in that sector. Furthermore, the efficiency gains in IT production, particularly semiconductors, will eventually run into physical constraints; Moore's Law cannot hold indefinitely. Gordon's reading of the facts, however, has been controversial and as we will see shortly, several studies have found the use of IT to have made a substantial contribution to the productivity revival.

The growth accounting equation has been applied to the two sub-periods mentioned above by a number of economists in order to clarify how and why the pickup in productivity occurred. Growth accounting exercises can produce different results for the same period because there are several choices to be made as to how to measure the aggregate flow of capital and labor services. Three of the most recognized studies include one government survey, BLS (2000) and two academic works, Jorgenson and Stiroh (1999) and Oliner and Sichel (2000). Their findings are presented in Table 2.

Table 2.

	Jorgenson & Stiroh	Oliner & Sichel	BLS
Labor Productivity 1973-1995	1.42	1.41	1.39
Labor Productivity 1995-1999	2.37	2.57	2.30
Acceleration	0.95	1.16	0.91
$\%\Delta k$ (Capital deepening)	0.29	0.33	0.10
IT-capital	0.34	0.50	0.38
All other capital	-0.05	-0.17	-0.31
$\%\Delta l$ (Labor quality)	0.01	0.04	0.06
$\%\Delta TFP$ (Total factor productivity)	0.65	0.80	0.90
IT-producers	0.24	0.31	n.a.
All other industries	0.41	0.49	n.a.

All three surveys decompose the approximately one percentage point acceleration in productivity growth into the standard categories of capital deepening, increased labor quality, and TFP. Furthermore, these studies separate capital deepening into IT-capital deepening and all other forms of capital deepening. In all three cases IT-capital is defined as computer hardware, software, and communications equipment. The two academic studies disaggregate TFP into IT-producing and non-IT-producing sectors.

The results of these studies reveals that IT-related capital deepening contributed between one-third to one-half a percentage point to the acceleration in productivity in the late nineties. This indicates that a large part of why workers became more productive after 1995 is that they had more high-technology equipment with which to perform their jobs. Growth in investment in all other forms of capital, machinery, structures, etc., slowed during the late '90s and contributed less to productivity in this period than during the "productivity slowdown". The increase in labor quality was relatively similar across both time periods and thus did not contribute much to the productivity revival. TFP, on the other hand, did accelerate appreciably in the later period, adding between two-thirds to nine-tenths of a percentage point to the relative change in the rate of productivity growth.

It appears, then, that the productivity revival is concentrated in IT-capital deepening and a pickup in TFP. Jorgenson and Stiroh and Oliner and Sichel both find that TFP acceleration in IT-producing industries added about a quarter percentage point to the productivity revival. The increase in TFP in other industries accounted for about a half of a percentage point. This acceleration in TFP in non-IT-producing industries could be due to the use of IT or it could be due to a number of other factors--the coarseness of the growth accounting framework is ill-suited to localize the causes of TFP growth. Among the contributions of IT to TFP, the evidence suggests that it is unlikely that the Internet has yet to contribute substantially to productivity growth. One possible avenue through which the Internet could make the economy more productive is through the cost efficiencies attained through business-to-business e-commerce. Nevertheless the magnitude of these transactions has not been large enough to have much impact on the aggregate numbers. It is possible that valuing the services provided by the Internet as a final, consumer good has suffered from the measurement issues discussed above, in which case the Internet has made some very modest contribution to productivity.[7]

The results of both these studies suggest that the productivity acceleration was not entirely due to higher productivity in the manufacture of semiconductors and other IT equipment. Rather, these industries probably contributed around one quarter of the one percentage point difference between productivity growth during 1973-1995 versus productivity growth during 1995-1999. By identifying IT-capital deepening, these studies also put a lower bound on the contribution from the use of IT of around one-third of a percentage point. The contribution from IT use could be even greater if some or all of the increase in TFP in non-IT-producing industries can be attributed to IT use.

[7] Oliner and Sichel review some of the literature on e-commerce.

IV. OTHER ANALYSES

Growth accounting is a blunt tool that can leave many questions answered unsatisfactorily.[8] In order to get a better idea of how investment in IT has affected productivity, many authors have conducted the analysis at the level of the firm or the industry.

Two studies which are representative of this literature are Stiroh (2001) and Brynjolfsson and Hitt (2000). Stiroh's study looks at productivity in the late 90's in 61 different industry groups sorted by level of investment in IT. In order to control for endogeneity, he measures industry IT investment undertaken before 1995.[9] His main finding is that industries that had invested heavily in IT experienced more rapid productivity growth than other industries. This result is consistent with the New Economy story that the increased use of IT is making American business more productive. After comparing industry groups, Stiroh concludes that the aggregate productivity revival is entirely due to industries that produce IT or intensively use IT; industries that do not intensively use IT contributed essentially nothing to the productivity revival. While industry productivity is compared to lagged IT investment for econometric reasons, the incidental finding of this paper is that unlike other forms of capital, outlays for IT affects productivity several years after the investment is made.

In order to estimate the effect of investment in IT on firm productivity, Brynjolfsson and Hitt track the amount of computer investment undertaken by a sample of 600 firms over an eight year period. They find that over the short-term, the marginal cost of computer investment is equal to its marginal revenue--a result that suggests that over the short-term IT investment contributes to productivity solely though the capital deepening mechanism. Interestingly, they find that over the longer-term (seven years) marginal revenue rose to between two to five dollars for every dollar invested in computers. The authors interpret this finding as suggestive evidence of the existence of productive complementarities between computer investment and organizational restructuring.

Both of the above papers uncover evidence that investment in IT affects productivity with a lag of a few years. This finding is consonant with the theory that rapid capital investment entails large "adjustment costs". According to the IT version of this story, adjustment costs are equated with the time and resources spent by employees in learning how to properly utilize the newly available IT capital as well as the time and resources spent in organizational learning as firms reconfigure their operations. Along these lines, several studies have postulated that the productivity slowdown and subsequent revival are intimately linked by adjustment costs. Greenwood and Yorukoglu

[8] Additionally, traditional growth accounting may impose an undesirable degree of structure to generate results, including a homogeneous of degree one aggregate production function and perfectly competitive markets.

[9] It is very plausible that industry productivity is contemporaneously correlated with IT investment--industries that experience faster productivity growth could be expected to then invest more heavily in IT. Ignoring this factor would produce inconsistent estimates of the impact of IT on productivity.

(1997) claim that investment in IT, which experienced rapid growth in 1970's *caused* the productivity slowdown as unmeasured adjustment costs made output growth look artificially small. The productivity revival, they claim, represents the efficiency gains from IT investment finally outpacing the associated adjustment costs. This theory would seem to provide a direct reply to the 'Solow paradox'. Writing in 1987, Robert Solow famously remarked "We see the computer age everywhere except in the productivity statistics." According to the adjustment cost view, the slow growth in productivity experienced at the time of Solow's remark reflect the large unmeasured costs of adapting to the computer age during the 1970's and 1980's--costs that were finally outweighed by the benefits by the late 1990's.[10]

The finding that IT investment affects productivity with a lag would seem to bode well for future productivity growth. Aggregate investment in IT continued at a brisk pace well into the late 1990's. If the pattern of lagged dependence of productivity on IT continues, we could expect productivity to continue its healthy growth. Caution, however, is warranted when predicting productivity numbers. As Taylor (2001) observes,

> From a macroeconomic perspective the New Economy isn't really new. After all, productivity growth rates averaged about 3.0 percent per year in the 1950' and 1960's. ...But the stagflation of the 1970's--resulting from a combination of unlucky economic events and ill-conceived public policy--arrived nonetheless.

It is sometimes said that from an economic perspective technological progress is like manna from heaven, a gift whose source is not well understood. Because of this, it is unlikely that a policymaker can affect the arrival rate of this gift in the short run. Public policy can, however, create an environment that allows society to fully capture the benefits of technological advancements. The rapid pace of change in the high tech sector requires labor and capital markets that are fluid and dynamic. Excessive regulation could harm the ability of industry to quickly and effectively respond to new opportunities opened up by technological breakthroughs. Moreover, the inherent volatility of enterprise in a sector of the economy undergoing rapid technological change demands a tax structure that creates the appropriate incentives for entrepreneurs and investors to accept this added risk. The likely existence of "spillover effects" from the development of IT implies that the benefits from entrepreneurial activity in this sector flow throughout the economy. Thus, creating incentives for IT entrepreneurial activity is akin to encouraging the private provision of a public good.

V. CONCLUSION

A consensus has emerged regarding the acceleration in productivity that occurred in the late 1990's. Two points that have found widespread agreement are:

[10] Along similar lines, in 1990 Paul David drew on the historical parallels to note that "In 1900, contemporary observers well might have remarked that the electric dynamos were to be seen 'everywhere but in the productivity statistics'!"

- Information technology contributed significantly to the productivity revival. At least half of the one-percentage point increase in labor productivity growth is attributable to IT. In all likelihood the contribution from IT is even greater than this conservative estimate.
- Both the production and use of IT has had an impact on the productivity revival.

These results imply that the New Economy thesis, when applied to the historical experience, has a sound empirical foundation.

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ECONOMIC BENEFITS OF PERSONAL INCOME TAX RATE REDUCTIONS

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ECONOMIC BENEFITS OF PERSONAL INCOME TAX RATE REDUCTIONS

I. Introduction

With large and growing federal budget surpluses, and with the overall federal tax burden at a peacetime high, a broad spectrum of policymakers support substantial income tax cuts in 2001. President Bush has proposed a phased-in reduction of statutory personal income tax rates from 15, 28, 31, 36, and 39.6 percent to 10, 15, 25, and 33 percent.[1] The plan would boost after-tax income for tens of millions of families, and benefit millions of small business owners who pay tax under the personal income tax system.

In addition to providing broad-based tax relief, marginal rate cuts would spur economic growth by reducing tax system distortions. A marginal tax rate is the rate paid on an incremental amount of wages, savings, or small business income. The level of marginal rates is a crucial feature of tax systems because they affect market price signals that allocate the flow of resources in the economy. As marginal tax rates rise, more decisions get based on tax rather than efficiency considerations, resulting in rising "deadweight losses" to the economy.

This paper provides background on personal tax rates, discusses the economic importance of marginal rates, and provides a brief survey of international tax rate trends.

II. Background on Marginal Tax Rates

Federal personal income tax rates were significantly lowered and the rate structure simplified during the 1980s. Before the Economic Recovery Tax Act of 1981 (ERTA), taxpayers faced a steeply progressive tax structure with 15 rates ranging from 14 to 70 percent. ERTA reduced tax rates across the board by over 20 percent with new rates ranging from 11 to 50 percent. The landmark Tax Reform Act of 1986 (TRA86) achieved a further reduction and flattening of the tax rate structure with the installation of a simple two-rate schedule of 15 and 28 percent.[2]

The enactment of ERTA and TRA86 was the result of widespread recognition that marginal tax rates should be lowered so that the production or "supply-side" of the economy could operate more efficiently. Lower rates were designed to increase after-tax returns to productive work and investment activities, and to reduce the unproductive proliferation of tax shelters, which tends to occur under high tax rates. Prior to the 1980s, major reductions in individual marginal tax rates occurred in the 1920s and 1960s.[3]

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[1] For plan details, see Joint Committee on Taxation (2001).

[2] Some taxpayers faced a 33-percent marginal rate after TRA86 due to the effect of a phase-out of the benefit of the bottom tax rate bracket for higher-income taxpayers.

[3] For a discussion of these earlier tax rate cuts, see Joint Economic Committee (1982).

Unfortunately, the low tax rate structure achieved under TRA86 was partly undone by tax increases in 1990 and 1993, which added three new statutory tax rates of 31, 36, and 39.6 percent. Other tax changes during the 1990s pushed effective marginal rates even higher, including the phase-out of personal exemptions, the partial phase-out of itemized deductions, and the repeal of the Medicare payroll tax income ceiling.[4]

Another factor that has been steadily -- and stealthily -- increasing marginal tax rates is "real bracket creep." Since most of the tax code is indexed for inflation but not for real economic growth, increasing shares of income are moved into higher brackets each year, with some individuals pushed into a higher top rate bracket. One estimate found that about a quarter of President Bush's $1.6 trillion tax cut plan would be offset by real bracket creep during the next decade.[5] Using different assumptions, another estimate found that about 80 percent of the Bush tax cut would be offset be real bracket creep.[6]

When federal statutory income tax rates are combined with income tax phase-out provisions, payroll taxes, and state income taxes, many taxpayers face quite high marginal tax rates. The following are some of the major provisions that affect a taxpayer's overall effective marginal tax rate:

- ***Federal statutory income tax rates***. The current income tax rates of 15, 28, 31, 36, and 39.6 percent have been in place since 1993. Rates would be lowered under the Bush plan to 10, 15, 25, and 33 percent over a five-year phase-in period.

- ***State income taxes***. Personal income taxes are imposed in 43 states and the District of Columbia; the top marginal state rate averaged 6.7 percent in 2001.[7]

- ***Federal payroll taxes***. The federal payroll tax consists of the 12.4 percent Social Security tax on earned income up to $80,400 (for 2001) and the 2.9 percent Medicare payroll tax on all earned income. As a result, a moderate-income worker in the 15-percent income tax bracket faces a combined income and payroll tax marginal rate of about 28 percent (calculated as 30.3 / 1.0765 to adjust income for the hidden 7.65 percent "employer" half of the payroll tax).

- ***Federal income tax phase-outs***. At least 22 federal income tax benefits are reduced as a taxpayer's income rises. These "phase-outs" of deductions, exemptions, and credits increase marginal tax rates for taxpayers within each provision's phase-out range. Some examples, and the corresponding increase in marginal rate, include the child tax credit (5 percentage points), itemized

[4] An "effective" marginal tax rate is the increase in tax liability as a share of a taxpayer's incremental income taking into account all provisions of the tax code, not just the statutory rates.
[5] Martin Sullivan, "Estate Tax Reform, Not Repeal, Would Fix Bush Plan," *Tax Notes*, February 26, 2001. See also Joint Committee on Taxation (2001) for a discussion of real bracket creep.
[6] Kevin Hassett, "A Tax Phantom is Stalking You," American Enterprise Institute, October 2000.
[7] Author's calculation based on data from the Federation of Tax Administrators. This average includes only the 43 states and D.C. that impose personal income taxes.

deductions (about 1 percentage point), and personal exemptions (about 1 to 3 percentage points).[8]

- *EITC.* The phase-out of the earned income tax credit (EITC) creates a high marginal tax rate for many moderate-income wage earners.[9] The EITC phase-out, which occurs between about $13,000 and $32,000 for workers with children, partly offsets any wage increase with a reduction in EITC benefits, thus effectively creating a higher marginal tax rate. For example, a married couple with two children earning $28,000 who receive a $1,000 raise would pay $153 of added payroll taxes, $150 of added income taxes, and have EITC benefits reduced $210 (based on a phase-out rate of 21 percent). As a result, the family faces a 48-percent marginal tax rate.[10] State income taxes may push the rate even higher.

III. Economic Effects of Marginal Tax Rates

A. A Dollar of Taxes Costs More Than a Dollar

Federal personal income tax revenues total over $1 trillion per year, an amount that cannot be easily and costlessly extracted from the economy. In fact, each tax dollar taken from an individual or business ends up costing the private economy much more than a dollar. Additional burdens stem from compliance and administration costs and deadweight losses.

Compliance and administration costs are the government, business, and individual costs of time and resources needed to make the tax system work.[11] For the government, costs are incurred for tax design and legislation, record-keeping, mailing, computer systems, assessment, audits, enforcement, and related activities of the IRS and other federal agencies. For families and businesses, it includes the time costs and out-of-pocket costs of learning tax rules, record-keeping, tax preparation, tax advice, filing, responding to audits, legal defense, and other activities.

Hundreds of thousands of skilled accountants, lawyers, and computer specialists are required in government and the private sector to keep the system running. They face a growing challenge because the federal tax code and related rules have exploded to over 46,000 pages from just 20,000 in the mid-1970s.[12] The Office of Management and Budget estimates that individuals and businesses spend over 6 billion hours (3 million

[8] Exact marginal rate effects can depend upon filing status and tax bracket. See *Phase-Outs Are Bad Tax. Policy*, Institute for Research on the Economics of Taxation (IRET), January 16, 1998. See also Joint Committee on Taxation (2001).

[9] For further information, see Edwards (2000a).

[10] The effective marginal tax rate on the family is 47.7 percent because half of the payroll tax 7.65 percent is deducted before the "gross" seen by the worker ($513 / $1,076.5 = 47.7%).

[11] For a discussion of tax compliance costs and tax complexity, see Edwards (2000b).

[12] As measured by the CCH *Standard Federal Tax Reporter*. See Edwards (2000b).

person-years) record-keeping and filling out tax forms each year.[13] More than half of tax filers now pay tax preparation firms to help with the compliance burden.

Estimates of the total costs of income tax compliance and administration range from about 10 to 20 percent of income tax revenues.[14] Therefore, total annual compliance costs of the federal personal income tax system are between about $100 to $200 billion. These costs are pure losses to the nation's economy since they represent wasted resources that could be otherwise be used to produce beneficial goods and services.

A reduction in marginal tax rates would, perhaps modestly, reduce the compliance and administrative costs of the income tax system. High rates encourage taxpayers to maximize tax avoidance and evasion activities. Such activities include creating complex financial and business structures, taking compensation in more complicated tax-favored pay schemes, and lobbying policymakers to carve out special preferences in the tax code. As taxpayers try to shield their income from high rates, government must respond with more detailed tax regulations, increased information reporting requirements, and greater enforcement activities. Income tax rate cuts have the potential to reduce such unproductive activities and save time and resources of both the government and private sector.

Deadweight losses, or "excess burdens," stem from disincentive effects created by taxes that alter individual and business behavior. A simple example will illustrate this economic burden. Suppose a college student buys a car that she can just barely afford. Then suppose the government decides to levy a new excise tax on gasoline. The student decides that the higher car operation costs would bust her budget and she sells her car. As a result, the student ends up not paying any gasoline taxes, but the tax has clearly made her worse off since she has had to settle for a less efficient or less pleasant mode of transportation. The student's free market choice has been distorted thus imposing a deadweight loss on her and lowering her standard of living.[15]

Compared to this example of an excise tax on a single commodity, income taxes can have far more profound impacts because they affect important economic choices by nearly every family and small business in the country. The personal income tax is a hybrid tax on labor and capital with the result that high tax rates distort both labor costs and the cost of capital. Since labor and capital are the basic two inputs to production, cost distortions caused by income taxation can have substantial negative economic effects.

Income taxes often have high marginal rates, which increase their damage. In fact, deadweight losses increase more than proportionally to increases in tax rates.

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[13] Office of Management and Budget, *Information Collection Budget of the U.S. Government*, FY 1999.
[14] Edwards (2000b).
[15] Also termed a reduction in her "consumer surplus," which combined with reductions in "producer surplus" equals the total deadweight loss created by a tax. Note that deadweight losses don't include tax payments themselves since these losses to taxpayers are matched by gains to the government.

Studies have found that deadweight losses increase by at least 25 cents for each additional dollar raised by higher income tax rates, as discussed in Section IV.A.

Changes in deadweight losses and economic growth are related. A tax change that reduces deadweight losses generally increases economic growth, although the magnitudes of the two effects may differ. Deadweight losses measure reductions in individuals' overall welfare or utility. Economic output, as measured by GDP, is not as broad a concept since it excludes some elements of individual utility, such as enjoyment of leisure time. But generally, tax rate cuts reduce economic distortions leading to both reduced deadweight losses and increased economic output.[16]

Cross-country statistical studies have generally found that higher taxes are associated with lower economic growth.[17] One recent study looked at the effects of marginal tax rates, in particular, and found a strong link between lower rates and faster economic growth across OECD countries.[18] Note that seemingly small changes in annual growth rates can lead to significant changes in output and income over the long-term. For example, a tax reform that increased the economic growth rate by half a percentage point would raise average incomes by over 10 percent in just 20 years.

B. Six Effects of Marginal Tax Rate Changes

This section looks more closely at how marginal income tax rates change taxpayer behavior and affect economic efficiency. In general, lower tax rates reduce deadweight losses and increase economic growth by shifting people and resources into more productive activities, and away from less productive tax-favored activities.[19] These effects are described in the following six points:

1. Labor Supply. A reduction in marginal income tax rates would increase the rewards to additional labor earnings. In response, workers may increase overtime hours or moonlighting, increase work intensity, add to their human capital to boost earnings, or be more likely to enter the labor force or delay retirement. Some groups, including married women, have been found to be quite responsive to changes in after-tax wages.

Workers respond to tax rate cuts by substituting more labor for less leisure since labor becomes relatively more attractive (the "substitution effect"). But tax cuts also create an incentive to reduce labor because a higher after-tax income increases the

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[16] For previous Joint Economic Committee studies on these issues, see: *Tax Reduction and the Economy*, July 1999; *Some Underlying Principles of Tax Policy*, September 1998; and *Revenue Maximizing Taxation is Not Optimal*, Lawrence Lindsey for the JEC, July 1997.

[17] See OECD (1997) for a summary of the research; also, *Taxation and Economic Growth*, NBER Working Paper 5826, Eric Engen and Jonathan Skinner, November, 1996; and "The Scope of Government and the Welfare State," Randall Holcolme, Robert Lawson, and James Gwartney, *Cato Journal*, Fall 1998.

[18] Fabio Padovano and Emma Galli, "Tax Rates and Economic Growth in the OECD Countries," *Economic Inquiry*, January 2001.

[19] A lump-sum tax on each taxpayer is considered to be the least distortionary tax because it would not affect prices and therefore decision making at the margin.

demand for leisure (the "income effect").[20] Empirical research has found that labor supply substitution effects usually outweigh income effects.[21] As a result, overall labor supply can generally be expected to modestly rise in response to marginal tax rate cuts.[22]

An interesting conclusion from economic theory is that it is only the substitution effect that comes into play in determining deadweight losses, not the overall change in a taxpayer's behavior.[23] As a consequence, substantial deadweight losses may be occurring in situations where substitution effects are offset by income effects and behavior is little changed.

Higher-income taxpayers generally have the largest responses to tax changes and face the highest tax rates.[24] As a result, they experience the largest deadweight loss burdens from the income tax. Society in general also loses when higher-income taxpayers react to high tax rates because those with high incomes often have unique talents. For example, if high taxes cause highly skilled surgeons to take fewer patients, the welfare of many potential patients will suffer.

2. Saving. Personal saving provides individuals with financial security and allows the leveling out of consumption over a lifetime. The nation's savings are put to use by businesses to increase their capital stock and generate long-term economic growth. It is widely recognized that the income tax system is biased against saving and towards current consumption because the returns to saving often face high tax rates whereas current consumption does not. This basic problem with income taxes has contributed to much of the interest in fundamental tax reform in recent years. Income tax rate reductions can partly alleviate this distortionary bias in the tax code.

Lower marginal tax rates would increase the attractiveness of saving relative to current consumption (the "substitution effect"). But lower taxes may also create an incentive to save less because future saving goals could be more easily reached (the "income effect"). While empirical research on tax rates and saving has led to a wide range of results, the substitution effect probably outweighs the income effect for most taxpayers, with the result that marginal tax rate cuts will promote some additional saving.[25] And as is true for labor supply, tax cuts on savings will reduce deadweight losses even if substitution effects are offset by income effects and taxpayer behavior is little changed.

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[20] For a graphical presentation of the income and substitution effects, see Tax Foundation (1999).

[21] For a summary of studies on responses to changes in after-tax wages, see OECD (1997), p. 59.

[22] The Congressional Budget Office (1997), p. 29 concludes that workers are "modestly responsive to revenue-neutral changes in after-tax wages. For the workforce as a whole, a 10-percent rise in after-tax wage rates could increase the labor supply between 2 percent and 4 percent." See also JCT (1997).

[23] For a discussion, see Rosen (1992) pp. 313, 314.

[24] Lowering the top rates in a progressive tax structure creates a strong labor supply response since the substitution effect may be large compared to the income effect.

[25] In a 1997 report on taxation and growth, the OECD (1997) pp. 8, 17, 52 concluded that it is "generally presumed that the substitution effects dominate [the income effects] over the longer term," so that reducing taxes on savings would have a modestly positive effect. See also JCT (1997).

Congress has recognized the disincentive effects of income taxes on personal saving and created a number of tax-favored savings vehicles, such as IRAs and 401(k) plans. While beneficial, these vehicles are not universal in coverage, have dollar cut-offs to limit their usage, and are specific to certain purposes, such as retirement saving. Also, penalties for early withdrawal limit their incentive effects. Families need to save for a whole range of purposes, many of which are not specified in tax law. Therefore, in addition to liberalizing IRAs and 401(k)s, it also makes sense to reduce taxes on returns to all types of personal savings by lowering marginal income tax rates generally.

3. Entrepreneurial Activity and Small Business Growth. The income tax system has a wide-ranging impact on how businesses are structured and operated.[26] Taxes affect such decisions as purchasing capital equipment, hiring workers, and designing compensation plans. Marginal tax rate cuts would reduce the influence of taxation on business decisions allowing firms to allocate resources with greater efficiency.

Tax rate cuts would potentially benefit the more than 20 million small businesses that are subject to tax under the personal income tax system. This includes 19.4 million non-farm sole proprietorships, 2.1 million farms, 1.9 million partnerships, and 2.6 million S corporations.[27]

Much of the benefits of reducing top marginal tax rates would go to small business owners who represent a large and growing share of tax returns in the top rate brackets. IRS data for 1998 shows that of tax filers with adjusted gross income above $200,000, 27 percent reported sole proprietor income and 49 percent reported partnership or S corporation income.[28] By comparison, 14 percent of all tax filers reported sole proprietor income and 5 percent of all filers reported partnership or S corporation income. Similarly, Federal Reserve data shows that 40 percent of the income of the wealthiest one percent of families comes from self-employment or entrepreneurship, compared to 14 percent for the general population.[29] Therefore, cutting the top income tax rates affects large amounts of small business activity, as opposed to being simply a tax cut for salaried executives or those living off of passive investment income.

Personal income tax rates have a direct effect on small business profits, hiring, investment, and growth. Recent research by Robert Carroll, Douglas Holtz-Eakin, Mark Rider, and Harvey Rosen measured the impact of marginal tax rate cuts under TRA86 on

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[26] The capital gains tax, not discussed in this paper, is also important when considering small business tax policy, particularly with regards to fast-growth, high-tech firms. See Edwards (1999).

[27] *Statistics of Income Bulletin*, IRS, Winter 2000-2001, 1998 figures. The figure of 19.4 million proprietorships compares to 17.4 million tax returns with proprietor income since some returns have income from more than one firm. The Small Business Administration ("Small Business FAQ," December 2000) estimates that there are about 25 million small businesses in the U.S. (see also NFIB's *Small Business Policy Guide*, 2000).

[28] *Statistics of Income Bulletin*, IRS, Fall 2000. See also *Taxing Small Business and Innovation*, JEC, May 1996; and see James Alm and Sally Wallace, "Are the Rich Different?" in Slemrod (2000).

[29] Edward Wolff, "Who Are the Rich?" in Slemrod (2000). Data is for 1992. Similarly, research on U.S. millionaires has found that about 80 percent are self-made. See Edwards (2000c), p.4.

sole proprietor revenue growth.[30] They found that tax rate reductions had a "significant influence" on firm growth rates and concluded that a tax cut that raised taxpayers' after-tax share on marginal income (i.e. one minus the tax rate) by 10 percent would cause them to increase business revenues by 8.4 percent. This suggests that a decrease in the top marginal tax rate from 40 to 33 percent, as proposed by President Bush, would result in revenues for small businesses in the top tax bracket increasing by about 10 percent.

Another paper by Carroll, Holtz-Eakin, Rider, and Rosen examined changes in sole proprietor capital investment before and after TRA86.[31] Lower tax rates both increase the return to marginal capital investments and increase the cash-flow available to finance investments.[32] The authors found that "changes in marginal tax rates have a substantial impact on entrepreneurs' investment spending." For example, they found that a five-percentage point change in marginal tax rates would cause a 10-percent change in capital investment expenditures. A third paper by the same authors examined the effect of personal income tax rates on sole proprietor hiring decisions.[33] They found that a tax cut that boosts after-tax income by 10 percent would raise a small business's likelihood of hiring by 12 percent.

In summary, reductions in marginal income tax rates can be expected to have an expansionary impact on America's small business sector. This is important because small businesses fill a unique role in the economic growth process.[34] While many small businesses stay small, some will grow to become leaders in whole new industries. New firms often challenge existing firms with untried ideas and thereby generate greater competition and efficiency. Evidence suggests that small firms perform a disproportionately large share of radical innovations in the economy, such as Apple's introduction of the personal computer in the 1970s, which caught existing large computer firms by surprise.[35] Economist Joseph Schumpeter called this beneficial process "creative destruction" whereby new firms and products continually replace the old. Tax reductions that support growth in small firms can further this dynamic market growth process.

4. Production and Consumption Efficiency. The income tax code is riddled with incentives and disincentives affecting different industries, investments, and consumption goods. As a result, taxes alter the relative prices of different economic activities thus redirecting resources to less efficient uses. For example, the income tax exclusion on state and local government bond interest alters the allocation of investment funds in the economy.

High marginal income tax rates increase the value of such tax preferences, thus magnifying their economic impact. Marginal tax rate cuts would create greater neutrality between different activities and allow resources to flow towards growth-maximizing

[30] Carroll et al. (2000b).
[31] Carroll et al. (2000a).
[32] Cash-flow is important because external finance may not always be available to entrepreneurs, or may be more costly than internal funds.
[33] Carroll et al. (1999).
[34] For a discussion of the unique economic role of entrepreneurs, see Edwards (2000c).
[35] Edwards (2000c), p. 19.

areas. Simulations of major tax reforms generally show that greater tax neutrality would create a significant spur to economic growth.

As a political dynamic, high tax rates tend to generate a proliferation of special tax preferences. This occurs as policymakers and interest groups logically seek legislative fixes to the damage caused by high tax rates to their favored activities. Unfortunately, the proliferation of special provisions in the tax code causes higher compliance costs and greater inequities between taxpayers. Marginal tax rate cuts will move the tax system towards more equal treatment between different economic activities and different taxpayers.

5. Tax Avoidance. Tax avoidance refers to a wide range of activities designed to legally reduce tax liabilities. As tax rates rise, individuals and businesses restructure their operations, maximize their tax deductions, adjust employee compensation packages, modify investment portfolios, change the timing of receipts and payments, and conduct various other transactions to minimize taxes. They are aided by a large industry of expert accountants and lawyers whose job is to continually develop new techniques and products for tax planning.

Some widely noted examples of tax avoidance include: shifting portfolios from taxable securities to tax-exempt bonds, converting ordinary income to capital gains income when ordinary rates are high (e.g. converting wages to incentive stock options), substituting tax-favored fringe benefits and workplace amenities for wages, shifting business income between the corporate and personal tax bases as relative tax rates change, and converting non-mortgage interest into mortgage interest after TRA86 (which changed the interest deductibility rules).[36]

Different tax avoidance activities may affect economic efficiency to differing degrees. On the one hand, the concoction of complex financial instruments to minimize taxes may cost plenty in accountant's fees, but not alter real production very much. On the other hand, for example, the substitution of tax-favored health insurance premiums for wages has had a large impact on the structure of the U.S. health-care industry. "Tax avoidance" in this latter sense overlaps with the activities discussed in point 4, above.

As tax rates rise, taxpayers have greater incentives to invest more in tax minimization activities. Higher-income taxpayers usually have greater scope to rearrange their affairs in response to changes in tax rates.[37] As a result, a reduction in the top marginal tax rates would bring about the largest reduction in unproductive avoidance activities. One goal of tax rate reductions under TRA86 was to reduce the tax sheltering activities of high-income taxpayers. Today's fairly high tax rates again offer substantial scope to reduce these unproductive activities with rate reductions.

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[36] Dean Maki, *Portfolio Shuffling and Tax Reform*, Federal Reserve Board, 1996, found substantial reshuffling of consumer debt into mortgage debt after TRA86, with the result that the government received only about half of the revenue from the tax change that they were expecting.

[37] For a discussion of tax avoidance techniques of the wealthy, see Douglas Shackleford, "The Tax Environment Facing the Wealthy," in Slemrod (2000).

6. Tax Evasion. Tax evasion is tax avoidance by illegal means. Like legal tax avoidance, tax evasion rises as tax rates rise, as confirmed by numerous empirical studies.[38] Like tax avoidance, tax evasion creates deadweight economic losses. These occur as resources are shifted from more productive uses to less productive uses that are easier to hide from the government.

In addition, tax evasion adds to government administration costs for audits, information gathering, and enforcement activities. The complexity of tax law combined with high tax rates have created a continuing cat-and-mouse game between taxpayers and the Treasury. A recent issue of *Forbes* described how the invention and promotion of complex tax shelters is alive and well.[39] Accountants and lawyers steadily develop new trust, partnership, insurance company, and offshore structures to allow individuals and businesses to hide income and reduce taxes. The IRS estimates that illegal offshore shelters cost $70 billion in lost annual tax revenue.[40]

But it is often not clear what is legal tax avoidance, and what is illegal tax evasion because of the inconsistencies and ambiguities in the income tax code. It sometimes takes years of reworked regulations or court fights to clarify such gray areas. High marginal tax rates exacerbate the problem by giving taxpayers the incentive to breach the legal limit. This forces the Treasury to write even more complex regulations, demand more information from taxpayers, and spend resources on enforcement.

The magnitude of tax evasion has been roughly estimated by the IRS. It found that taxes not paid on legal individual income, called the "tax gap," was about $95 billion in 1992.[41] Individual taxpayers pay only about 83 percent of what they owe, enforcement brings in another 4 percent, and the rest is uncollected. The tax gap is caused, for example, by taxpayers overstating deductions, understating income, or simply not filing returns. In summary, tax evasion is large and as a result offers substantial scope for tax rate cuts to increase reported taxable income and boost federal tax receipts.

C. Tax Rates and the Tax Base

The last section described some of the taxpayer responses to changes in marginal income tax rates. The overall effect of changes to taxpayer behavior is captured in changes to the tax base. Tax rate reductions increase reported taxable income. But by how much?

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[38] Gale and Holtzblatt (2000), p.8 provides some cites on this literature.
[39] *Forbes*, "Are You a Chump?," March 5, 2001.
[40] *Forbes*, "Are You a Chump?," March 5, 2001.
[41] General Accounting Office, *T-GCD-97-35*, 1997. *Forbes* states that the tax gap is now about $200b. These figures do not include taxes lost to the government from illegal income sources.

A number of empirical studies have looked at the responsiveness, or elasticity, of taxable income with respect to changes in after-tax income on a marginal dollar.[42] Lawrence Lindsey, formerly at Harvard and currently Director of the National Economic Council, examined the early-1980s income tax cuts in a 1987 paper and found high taxpayer responses.[43] His elasticity estimates were greater than 1.0, indicating that a 10-percent increase in the after-tax marginal income share would result in at least a 10-percent increase in taxable income. Harvard Professor Martin Feldstein found similarly large responses to marginal tax rate reductions under TRA86,[44] as did a 1994 study by the Treasury's Gerald Auten and Robert Carroll.[45]

Recent studies have produced somewhat lower elasticity estimates. A 1999 study by Auten and Carroll found an elasticity of taxable income with respect to after-tax share of 0.57.[46] A study last year by Jonathan Gruber and Emmanuel Saez found an average elasticity of 0.4, which they think is about the mid-point of recent study results.[47] Therefore, a tax cut creating a 10-percent increase in the after-tax share on marginal income will result in a 4-percent increase in taxable income. Gruber and Saez found substantially larger elasticities at higher incomes, indicating that the largest efficiency gains come from cutting the top tax rates.[48]

The time dimension of taxpayers' elasticity or responsiveness is important. In the short-term leading up to, or after, a tax change, taxpayers can change the timing of transactions and adjust their investment portfolios. In the longer term, many other adjustments take place as individuals and businesses learn new tax rules, adjust working patterns and compensation packages, restructure finances, or start using new tax minimization strategies designed by tax professionals. As a result, larger responses to tax changes are expected in the longer term, and taxpayers may take years to fully adjust.

Another dimension of tax-induced behavior effects is the magnitude of economic impact that particular changes have. Some behavior responses, such as one-time adjustments to transaction timing, are transitory and may not have substantial economic effects. But other taxpayer responses have large and lasting impacts on economic growth. For example, tax rate changes that affect entrepreneurial investment decisions clearly have important long-term effects on the economy.

Economists have debated which particular taxpayer responses have been dominant after past marginal tax rate changes. However, Martin Feldstein has argued that it is the total change in taxable income that determines the magnitude of changes to

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[42] For example, if the top marginal tax rate dropped from 40 to 33 percent, the after-tax share received on a marginal dollar would rise from 60 to 67 percent, a 12 percent increase.

[43] Lindsey (1987). His elasticity estimates ranged from 1.05 to 2.75, with a central estimate of 1.6 to 1.8.

[44] Feldstein (1995a) found elasticities ranging from 1.0 to about 3.0, with a central estimate of 2.1.

[45] Auten and Carroll (1994) found an elasticity of 1.33.

[46] Auten and Carroll (1999), pp. 681-93.

[47] Gruber and Saez (2000). Carroll (1998) also found an average elasticity of 0.4.

[48] In fact, "optimal tax" theory suggests that the most efficient tax system would feature declining marginal tax rates as incomes rise. See, for example, discussion in Gruber and Saez (2000).

deadweight losses, regardless of the underlying causes of the change.[49] And it is the total change in taxable income that determines the revenue feedback effects of tax changes. These two dynamic responses to tax changes are discussed in the next section.

IV. Accounting For the Dynamic Effects of Tax Changes

> *The man of system ... seems to imagine that he can arrange the different members of a great society with as much ease as the hand arranges the different pieces upon a chess-board. He does not consider that the pieces upon the chess-board have no other principle of motion besides that which the hand impresses upon them; but that, in the great chess-board of human society, every single piece has a principle of motion of its own, altogether different from that which the legislature might chuse to impress upon it.*[50]
>
> Adam Smith

Smith would certainly agree that taxpayers have a "principle of motion" of their own. Tax changes cause them to reshuffle their work, saving, investment, avoidance, and evasion activities. These adjustments create the deadweight losses generated by the tax system, and they create feedback effects on federal revenues thus making budget projections more difficult. The magnitude of these dynamic effects is discussed in the following two sections.

A. How Big Are Deadweight Losses?

The cost to the private sector of an additional dollar of tax revenue is not just a dollar. It is more because higher taxes generate larger deadweight losses, which are caused by people and resources being reallocated away from their most efficient uses.[51] As a consequence, marginal tax rate cuts generate gains for the private economy of more than the dollar value of the cuts.

Economic research indicates that deadweight losses represent at least 25 percent of each additional dollar of federal income tax revenue.[52] This means that if income tax rates were increased in an effort to raise revenue by $10 billion, taxpayers would be $12.5 billion worse off because an additional $2.5 billion of economic distortions would

[49] In particular, Feldstein (1995b) thinks that it is the overall change in compensated taxable income that determines the magnitude of deadweight losses.

[50] Adam Smith, *The Theory of Moral Sentiments*, Section VI.II.42, 1759.

[51] For a further discussion of the theory behind deadweight losses, see Rosen (1992) or Hines (1998).

[52] See Browning (1987), Ballard et al. (1985), Stuart (1984), and Vedder and Gallaway (1999). In its February 2001 *Budget Options* report, the Congressional Budget Office notes that "typical estimates of the economic cost of a dollar of tax revenue range from 20 cents to 60 cents over and above the revenue raised."

be created. Conversely, tax rate reductions will benefit taxpayers by about 25 percent more than their actual tax bill is reduced.

The Office of Management and Budget (OMB) incorporates a 25 percent deadweight loss measure into federal cost-benefit analyses.[53] OMB rules require that each additional dollar of tax revenue count as a cost of $1.25 because taxes "create an excess burden which is a net loss to society." Therefore, for new government spending projects to make economic sense, they must generate benefits at least 25 percent greater than their explicit financing costs.

Two main factors affect the magnitude of deadweight losses created by taxes. First, the larger the behavior changes caused by taxes, the larger the deadweight losses. Or more specifically, the larger the behavioral substitution effects, the larger the deadweight losses.[54] As a result, taxes may cause substantial deadweight losses even where little behavior change is observed if substantial substitution effects are being offset by income effects.

The second factor affecting the size of deadweight losses is the marginal tax rate. Deadweight losses rise more than proportionally to increases in tax rates. For income taxes, deadweight losses rise approximately by the square of the increased tax wedge between pre- and post-tax income.[55] For example, a doubling of the tax wedge causes deadweight losses to quadruple. (For excise taxes, deadweight losses rise approximately with the square of the marginal rate). As a consequence, a flatter tax rate structure is substantially more efficient than a progressive tax structure that has rising marginal rates.

Since deadweight losses rise more than proportionally to tax rate increases, modest rate reductions can increase the efficiency of the tax system significantly. For example, the Bush plan's cut in the top income tax rate from 39.6 percent to 33 percent would reduce deadweight losses for taxpayers in this rate bracket by about 35 percent.[56] Cutting the 28 percent rate to 25 percent would reduce deadweight losses by about 22 percent for taxpayers in this bracket.

Deadweight losses are usually considered with regard to changes in tax rates, but estimates have also been made of the total deadweight losses created by taxes. Marginal changes in deadweight losses are larger, measured as a percentage of marginal revenue, than total deadweight losses measured as a percentage of total tax revenue. This is because losses rise more than proportionally to tax rates. As an example, Dale Jorgenson and Kun-Young Yun of Harvard University calculated both the marginal and total deadweight losses of U.S. taxation in a 1991 study.[57] They concluded that deadweight

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[53] Office of Management and Budget, *Circular No. A-94*, October 29, 1992. pp. 6, 11.

[54] Put another way, the larger are "compensated" elasticities, the larger are deadweight losses.

[55] See Rosen (1992), p. 316. See also *The Economics Effects of Taxing Capital Income*, Jane Gravelle, 1994, p. 30.

[56] Based on the formula: deadweight loss = $(.5)*(t^2)*(1/(1-t))*(E)*$(taxable income) where t is the marginal tax rate, and E (set at 0.4) is the elasticity of taxable income with respect to the after-tax share.

[57] Jorgenson and Yun (1991).

losses represented about 18 percent of total U.S. tax revenue, but were 39 percent of marginal tax revenue.[58]

Marginal tax rate reductions under President Bush's plan would reduce the deadweight losses created by the income tax. The magnitude of savings was recently estimated by Harvard professors Martin Feldstein and Daniel Feenberg.[59] They found that the plan would reduce deadweight losses of the income tax by about 38 percent of the value of the $1.6 trillion tax reduction, or about $600 billion over ten years. This means that taxpayers would save $1.38 for each dollar of officially-scored tax cuts.

B. How Big are Dynamic Revenue Effects?

In the months and years following tax changes, taxpayers respond in numerous ways to alter their reported taxable income. These changes tend to offset some of the otherwise expected changes in government revenue. The size of such dynamic revenue effects has been the subject of continued debate. As with deadweight losses, the magnitude of revenue feedbacks are larger the larger are taxpayer behavioral responses.

Table 1 provides two simple examples of the effect of taxpayer behavior on federal revenues following a marginal tax rate change. Both examples use the mid-range elasticity estimate of Gruber and Saez of 0.4 (see Section III.C). The examples show that relatively small changes in taxable income can create substantial revenue effects, particularly at higher income levels. Note that the figures relate only to changes in revenue within the marginal rate bracket.

The family in the left-hand column sees their share of marginal income rise 4.2 percent as their tax rate drops from 28 to 25 percent. A static revenue estimate would show the federal budget losing $894. However, the family responds by increasing their taxable income by 1.7 percent, which is enough to reduce the government's revenue loss to $582, indicating a 35-percent dynamic revenue offset.

The family in the right-hand column sees their share of marginal income rise 4.7 percent as their tax rate drops from 36 to 33 percent. A static revenue estimate would show the federal budget losing $1,005. However, the family increases their taxable income by 1.9 percent, which is enough to more than offset the static loss, and the federal budget gains $232 from this family in their marginal tax bracket.

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[58] Feldstein (1995b) figured that the overall deadweight loss of the personal income tax was about 32 percent of revenues in 1994, but that deadweight losses at the margin were about 78 percent of static changes in revenues. Edgar Browning (1987) calculated the marginal and total deadweight losses of U.S. labor taxes in the 1980s and found that total deadweight losses were about 16 percent of revenue, but deadweight losses at the margin were about 32 to 47 percent of revenue.

[59] Martin Feldstein, "The 28% Solution," *Wall Street Journal*, February 16, 2001. See also Feldstein's February 13, 2001 testimony in front of the House Ways and Means Committee.

While these figures are only illustrative, full simulations of past and proposed tax rate reductions do show substantial revenue feedbacks. In their analysis of the Bush tax plan, Feldstein and Feenberg predict that it would produce a dynamic feedback effect of at least 25 percent ($400 billion) of the official revenue change of $1.6 trillion.[60] Other estimates also suggest that revenue feedbacks from marginal rate cuts are substantial.[61]

Table 1: Revenue Change Under a Marginal Tax Rate Cut
Sample Joint Filers

Assumptions	28% to 25%	36% to 33%
Taxable income	$75,000	$200,000
Income in marginal rate bracket	$29,800	$33,500
Old after-tax marginal income share	72.0%	64.0%
New after-tax marginal income share	75.0%	67.0%
Change	4.2%	4.7%
Assumed elasticity	0.40	0.40
Results	**28% to 25%**	**36% to 33%**
Static revenue change	**-$894**	**-$1,005**
Dynamic revenue change:		
New taxable income	$76,250	$203,750
Change	1.7%	1.9%
Tax increase due to larger taxable income	$313	$1,237
Net dynamic tax revenue change	**-$582**	**$232**

Source: JEC. Figures show revenue change only within the marginal bracket.

Given the potential for substantial dynamic feedbacks from tax changes, there has been an ongoing debate regarding official revenue estimates made by the Congressional Joint Committee on Taxation and the Treasury's Office of Tax Analysis. These official scorekeepers currently only include some limited microeconomic responses in revenue estimates, such as some taxpayer avoidance behavior, but do not include any responses that would alter macroeconomic variables such as GDP.[62]

There is a concern that by excluding full feedback effects in official revenue estimates, federal policy gets biased towards tax rate increases and against tax rate cuts.[63] However, some hurdles stand in the way of routine dynamic revenue analyses. In particular, there is no consensus regarding the best economic model or taxpayer elasticity values to be incorporated in estimates. In addition, complex dynamic analyses may not

[60] Martin Feldstein, "The 28% Solution," *Wall Street Journal*, February 16, 2001. See also Feldstein's February 13, 2001 House Ways and Means Committee testimony.

[61] For example, a study by the Heritage Foundation (2001) estimates that the Bush tax plan would produce revenue feedbacks totaling 47 percent of the 10-year static revenue loss. In a study of the 1981 tax cut, Lindsey (1987) estimated that revenue feedbacks offset up to 25 percent of static losses. A study by Carroll (1998) on the effect of the 1993 marginal tax rate increase found that dynamic feedbacks effects reduced the static revenue gain by between 13 and 39 percent.

[62] For a discussion, see Gravelle (1994) and Joint Committee on Taxation (1997).

[63] Also, note that since much of the revenue feedback effect comes from high-income taxpayers, marginal tax rate cuts have a more progressive distributional impact than indicated by static revenue scoring.

be available for the quick turnaround times needed by policymakers in the midst of tax debates. Nonetheless, current standing rules of the House of Representatives allow the chairman of Committee on Ways and Means to request dynamic analyses of major tax bills.[64] This option has been infrequently used so there is not yet a track record of dynamic scoring to assess.

Once a track record of dynamic tax analyses is compiled, the process could be fine-tuned, and dynamic analyses could be routinely reported as addenda for major tax bills, as a complement to the traditional estimates. This would allow policymakers to consider both the official "static" figures, as well as allow them to consider the broader economic impact of tax changes as reflected in the dynamic estimates.

V. International Trends

Recognition of the harmful effects of high marginal tax rates has led dozens of countries to reduce personal and corporate rates in recent decades. Table 2 shows changes in the top personal income tax rate for the G-7 industrial economies and for 30 other important economies.[65] The average top tax rate for the G-7 countries fell 18 percentage points since 1980. The average top tax rate for the 30 other economies shown fell 22 percentage points during the same period. Similarly, OECD figures show that the average top personal income tax rate for OECD member countries fell 17 percentage points between 1975 and 1995.[66]

Marginal tax rate cuts are sound domestic policy, but increasing global economic integration is making moderate tax rate levels a competitive necessity. Low taxes help home-country firms compete against foreign-based firms, and they aid countries in attracting foreign investment. Attraction of foreign investment is a top goal for most countries today, even though many used to erect barriers to keep it out.

While corporate taxes play a key role in international tax competitiveness, personal income taxes have risen in importance as international labor mobility has increased. Leading-edge industries locate where they have access to highly-skilled people. Countries with high personal income tax rates encourage a "brain drain" of their most talented workers in high-tech, finance, health care, and other industries. In recent years, high-tax Canada and France have seen steady brain drains to the United States and Britain, respectively, as their best young engineers and scientists have sought greater opportunity and higher after-tax wages.[67] *Business Week* profiled one French company's trouble with high personal tax rates:

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[64] *Rules of the House of Representatives*, 107th Congress, Rule XIII (3)(h)(2).

[65] Sourced from *Economic Freedom of the World* by James Gwartney and Robert Lawson. Figures include both the national government's top rate and the lowest state or provincial top rate. The table excludes the smallest countries in Gwartney and Lawson, and countries for which full data was not available.

[66] OECD figures for central government tax rates only. OECD (1997).

[67] In the past, Britain experienced a serious outward brain drain, but now with relatively low tax rates it has attracted workers from high-tax Continental European countries. Jack Anderson in *Forbes* ("A Misery Index," February 21, 2000) notes that half a million French citizens now live in England.

Table 2: Change in Top Statutory Personal Tax Rates, 1980-1999

(Includes national and state/provincial income taxes)

	1980	1985	1990	1995	1999	1980-1999
Major Countries (G-7):						
United States	70	50	28	40	40	-30
Japan	75	70	65	65	65	-10
Germany	56	56	56	57	56	0
France	60	65	53	51	54	-6
Italy	72	81	66	67	50	-22
United Kingdom	83	60	40	40	40	-43
Canada	60	50	44	44	44	-16
Average G-7	**68**	**62**	**50**	**52**	**50**	**-18**
30 Other Countries:						
Argentina	45	62	35	30	35	-10
Australia	62	60	49	47	47	-15
Austria	62	62	50	50	50	-12
Belgium	76	76	55	58	58	-18
Brazil	55	60	25	35	28	-28
Chile	58	56	50	45	45	-13
Colombia	56	49	30	30	35	-21
Denmark	66	73	68	64	59	-7
Egypt	80	65	65	50	42	-38
Greece	60	63	50	45	45	-15
Hong Kong	15	25	25	20	17	2
India	60	62	53	40	30	-30
Indonesia	50	35	35	30	30	-20
Ireland	60	65	58	48	46	-14
Israel	66	60	51	50	50	-16
Malaysia	60	45	45	32	30	-30
Mexico	55	55	40	35	40	-15
Netherlands	72	72	72	60	60	-12
New Zealand	62	66	33	33	33	-29
Nigeria	70	55	55	35	25	-45
Peru	65	65	45	30	30	-35
Philippines	70	60	35	35	33	-37
South Africa	60	50	45	43	45	-15
South Korea	89	65	60	48	44	-45
Spain	66	66	56	56	48	-18
Sweden	87	80	72	58	56	-31
Taiwan	60	60	50	40	40	-20
Thailand	60	65	55	37	37	-23
Turkey	75	63	50	55	40	-35
Venezuela	45	45	45	34	34	-11
Average - 30 other countries	**62**	**60**	**49**	**42**	**40**	**-22**

Note: figures include the lowest subnational tax rate for those countries such as United States and Canada that have a range of state/provincial rates.

Source: Adapted from James Gwartney and Robert Lawson, *Economic Freedom of the World, 2001*

> When Strasbourg-based Transgene needed to create a subsidiary to test a new kind of gene therapy, it shunned the vine-trellised region of Alsace-Lorraine as a site for the new business ... Transgene instead set up in Massachusetts. One reason: punishing French taxes, which can gobble up more than 60 percent of the gross earnings of highly-paid workers. 'We are facing more and more difficulties attracting people to France,' says Bernard Gilly, Transgene's CEO. [68]

The United States has been successful at attracting capital and skilled labor from abroad, but it can't rest on its laurels. It needs to continuously improve its tax system because other countries are becoming more competitive all the time.[69] For example, while young Irish people for generations came here seeking opportunity, the Ireland of today has a very competitive tax system, a booming technology sector, and is keeping its best young minds at home.

Many of our largest trading partners have been recently cutting marginal tax rates: Germany is cutting its top personal rate from 56 percent to 44 percent by 2005. France is planning to reduce its top personal tax rate of 54 percent. Canada has just reduced each rate in its federal income tax structure by 1 to 4 percentage points. The Netherlands recently enacted personal tax cuts to lower its tax structure from rates of 37-60 percent to rates of 33-52 percent.[70] And Mexico's President Fox has just unveiled a plan to reduce that country's top personal income tax rate from 40 to 32 percent.[71]

Corporate tax rates are falling as well. A new survey finds that the average top corporate income tax rate in OECD countries fell from 37.5 percent in 1996 to 33 percent today.[72] This is on top of the 10 percentage point decline in the average corporate income tax rate in OECD countries between the mid-1980s and mid-1990s.[73]

VI. Conclusions

President Bush has proposed that income tax rates be reduced so that taxpayers retain a share of future budget surpluses. With federal tax revenues as a percentage of GDP at a peacetime high, it does appear that additional resources would be more productively used in the private sector than in an expanded public sector.

This paper has described how reductions in marginal tax rates would enhance economic efficiency by reducing "government waste." Government waste usually refers to unneeded spending projects. But tax-induced deadweight losses and compliance costs

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[68] *Business Week*, "The Only Question is How Much to Slash," March 6, 2000.

[69] A recent Arthur Anderson (Europe) study rated the United Kingdom the best place for business and more "entrepreneur friendly" than second-place United States, including its corporate tax policies. "Britain's Best for Business," *Sun*, Jan. 24, 2001, based on *Not Just Peanuts*, Arthur Andersen and GrowthPlus, 2000

[70] Arthur Andersen and GrowthPlus, *Not Just Peanuts*, 2000.

[71] *Washington Post*, "Mexico's Fox Seeks Tax System Overhaul," April 3, 2001.

[72] *The Economist*, "Company Taxes," February 24, 2001.

[73] OECD (1997).

are also "waste" since they simply represent the costs of extracting cash from taxpayers, and not the creation of any new economic value.

Former Supreme Court Chief Justice Marshall famously noted, "the power to tax involves the power to destroy."[74] This is true of high marginal rates, which prevent otherwise beneficial market transactions from taking place by distorting prices. Lowering marginal tax rates will allow markets to allocate resources more efficiently and generate a higher standard of living for all Americans.

The United States was a world leader in tax reform in the 1980s. A reduction in marginal tax rates would move us back towards the simple two-rate tax structure enacted in 1986. Today, other industrial countries are moving ahead with the adoption of more competitive tax rates. The U.S. could again lead by enacting lower marginal rates as the first step towards creating a more efficient tax system for the 21st century.

[74] Quoted in National Commission on Economic Growth and Tax Reform, *Unleashing America's Potential*, January 1996. p. 8.

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TAX POLICY FOR ECONOMIC GROWTH

I. EXECUTIVE SUMMARY

The ongoing economic slowdown, exacerbated by the terrorist attacks of September 11, makes changes in economic policy necessary. While there is bipartisan agreement on the desirability of tax relief, the composition and scale of tax legislation are both matters of contention. This paper examines current economic conditions, the primary features of several options for tax relief under consideration in Congress, and their potential effects on the economy.

Current and ongoing Joint Economic Committee (JEC) research on major tax issues[1] indicates that measures to reduce income tax rates and reduce the cost of capital would have positive short- and long-term effects on the economy. Among the findings are the following:

- The economy has been in an economic slowdown since the middle of 2000, led by a sharp decline in investment growth. The rebound previously projected by many macroeconomic forecasters for the last half of 2001 will probably be delayed or undermined by the terrorist attacks of September 11, 2001. Tax incentives for capital formation are especially appropriate given the important leading role of weakening investment in the economic slump.
- After the attacks, the extra security costs in the short run as well as in the long run will have effects similar to imposing a "security tax" on an already vulnerable economy. This security tax should be offset by tax policy, such as the relief provided under several core components of the *Economic Security and Recovery Act of 2001* (H.R. 3090).
- The current tax code penalizes work, saving, investment, and entrepreneurship. Tax changes that reduce these penalties will improve long-term economic growth.
- According to an important and growing body of economic research, the current level of taxation imposes a large excess burden at the margin; 40 cents in lost economic welfare per dollar of tax would be a reasonable estimate. There is no reason for policymakers to accept such counterproductive results.
- If the tax bill increases the GDP growth rate by only one-tenth of one percentage point annually, it would produce enough additional revenue over 10 years to offset a significant portion of the estimated static revenue losses.
- The dynamic economic impact of properly designed tax legislation, and the high degree of income mobility in the United States, lead to broadly shared economic benefits that are often ignored in conventional revenue and distributional analysis.

[1] For more information, please visit our webpage at http://www.house.gov/jec.

II. WHY CERTAIN TAX CHANGES CAN AFFECT THE ECONOMY

In a market economy, resources are allocated by the forces of supply and demand. Producers of goods and services expand production to the point where the cost of producing the last unit is covered by the price that can be obtained in the market.

The quantity of inputs to the production process – labor services and capital – is also influenced by changes in market prices. All other things equal, a rise in wage rates, for example, tends to attract new potential workers and expand the labor force. An increase in the rate of return on saving and investment tends to elicit more saving and investment. Thus, changes in prices can affect the quantity of inputs used in production.

Current and especially future prices and costs must be discovered through the market process. Market participants have differing views of future market conditions and their current implications, and these views are tested by the market process over time. Entrepreneurs whose expectations are especially prescient and accurate are rewarded, while those who are not lose their command of productive resources. The entrepreneurial function is the nerve center of the market economy because foresight and the ability to use knowledge productively underlie all the valid assumptions made about costs and prices.

Our economy is not a pure free market economy as in an abstract model. The U.S. economy is a market-based system in which market forces allocate resources, but government is also present. Market costs and relative prices are influenced by government taxation and regulation. The general effect of taxes and regulations is to increase production costs. This effect may or may not be offset by other gains, but an increase in cost or a reduction in the return to a factor of production tends to reduce the supply available. This imposes costs on the economy, withdraws resources from production, and lowers economic growth. The result is economic losses (known as excess burdens) for consumers and producers.

An ideal tax is one that interferes as little as possible with the market allocation of resources. The current tax system is not consistent with this criterion because it is biased against saving and investment, which are taxed more heavily than consumption. In addition, current tax policy also has the effect of discouraging work effort.

Furthermore, given the current level of taxation, the costs imposed are excessive in relation to the revenue raised. The excess burden of taxation is estimated at about 40% of revenues raised at the margin.

Tax legislation that removes some of the bias against work, saving, and investment, would tend to lower barriers to resources flowing into production. Tax legislation that blunts tax provisions that undermine entrepreneurship and innovation would also tend to facilitate the dynamism and flexibility conducive to economic growth. These positive economic effects can be seen during periods when broad-based tax incentives are in place.

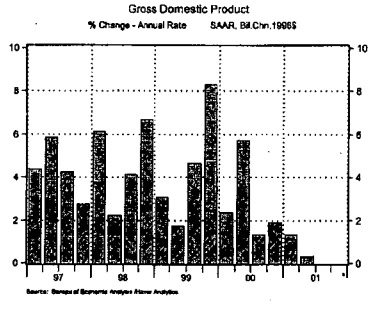
Such measures would work to increase incentives and lower production costs, also improving the cash flow of firms. Improved investment would also increase labor productivity and output, and could bolster demand for labor services that are complementary to capital. Since firms are employers, the reduction in costs and enhancement of labor productivity would work to help firms maintain employment levels and avert pressure to reduce variable costs by discharging as many workers in an economic slowdown. Economic losses incurred by employers and exacerbated by high security, tax and other costs are not in the interest of employers or employees. In sum, a balance in economic policy is needed whereby monetary policy increases aggregate spending, and changes in tax policy are geared to enhancing investment, efficiency, and expansion of output.

III. ECONOMIC STIMULUS THROUGH TAX RELIEF

Prior to the terrorist attack on September 11, most economic indicators suggested the U.S. economy was experiencing a significant economic slowdown, which began in mid-year 2000. Despite this widespread slowdown, the consensus view among economists at the time was that a near-term economic rebound was at hand for a number of important reasons. The terrorist attack of September 11, however, dramatically changed this by altering consumer and business behavior in both the short and long run; the attack embodies important short- and long-run effects. As a consequence of these effects, prospects for the economic outlook have changed dramatically. The expected near-term economic rebound is now in doubt and the likelihood is that added security expenditures and a "security tax" will adversely effect productivity growth in a longer-term horizon. The economic outlook, however, will importantly depend on the macroeconomic policy response of both monetary and fiscal policy. This analysis explains why an appropriate fiscal response should emphasize tax relief rather than additional government spending and develops a number of alternative tax options.

Some Background

Prior to the terrorist attack on September 11, the economy was experiencing a significant slowdown, which began in mid-year 2000. In fact, the macroeconomy was quite weak. Real GDP growth in the second quarter of 2001 was revised down to a low but positive rate. Investment growth had fallen. Manufacturing activity was especially weak with little sign of an imminent rebound. While consumption growth had slowed, it (along with housing strength) was



sufficient to keep the economy out of outright recession. The labor market had softened as employment growth deteriorated and the unemployment rate increased. Broad measures of inflation as well as forward-looking inflation indicators suggested no resurgence of inflation was imminent.

Despite this somber pre-attack picture, at the time it was reasonable to expect that a near-term economic rebound was in the works. With an inventory correction near completion, a retreat of energy prices, a substantial Federal Reserve easing of monetary policy in the pipeline, a tax-cut program in place, and a perception that the stock market had stabilized, consensus projections of an imminent rebound in economic activity appeared quite plausible. These arguments were buttressed by data emerging in the period immediately preceding September 11. Consumer spending, for example, moved higher in August and was maintained in early September. Auto sales were running close to August levels. Purchasing managers reported an improved orders picture in August, and the profit decline was slowing. All of this suggested that a near-term economic turnaround as embodied in consensus forecasts was at hand.

The Effects of the September 11 Terrorist Attack

The terrorist attack of September 11 changed the economic outlook in several important ways. In the short-term, the attack increased uncertainty and apprehension in financial markets. Such increased uncertainty usually increases market volatility, thereby boosting risk premiums. It normally induces investors to move out of riskier assets (such as stocks) and into safer, more liquid, and shorter-term assets (such as short-term U.S. Treasury securities, gold, and cash). This tends to adversely impact the stock market as well as commitments for long-term investments and purchases and to boost demand for short-term liquidity, which works to lower aggregate demand (spending).

This increased uncertainty has negative impacts on consumption and investment as consumer and business confidence deteriorate. Discretionary consumer purchases (such as consumer durables, i.e. cars, major appliances, etc.) and long-term business commitments are often postponed or canceled as purchasers retrench and aggregate demand contracts. Additionally, related stock market declines reduce consumption (via negative wealth effects) and investment (via higher cost of capital).

The terrorist attacks had immediate impacts on certain industries, most notably airlines, aerospace, travel, insurance, hotels, and related areas. The negative impact on these industries, however, likely will spread to other sectors as the negative effects on consumption and investment manifest themselves.

There will be long-term effects of the terrorist attacks as well. The economic costs of a permanently increased terrorist threat will likely bring major changes to our way of life. This will, for example, entail an increased cost of security; in effect, an added "security tax."[2] Such a "tax" will take the form of travel delays, additional security

[2] See Robert Keleher, "Current Economic Conditions and Outlook," Joint Economic Committee, September 28, 2001. p 2.

checks, longer cross-border transfers, higher insurance costs, additional identification requirements, higher shipping costs, more regulation, immigration restrictions, and other added inconveniences. It will involve spending money on new security guards and buying metal detectors, which do nothing to increase the quantity or quality of goods or services provided. This "tax" will raise the cost of doing business, stifle gains from free exchange, add inefficiencies, and hence constitute a negative supply-side shock or added tax on the economy. Consequently, it will adversely impact both productivity growth and the economy's long-term potential growth rate.

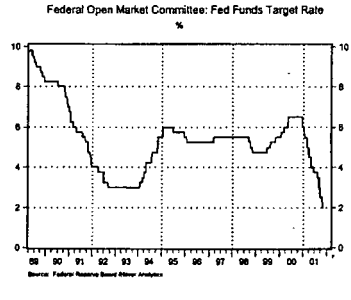
Similarly, while the attacks will spawn near-term investment and defense spending to repair and replace buildings and shore-up our security, intelligence, and defenses, the total private capital stock will be less than it would otherwise have been. The so-called "peace dividend" – a dividend that freed up resources for growth – is lessened. Monies for a necessary military/security buildup to some extent crowd out private investment. Thus, the attacks will adversely affect aggregate supply and the longer-term potential growth rate of the economy.

The Consequences of the Attack

As a consequence of these effects of September 11, the prospects for the economic outlook have changed substantially. These changes relate to the adverse effects to both aggregate demand and aggregate supply. The expected near-term economic rebound, for example, is now in doubt. Real GDP growth is expected to contract in the near-term as a consequence of the events surrounding September 11. According to this scenario, as confidence wanes, unemployment increases, and a weak stock market adversely impacts wealth positions, consumption growth may slow as consumers postpone discretionary purchases, repair their weakened balance sheets, and increase their saving. With such uncertain prospects and the added "security tax" adversely affecting profits, investment growth could remain weak. This is occurring at the same time as a global slowdown and hence weak export growth. The depth and duration of the retrenchment will depend in part on the extent of the damage to business, consumer, and investor confidence. But the near-term may be associated with recessionary conditions and a now weaker recovery may be pushed back into 2002.

The Macroeconomic Policy Response

The full economic impact of recent events, however, will depend in part on the economic policy response. This response includes monetary policy, which should focus on aggregate demand, and fiscal policy, which should be oriented to aggregate supply:



Monetary policy: The Federal Reserve lowered short-term

interest rates by 50 basis points on September 17, another 50 basis points on October 2, and an additional 50 basis points on November 6. These were the Fed's eighth, ninth and tenth interest rate reductions this year, lowering the fed funds rate by 450 basis points to 2.0 percent (from 6.5 percent in early January). In addition, the Fed has provided a substantial amount of liquidity to the markets to satisfy increased liquidity demands.

Despite these moves, however, there is little economic evidence suggesting that monetary policy is "easy." Jointly assessed forward-looking market price indicators suggest inflation remains dormant and is not a significant problem. Commodity prices remain weak, the foreign exchange rate value of the dollar remains firm, and long-term interest rates recently have fallen. Evidence from key transmission paths or channels of monetary policy also indicates that the stance of policy is not easy. Bank lending has been weak, and stock market values are off considerably. All of this suggests that current monetary policy may not be as "easy" as the recent lowered fed funds rate has led some to believe. Despite Fed efforts to stimulate the economy, more needs to be done to stimulate aggregate demand. An easier Federal Reserve policy stance may be in order.

Fiscal policy: The Congress has already approved a $55 billion emergency spending package to aid in cleaning up, rebuilding, fighting terrorism, increasing security, and aiding the airline industry. Some additional government spending for these purposes may occur. However, the effectiveness of these measures in stimulating the economy is doubtful. Further measures to bolster the economy will be needed. It is essential that such measures address the weakness in investment that has led the economic slowdown. Such proposals also should include tax relief to bolster the economy by affecting aggregate supply in order to offset the adverse effects of the "security tax" described above. These may include, for example, accelerated depreciation allowances, liberalized expensing provisions, and front-loading scheduled tax rate cuts, among other proposals. Consideration of tax relief for mutual fund shareholders, such as provided in H.R. 168, would be appropriate in this environment. Several of these alternative fiscal proposals will be examined in detail below, and some have already been passed by the U.S. House of Representatives as components of H.R. 3090.

Aggressive monetary and fiscal policy responses will cushion but not fully offset the anticipated adverse consequences of September 11. Such action would foster a shallower and shorter downturn as well as a stronger recovery than otherwise would be the case.

IV. REDUCING THE TAX BURDEN

As noted in the previous discussion, the additional security costs associated with the terrorist attacks will impose extra costs on the economy analogous to a security tax. Unfortunately, this tax burden is being imposed at a time of considerable domestic and international economic weakness. While the attacks' impact on demand should be

addressed through monetary policy, their impact on supply should be addressed through tax policy, not additional federal spending. Tax relief can reduce some of the extra associated security costs, while increased federal spending will tend to drive them higher. In addition, it is also essential to address the security tax in ways that also lessen the structural bias against saving and investment in the income tax over the long run.

The additional security costs imposed on producers will increase the cost of production, constraining output and future economic growth. Tax policies that would offset some of this extra security tax burden on producers would reduce this negative impact and help increase production, employment, and economic growth in the short run, and even more noticeably in the long run.

Increases in federal spending designed to stimulate the economy, on the other hand, would be ineffective. Federal resources cannot be raised without cost. The resources for additional federal spending must first be drawn from the private sector, so what is given from one hand has been taken from the other. New federal spending generally will not provide a *net* stimulus to the economy.

Moreover, additional federal spending would ultimately be reflected in higher taxes than would otherwise be necessary. The total cost of these taxes must be considered in evaluating the costs and benefits of higher expenditures. The current level of federal taxes imposes high additional costs, including the excess burden economists refer to as "deadweight losses." Consequently, each additional dollar of federal spending must provide far more than a dollar of benefit to provide net benefits. Economic research suggests that justification of additional federal expenditure requires surmounting a very high hurdle of associated costs.

Each tax dollar taken from individuals or businesses costs the U.S. economy far more than one dollar. Additional burdens stem from administrative costs, compliance costs, and deadweight losses. In fiscal year 2001, the Internal Revenue Service spent $8.6 billion to administer the U.S. tax code.[3] That amounts to 0.7 percent of federal income tax collections. Closely related to administrative costs, individuals and businesses spent an additional $100 billion or about 10 percent of federal income tax collections to comply with the U.S. tax code in 1999.[4]

However, the deadweight losses from the U.S. tax code dwarf its administrative and compliance costs. Taxes create disincentives that discourage individuals and firms from undertaking economically productive activities such as work, saving, or investment. Taxes alter the economic behavior of individuals and firms in ways that reduce economic welfare. Deadweight losses represent this loss of economic welfare due to taxes.

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[3] 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.

[4] 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.

Deadweight losses are quite substantial. In 1999, a Joint Economic Committee study reviewed the empirical literature and found that the average among all deadweight loss estimates in these studies was 40 cents for every dollar collected in federal taxes.[5] High marginal federal income tax rates are particularly damaging. Deadweight losses increase more than proportionately to any increase in marginal income tax rates.

Reducing deadweight losses is closely related to increasing economic growth. Both the Organization for Economic Cooperation and Development (OECD) and the World Bank have published cross-country studies linking lower tax rates to higher rates of economic growth.[6]

The challenge before policymakers is to craft tax policy in such a way as to offset the security "tax," while addressing the structural bias against work, saving and investment in the tax code over the long run. The alternative approach, which would attempt to manage demand through spending increases, would not only be ineffective but also wasteful and costly as well. Monetary policy is a much more effective tool to bolster demand in a weak or deflationary economic environment.

In sum, the choice confronting policymakers is between increasing the costs of production, or reducing them in order to stimulate economic growth. Tax reduction coupled with fiscal restraint would work to lower production costs, while federal spending increases generally would increase costs and the burden of taxation on the economy. The following sections examine a number of viable tax policy options currently available to policymakers. These include: accelerating individual income tax rate cuts; reducing long-term capital gains tax rates accelerated depreciation; eliminating the corporate AMT; and changing the tax treatment of mutual fund investors.

Accelerating EGTRA Individual Income Tax Rate Cuts

On June 7, 2001, the *Economic Growth and Tax Relief Act* (EGTRA) became law. Among its major provisions, EGTRA reduced marginal federal individual income tax rates in four stages from 2001, 2002-2003, 2004-2005, and 2006 and beyond. Accelerating the effective dates of the legally mandated federal individual income tax rate reductions would be an effective way to stimulate an economic recovery.

Lower marginal federal individual income tax rates would accelerate economic growth in five ways:

- **Labor supply.** Empirical studies show cutting individual income tax will cause a modest rise in overall labor supply. Higher-income taxpayers, who

[5] 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.

[6] Willi Leibfritrz, John Thornton, and Alexandra Bibbee, *Taxation and Economic Performance* (Paris: Organization for Economic Cooperation and Development, 1997); and Keith Marsden, *Links between Taxes and Economic Growth: Some Empirical Evidence*, World Bank Staff Working Paper 605 (Washington, D.C.: World Bank, 1983).

experience the largest deadweight losses, are likely to show the largest labor supply response to a reduction in marginal federal individual income tax rates.[7]

- **Saving supply.** It is widely recognized that the current U.S. tax code is biased against saving. Lower marginal federal individual income tax rates will partially alleviate this bias.[8]
- **Entrepreneurial activity.** More than 20 million small businesses and farms are subject to the federal individual income tax. Of the individual tax filers with an adjusted gross income above $200,000 in 1998, IRS data shows that 27 percent reported sole proprietor income and 49 percent reported partnership or "S" corporation income.[9] Cutting marginal federal individual income tax rates affects large numbers of small business people, not just high-salaried executives or those living off investment income. Empirical studies demonstrate that lower federal marginal individual income tax rates help to stimulate small business revenue growth, investment, and employment. One study found a 5-percentage point reduction in marginal federal individual income tax rates would cause a 10 percent increase in small business investment.[10] Another study found that a tax cut that boosts after-tax income by 10 percent would increase a small business's likelihood of hiring by 12 percent.[11]
- **Production and consumption efficiency**. Higher marginal federal individual income tax rates cause individuals and businesses to make production and consumption decisions on the basis of the tax code. That causes widespread production and consumption inefficiencies and slows economic growth. Cutting marginal federal individual income tax rates reduces the value of tax deductions and exemptions and encourages individuals and businesses to make economically sound decisions about consumption and production rather than to game the tax system. The resulting efficiency gains will accelerate economic growth.[12]
- **Tax avoidance**. Higher-income taxpayers usually have more ability to minimize their tax burdens than other taxpayers. Lowering marginal federal individual income tax rates will encourage higher-income taxpayers to move their funds from unproductive tax shelters to more productive, but taxable investments.[13]

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[7] Chris Edwards, *Economic Benefits of Personal Income Tax Rate Reductions*, Joint Economic Committee, 107th Congress, 1st Session, April 2001: 5-6.
[8] Edwards (2001): 6-7.
[9] Internal Revenue Service, *Statistics of Income Bulletin* (Washington, D.C.: Government Printing Office, Fall 2000).
[10] Robert Carroll et al., "Entrepreneurs, Income Taxes, and Investment," in *Does Atlas Shrug?*, Joel Slemrod, ed. (April 2000).
[11] Robert Carroll et al., "Income Taxes and Entrepreneurs' Use of Labor," *Journal of Labor Economics* (April 2000).
[12] Edwards (2001): 8-9.
[13] Edwards (2001): 9.

Accelerating already enacted marginal federal individual income tax rate cuts has another advantage – its long-term effects on the federal budget are minimized. Its budgetary effects would be limited to fiscal year 2002 through 2006 with most of its budgetary effects concentrated in fiscal years 2002 through 2004, when fiscal stimulus is needed the most. Unlike other proposals (such as cutting federal corporate income tax rates or reducing federal capital gains taxes), accelerating marginal federal individual income tax rate reductions already enacted in EGTRA would not represent a new and permanent change to the U.S. tax code. The *Economic Security and Recovery Act* would effect an important acceleration of tax relief by reducing the 27 percent tax rate to 25 percent in 2002. Separately, the bill also expands benefits for some tax filers.

Reducing Capital Gains Tax Rates

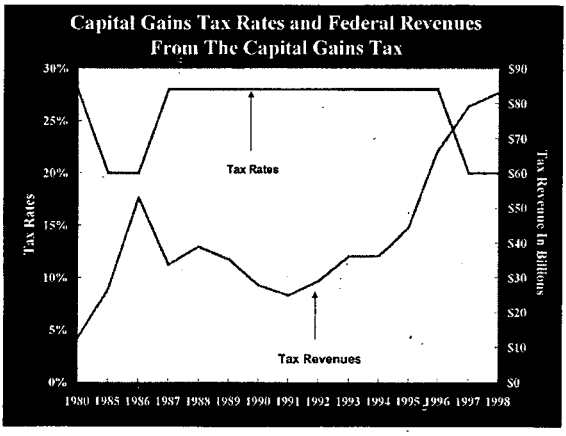
The U.S. tax code regards assets held longer than 12 months as long-term assets and assets held less than 12 months as short-term assets. Capital gains on short-term assets are taxed at regular income tax rates. Following the enactment of the *Taxpayer Relief Act of 1997*, capital gains on long-term assets held for one to five years are taxed at a maximum tax rate of 20 percent (10 percent for taxpayers in the 15 percent marginal tax rate bracket). Capital gains from the sale of assets held for more than five years are taxed at a maximum tax rate of 18 percent (8 percent for taxpayers in the 15 percent tax rate bracket). One way to stimulate the economy would be to reduce the tax rates on all capital gains. Another approach would be to standardize capital gains tax rates so that the tax rates on capital gains on assets held one to five years would be the same as those held more than five years. In other words, the maximum tax rate on all long-term capital gains would become 18 percent (8 percent for taxpayers in the 15 percent tax rate bracket). This approach has been included in the *Economic Security and Recovery Act*. Deeper reductions in the capital gains tax rate would also be desirable.

Macroeconomic benefits. Capital investment accelerates economic growth by simultaneously increasing the quantity of capital available and the productivity of labor. Reducing the capital gains tax rate stimulates capital investment. Thus, lowering the capital gains tax rate is likely to boost economic growth. Various empirical studies confirm an inverse relationship between the capital gains tax rate and the real GDP growth rate.[14]

The benefits of reducing capital gains tax rates are concentrated among small businesses. Private individuals provide the venture capital that is the major source for investment in most small businesses. Capital gains taxes directly affect the after-tax return that such venture capitalists expect to earn on their equity investments in small businesses. Reducing the capital gains tax rate stimulates entrepreneurial risk-taking by increasing the supply of venture capital available to small businesses.

[14] DRI/McGraw Hill, "The Capital Gains Tax: Its Investment, Stimulus, and Revenue Feedbacks," (April 1997), and Shahira Knight, "The Economic Effects of Capital Gains Taxation," Joint Economic Committee, June 1997.

Tax revenue. Historically, capital gains tax revenues have increased when capital gains tax rates are lowered; *e.g.*, 1978, 1981, and 1997. Capital gains tax revenues have decreased when capital gains tax rates have been raised, as in the 1986 tax bill. This may seem counterintuitive because a static analysis implies that capital gains tax revenues should fall when the same level of capital gains realizations are taxed at a lower rate. However, one must remember that capital gains realizations are largely discretionary: many taxpayers can control when assets are sold. If capital gains tax rates are high, then taxpayers will defer selling assets. This is known as the "lock-in effect." Lowering capital gains tax rates diminishes the lock-in effect and increases capital gains realizations.



In addition to unlocking effects, capital gains tax rate reductions stimulates a rise in asset prices in two ways. First, modern finance demonstrates that the price of an asset is its net present value; *i.e.*, the sum of its discounted future cash flow. Consequently, there is a tax capitalization effect; *i.e.*, a capital gains tax rate increase (decrease) causes asset prices to fall (rise) generally. Second, reducing capital gains tax rates tend to stimulate economic growth. Higher economic growth implies larger cash flows from business and consequently higher asset prices. This is the macroeconomic effect.

Together, the lock-in effect, the tax capitalization effect, and the macroeconomic effect contribute to higher capital gains tax revenue when capital gains tax rates are lowered.

Simplification. The difference in the capital gains tax rates on assets held between one and five years and assets held five years or longer is a needless complexity in the U.S. tax code that lacks any economic justification. By standardizing capital gains tax rates at 18 percent and 8 percent, Congress could take an important step toward federal tax simplification.

Accelerated Depreciation and Expensing

Business income taxes are levied on the difference between the revenues that firms earn and the costs they incur for inputs. Firms earn revenue by selling goods and services to consumers. When producing goods and services firms incur costs. Some of these costs, such as wages and salaries of workers or the cost of raw materials, are generally incurred during the same year in which the income they helped to produce is generated. Other costs, such as investments in plant and equipment, help to produce income over multiple years.

When calculating taxable income, the first type of cost is simply subtracted from the revenue generated that year. Inclusion of the second type of cost, however, is a bit more complicated. Under current law, firms generally apportion the cost of capital assets over a number of years. Such attribution varies by asset type and is governed by a set of depreciation tables produced by the Treasury Department. Under certain circumstances, smaller firms are permitted immediate deductions for investment known as expensing.

Depreciation rates help to determine the cost of capital investment.[15] As a result, they play a crucial role in determining how much investment will take place in a society. If firms are allowed to deduct their expenditures on capital assets quickly, the relative cost of such investment will be low. This will cause the level of capital investment to be relatively high. If, on the other hand, firms are required to deduct their capital expenditures over a longer horizon, the relative cost of such investment will be high. This, in turn, will cause the level of capital investment to be relatively low.

The inverse relationship between depreciation rates and capital investment suggests that accelerating depreciation schedules will increase investment. Empirical studies of investment decisions tend to support this notion and generally show a strong relationship between depreciation rates and investment.[16] By allowing 30 percent expensing for newly purchased equipment with tax lives of 20 years or less and software during the next three years, the *Economic Security and Recovery Act* effectively accelerates depreciation schedules. This would lower the cost of capital and stimulate investment. The *Act* also expands expensing for small businesses, which would have similar economic effects.

Eliminating the Corporate AMT

The corporate Alternative Minimum Tax (AMT) was passed as part of the *Tax Reform Act of 1986*. Its passage was driven by the perception that complex tax planning allowed some large corporations to pay little or no corporate income taxes. In order to prevent this, Congress created what is essentially a parallel tax system. Under current

[15] See Dale W. Jorgenson, "Capital Theory and Investment Behavior," *American Economic Review* 53, no. 2 (May 1963), pp. 247 -59.

[16] See, for example, Robert S. Chirinko, Steven M. Fazzari, and Andrew P. Meyer, "How Responsive is Business Capital Formation to IT User Cost? An Exploration With Micro Data," *Journal of Public Economics* 31 (December 1993), pp. 1875-911.

law, corporations are required to calculate their tax liabilities under both the regular and alternative minimum tax systems. They are then required to pay the greater of the two liabilities.

The corporate AMT has been criticized on many grounds. Many observers have argued that the complexity generated by the need to calculate a company's tax burden under two tax systems is reason enough to eliminate it. Public finance economists, however, have tended to focus on the role that the corporate AMT plays in determining the cost of capital investment. By its nature, the corporate AMT increases the effective tax rates of those firms subject to it.

Evidence suggests that the corporate AMT increases the cost of capital for firms that invest in equipment and intangible assets such as research and development.[17] Studies also suggest that the elimination of the corporate AMT could increase investment by as much as 7.9 percent over 10 years.[18] Such a rise in investment, coupled with the resulting increase in labor productivity, could be expected to boost the gross domestic product by as much as 1.6 percent over 10 years.[19] The *Economic Security and Recovery Act* contains a corporate AMT repeal provision that would provide needed relief and increase tax incentives for economic growth.

V. TAXES AND TAXPAYERS

In the debate of tax relief proposals, sometimes it is contended that tax reduction unduly favors the affluent. This point of view is often based on statistical sketches of tax changes in which the benefits appear skewed toward higher-income taxpayers, but in reality only reflect the current pattern of tax payments taken out of context. Very often this kind of information allocating the benefits of tax changes is circulated without any mention of the share of tax payments of each income group before and after the effects of the tax cut legislation are taken into effect.

According to a different set of data prepared by the Internal Revenue Service (IRS), the top one percent of filers pays 34.8 percent of the personal income taxes. The IRS data show that the income tax share of the top 5 percent is 53.8 percent, and that of the top 25 percent is 82.7 percent. Filers in the bottom 50 percent paid 4.2 percent of personal income taxes. Incidentally, the taxpayers in the top quarter of taxpayers qualified by earning more than only $50,607 in 1998. The shares of personal income tax payments are displayed in the graph below.

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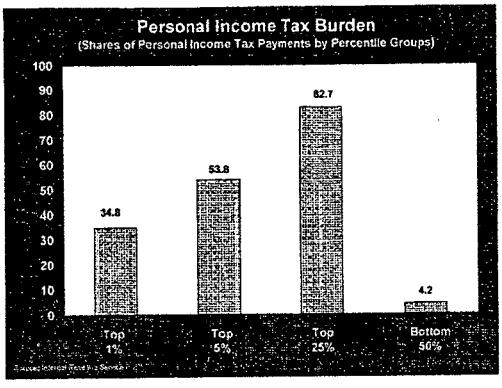
[17] See Andrew B. Lyon, *Cracking the Code: Making Sense of the Corporate Alternative Minimum Tax* (Washington, D.C.: 1997), pp. 77-97.

[18] See DRI, McGraw-Hill," Report on the Macroeconomic Impact of the House and Senate Proposals Regarding the Corporate Alternative Minimum Tax," August 1995.

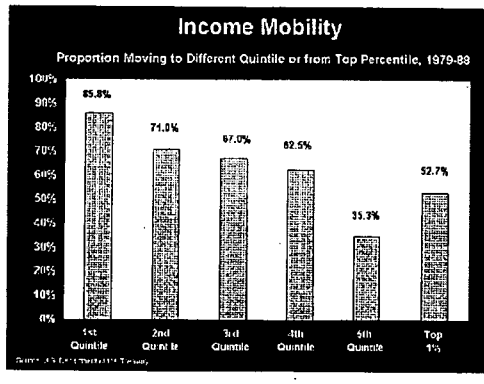
[19] Ibid.



Another serious problem regarding the analysis of the tax changes on taxpayers at various income levels is that those households are not necessarily cemented into specific income classes for extended periods of time. The United States has a dynamic economy in which there are remarkable degrees of income mobility. Over extended periods, many if not most of those in a particular income strata move up or down. Thus, statements based on the assumption that taxpayers are confined to a particular income class over time are inaccurate.

For example, according to tax return data, 85.8 percent of filers in the bottom 5th in 1979 had exited this quintile by 1988. The corresponding mobility rates were 71.0 percent for the second lowest quintile, 67.0 percent for the middle quintile, 62.5 percent for the fourth quintile, and 35.3 percent for the top quintile.[20] The long-run impact of tax policy on most taxpayers depends on their tax situations and incomes in the future, not the present. The graph below displays the high degree of income mobility in the U.S. over one ten-year period.

[20] See Christopher Frenze, *Income Mobility and Economic Opportunity*, Joint Economic Committee, June 1992.



As can be seen, America is a fluid and dynamic society, not a caste system. The portrayal of the American economy as a rigid class system is contradicted by the statistical evidence. Therefore, tax reduction has broader-based benefits than some critics seem to realize.

VI. CONCLUSION

The economic slowdown that began in the middle of 2000 continues to reflect economic weakness. The prospect of a near-term economic rebound previously forecast by many economists has been jeopardized by the events of September 11, 2001. As a result of the terrorist attacks, significant and pervasive additional security costs will burden the economy in a manner similar to the imposition of a "security tax." Tax policy should attempt to offset these additional costs to facilitate economic growth over the short as well as long term.

There are other long-term structural problems with the U.S. income tax system. The current tax system is counterproductive and biased against saving and investment. Economic stimulus legislation can effectively address the weakness in investment, which has contributed to the economic slowdown. The tax system imposes large losses on the economy that reduce the economic welfare of households and businesses.

In considering alternative fiscal policies, it must be recalled that the current level of taxation imposes additional costs of about 40 cents at the margin for each dollar collected in revenue. A reduction in this burden imposed by the tax system would make a significant improvement in the economic well-being of American households.

The challenge to policy is to address the "security tax" issue in a manner that also addresses the long-term structural problems with the income tax. The additional economic costs imposed by the terrorist attacks should be alleviated by tax policy, and at the same time some of the structural biases against work, saving and investment in the

current income tax system should be corrected. Tax policy should increase economic incentives, reduce deadweight losses, provide broad-based relief to households subjected to excessive income taxation, and improve the prospects for economic growth.

A GUIDE TO TAX POLICY ANALYSIS: THE CENTRAL TENDENCY OF FEDERAL INCOME TAX LIABILITIES IN DISTRIBUTIONAL ANALYSIS

EXECUTIVE SUMMARY

This study examines the misuse of averages as a sole measure of central tendency in presenting results of analyses based on income and tax data in distributional analysis. It finds that the use of averages in tax distribution tables is misleading to the public and the press and that the median is a more appropriate and representative measure to describe income and tax amounts for the taxpaying population.

Specifically, this report finds:

- Income and tax information based on tax returns filed with the IRS do not follow the pattern of a normal distribution. Hence, the use of averages is an inappropriate measure of central tendency.
- Over 22 percent of all 1995 tax returns claimed zero tax liability.
- The Joint Committee on Taxation estimates that for calendar year 2000, 48.7 million taxpayers out of 140.2 million taxpayers overall, or 34.7 percent, will have zero or negative federal income tax liability.
- For all taxpayers, the use of the average as the measure of central tendency overstates the tax liability for the "representative" taxpayer by almost 3 times the median value.
- The dispersion of taxpayers within any income group is impossible to determine from the information presented in tax distribution tables, but is shown to vary considerably.
- The grouping of taxpayers into income categories provide a false sense of precision and misleadingly suggest that taxpayers within the same groups necessarily have similar federal income tax liability.
- In four out of the five income groups examined, a majority of taxpayers had tax liabilities that were either 25 percent greater than the average or 25 percent less than the average tax liability for each income group.

- In comparing federal income tax liabilities, distribution tables often misclassify millions of taxpayers into quintiles in which they have little tax liability in common.
    - Approximately 2.2 million taxpayers in the third quintile pay more in federal income taxes than 5.4 million taxpayers classified in the fourth quintile.
    - Over 3 million taxpayers in the fourth quintile pay more in federal income taxes than 4.1 million taxpayers classified in the fifth quintile.
- The use of averages in tax distribution tables obscures the simplest facts about proposed tax policy initiatives to the public.

ESSENTIAL QUESTIONS TO ASSIST IN EVALUATING TAX DISTRIBUTION TABLES

The issues raised in this paper and the following eleven questions will assist taxpayers in reviewing tax distribution tables:

1. Is the median presented as the correct measure of central tendency (or at least provided in addition to the average)?
2. What measure of income is being used (If adjusted gross income (AGI) is not presented, or some other measure that taxpayers understand, ask that it be provided)?
3. What taxes are being included in the analysis in both the before and after columns, and are they identical (i.e., comparing apples to apples)?
4. How many taxpayers reside within the displayed income categories?
5. What is the range of income and tax liability associated with each category?
6. What is the current and proposed (after full enactment of the proposed tax legislation) level of taxation (percent of total taxes paid to the government) paid by each income category?
7. What is the current and proposed (after full enactment of the proposed tax legislation) effective tax rate for each income category?
8. What are the ranges of tax cuts each income group is estimated to receive after full enactment of the tax legislation (ranges and medians should be provided instead of the often-presented average tax cut)?
9. Are the estimates presented free of imputations? If not, what imputations have been made to arrive at the estimates presented in the distributional tax tables?
10. What are the accuracy and reliability of the estimates presented in the distributional tax tables, and are data limitations disclosed or are they hidden?
11. What are some additional or hidden burdens that are not captured in the distributional tax tables (the hidden economic gains or losses resulting from a tax change, e.g., the economic increase in the stock of capital that would result from a repeal of the estate tax or the hidden burden of hiring lawyers and accountants to avoid the estate tax)?

A GUIDE TO TAX POLICY ANALYSIS: THE CENTRAL TENDENCY OF FEDERAL INCOME TAX LIABILITIES IN DISTRIBUTIONAL ANALYSIS

He uses statistics as a drunken man uses lamp posts – for support rather than illumination.

Andrew Lang[1]

[B]efore representing the central tendency by any single number, evaluators need to look at the distribution and decide whether the indicator would be misleading.

United States General Accounting Office[2]

I. INTRODUCTION

The analysis of tax data is a time intensive and complicated process. Much time and effort are spent collecting income and tax data, compiling data sets and running statistical analyses. However, it appears that relatively little time and effort are spent actually *understanding* the data and how best to present results to the public of analyses of tax data. This is evident in the overuse of averages and the simplistic classification of taxpayers into income ranges and quintiles by highly publicized tax distribution tables. This study shows that the link between income and tax liability is much more tenuous that that often presumed, and that a variety of other factors can greatly affect tax liability.

The taxation of individual income is a major focus of tax policy. Legislators evaluating the fundamental components of tax legislation face decisions that often affect after-tax income and wealth of taxpayers and can affect the performance of the greater economy. The presentation of tax data is necessary for the effective understanding and evaluation of tax policy by both legislators and the public. The incorrect use of descriptive statistics can have profound effects on the way tax policies are evaluated.

The official sources of tax distribution data are the Office of Tax Analysis (OTA) of the Department of Treasury, the Congressional Joint Committee on Taxation (JCT)

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[1] Furman University Mathematical Quotation Server. Available online at: http://math.furman.edu/~mwoodard/mqs/mquot.shtml

[2] United States General Accounting Office. *Quantitative Data Analysis: An Introduction.* (GAO/PEMD-10.1.11), June 1992.

and, to a lesser extent, the Congressional Budget Office (CBO).[3] All of these organizations apply different assumptions and methodologies to the analysis of tax legislation. In addition, there are unofficial distribution tables that are publicly released by assorted advocacy groups to influence the policy process and the debate on particular aspects of tax legislation.

Many tax distribution tables released into the public domain, such as those of the Treasury Department and assorted advocacy groups, misrepresent the average as the correct measure of central tendency. Examples of these tables are provided in Appendix I. Not surprisingly, those distribution tables released to advance one point of view are the analyses most likely to misuse averages and to mislead the public. Additionally, all of the disseminators of tax distribution tables use rigid income categories to classify taxpayers that *appear* to be alike. As is commonly said, the devil is in the details.

The rest of this paper is organized as follows. Section II will briefly outline what exactly is a distribution table. Section III will then discuss the appropriate measures used to describe the central tendency of income and tax data. Sections IV and V will describe in detail why the use of averages is an inappropriate measure of central tendency for describing income and tax data, and further describe how the use of averages provides an incomplete picture in tax distribution tables. Federal income tax data from the Internal Revenue Service graphically demonstrate how the use of averages provides an illusion of precision that is false and misleading. Furthermore, these sections will explain why in order to remain impartial, distributional tax tables should *never* display averages as the sole measure of central tendency. Section VI concludes this paper. Appendix I provides examples of tax distribution tables released by the OTA and Citizens For Tax Justice and Appendix II provides a description of the data used in this paper and the limitations associated with the data.

Readers that are not familiar with distributional tax analysis, the presentation and use of distribution tables, the measures of income and methodologies used in distributional analysis are encourage to reference "**A Guide to Tax Policy Analysis: Problems with Distributional Tax Tables,**" a previous Joint Economic Committee Study. This study also details how taxpayers can effectively evaluate the merits of different presentations used in distributional analysis and is available online at: http://www.house.gov/jec

[3] For a more detailed discussion of their respective rolls, see: Michael J. Graetz. "Distributional Tables, Tax Legislation, and the Illusion of Precision," in David F. Bradford, ed. *Distributional Analysis of Tax Policy*. AEI Press. Washington, DC. 1995, page 20.

II. The Distribution Table

A distribution table can be deceptively simple. Generally, in the left-hand column are income categories classified by either dollar cut-offs, such as, $0 - $10,000, $10,000 - $20,000, $20,000 - $30,000, etc., or divided into percentile groupings such as, lowest quintile, second quintile, third quintile, fourth quintile, and highest quintile. Additional columns provide information about the number of observations, income levels, taxes paid, etc., for each income category. Usually, the table provides information pertaining to the changes in taxes that are to be paid after the proposed tax legislation is enacted. The primary focus of tax analysis is the increases and decreases in taxes paid under current law in comparison to after the proposed tax legislation becomes fully effective. Table 1 provides an illustration of a simple burden table relating to a hypothetical proposal to reduce individual taxes:

Table 1.

Income Category	Change in Federal Taxes		Effective Tax Rate		Average Tax Change
			Present Law	Proposed Law	
	$ (millions)	Percent	Percent	Percent	$
Less than $10,000	-20	-0.2	7.1	7.0	-300
10,000 to 20,000	-365	-1.0	8.1	8.0	-400
20,000 to 30,000	-1,300	-1.5	15.2	15.0	-500
30,000 to 40,000	-2,150	-1.9	17.6	17.3	-750
40,000 to 50,000	-2,750	-2.1	19.3	18.9	-1,100
50,000 to 75,000	-7,200	-2.3	21.2	20.7	-1,500
75,000 to 100,000	-6,600	-2.4	23.9	23.2	-2,000
100,000 to 200,000	-8,100	-2.2	26.2	25.5	-3,500
200,000 and over	-13,500	-3.1	29.2	27.6	-5,000
Total, all taxpayers	**-$41,985**	**-2.4%**	**22.2%**	**21.5%**	**-$650**

Source: Hypothetical Data. JEC Calculations

In viewing the results displayed in the second column, it is quite clear in this example that all taxpayer groups would receive a nominal reduction in tax. The lowest group receives a total reduction in their tax of $20 million and the highest group receives a total reduction of $13.5 billion. The third column shows the reduction in terms of percentages. The lowest group receives a 0.2 percentage reduction in tax, while the highest group receives a 3.1 percentage reduction. The fourth and fifth columns display each group's effective tax rate under present law and after the legislation becomes effective, respectively. All income groups benefit from a lower effective tax rate under the proposed legislation. The last column displays the dollar amount of the average tax cut that each member in an income category might expect to receive.

Since every income group benefits, a cursory review of the above table might lead readers to conclude that the tax proposal is beneficial for all. However, some might come to completely different conclusions. These readers may conclude that the tax legislation is not fair to the lowest income group, since the highest income group receives 32 percent of the total benefit ($13.5 billion / $42.0 billion) while the lowest income group receives less than ½ percent of the total benefit ($20 million / $42.0 billion). However, the problem with this perspective is that these numbers reflect more about the impact of the

current tax system than the tax change under consideration. In other words, in most cases such statistics primarily reflect the distribution of tax payments under the tax code before the tax change takes place. The more progressive the current tax code is, the more regressive any subsequent tax change can be made to appear. What is presented as a measure of the tax change is in reality a statistical mirage that mainly reflects the progressivity of the current tax system.

Table 1 actually provides insufficient information from which to draw an informed conclusion as to the merits of the proposed tax legislation. For example, this table does not show the current amount of taxes that each income group pays. For purposes of illustration, assume that the lowest income group currently pays no tax at all, while the highest income group pays 50% of the total tax collected. Then, based on a different measure of fairness, it could be argued that the highest income group should receive a commensurate amount of the benefits of the total tax reduction and, therefore, the proposed 32% ($13.5 billion / $42.0 billion) is *unfair* to the upper income group.

Additionally, Table 1 does not indicate how many taxpayers make up each income group, although this can be mathematically derived. Additional information is also necessary to effectively evaluate the proposed tax legislation, such as what items are included in income, what types of taxes are being included/excluded, and over what time horizon the effects are being measured.

III. MEASURES OF CENTRAL TENDENCY

As Yale University law professor and former Treasury Deputy Assistant Secretary for tax policy Michael J. Graetz writes, "[t]he current practice of fashioning tax legislation to achieve a particular result in a distribution table creates the illusion of precision when such precision is impossible."[4] It is statistically possible, based on averages, that some taxpayers would receive no tax cut or even face a tax increase. Furthermore, not only is precision impossible but the use of averages misrepresents the central tendency of the data.

The central tendency of the distribution of data is a point estimate or single number that corresponds to a typical, representative or middle score for a given set of data. Examples of such measures are the average, the median and the mode.

The average, or mean, is the most easily recognized and understood measure of central tendency. To calculate the average, each observation in the data is added together and then the sum is divided by the total number of observations. Some common uses of averages to describe central tendency are batting averages in baseball and student grade

[4] Michael J. Graetz. "Distributional Tables, Tax Legislation, and the Illusion of Precision." In David F. Bradford (Editor). *Distributional Analysis of Tax Policy*. AEI Press. Washington, DC. 1995.

point averages. The use of averages is simple and easy for people to understand. However, the use of averages may not be appropriate if there are many outliers in the data or the data do not fit the pattern of a normal distribution. This is because the average as a measure of central tendency can be highly influenced by the presence of extreme values.

The median is the middle score in a set of ranked data. It represents the point in the distribution where 50 percent of the observations lie above the value and 50 percent lie below it. The median makes no assumptions about the shape of the distribution of data. Furthermore, the median is a considered to be a statistically resistant measure of central tendency because the value associated with a median it is not highly affected by outliers that can affect the value associated with an average.

The mode is determined by finding the value that most frequently corresponds to the data set. Simply stated, the mode is the most frequently occurring attribute or observation in a data set and is most commonly used with nominal variables.

When describing the central tendency of data, the measure that should be used is the one the best describes the data. For most income and tax data this the median value, not the average. To see why this is the case, consider the following example displaying the seven salaries of a company in Table 2.

Table 2. - Annual Income

CEO	$1,000,000
Attorney	$70,000
Systems Administrator	$60,000
Economist	$50,000
Office Administrator	$40,000
Secretary	$40,000
Paid Intern	$10,500
Total	$1,270,500
Average	$181,500
Median	$50,000
Mode	$40,000

The average of these seven salaries is $181,500. The median value is $50,000 and the mode is $40,000. In this instance, and in any situation where extreme outliers can skew the average, the median is a better indicator of the central tendency because the CEO's salary is an extreme outlier causing the average to lie far from the other six salaries. The median is the best single number that represents the central tendency of this data.

To further illustrate, Bill Gates, who has an estimated net worth in the billions of dollars and an unusually high income, resides in the upper most income category of any distributional tax analysis. His income alone would be enough to skew any average

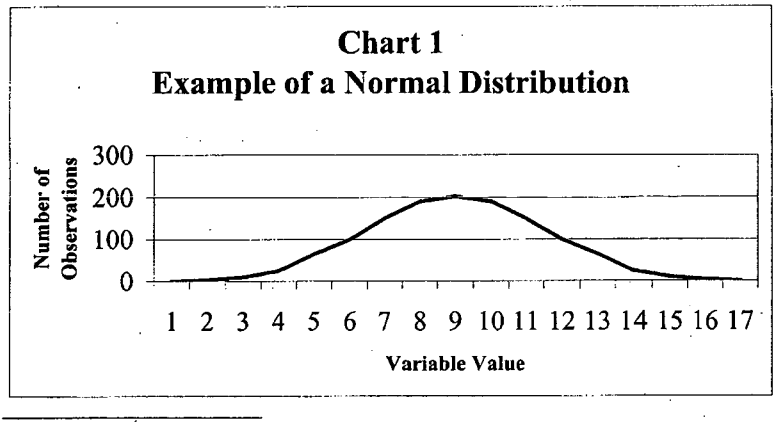
income measure in the upper percentiles. Due to the nature of income data, most official income data released by government and other statistical agencies provide the median as a measure of central tendency or at the very least provide the median along with the average.

The misuse of averages in distribution tables can hide information relating to the dispersion and the true central tendency of the data from the public, further clouding the ability to make sound decisions about tax policy. The severity of the misuse of the average as a measure of central tendency depends on how far the distribution of the data varies from a normal distribution.

IV. THE CENTRAL TENDENCY OF TAX DATA

The Internal Revenue Service (IRS) Public Use Tax File, prepared by the Statistics of Income Division (SOI), contains a stratified random sample of tax returns and is used to tabulate and present statistical information representative of the entire population of individual income tax returns filed with the IRS.[5] Using this data and a statistical software package, graphical representations of the distribution of taxpayers' tax liability by income categories becomes possible.

A common graphical way to present the distribution of data is by means of a simple line chart. In this fashion, a normal distribution would take on a shape similar to the following in Chart 1 below.

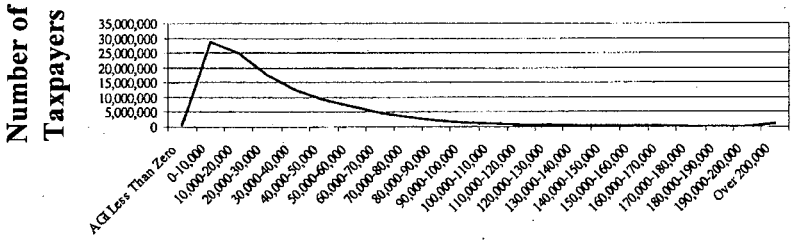


[5] For a full description of the IRS Public Use File, including sampling error and disclosure avoidance procedures, please see the Appendix II.

With normally distributed data the shape is symmetrical. Furthermore, the three measures of central tendency (average, median and mode) tend to be identical or very close to being identical. In the above example, the average, median and mode are all nine. However, data provided by the IRS show that income and tax data do not follow the pattern of a normal distribution.

For tax year 1995, the most recent public use file available, the distribution of tax returns by adjusted gross income (AGI) looks as follows in Chart 2.[6]

Chart 2
Distribution of Taxfilers by AGI



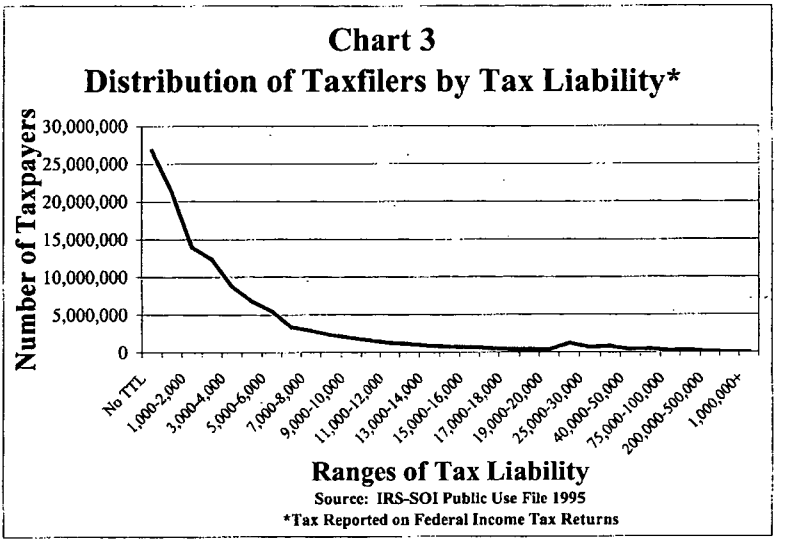
Source: IRS-SOI Public Use File 1995

As can be seen, the distribution of tax returns based on AGI is highly asymmetrical. Furthermore, the distribution is highly skewed to the left. Due to the extreme asymmetry of the data, it would be inappropriate to use the average as an appropriate measure of central tendency when describing taxpayers based on AGI.

Chart 3 below displays how the distribution appears if the variable of analysis is federal income tax liability, or the total dollar amount that is paid to the IRS and reported straight off of a federal tax return.[7]

[6] The IRS releases aggregate statistics to the public and publishes these statistics in its "Statistics of Income Bulletin" on a lagged basis. In past years, the public use file has been published yearly on a one-year lag after the end of the filing period. The current increase in the lag has been caused by SOI's efforts to reexamine the disclosure issues involved with the microdata. The public use files for tax years 1996 – 1998 will hopefully be released starting late this summer or early fall. Furthermore, SOI hopes to have the reexamination of its disclosure policies completed shortly so that the Tax Year 2000 Public Use File will be available in December 2002.

[7] Does not include payroll or excise taxes or any taxes not reported on a federal tax return.



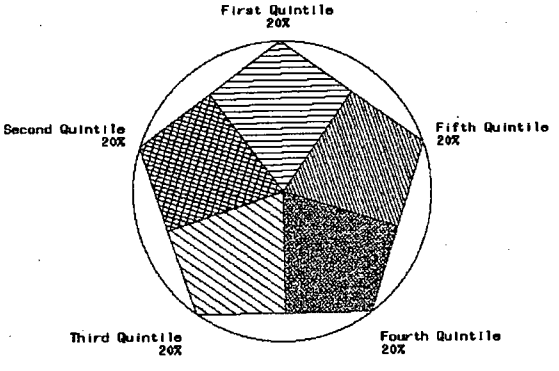
In this case, the distribution is also asymmetrical with the data highly skewed to the left. From the chart, it is observed that over 25 million tax returns have zero tax liability. Hence, any use of an average to describe taxpayers based on tax liability does not accurately represent the central tendency of the population. Furthermore, due to the skewed nature of the data, even the use of the median may not provide an accurate representation of the data.

The use of line charts is a simple way to graphically represent the distribution of data and can be created in spreadsheet software packages. A more complex chart can be used to shed light on the nuances that are often hidden in more simplistic tables. Star charts provide an interesting and novel approach to looking at the distribution of data.

Star charts are graphs created with complex statistical software packages that show statistics based on values of a variable. The center of a star chart represents the value zero. The circle enclosing the star chart represents the maximum statistic value for any one of the predefined groups. Each group value is represented by a slice. The slice with the greatest value extends out to the edge of the circle. The remaining slices are represented as proportions of the slice with the greatest value. The groups can be midpoints, quartiles, quintiles, or any programmed group that an analyst chooses to study.

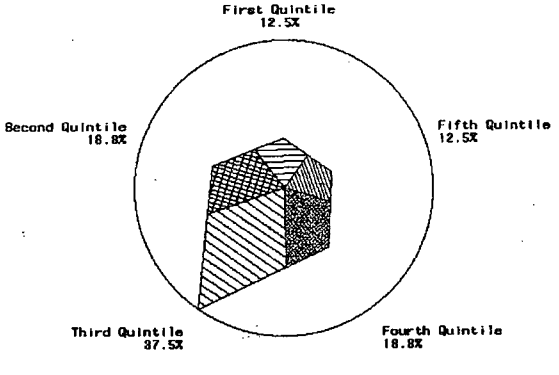
Chart 4 below provides an example of a star chart with an equal distribution. The variable of study has been grouped into quintiles. By definition, a quintile contains one-fifth of the total number of observations in a data set. If the variable under study was federal tax liability and the distribution of federal tax liability was equal for each quintile, this would imply that each quintile has the same number of total dollars as each of the other quintiles. Since each quintile group contains the same amount of total federal tax liability, each slice extends equally out to the edge of the circle.

Chart 4 — Example of An Equal Distribution



However, federal income tax liability doesn't follow an equal distribution. Chart 2 above shows that income is asymmetric and highly skewed to the right. If tax liability were normally distributed and were to follow a pattern such as that displayed in Chart 1, a star chart displaying the distribution of a variable that follows the shape of a normal distribution grouped into quintiles would look like the following example in Chart 5.

Chart 5 — Example of A Normal Distribution



This is how a variable that follows the pattern of a normal distribution displays as a star chart. The third quintile is equivalent to the middle observations that would lie underneath the height of the curve of a normal distribution displayed as a line chart, as in Chart 1 above. Since the third quintile represents the greatest value (37.5%), its slice is the longest and extends to the edge of the circle. Since both the second and fourth quintiles contain half the value as the third quintile (18.75% rounded to 18.8%), their respective slices extend halfway to the edge of the circle. Similarly, the first and fifth quintiles, or the tails of a normal distribution as displayed in Chart 1, contain only one-third the value as the third quintile (12.5%). Hence the slices representing the first and fifth quintiles extend one-third of the way to the edge of the circle. Only if a variable follows the pattern of a normal distribution similar to the pattern displayed above in Chart 5 is it appropriate to use the average as the measure of central tendency.

Tax distribution tables ultimately focus on how much more or less in taxes income groups will pay under a change in tax law. Furthermore, the majority of distribution tables that are released use the average as a measure of central tendency and group taxpayers into quintiles. Therefore, the rest of this paper will focus on federal AGI and tax liability grouped by quintiles. Using the SOI Public Use File, it is possible to calculate the average and median AGI and federal tax liability amounts for each quintile. Table 3 below displays this information for tax year 1995.

Table 3. Estimated Average and Median Amounts
Federal AGI and Tax Liability
(Rounded to Nearest $100)

	Average	Median
All Tax Returns		
AGI	$35,300	$22,100
Tax Liability	$5,200	$1,800
First Quintile		
AGI	$1,600	$3,700
Tax Liability	$100	$0
Second Quintile		
AGI	$12,200	$12,100
Tax Liability	$500	$400
Third Quintile		
AGI	$22,400	$22,100
Tax Liability	$1,800	$1,800
Fourth Quintile		
AGI	$38,700	$38,000
Tax Liability	$4,200	$3,900
Fifth Quintile		
AGI	$101,300	$71,600
Tax Liability	$19,100	$10,100

Detail May Not Add Due To Rounding.

The average and median values show some interesting contrasts in Table 3. For all tax returns, the average AGI amount is almost 60 percent more than the median. The contrast is even greater focusing on tax liability, the average of which is 189 percent greater than the median! Since the average and median are so far apart, it is obvious that the distribution of AGI and tax liability among all tax returns does not follow the pattern of a normal distribution. Hence, the average should not be used as the sole measure of central tendency.

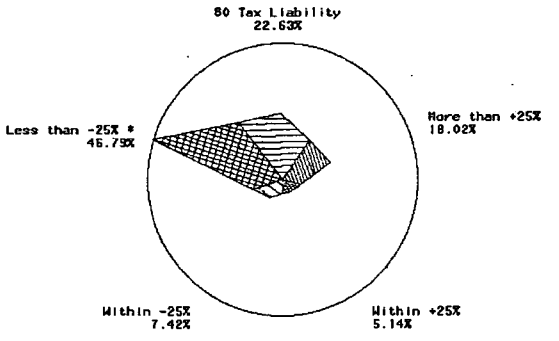
Contradictory observations are further made focusing on the quintile levels. Focusing on tax liability, the averages and medians for the second and third quintiles are relatively close. However, the opposite is the case for the first and fifth quintiles. In the first quintile, the average tax liability is $100 (rounded up) and the median is $0 (this value wasn't rounded). This means that at least 50 percent of the tax returns in the bottom quintile have zero or negative tax liability. In this instance, the median is the best representative measure of central tendency.

In fact, as will be demonstrated later in the paper, there are tax returns in each quintile that have zero tax liability. A study by the Congressional Joint Committee on Taxation (JCT) calculates that roughly 48.7 million taxpayers (including those taxpayers that don't file a federal income tax return) have zero or negative tax liability in calendar year 2000.[8] This is equivalent to 34.7 percent of the JCT's estimated number of tax units, including filing and non-filing units and *excluding* individuals who are dependents of other taxpayers and taxpayers with negative income. If these taxpayers were included in the JCT analysis, the number and percentage of taxpayers who have zero or negative tax liability would be substantially higher. This further supports using the median as the most representative measure of central tendency when describing income and tax liability amounts.

But how do the distributions of tax returns by quintile compare to that of a normal distribution? Again, Chart 5 above presented a star chart for a normally distributed variable. In order to use star charts to show the distribution of tax returns by quintile, it is necessary to define some groupings. For purposes of this analysis each quintile has been grouped further into five categories: (1) tax returns having zero tax liability; (2) returns having tax liabilities greater than zero and that are between the average amount for that quintile and the amount which is less than 25% greater than the average; (3) returns having tax liabilities that are between the average amount for that quintile and the amount which is less than 25% less than the average; (4) returns having tax liabilities greater than that amount which is 25% more than the average; and (5) returns having tax liabilities less than the amount which is 25% less than the average.

[8] United States Congress. Joint Committee on Taxation. "Distribution of Certain Federal Tax Liabilities by Income Class for Calendar Year 2000." JCX-45-00. April 11, 2000.

Chart 6 — Federal Income Tax Liability **



* For Federal Income Tax Liability Greater Than Zero
** Compared To Average Income Tax Liability

Before turning to an analysis of quintiles, the national distribution of tax returns based on tax liability for all tax returns using the groupings defined above is displayed in Chart 6.

For tax year 1995, over 22 percent of all tax returns have no tax liability. This amounts to 26.8 million tax returns. This figure is less than the 48.7 million taxpayers identified in calendar year 2000 by the JCT.[9] This discrepancy is in part based on the different years under analysis and that the unit of analysis in the 1995 data is tax returns while the JCT's unit of analysis is taxpayers.

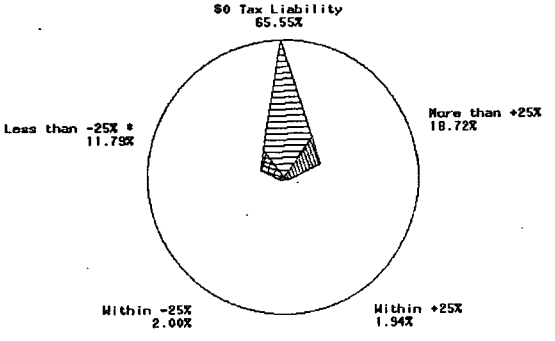
Furthermore, almost 47 percent of all returns have tax liability amounts falling between zero and 25 percent less than the average of $5,200. If these tax returns are combined with those with zero tax liability, then over 69 percent (22.63% + 46.79%) of all returns pay less than the average tax liability. Lastly, about 12 percent of all returns have tax liabilities that are within +/- 25 percent of the average tax liability amount. In other words, and perhaps most notably, almost 88 percent of all returns have tax liabilities that are either 25 percent greater than the average or 25 percent less than the average.

Based on this information, the use of the average as the sole measure of central tendency to describe the tax liability for the entire country would be misleading. The use of the average suggests that the "representative" taxpayer has a tax liability of $5,200, almost three times greater than the median amount.

[9] *Ibid.*

Chart 7 below represents the distribution of tax returns based on tax liability for the first quintile using the groupings defined above.

Chart 7 – Federal Income Tax Liability for First Quintile **



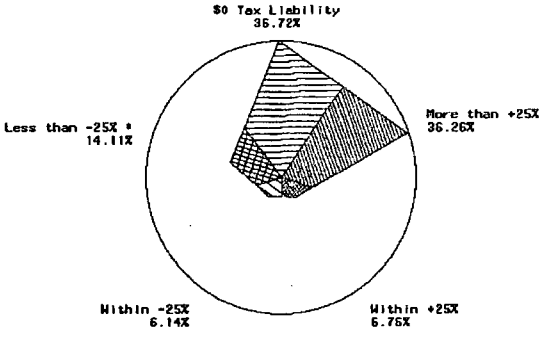
* For Federal Income Tax Liability Greater Than Zero
** Compared To Average Income Tax Liability

Notice that over 65 percent of the returns in the first quintile have no income tax liability. This means that over 65 percent of the returns in this quintile have more in common with the median ($0) than with the average ($100). Furthermore, only about 4 percent of the returns in the first quintile have tax liabilities that are within +/- 25 percent of the average tax liability amount for the first quintile of $100. This means that over 96 percent of all returns in the first quintile have tax liabilities that are either 25 percent greater than the average or 25 percent less than the average.

It would appear that the median is definitely a more representative measure of central tendency in the first quintile than the average. The use of the average in this case misleads the reader into believing that more people in this quintile have positive tax liability than those that have zero tax liability.

A similar picture emerges for the second quintile, as Chart 8 shows. Just over 36 percent of tax returns in this quintile have zero tax liability. Also, under 13 percent of the tax returns have tax liability within +/- 25 percent of the average ($500). In other words, over 87 percent of all returns in the second quintile have tax liabilities that are either 25 percent greater than the average or 25 percent less than the average.

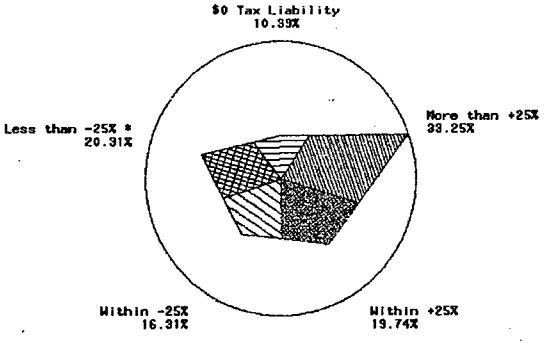
Chart 8 — Federal Income Tax Liability for Second Quintile **



* For Federal Income Tax Liability Greater Than Zero
** Compared To Average Income Tax Liability

The third quintile, in which the average and median are similar, displays a more normal pattern as Chart 9 displays.

Chart 9 — Federal Income Tax Liability for Third Quintile **

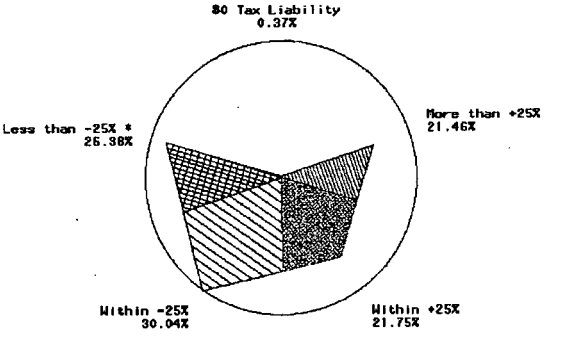


* For Federal Income Tax Liability Greater Than Zero
** Compared To Average Income Tax Liability

Ten percent of returns in this quintile have zero tax liability (10% of returns with AGI between $16,700 and $29,000). Thirty-six percent of tax returns have tax liability amounts between +/- 25 percent of the average ($1,800). However, the overwhelming majority of tax filers in the third quintile (almost 64%) have tax liabilities that are either 25 percent greater than the average or 25 percent less than the average.

The fourth quintile is similar in distribution to the third, with less than 1 percent of returns showing zero tax liability and just over 50 percent of returns having tax liability amounts within +/- 25 percent of the average ($4,200). The fourth quintile is the most "normal" of the quintiles, as can be seen from Chart 10 below. However, nearly half of the tax filers in the fourth quintile have tax liabilities that are either 25 percent greater than the average or 25 percent less than the average.[10]

Chart 10 — Federal Income Tax Liability for Fourth Quintile **

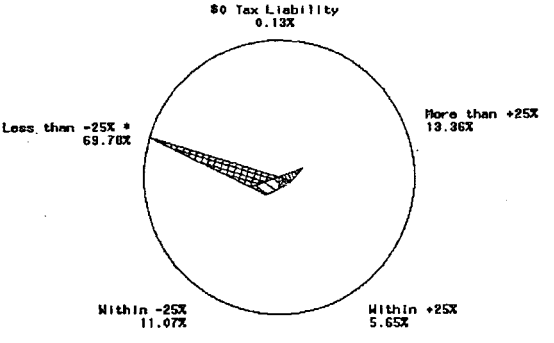


* For Federal Income Tax Liability Greater Than Zero
** Compared To Average Income Tax Liability

[10] However, almost 60 percent (57.37%) of the tax filers in the fourth quintile have tax liabilities that are either 20 percent greater than the average or 20 percent less than the average.

The fifth quintile is as non-normal as the first quintile, as Chart 11 demonstrates below. A most interesting statistic is that almost 70 percent of the returns in the fifth quintile report a tax liability amount that is *less* than 25 percent of the average. As discussed earlier, this demonstrates how a few high-income earners can have a tremendous effect on the average. Because of this, again the median is the more appropriate measure of central tendency. To report only the average would mislead the reader into believing that one-fifth of all tax returns have tax liabilities that are similar to the average amount for the fifth quintile of $19,100 instead of the median value of $10,100. The average tax liability amount for the fifth quintile is almost double the median value!

Chart 11 — Federal Income Tax Liability for Fifth Quintile **



* For Federal Income Tax Liability Greater Than Zero
** Compared To Average Income Tax Liability

Therefore, using the average as the measure of central tendency when analyzing or discussing tax policy initiatives is quite misleading. The over-reliance on averages has the effect of making it appear that tax plans that aim to reduce income tax burdens overstate the benefits to the taxpayers in the upper income categories, whereas what is primarily reflected is their higher tax burden before the tax change takes effect. Additionally, even the use of the median can be misleading due to the significant dispersion of tax liability among taxpayers. However, the use of the median is less misleading than the use of the average.

The use of averages when displaying distribution data for income and tax liability misleads the public. This clouds the transparency necessary for the public to effectively evaluate the merits of any proposed tax plan. But this is only part of the story. Not only is the use of averages as a measure of central tendency misleading, but so is the use of quintiles or income categories based on AGI or any other measure of income. These

arbitrary categories imply that the taxpayers grouped into these categories are necessarily similar in economic status and pay similar taxes. This is far from the case.

V. Misclassification of Taxpayers

It is well known to most taxpayers that tax liabilities often differ among families with the same income. This can be because of family size, filing status, whether a family itemizes their deductions or elects to take the standard deduction, whether a family pays a mortgage on their home and deducts the interest expense or rents, the nature of a family's income and many other factors. Additionally, some families are more aggressive at reducing their tax liabilities than others. For example, this can be done legally by contributing to a 401(k) plan, an individual retirement account or a medical savings account, and in many other ways as well.

The dispersion of taxpayers within any income group is impossible to determine from the information typically presented in tax distribution tables. Do most of the taxpayers within the $20,000 to $30,000 income range lie closer to $20,000 or to $30,000? All other things being equal, and from the information presented in most distribution tables, it would be expected that a taxpayer with income closer to $30,000 would necessarily have a higher tax liability, and consequently pay a greater amount in taxes than a taxpayer with income closer to $20,000. But this is not necessarily the case as Table 4 below begins to illuminate.

Table 4. Estimated Descriptive Statistics for Tax Year 1995 Tax Returns
(Rounded to Nearest $100)

All Tax Returns	Average	Median	Minimum Amount	Maximum Amount
AGI	$35,300	$22,100	($241,700,000)	$209,400,000
Tax Liability	$5,200	$1,800	$0	$62,560,000
First Quintile				
AGI	$1,600	$3,700	($241,700,000)	$7,900
Tax Liability	$100	$0	$0	$3,764,000
Second Quintile				
AGI	$12,200	$12,100	$7,900	$16,700
Tax Liability	$500	$400	$0	$58,700
Third Quintile				
AGI	$22,400	$22,100	$16,700	$29,000
Tax Liability	$1,800	$1,800	$0	$168,300
Fourth Quintile				
AGI	$38,700	$38,000	$29,000	$50,700
Tax Liability	$4,200	$3,900	$0	$529,900
Fifth Quintile				
AGI	$101,300	$71,600	$50,700	$209,400,000
Tax Liability	$19,100	$10,100	$0	$62,560,000

Detail May Not Add Due To Rounding.

Although over 65 percent of returns in the first quintile and over 36 percent of returns in the second quintile reported zero tax liability (as shown in Charts 7 and 8 above), Table 4 shows that there are actually taxpayers in each quintile that reported zero tax liability on their federal tax returns in 1995. However, the grouping of taxpayers by income measures into quintiles suggests that there are close similarities among these taxpayers with respect to the amount of federal tax liability. The suggested correlation that higher income taxpayers always have higher tax liabilities is not necessarily the case. As Table 4 also illuminates, the maximum tax liability reported on a return classified in the second quintile was $58,700. However, the maximum tax liability reported on a return classified in the first quintile was over 3 million dollars, $3,764,000. It seems counterintuitive that a taxpayer ranked and classified in a lower income category can pay more in taxes than a taxpayer ranked and classified in a higher category. This is possible because millions of taxpayers have more in common with each other based on tax liability than based on income. This important fact is ignored in typical tax distribution tables.

It could be suggested that the case highlighted above is only that of an outlier and should be discarded from the sample. Not only would discarding this observation fail to highlight extreme cases in our tax system, but it would also fail to enlighten the public that taxpayer misclassification is actually a problem involving millions of taxpayers, not just a few extreme cases. Chart 12 below begins to illuminate the problem and false sense of precision of classifying taxpayers by income categories.

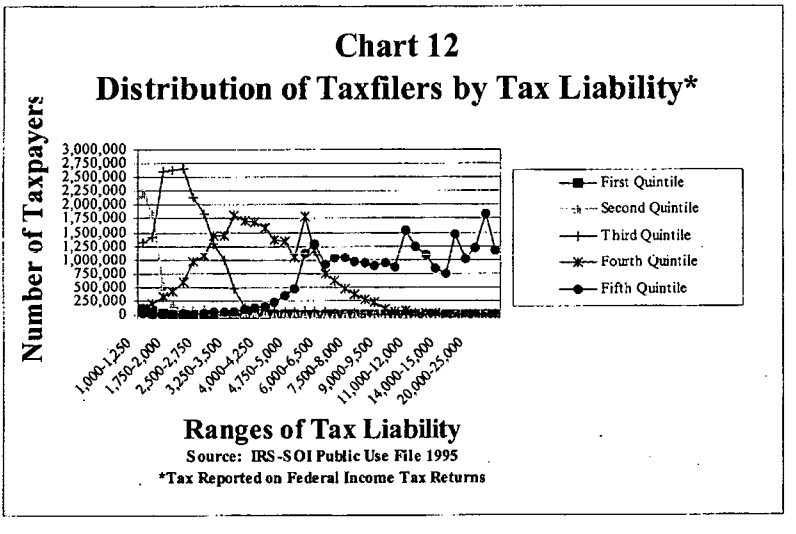


Chart 12 focuses on all tax returns that paid over $1,000 in federal income tax in 1995, ranked by AGI and grouped into quintiles. As the chart shows, there are millions of taxpayers in the third quintile who pay more in taxes than millions of taxpayers in the fourth quintile. Similarly, there are millions of taxpayers in the fourth quintile who pay more in taxes than millions of taxpayers in the fifth quintile.

Based on Chart 12, Chart 13 below shows that there are 2.2 million tax returns in the third quintile that paid $3,000 or more in federal income taxes, compared with 5.4 million tax returns in the fourth quintile that paid less than $3,000, even though these taxpayers are in a higher income quintile.

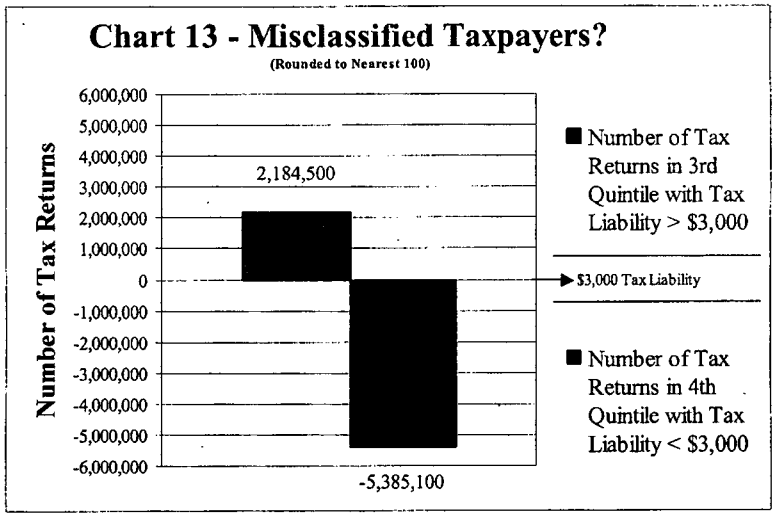
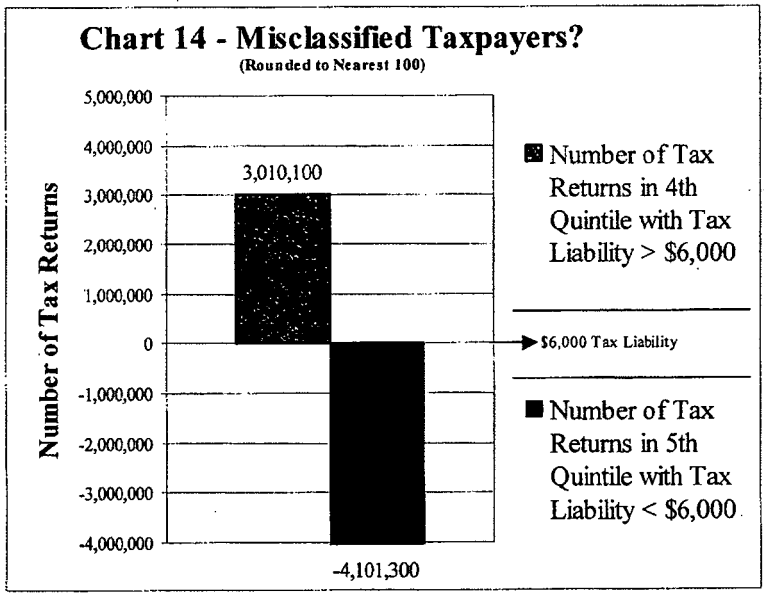


Chart 14 below sheds light on a similar story between the fourth and fifth quintiles. Even though they are in a lower income quintile, 3 million tax returns in the fourth quintile paid over $6,000 in federal income tax in 1995, compared with 4.1 million tax returns in the fifth and "richest" quintile that paid less than $6,000.



For tax year 1995, there were roughly 118 million federal tax returns. This amounts to about 23.6 million tax returns per quintile. Chart 13 above suggests that based on tax liability, 5.4 million taxpayers in the fourth quintile have more in common with 21.4 million taxpayers in the third quintile than they do with the other members of the fourth quintile. Similarly, Chart 14 suggests that 4.1 million taxpayers in the fifth quintile have more in common with 20.3 million taxpayers in the fourth quintile than they do with the rest of the 19 million taxpayers in their own quintile.

Ultimately, since tax distribution tables are concerned with the amount of tax currently paid and the amount of tax that is to be paid after a proposed tax legislation is enacted, it is questionable whether policy makers and the public are best served by classifying taxpayers into rigid income categories. This is especially the case when, based on income measures alone, millions of taxpayers have less in common with taxpayers of their own income categories because the amount of tax they pay is more

similar to taxpayers in other income categories. Along with the use of averages, the use of income categories without detailed descriptive language detailing their limitations misleads the public by suggesting that the numbers detailed in tax distribution tables are accurate, precise and reflect an accurate picture of the American taxpaying population.

VI. CONCLUSION

A former Treasury Deputy Assistant Secretary for Tax Policy, Michael J. Graetz, argues that due to the current opaque nature of communicating even the simplest facts about tax policy to the American public, distributional tax tables should be abandoned as a basis for legislative decision-making.[11] The statistical evidence demonstrates that the process, development, presentation and release of tax distribution tables need fundamental reform.

Lastly, tax changes can alter the after-tax prices and costs of goods and services, thereby adjusting the relative mix of inputs used in production, the types of goods and services businesses offer, as well as the amount of labor and capital. Tax changes can also alter the growth path of the economy and can produce broad economic effects that are not reflected in distributional analyses. Therefore, attempts to ascertain the distributional impact of proposed tax legislation should consider the possible macroeconomic effects. Furthermore, if distributional analysis is used, it should be in a much broader context in which the effects on efficiency and the economy are fully considered.

This paper has demonstrated how the use of averages and income classifications in tax distribution tables can mislead the public. This has the effect of supporting arguments based on class conflict paradigms and fails to illuminate the public as to the nuances of the actual distribution of tax liability across the income spectrum. Unless there is greater public recognition of the improper use of averages with income and tax data and the problems associated with using broad sweeping income categories to group "like" taxpayers, the current practice of using tax distribution tables will continue to mislead the public. At the very minimum, the use of the median as a more appropriate measure of central tendency will help to illuminate the public and contribute to a more open and honest tax policy debate

Specifically, this report finds:

- Income and tax information based on tax returns filed with the IRS do not follow the pattern of a normal distribution. Hence, the use of averages is an inappropriate measure of central tendency.

[11] Michael J. Graetz. "Distributional Tables, Tax Legislation, and the Illusion of Precision." In David F. Bradford (Editor). *Distributional Analysis of Tax Policy*, pages 75 and 76.

- Over 22 percent of all 1995 tax returns claimed zero tax liability.
- The Joint Committee on Taxation estimates that for calendar year 2000, 48.7 million taxpayers out of 140.2 million taxpayers overall, or 34.7 percent, will have zero or negative federal income tax liability.
- For all taxpayers, the use of the average as the measure of central tendency overstates the tax liability for the "representative" taxpayer by almost 3 times the median value.
- The dispersion of taxpayers within any income group is impossible to determine from the information presented in tax distribution tables, but is shown to vary considerably.
- The grouping of taxpayers into income categories provide a false sense of precision and misleadingly suggest that taxpayers within the same groups necessarily have similar federal income tax liability.
- In four out of five income groups examined, a majority of taxpayers had tax liabilities that were either 25 percent greater than the average or 25 percent less than the average tax liability for each income group.
- In comparing federal income tax liabilities, distribution tables often misclassify millions of taxpayers into quintiles in which they have little tax liability in common.
    - Approximately 2.2 million taxpayers in the third quintile pay more in federal income taxes than 5.4 million taxpayers classified in the fourth quintile.
    - Over 3 million taxpayers in the fourth quintile pay more in federal income taxes than 4.1 million taxpayers classified in the fifth quintile.
- The use of averages in tax distribution tables obscures the simplest facts about proposed tax policy initiatives to the public.

In addition to the use of averages (or the omission of the median as a measure of central tendency), tax distribution tables can mislead the public in other areas as well. The points made in this paper and the following 11 questions will assist taxpayers in reviewing distribution tables of proposed tax legislation. If citizens evaluating the merits of tax distribution tables are unable to determine the answers to the following 11 questions, more information should be requested from the authoring agency or organization. Only with the answers to all of the following questions can taxpayers make informed decisions about the merits of tax proposals.

1. Is the median presented as the correct measure of central tendency (or at least provided in addition to the average)?
2. What measure of income is being used (If adjusted gross income (AGI) is not presented, or some other measure that taxpayers understand, ask that it be provided)?

3. What taxes are being included in the analysis in both the before and after columns, and are they identical (i.e., comparing apples to apples)?
4. How many taxpayers reside within the displayed income categories?
5. What is the range of income and tax liability associated with each category?
6. What is the current and proposed (after full enactment of the proposed tax legislation) level of taxation (percent of total taxes paid to the government) paid by each income category?
7. What is the current and proposed (after full enactment of the proposed tax legislation) effective tax rate for each income category?
8. What are the ranges of tax cuts each income group is estimated to receive after full enactment of the tax legislation (ranges and medians should be provided instead of the often-presented average tax cut)?
9. Are the estimates presented free of imputations? If not, what imputations have been made to arrive at the estimates presented in the distributional tax tables?
10. What are the accuracy and reliability of the estimates presented in the distributional tax tables, and are data limitations disclosed or are they hidden?
11. What are some additional or hidden burdens that are not captured in the distributional tax tables (the hidden economic gains or losses resulting from a tax change, e.g., the economic increase in the stock of capital that would result from a repeal of the estate tax or the hidden burden of hiring lawyers and accountants to avoid the estate tax)?

Using the answers to these 11 questions, taxpayers will be able to unveil the information that is not always contained in tax distribution tables and evaluate the economic merits of proposed tax legislation. Distributional tax tables that are presented in such a manner that withhold or omit the answers to these questions, misuse the average as the sole measure of central tendency, or are based on statistically compromised data sources, should seriously be questioned on the issues of transparency, accuracy and reliability.

This is another paper in a Joint Economic Committee series on distributional tax analysis. For more information and details on how taxpayers can effectively evaluate the merits of different presentations used in distributional analysis, see the previous paper in the series, **"A Guide to Tax Policy Analysis: Problems with Distributional Tax Tables,"** is available online at: http://www.house.gov/jec

APPENDIX I - TABLE I

Major Tax Cut Provisions in the Senate Finance Committee Chairman's Mark [1]

(1998 Income Levels)

Family Economic Income Quintile (2)	Number of Families (millions)	Average Tax Change ($)	Total Tax Change		Tax Change as a Percent of:	
			Amount (3) ($M)	Percent Distribution (%)	Current Federal Taxes (4) (%)	Family Economic Income (%)
Lowest (5)	21.5	-12	-264	0.4	-2.10	-0.13
Second	22.2	-64	-1428	2.3	-2.32	-0.26
Third	22.3	-274	-5095	10.0	-3.86	-0.64
Fourth	22.3	-583	-12964	21.3	-4.20	-0.81
Highest	22.3	-1789	-39837	65.5	-4.38	-0.97
Total (5)	111.3	-547	-60836	100.0	-4.19	-0.82
Top 10%	11.1	-2338	-26036	42.8	-3.93	-0.89
Top 5%	5.6	-3137	-17489	28.7	-3.58	-0.83
Top 1%	1.1	-7081	-7945	13.1	-3.06	-0.75

Source: Department of the Treasury – Office of Tax Analysis. June 16, 1997.

(1) This table distributes the estimated change in tax burdens due to the major tax cut proposals in the Senate Finance Committee Chairman Mark which include the following: i) a child credit; ii) a modified HOPE scholarship tax credit; iii) a deduction for student loan interest; iv) deduction for education expenses paid through State-sponsored prepaid tuition programs; v) permanent extension of Section 127; vi) education investment accounts and private prepaid tuition programs; vii) expanded front-loaded and new back-loaded IRAs; viii) Capital gains provision (lower individual rates, extension of S. 1202, and $500,000 exclusion for gains on a principal residence; and ix) changes in the individual AMT.

(2) Family Economic Income (FEI) is a broad-based income concept. FEI is constructed by adding to AGI unreported and under-reported income; IRA and Keogh deductions; nontaxable transfer payments such as Social Security and AFDC; employer-provided fringe benefits; inside build-up on pensions, IRAs, Keoghs, and life insurance; tax-exempt interest; and imputed rent on owner-occupied housing. Capital gains are computed on an accrual basis, adjusted for inflation to the extent that reliable data allow. Inflationary losses of lenders are subtracted and gains of borrowers are added. There is also an adjustment for accelerated depreciation of noncorporate businesses. FEI is shown on a family rather than a tax-return basis. The economic incomes of all members of a family unit are added to arrive at the family's economic income used in the distributions.

(3) The change in Federal taxes is estimated at 1998 income levels but assuming fully phased in (2007) law and behavior. For the IRA provisions and education accounts, the change is measured as the present value of the tax savings from one year's contributions. The effect of the capital gains provision is based on the level of capital gains realizations under current law.

(4) The taxes included are individual and corporate income, payroll (Social Security and unemployment), and excises. Estate and gift taxes and customs duties are excluded. The individual income tax is assumed to be borne by payors, the corporate income tax by capital income generally, payroll taxes (employer and employee shares) by labor (wages and self-employment income), excises on purchases by individuals by the purchaser, and excises on purchases by business in proportion to total consumption expenditures. Federal taxes are estimated at 1998 income levels but assuming 2007 law and, therefore, exclude provision that expire prior to the end of the Budget period and are adjusted for the effects of unindexed parameters.

(5) Families with negative incomes are excluded from the lowest quintile but included in the total line.

NOTE: Quintiles begin at FEI of: Second $16,950: Third $32,583; Fourth $54,758; Highest $93,222; top 10% $127,373; Top 5% $170,103; top 1% $408,551.

Does the table show the answers to the following 11 essential questions?	Yes	No
1. Is the median presented as the correct measure of central tendency?		X
2. What measure of income is used?	X	
3. What taxes are included?	X	
4. How many taxpayers are in each income category?	X	
5. What income range is associated with each income category?		X
6. What are the current and proposed levels of taxation for each category?		X
7. What are the current and proposed effective tax rates for each category?		X
8. What are the estimated ranges of tax cuts for each category?		X
9. Are the estimates presented free of imputations?		X
10. Are measures of error provided relating to the precision, accuracy and reliability?		X
11. Do the estimates provided account for hidden burdens?		X

The FEI concept is used in this analysis, and families with negative incomes are excluded from the lowest quintile, biasing the analysis. Furthermore, this Treasury table excludes information relating to the percentage *change* in after after-tax income, which is considered by the Treasury Department to be the most important piece of information to include in a distributional tax table. As one of the Office of Tax Analysis' own economists writes:

> The only tax burden measure with some theoretical basis is the percentage change in after-tax income. It alone provides some indication of a family's change in welfare, because after-tax income represents the family's consumption possibilities in either the current or future years. In contrast, the share of the total change in tax burdens, which is often quoted in the popular press, does not convey information on a family's initial welfare position.[12]

The opaque nature of the exclusion of this information prevents citizens from having an informed debate regarding the "fairness" of the tax proposal under analysis.

[12] Julie-Anne Cronin. "U.S. Treasury Distributional Analysis Methodology." Office of Tax Analysis. Department of Tax Analysis. OTA Paper 85. September 1999. Page 34.

APPENDIX I – TABLE II

Effects of the House GOP Tax Plan

Income Group	Income Range	Average Income	Tax Cut (billions)	Average Tax Cut	% of Total Tax Cut
Lowest 20%	Less than $13,300	$8,400	$-0.7	$-29	0.5%
Second 20%	$13,300 – 23,800	18,300	-3.6	-144	2.4%
Middle 20%	23,800 – 38,200	30,300	-8.9	-350	5.8%
Fourth 20%	38,200 – 62,800	49,100	-18.1	-712	11.8%
Next 15%	62,800 – 124,000	83,600	-28.8	-1,513	18.8%
Next 4%	124,000 – 301,000	173,000	-24.7	-4,866	16.1%
Top 1%	301,000 or more	837,000	-68.3	-54,027	44.6%
ALL		**$48,700**	**$-153.1**	**$-1,199**	**100.0%**
Addendum					
Bottom 60%	Less than $38,200	$19,000	$-13.3	$-174	8.7%
Top 10%	$89,000 or more	204,000	-105.8	-8,355	69.1%

Source: Citizens for Tax Justice. "House GOP Tax Plan: The Rich Get Richer." July 27, 1999

Notes: Figures show the annual effects of (1) a 10% cut in personal income tax rates; (2) a reduction in the income tax rates on realized capital gains, from 20% to 15% (for those in all but the bottom regular tax bracket) and from 10% to 7.5% (for those in the bottom regular tax bracket); (3) elimination of the estate tax; (4) repeal of the individual Alternative Minimum Tax; (5) a $200 interest and dividend exclusion ($400 for couples); (6) an increase in the standard deduction for couples to double the single amount; (7) increased contribution and benefit limits for pensions and 401(k)s; (8) deductions for health insurance for people without employer plans; and (9) various corporate tax breaks. Not included are about $3 billion a year in miscellaneous tax breaks, mostly for certain health and education expenses. All figures are at 1999 levels, showing full-year effects after phase-ins are completed.

Does the table show the answers to the following 11 essential questions?	Yes	No
1. Is the median presented as the correct measure of central tendency?		X
2. What measure of income is used?		X
3. What taxes are included?	X	
4. How many taxpayers are in each income category?		X
5. What income range is associated with each income category?	X	
6. What are the current and proposed levels of taxation for each category?		X
7. What are the current and proposed effective tax rates for each category?		X
8. What are the estimated ranges of tax cuts for each category?		X
9. Are the estimates presented free of imputations?		X
10. Are measures of error provided relating to the precision, accuracy and reliability?		X
11. Do the estimates provided account for hidden burdens?		X

The CTJ table misuses the average as the appropriate measure of central tendency, provides no detail as to the income measure used and whether taxpayers with negative incomes are excluded from the lowest income category, nor does it identify whether "taxpayers" who don't file tax returns are included in the analysis. As the checklist above details, the lack of transparency and the exclusion of essential information from the CTJ distributional tax table, as is the case with many of the distributional tax tables released by the CTJ, only serves to bias the reader towards the preconceived notions of the CTJ.

APPENDIX II
1995 STATISTICS OF INCOME PUBLIC USE TAX FILE

"The Internal Revenue Service 1995 Public Use Tax File, which contains 103,117 records, was selected as part of the Statistics of Income program that was designed to tabulate and present statistical information for the 118.2 million Form 1040, Form 1040A, and Form 1040EZ Federal Individual Income Tax Returns filed for Tax Year 1995.

The Tax Files which have been produced since 1960, consist of detailed information taken from SOI sample records. The public use versions of these sample files are sold in an unidentifiable form, with names, Social Security Numbers (SSN), and other similar information omitted. The primary uses made of these files have been to simulate the administrative and revenue impact of tax law changes, as well as to provide general statistical tabulations relating to sources of income and taxes paid by individuals."[13]

Furthermore, the public use file is adjusted to comply with IRS disclosure procedures. First, taxpayers in the sample with total income or loss of $5,000,000 or more; those with business plus farm receipts of $50,000,000 or more; and nontaxable returns with adjusted gross incomes or expanded incomes of $200,000 or more were subsampled at a 33 percent rate to project the identity of individual taxpayers. Second, those returns that remain in the public use file after the subsampling procedure are combined with other high income returns in a blending process to further protect the identity of individual taxpayers. Third, all lower income returns have been blurred for alimony paid and alimony received and home mortgage interest paid to financial institutions. Finally, all fields in the returns have been rounded to the four most significant digits (e.g., $14,371 = $14,370 and $228,867 = $228,900). These are the main differences between the public use file and the microdata files used by the Treasury Department's Office of Tax Analysis and the Congress' Joint Committee on Taxation.

However, all sample data are subject to further sampling and measurement error. To properly use the statistical data presented in distributional tax tables, the magnitude of the potential sampling error must be known; coefficients of variation (CVs) are used to measure that magnitude. Based on the microdata, the table below highlights selected coefficients of variation (CVs) for selected items, tax year 1995 at a 95-percent confidence level. The CVs and subsequent standard errors associated with the public use file will be equal to or greater than the CVs listed in the table below due to the disclosure procedures applied to the public use file by SOI as detailed above. For more information

[13] Mike Weber. United States Internal Revenue Service, Statistics of Income Division. "General Description Booklet for the 1995 Public Use Tax File."

on SOI sampling methodology and data limitation with reference to the tax year 1995 data, please see *SOI Bulletin – Fall 1997*, page 245.

Coefficients of Variation for Selected Items, Tax Year 1995
(Number of returns is in thousands – money amounts are in millions of dollars – CVs are percentages)

Item	Number of Returns	Coefficient of Variation	Amount	Coefficient of Variation
Adjusted Gross Income (less deficit	118,218	0.12	4,189,354	0.34
Salaries and Wages	101,139	0.36	3,201,457	0.56
Net capital gain	10,151	2.36	176,473	1.74
Net capital loss	5,134	3.56	9,715	3.84
Taxable social security benefits	6,598	3.12	45,715	3.78
Total statutory adjustments	18,209	1.56	41,140	2.48
Total standard deduction	83,223	0.48	413,585	0.62
Total itemized deductions after limitations	34,008	1.12	527,374	1.10
Taxable income	94,612	0.44	2,813,826	0.44
Total income tax	89,253	0.54	588,419	0.48

Source: SOI Bulletin. Fall 1997. "Individual Income Tax Returns, 1995." Page 20.
Note: SOI publishes CVs at the 68-percent confidence level. The CVs above have been changed to reflect a 95-percent confidence level.

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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.

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

[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).

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 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

[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).

[5] Again, see the previous footnote.

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 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.

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[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.

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

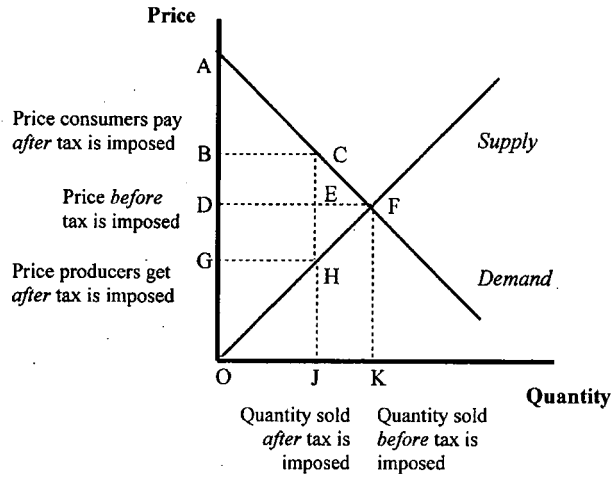
III. THE DEADWEIGHT LOSS OF TAXES

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 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

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.

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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.

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]

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.

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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) 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.

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 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

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

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])

[14] Gallaway and Vedder (1995).

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.

[15] Lindsey (1997).

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VICE CHAIRMAN'S VIEWS AND DEMOCRATIC STAFF REPORT

VICE CHAIRMAN'S STATEMENT

Overview of the Economy in 2001

The longest economic expansion in U.S. history ended in 2001. After growing at an average annual rate of 3.5 percent during the nearly ten years of expansion, the economy grew by only 0.3 percent (at an annual rate) in the second quarter of 2001, and *declined* by 1.1 percent in the third quarter, the sharpest quarterly drop since 1991. Although complete data are not yet available, most analysts believe the economy declined in the final quarter of the year as well.

The downturn comes on the heels of a particularly robust economy. Between 1996 and 2000, economic growth was especially strong. Real GDP grew at an average annual rate of 4.1 percent. That unusually strong growth was fueled by a surge in productivity. Between 1996 and the middle of 2000, nonfarm productivity grew at an average annual rate of 2.7 percent. The unemployment rate declined to 3.9 percent in September 2000, while the core rate of inflation (the change in the Consumer Price Index excluding food and energy) rose only slightly in 2000 after hitting a thirty-three year low in 1999.

The nation's factories have borne the brunt of the current slowdown. Since mid-2000, production and employment declines in the manufacturing sector have been the sharpest in nearly twenty years. Particularly hard hit have been producers of high-technology commodities such as computers, communications equipment and semiconductors. After rising at an average annual rate exceeding 40 percent from 1996 through 2000, business investment in computers and peripherals has *fallen* at an average annual rate of nearly 21 percent so far this year. In November, manufacturers of high-technology equipment were operating at a mere 60 percent of their capacity.

As the weakness in demand spread from the high-technology sector throughout the rest of the economy and to our trading partners overseas, U.S. businesses curtailed production and met waning sales out of inventory stocks. As a result, inventories were drawn down, employment declined, household incomes weakened, and household spending slowed as well.

The economic downturn was already well underway prior to the terrorist attacks on September 11. A September 7 report issued by the Joint Economic Committee Democratic staff warned that, even at that time, there were significant further downside risks to the economy and the federal budget including a possible downturn in consumer spending in the near term, lower than expected productivity growth over the longer term, and the possibility that recent positive "budget surprises" might unwind as the economy slowed down. The attacks only deepened the contraction that had begun in March. Business and consumer confidence plummeted and jobless claims began to soar. At the

close of the year, the economy has yet to regain even the weak momentum that many analysts believed it had prior to the attacks.

Since the end of the expansion in March, the U.S. private, non-farm economy has lost 1.5 million jobs. The civilian unemployment rate rose by 1.4 percentage points since March to 5.7 percent in November. In recent months, the number of long-term unemployed also has risen sharply. More than one in four of the 8.2 million people unemployed in November have been jobless for 15 weeks or more. Moreover, in November about 1.2 million people were unemployed for longer than 26 weeks, which is especially troublesome because unemployment benefits for covered workers typically run out after 26 weeks.

As has been the case during previous economic downturns, the most economically disadvantaged are the ones hardest hit by the economic downturn. For example, by November, the unemployment rate for women maintaining households had risen by more than two percentage points since March, to 8.3 percent. Unemployment among minorities was much higher than for the rest of the population. The November unemployment rate was 10.1 percent for blacks and 7.1 percent for Hispanics compared with 5.1 percent for whites.

An unusual amount of uncertainty clouds the economic outlook. The current consensus projection of forecasters is for the economy to grow slowly during the first half of next year, building enough momentum to be on a solid recovery path by the fall of 2002. With the inventory correction mostly done, most analysts expect that the year-long easing of short-term interest rates by the Federal Reserve along with some near-term fiscal stimulus by the federal government will be sufficient to enable U.S. production to grow early in 2002. However, further weakening of the leading foreign economies could slow the U.S. recovery as well.

Even if the economy were to begin its recovery in early 2002, it will likely take longer for the employment situation to improve. The recovery in employment has typically lagged that in the overall economy—indeed, during the most recent business cycle in 1991, the unemployment rate did not begin to decline until more than 15 months after the expansion in overall activity had begun.

The Road to Economic Recovery

The challenge now for policymakers is how to get the economy out of recession quickly and put it back on the path of strong and sustainable growth. The Federal Reserve has done its part, cutting short-term interest rates eleven times since the beginning of the year, lowering the federal funds rate to a forty year low of 1.75 percent. Congress and the Administration also took steps immediately following the September attacks by enacting $40 billion in emergency spending and $15 billion in assistance to the airline industry. While there was a compelling case for emergency spending following the attacks, it was less clear that all of the problems in the airline industry were tied to the events of September 11 and the temporary halt to airline travel that followed. The Joint

Economic Committee Democratic staff evaluated the arguments behind the airline assistance package in a report published on October 3 (*"Assessing Losses for the Airline Industry and Its Workers in the Aftermath of the Terrorist Attacks"*).

The steps taken so far might be enough to keep the recession short and shallow. Many economists believe however, that the post-September 11 economy is particularly vulnerable to negative shocks and that additional economic stimulus would provide valuable insurance against a serious downturn—as long as such stimulus is quick and effective. A poorly designed policy, in contrast, would waste vital resources, provide little or no help with economic recovery, and could even be counterproductive by driving up long-term interest rates.

In early October, the Chairs and Ranking Members of the House and Senate Budget Committees laid out a set of principles for effective economic stimulus. They stressed that stimulus policies should have an immediate but temporary impact. Economic stimulus that comes too late or lasts too long threatens to turn any cyclical budget deficit into a long-term structural deficit, hurting future generations and undermining the recovery by driving up long-term interest rates.

The Joint Economic Committee Democratic staff analyzed a broad range of possible stimulus options in an October 17 paper (*"Economic Stimulus, Principles and Options"*). The paper concluded that measures that increase consumer incomes directly are likely to have the greatest impact on short-run consumer spending, and therefore will stimulate the economy most quickly and effectively. Spending proposals have an important place in any stimulus package because they can often be implemented quickly, can be turned off when they are no longer needed, and can be targeted to those most affected by the recession.

In a second paper on economic stimulus published on December 11, *("Effective Economic Stimulus: How do Congressional Proposals Measure Up?")* the JEC Democratic staff assessed how well specific congressional recovery plans measure up to the principles outlined by the Budget Committees. The report evaluated the short-term economic impact of various provisions based on results from policy simulation using a large-scale macroeconomic model. The paper concluded that tax or spending provisions targeted to the low-income working population—such as tax rebates or enhanced unemployment insurance assistance—were likely to produce the greatest bang for the buck in the short-term. Provisions to spur business investment—such as additional depreciation allowances—did not produce the same increase in GDP per dollar of federal assistance, in part because those proposals applied to new investment taking place over more than one year. Limiting tax incentives to investment only in the first year would appreciably increase the short-term economic impact.

The Long-Term Budget and Economic Outlook

Even prior to September 11 it is was clear that official estimates of the projected federal budget surplus could easily be too high. A September 7 JEC Democratic staff

report (*"A Return to Deficits? An Analysis of the Bush Administration's Mid-Session review and the CBO Update to the Economic and Budget Outlook"*) concluded that there was a significant chance that the federal budget could return to deficits sometime in the near future and cautioned that it was extremely unwise for policymakers to continue to treat projections of budget surpluses five and ten years out as if they were money in the bank.

Unfortunately, those warnings were more prescient than anyone knew. The director of the Office of Management and Budget recently disclosed that the Administration now expects a deficit in the federal budget as early as next fiscal year and that budget deficits could continue at least until 2005.

What happened to the surplus? In May of this year the Congressional Budget Office projected a unified budget surplus of $5.6 trillion for the next ten years. By August, the CBO had lowered its projection of the ten-year surplus to $3.4 trillion. In October, a bi-partisan estimate by the House and Senate Budget Committees projected that the ten-year surplus would fall to $2.6 trillion. More than half (55 percent) of the decline in the projected budget surplus between May and October was due to the large tax cut enacted in June. Since then, the economic situation has worsened not improved, despite claims that the tax cuts were needed to boost the economy. The declining economy has further worsened the budget outlook.

The tax cut has made it more difficult to proceed with fiscal policies that could produce short-term economic stimulus. In addition, it has detracted from the nation's ability to address important priorities in the areas of health care, education, and defense, let alone the new burdens of carrying out a war against terrorism and strengthening security at home. The country will need to address all these issues while at the same time preparing for the retirement of the baby boom generation, which is now less than ten years away.

In seems evident that a tax cut of the size and scope of the one enacted in June would not have popular support today. In a series of papers published in May and June, the JEC Democratic staff dissected various aspects of the tax cuts including: the true cost of the tax bill over ten years and why many families will get little or no benefit from the costly tax cuts that are scheduled to take effect after 2002 (*"What do Families Really Get From the Tax Cut?"*); some of the misleading arguments behind the push for repeal of the estate and gift tax (*"Myths About the Estate Tax: Rhetoric versus Reality"*); and why there still are strong economic reasons to reduce taxes on lower-income families (*"Who Faces the Highest Marginal Tax Rates?"*).

The long-run challenge of future demographic changes means that Congress and the Administration must balance pressing current needs with policies that promote long-term economic growth. Investment is the key to future economic prosperity. Government can undertake that investment directly through spending on education and infrastructure. The most significant way that government policies can contribute to investment and economic growth, however, is through increased public saving—either by

decreasing government deficits or increasing government surpluses. Increased government saving lowers interest rates and frees up more capital for private investment.

A policy of deficit reduction in the latter half of the 1990s helped spur the rapid economic expansion of that era. The Administration's tax cut is an unfortunate reversal of past fiscal discipline. Although certain tax cuts and other government policies can encourage private saving, the effects of these saving incentives are more uncertain and far smaller than the direct effect of public saving. Compared with the Administration's tax cut, other government policies would provide more economic stimulus in the short run, without jeopardizing national saving and economic growth in the long run.

Effective Economic Stimulus: How Do Congressional Proposals Measure Up?

December 11, 2001

EXECUTIVE SUMMARY

Early in October, the bipartisan leadership of the House and Senate Budget Committees agreed to a set of principles for evaluating economic stimulus proposals. They emphasized the importance of measures that had a rapid impact and were temporary. Others have embraced similar principles including a group of noted economists comprising nine Nobel laureates and four former members of the President's Council of Economic Advisors. These principles draw a clear distinction between policies that provide effective economic stimulus now while the economy is in a recession and policies that may operate with a longer lag.

There are currently at least four competing congressional economic recovery proposals. The House of Representatives passed H.R. 3090, The Economic Security and Recovery Act of 2001, which relies heavily on tax cuts and particularly tax cuts for businesses. The Senate Finance Committee reported out a recovery package, the Economic Security and Assistance for American Workers Act of 2001, which includes tax cuts but also provides substantial assistance to displaced workers and state governments. Senate Republicans have an alternative recovery package containing only tax cuts that follows the plan outlined by President Bush. A small coalition of Senators from both parties has suggested a fourth alternative that attempts to find a middle ground between the House and Senate Finance Committee packages.

Overall, the provisions in the Senate Finance proposal adhere most closely to the principles for stimulus outlined by the House and Senate Budget Committees. It is the only package that focuses almost all its stimulus on 2002, when the economy will be weakest. Tax and spending provisions in that year would account for more than 90 percent of the total cost. Provisions taking effect in 2002 account for about three-fourths of the total cost of the Senate coalition proposal. In contrast, the House bill and Senate Republican alternative stray even further from this standard, implementing a significant portion of the tax cuts after 2002. With this delayed impact, these proposals run the risk of creating stimulus when the economy is already well into a recovery and thus forcing the Federal Reserve to raise interest rates as a hedge against inflation.

Most of the provisions in the Senate Finance bill are targeted towards assisting the most vulnerable workers or to spurring new investment. More than half of the cost in 2002 would be used to provide additional unemployment benefits, assistance with health insurance, and rebates to lower-income households. Almost all the business tax cuts in the Senate package consists of incentives for new investment.

The other three proposals provide tax cuts for high-income individuals in addition to those for low-income workers, and tax breaks for businesses and corporations that are not tied to new investment. The Senate Republican plan would spend nine times as much on high-income tax breaks as it would on the rebate for low-income workers. The House bill includes provisions such as the retroactive repeal of the corporate alternative minimum tax that will do little to boost business investment in the near term. The House bill provides only limited assistance for unemployed workers, while the Senate Republican bill fails to provide any assistance at all.

To gauge the impact on the economy of each provision, the Joint Economic Committee Democratic staff compared simulations of the economic effects of the plan's various provisions using the Washington University Macroeconomic Model. These simulations suggest that a supplemental rebate for low-income working families and increased transfer payments to dislocated workers are especially potent and cost effective ways of boosting gross domestic product (GDP) over the short term.

Other policies were not nearly as cost effective or else provided little stimulus in the near-term. The tax rebate provided thirteen times the increase in GDP in the first year per dollar of ten-year revenue cost as accelerating all the individual income tax rate cuts scheduled for 2006 to 2002. Reducing corporate income taxes, such as through the retroactive repeal of the corporate alternative minimum tax, resulted in virtually no stimulus. Even a provision to allow businesses and corporations an additional first-year depreciation deduction of 30 percent of the cost of new investment produced little impact on GDP in the first four calendar quarters, although the effects from such a proposal would grow over time.

INTRODUCTION

On November 26, the National Bureau of Economic Research (NBER) declared that the country's longest economic expansion on record had come to an end in March, and a recession had begun. This was not news to millions of unemployed workers. It was evident before the NBER made it official that the country had entered a period of slow economic growth, which was aggravated by the terrorist attacks on September 11.

The challenge now for policymakers is how to get the economy out of recession quickly and put it back on the path of strong and sustainable growth. Monetary policy is already doing its part. The Federal Reserve has cut short-term interest rates ten times since the beginning of the year. Congress and the Administration also took steps immediately after the attacks by enacting $40 billion in emergency spending and $15 billion in assistance to the airline industry.

These steps might be enough to keep the recession short and shallow. Many economists believe however, that the post-September 11 economy is particularly vulnerable to negative shocks and that additional economic stimulus would provide valuable insurance against a serious

downturn—as long as such stimulus is quick and effective. A poorly designed policy, in contrast, would waste vital resources, provide little or no help with economic recovery, and could even be counterproductive by driving up long-term interest rates.

This paper assesses efforts to date to develop an economic stimulus package. Early in the process the bipartisan leadership of the House and Senate Budget Committees agreed to a set of principles for evaluating stimulus proposals. They emphasized the importance of measures that had a rapid impact and were temporary. Other analysts including a group comprising nine Nobel laureates in economics and four former members of the President's Council of Economic Advisors have embraced similar principles. These principles draw a clear distinction between policies that provide effective economic stimulus in an economy operating with excess capacity and elevated levels of unemployment and policies that may operate with a longer lag. Whatever their merits on other grounds, these latter policies do not belong in an economic recovery package.

In testimony before the Joint Economic Committee, economist and former member of the President's Council of Economic Advisors Alan Blinder proposed two simple tests, consistent with those principles, to determine whether a proposal belongs in an economic stimulus package.

> *Scorekeeping*: Is at least 80 percent (and preferably 100 percent) of the cost incurred in the first year? If not, the economy is probably not going to get much stimulus bang for the budgetary buck.
>
> *Customization*: Were the people who are now advocating the policy also advocating it a year or two ago, and will they also want it a year or two from now? If so, it is probably not tailored to the current situation.

There are currently at least four competing congressional economic recovery proposals. The House of Representatives passed H.R. 3090, The Economic Security and Recovery Act of 2001, which relies heavily on tax cuts and particularly tax cuts for businesses. The Senate Finance Committee reported out a recovery package, the Economic Security and Assistance for American Workers Act of 2001, which includes tax cuts but also provides substantial assistance to displaced workers and state and local governments. Senate Republicans have an alternative recovery package that follows the plan outlined by President Bush, and which relies exclusively on tax cuts. A small coalition of Senators from both parties has suggested a fourth alternative that attempts to find a middle ground between the House and Senate Finance Committee packages.

The analysis in this paper shows that only the Senate Finance package adheres closely to the principles laid out by the bipartisan Budget Committee leadership. To a much larger

extent than the other three packages, the provisions included in the Senate Finance package pass the tests set out by Professor Blinder.

On October 4, 2001, the chairmen and ranking members of both the Senate and House Budget Committees reached agreement on a set of principles regarding economic stimulus.[1] They emphasized the need for quick, effective, yet temporary measures to boost the economy. They stressed the overall principle that, *"An economic stimulus package should be based on the recognition that long-term fiscal discipline is essential to sustained economic growth,"* and *"Any short-term stimulus should not result in higher long-term interest rates."*

Objectives. The Budget Committee leadership argued that a stimulus package should *"restore consumer and business confidence, increase employment and investment, and help those most vulnerable in an economic downturn."* They added the critical caveat, however, that it *"do all of the above without converting a cyclical deficit into a structural deficit."* Allowing a cyclical budget deficit likely to occur in the short-term to turn into a long-term structural deficit will not only hurt future generations, but will also undermine the economic recovery by driving up long-term interest rates.

Timing. The Budget leaders issued their report on October 4 and urged the Congress to *"assemble a stimulus package deliberatively but with dispatch, aiming for passage within 3-4 weeks."* Two months later, the budget talks were still at an impasse.

Rapid Impact. The committee leadership recommended that *"a substantial portion of the fiscal impact on the economy should be felt within six months."* More often than not in the past, Congress has failed to implement an economic stimulus plan until the economy was well into a recovery. Stimulus that comes too late forces the Federal Reserve to raise interest rates in order to keep demand from growing so fast as to generate inflation.

Sunset. According to the budget leaders, *"all economic stimulus proposals should sunset within one year, to the extent practicable."* Because of the importance of long-term fiscal discipline, stimulus proposals should not produce significant multi-year budgetary effects. Thus, permanent tax cuts or new infrastructure spending that spends out slowly are not attractive candidates for stimulus, whatever their overall policy merits. Safety net programs such as Unemployment Insurance, in contrast, are designed to be counter-cyclical, contracting as the economy improves. Expanding these programs is therefore a better choice for providing fiscal stimulus without significantly boosting spending when stimulus is no longer needed.

Targets. The budget leaders stressed that: *"Economic stimulus should be broad-based rather than industry specific. Policies should achieve the greatest possible stimulus effect per dollar spent and should be directed to individuals who will most likely spend the additional after-tax income and businesses most likely to increase investment spending and employment."*

1 "Revised Budget Outlook and Principles for Economic Stimulus," Senate Budget Committee and House Budget Committee, October 4, 2001.

For example, a tax cut for low- and moderate-income households who will likely spend nearly all of the extra income is more effective stimulus than a similarly sized tax cut for higher-income households who are more likely to save a substantial portion of it. Similarly, increased government outlays to provide unemployment benefits to displaced workers will likely be spent quickly. Tax relief for businesses targeted to new investment provides a much more effective stimulus than retroactive tax cuts.

Size: Taking their lead from the recommendations of Federal Reserve Chairman Alan Greenspan and former Treasury Secretary Robert Rubin, the Budget leaders suggested that *"The economic stimulus package should equal approximately 1 percent of GDP (about $100 billion) but should count the budgetary effects of policies implemented since August, which, at present, total roughly $40 billion."* This $40 billion represents an estimate of outlays in 2002 from three sources: an agreement to raise the cap on discretionary spending, the appropriation of $40 billion in emergency spending (not all of which spends out in 2002), and $15 billion in assistance to the airline industry (which also does not all spend out in 2002). In addition, another $77 billion in tax cuts not included in the recommendation on the size of the economic stimulus package, is scheduled to take effect in 2002.

Offsets. Emphasizing the importance of fiscal discipline, the budget leaders recommended that, *"to uphold the policy of repaying the greatest amount of national debt feasible between 2002-2011, out year offsets should make up over time for the cost of the near-term economic stimulus."* Ideally, a recovery package should pay for itself over the long-term. Running a budget deficit in the immediate future, while the country recovers from the terrorist attacks and works its way out of the recession, is entirely necessary and appropriate. Once the economy begins to recover, public saving will need to rise. At that point, federal debt held by the public will be higher than previously anticipated, while the retirement of the baby boomers will be that much closer--less than a decade away. Some "catching up" relative to prior budget goals will be desirable.

Numerous prominent economists have embraced these principles. For example, a letter from nine Nobel laureates in economics and four former members of the President's Council of Economic Advisors to Senate Majority Leader Tom Daschle and Minority Leader Trent Lott echoed the need for effective yet temporary stimulus. In the letter these noted economists wrote, *"The basic principles in designing an economic stimulus are (1) that it be targeted to increase spending immediately; and (2) that it be temporary, phasing out when the economy recovers."* Those who signed the letter found the House stimulus package wanting in these regards and urged the Senate to pass a better measure.

This report assesses the competing economic recovery packages offered by the House of Representatives, the Senate Finance Committee, and Senate Republicans. It begins with a brief discussion of what constitutes effective economic stimulus, presents an overview of the

different proposals, compares specific provisions, and evaluates how well each plan meets the principles laid out by the Budget Committees.

WHAT IS EFFECTIVE ECONOMIC STIMULUS?

The key to achieving a rapid recovery from a recession is to bolster incomes. When cash-strapped households reduce spending, businesses face falling sales and become increasingly reluctant to invest. This further lowers incomes, initiating a downward spiral of economic activity.

The traditional remedy in such a case is economic stimulus. The Federal Reserve has provided one type of stimulus through a succession of interest rate cuts. It has cut short-term interest rates 10 times since the beginning of the year, lowering the federal funds rate from 6.5 percent to 2.0 percent.

With the economy contracting in the third quarter and possibly the fourth quarter of this year, it appears that monetary stimulus alone may be insufficient to hasten economic recovery. Before going overboard with additional stimulus, however, it is prudent to recognize that the groundwork for economy recovery may already be in place. First, it often takes times for the economy to respond to interest rate cuts. Second, Congress has already enacted $41 billion in additional spending for 2002 beyond that agreed to in the fiscal year 2001 budget resolution. Third, $77 billion in tax reductions will take effect next year as part of the Economic Growth and Tax Relief Reconciliation Act of 2001 (see Table 1).

If there is a need for additional stimulus, the federal government has a number of options. It could bolster income by increasing government purchases of goods and services, increase household disposable income by reducing personal income taxes and increasing transfer payments, or encourage business investment through tax incentives. All of these actions inject money into the economy and can boost economic activity in the short-term. However, only the first—the direct purchases of goods and services—insures that all the additional money will be spent rather than saved.

Table 1
FISCAL POLICY CHANGES ALREADY ENACTED

	Cost in billions		
	2001	2002	2001-2011[1]
SPENDING INCREASES	-	41	80
Additions to FY 2002 Discretionary Spending [2]	-	10	25
Emergency Anti-Terrorism Supplemental	-	25	40
Airline Assistance	-	6	15
TAX DECREASES	45	77	1,441
Revenue Reductions Resulting from the Economic Growth and Tax Relief Reconciliation Act of 2001 [3]	41	71	1,349
Outlays for Refundable Tax Credits Included in Economic Growth and Tax Relief Reconciliation Act of 2001	4	6	92

Source: Calculations by the Joint Economic Committee Democratic staff. Estimated from Congressional Budget Office (CBO), "The Budget and Economic Outlook," August 2001, table 1-4, and "Revised Budget Outlook and Principles for Economic Stimulus," Senate Budget Committee and House Budget Committee, October 4, 2001.

Notes:
1. Includes only amounts specified in appropriations bills or the tax act. Does not include any allowances for carrying funds forward beyond amounts appropriated. Also excludes debt service impacts of new spending.
2. Estimate reflects 25 billion in supplemental appropriations for spending on defense and education. Outlays for 2002 based on CBO's composite outlay rate for discretionary spending.
3. Amounts shown are net of effects of the corporate tax payment date changes.

Results From a Simple Policy Experiment

Large-scale macroeconomic models estimated over the postwar period have affirmed that, in the short run, increasing government purchases is generally a more effective way to stimulate the economy than cutting taxes. The reason is that higher federal purchases directly increase gross domestic product (GDP). By contrast, lower taxes affect GDP only indirectly, by increasing the disposable incomes of households and firms, leading them to gradually increase

their consumption and investment demands. This, in turn, increase GDP by less than the amount of the tax cut over the short term.

Simulation estimates published by the Federal Reserve demonstrate this conventional result. Those simulations compared the macroeconomic effects of a fiscal stimulus equivalent to one percent of GDP achieved through increased federal purchases or through a reduction in taxes. Under alternative assumptions regarding monetary policy, increases in federal spending raise real GDP by more than do equivalent cuts in taxes over the course of a year.[2]

Simple policy simulations using the Washington University Macroeconomic Model show similar results. Three alternative types of fiscal stimulus were simulated: (1) an increase in federal government purchases of nondefense goods; (2) a reduction in federal individual income tax rates; and (3) a reduction in the marginal federal corporate tax rate. Federal purchases were increased by one percent of baseline GDP. The tax rates were reduced sufficiently to lower collections by one percent of GDP, before allowing for changes in baseline taxable incomes.

Following the Federal Reserve study, the simulations were done assuming two alternative types of monetary policy. In one case, the Federal Reserve was assumed to respond to the fiscal stimulus in such a way that the real federal funds rate (that is, the nominal rate net of inflation) remained unchanged from its baseline level. In that scenario, the central bank's sole concern is the rate of inflation and it adjusts the funds rate point-for-point with the inflation rate. An alternative to that policy is the so-called Taylor rule. In that scenario, the central bank was assumed to adjust the supply of reserves to keep the economy from deviating too far from its target rate of inflation and its target rate of real growth. Many analysts regard such a rule as a good approximation of the Federal Reserve's actual behavior.

The model clearly shows that government purchases provide more short-term stimulus than tax cuts under either monetary policy assumption (see Table 2). Because the stimulus is not inflationary over the short run, the monetary policy that holds the real funds rate at baseline levels is less restrictive than the monetary policy that follows the Taylor rule. It is also noteworthy that the cut in the marginal corporate tax rate was less stimulative than the individual income tax cut.[3] Although the Washington University model shows larger increases in GDP than in the Federal Reserve's model, the model's results concerning the impact of spending increases relative to tax cuts matches those of the Federal Reserve.

2. See, D. Reifschneider, R. Tetlow, and J. Williams, "Aggregate Disturbances, Monetary Policy, and the Macroeconomy: The FRB/US Perspective," *Federal Reserve Bulletin*, January 1999, pp. 1-19.

3. The reason is that the corporate tax cut stimulates business investment by lowering the cost of capital, which, over the short term, yields less additional investment than changes in demand. Short-run movements in investment have tended to be more highly correlated with changes in demand than with changes in the cost of capital and this is reflected in econometric models of short-run investment behavior. To be sure, under the neoclassical view of capital demand, a one percent decline in the cost of capital (for example, as a result of a cut in corporate tax rates) raises the desired capital stock to the same degree as a one percent increase in output over the long term. But over four quarters–the period of greatest relevance to countercyclical economic stimulus–changes in the cost of capital have a relatively small effect on investment.

Table 2
SHORT-TERM RESPONSE TO FISCAL STIMULUS

	RESPONSE AT END OF THE QUARTER percentage increase in real GDP				
	First	Second	Third	Fourth	Eighth
Federal Reserve Maintains Constant Real Federal Rate Funds					
Increase federal purchases by 1 percent of GDP	1.4	2.0	2.1	2.3	2.6
Decrease federal personal income taxes by 1 percent of GDP	0.5	0.8	1.0	1.2	1.9
Decrease federal corporate income taxes by 1 percent of GDP	0.0	0.1	0.3	0.5	1.5
Federal Reserve Adjusts Federal Funds Rate to Inflation and Growth Targets					
Increase federal purchases by 1 percent of GDP	1.3	1.6	1.5	1.4	0.8
Decrease federal personal income taxes by 1 percent of GDP	0.5	0.7	0.8	0.8	0.7
Decrease federal corporate income taxes by 1 percent of GDP	0.0	0.1	0.2	0.4	0.8

Source: Simulations by the Joint Economic Committee Democratic staff using the Washington University Macroeconomic Model.

SUMMARY OF CONGRESSIONAL RECOVERY PACKAGES

There currently are at least four competing congressional economic recovery proposals, one passed by the House, one reported out of the Senate Finance Committee, one proposed by Senate Republicans, and one proposed by a coalition of Senators from both parties.

House Bill

On October 12, the House of Representatives passed HR. 3090, The Economic Security and Recovery Act of 2001. The Act would provide a total of $101.1 billion in tax relief and

spending increases in fiscal year 2002, and over $163.8 billion for the period 2002-2011. Almost all of the economic stimulus would originate from tax reductions, with just $1.7 billion in 2002 and an additional $2.7 billion in 2003 coming from non-tax provisions.

Over 70 percent of the tax cuts would go to corporations and businesses. The key corporate and business tax reductions are 1) temporarily increasing the first-year depreciation allowances for certain new investments; 2) shortening the depreciation period for improvements to leased property; 3) temporarily extending the net operating loss carryback period from two years to five years; 4) retroactive repeal of the corporate alternative minimum tax; and 5) permanently extending the exemption from subpart F rules for multinational business income from banking, insurance and financing.[4]

The major tax cuts for individuals are 1) a tax rebate for working families who received a partial or no tax rebate this past summer; 2) accelerating to 2002 some of the tax rate cuts scheduled to take effect in 2004 and 2006; 3) a reduction in the tax rate on capital gains; and 4) increases in the exemption amount for the individual alternative minimum tax.

Senate Finance Committee Bill

The Senate Finance Committee reported out its version of a recovery package on November 8, The Economic Recovery and Assistance for American Workers Act of 2001. After adjustments made when it was introduced on the floor, the Senate Finance bill would provide $66.6 billion in tax relief and spending increases in 2002, but only $71.2 billion for the entire 2002-2010 period.

About 44 percent of the first-year cost—$29.3 billion—would come from temporary spending increases for unemployment insurance, health insurance coverage for unemployed workers, and revenue sharing with the States.

The remaining 56 percent would come from tax cuts for corporations and business, tax cuts for individuals, special tax incentives for New York City and other distressed areas, tax relief for victims of terrorism, and other tax provisions. In contrast to their very high share in the House recovery package, tax cuts for business and corporations account for just over half the total tax reductions in the first year. The Senate Finance Committee proposal also would temporarily increase first-year depreciation allowances for certain new investments, but by only one-third as much as in the House bill, and for only one year instead of for three. The proposal would extend the loss carryback period from 2 years to 5 years, as in the House bill. The Senate Finance bill would not repeal the corporate alternative minimum tax, although it would adjust the corporate AMT to prevent it from weakening the effect of the investment stimulus. It also

4. Income earned by multinational businesses in foreign countries is generally not subject to U.S. taxes until that income is distributed to shareholders. Under subpart F rules, majority U. S. shareholders with a controlling interest in foreign corporations are subject to tax on income earned by such controlled foreign corporation, whether or not that income is distributed to shareholders. The proposal would permanently extend the current exemption from subpart F rules to income derived from active conduct of banking, financing, or insurance business.

does not permanently extend the exemption from subpart F rules for "active financing income", although it would extend the exemption, which would otherwise expire at the end of 2002, for one year.

The Senate Finance bill includes almost the same rebate for low-income workers as the House bill, but does not reduce capital gains taxes, increase the individual AMT exemption amount, or accelerate previously scheduled rate reductions.

Senate Republican Alternative

Senate Republicans have proposed an alternative recovery package that follows the plan outlined by President Bush. Their proposal consists entirely of tax cuts, and would total $89 billion in 2002 and $175 billion over the period 2002-2011. It contains of only four provisions, 1) the same tax rebate for low- and moderate-income families as the House and Senate Finance bills; 2) accelerating all of the tax rate cuts scheduled for 2004 and 2006 to 2002; 3) the same increase in deductions for investment expenses as the House bill; and 4) prospective repeal of the corporate alternative minimum tax.

Senate Centrist Coalition Stimulus Package

On November 14, a group of Senate centrists proposed, in their words, a "compromise" stimulus package that aims to find a middle ground between the House and Senate Finance Committee economic recovery bills. It includes the basic provisions of both bills – tax relief such as supplemental rebate checks; one-year extension of existing tax credits and special depreciation rules for investment; extended unemployment insurance benefits; and provisions to help pay for health insurance for the unemployed. While this proposal provides more spending to assist low-income workers than the House bill, it fails to include provisions of the Senate Finance bill – such as higher unemployment benefits and more funds for Medicaid – that could have an immediate stimulative effect on the economy in the coming year and assist those families most vulnerable in the economic downturn.

Table 3
HOUSE ECONOMIC RECOVERY BILL (H.R. 3090)
"Economic Security and Recovery Act of 2001"

	Cost in billions		Cost in 2002 as a percent of 10-year cos
	2002	2002-11	
TAX PROVISIONS	99.4	159.4	62
Individual Relief:			
Rebate for low-income workers[1]	13.7	13.7	100
Accelerate the 25 percent income tax rate[2]	12.8	53.7	24
Increase individual AMT exemption amount[3]	0.7	6.3	11
Increase deduction of capital losses[4]	0.8	1.9	42
Reduce and simplify capital gains tax rates[5]	0.5	10.4	5
Business Relief:			
30 percent expensing[6]	39.3	17.9	>100
Expand small business expensing[7]	0.9	0.3	>100
15-year life for leasehold improvements	0.1	7.1	1
Extend loss carryback period[8]	4.7	0.5	>100
Repeal the corporate AMT and fully refund AMT credits	25.4	24.1	>100
Extend deferral of multinational business income (subpart F)	0.3	21.3	1
Extenders, Miscellaneous:			
Extend all expiring provisions for two years, and technical amendments	0.2	2.2	10
NON-TAX PROVISIONS	1.7	4.4	39
Unemployment Insurance:			
Accelerate transfers to state trust funds[9]	0.7	1.4	50
Health Coverage:			
Increase social services block grant	1.0	3.0	33
TOTAL	101.1	163.8	62

Source: Calculations by the Joint Economic Committee Democratic staff. Congressional Budget Office, cost estimate for H.R. 3090 Economic Security and Recovery Act of 2001," October 17, 2001. Joint Committee on Taxation, JCX-70-01: Estimated Budget Effects of a Modified Chairman's Amendment in the Nature of a Substitute to the Revenue Provisions Contained in H.R. 3090, The 'Economic Security and Recovery Act of 2001," October 12, 2001.

Notes to Table 3:

1. Provides a rebate of 300 per individual, 500 per head of household, and 600 per couple for taxpayers filing a tax return in 2000 (excluding dependents). Rebate reduced by the amount of earlier rebate.
2. As scheduled to take effect in 2006.
3. Increase by 1,600 non-joint and 3,200 joint for 2002 and 2003, and by 850 non-joint and 1,700 joint for 2004.
4. Increase deduction against ordinary income from 3,000 to 4,000 for tax year 2001 only, and to 5,000 for tax year 2002 only.
5. Repeal "mark to market" and the 5-year holding period, and allow adjusted net capital gains to qualify for the 8 percent and 18 percent capital gains rates.
6. For investments in capital and software placed in service over next 36 months. Remaining 70 percent depreciated under current rules.
7. Increase from 25,000 to 35,000 the amount that small businesses may expense under Section 179, and increase beginning point for phaseout to 325,000, for 24 months.
8. Extend carryback period from 2 years to 5 years, and waive AMT 90 limitation on allowance of losses, for the next 36 months.
9. A Manager's Amendment to the Senate bill changed the scoring of unemployment benefits. The estimates in the table include the same changes to the House bill.

Table 4

SENATE FINANCE ECONOMIC RECOVERY BILL
"Economic Recovery and Assistance For American Workers Act of 2001"

	Cost in billions		Cost in 2002 as a percent of 10-year cost
	2002	2002-11	
TAX PROVISIONS	37.3	30.3	>100
Individual Relief:			
Rebate for low-income workers[1]	14.2	14.2	100
Business Relief:			
10 percent expensing[2]	14.0	2.2	>100
Expand small business expensing[3]	0.9	0.1	>100
Extend loss carryback period[4]	4.6	0.1	>100
Other Tax Provisions:			
Tax incentives for NYC and distressed areas[5]	1.8	5.3	34
Victims of terrorism tax relief	0.3	0.4	67
Extend certain expiring provisions	1.0	3.1	32
Additional provisions[6]	0.5	4.9	10
NON-TAX PROVISIONS	29.3	40.9	72
Unemployment Insurance:			
Temporarily extend and expand UI[7]	14.9	20.1	74
Health Coverage:			
COBRA subsidy[8]	5.1	7.4	69
Medicaid[9]	1.8	2.8	64
Other Spending:			
Revenue sharing (Enhanced FMAP match)[10]	4.7	5.1	92
Agriculture relief	2.8	5.5	51
TOTAL	66.6	71.2	93

Source: Calculations by the Joint Economic Committee Democratic staff. Congressional Budget Office, cost estimate for H.R. 3090 "Economic Security and Assistance for American Workers Act of 2001," November 15, 2001. Joint Committee on Taxation, JCX-81-01: "Estimated Revenue Effects of H.R. 3090, The 'Economic Recovery and Assistance for American Workers Act of 2001,'" November 9, 2001.

Notes to Table 4:

1. Provides a rebate of 300 per individual, 500 per head of household, and 600 per couple for taxpayers filing a tax return in 2000 (excluding dependents). Rebate reduced by the amount of earlier rebate.
2. For investments in capital assets with lives of 20 years or less, software, leasehold improvements, and property eligible for the income forecast method, placed in service over next 12 months. Remaining 90 percent depreciated under current rules.
3. Increase from 25,000 to 35,000 the amount that small businesses may expense under Section 179, and increase beginning point of phaseout to 325,000, for 12 months.
4. Extend carryback period from 2 years to 5 years, and waive the AMT 90 limitation on allowance of losses, for 12 months.
5. Expand Work Opportunity Tax Credit targeted categories to include certain employees in NYC; authorize issuance of tax-exempt private activity bonds for rebuilding portion of NYC damaged on 9/11/01; bank carrying cost exception for tax-exempt reconstruction bonds; incentive for reinvestment of insurance proceeds received for property damaged in NYC on 9/11/01, to the extent reinvested in eligible NYC property by 1/1/07; re-enact exceptions for qualified mortgage bond financed loans to victims of Presidentially-declared disasters for calendar year 2002; one-year expansion of authority for Indian tribes to issue tax-exempt private activity bonds.
6. Includes tax credit bonds for Amtrak and other tax credits.
7. a) Provide 13 weeks of extended benefits to workers whose regular Unemployment Compensation has expired; b) require states to use most recent earnings data to determine UI eligibility and provide benefits to certain part-time workers; and c) supplement the amount of benefits paid to UC recipients. A Manager's Amendment changed the scoring of unemployment insurance so the ten-year costs are no longer zero as reported in the official CBO estimate.
8. Provide a 75 percent subsidy for purchase of COBRA continuation coverage. Give states the option to use Medicaid funds at the CHIP match rate to subsidize the remainder of the COBRA premium for low-income individuals.
9. Give states the option to cover displaced workers and their families through Medicaid. Fund at the enhanced CHIP matching rate, which pays 70 percent of the cost, on average.
10. "Federal Medical Assistance Percentage" -- increase the rate at which the federal government matches state spending on Medicaid by 1 percent for all states and 2 percent for high-unemployment states.

Table 5
SENATE REPUBLICAN PROPOSAL

	Cost in billions		Cost in 2002 as a percent of 10-year cost
	2002	2002-11	
TAX PROVISIONS			
Individual Relief:			
Rebate for low-income workers[1]	14	14	100
Make 2006 tax rate schedule effective in 2002[2]	27	121	22
Business Relief:			
30 percent expensing[3]	39	18	>100
Repeal corporate AMT[4]	9	22	41
TOTAL	89	175	51

Source: Calculations by Joint Economic Committee Democratic staff. Senate Republican Proposal for Implementation of President's Stimulus Principles, October 30, 2001.

Notes:
1. Provides a rebate of 300 per individual, 500 per head of household, and 600 per couple for taxpayers filing a tax return in 2000 (excluding dependents). Rebate reduced by the amount of earlier rebate.
2. Accelerate the 25 percent, 28 percent, 33 percent, and 35 percent income tax rates scheduled for 2006.
3. For investments in capital and software placed in service over next 36 months. Remaining 70 percent depreciated under current rules.
4. Prospective repeal. Does not allow refunds for past AMT credits.

Table 6
SENATE CENTRIST COALITION PROPOSAL

	Cost in billions		Cost in 2002 as a percent of 10-year cost
	2002	2002-11	
TAX PROVISIONS	62.2	86.4	57
Individual Relief:			
Rebate for low-income workers[1]	14.0	14.0	100
Accelerate 10 bracket expansion in 2002 to 7K/14K	5.0	30.0	17
Accelerate reduction in 27 bracket to 26 in 2002	6.5	27.0	24
Business Relief:			
20 percent bonus depreciation[2]	26.0	4.1	>100
Extend loss carryback period[3]	4.5	0.1	>100
Expand small business expensing[4]	0.9	0.1	>100
Health Coverage:			
Temporary COBRA tax credit[5]	4.7	8.5	55
Other Tax Provisions:			
Extend certain expiring provisions	0.6	2.6	23
NON-TAX PROVISIONS	13.1	16.0	100
Unemployment Insurance:			
Temporarily extend UI[6]	8.1	11.0	74
Other Spending:			
National Emergency Grants[7]	5.0	5.0	100
TOTAL	75.3	102.4	74

Source: Calculations by Joint Economic Committee Democratic staff. Senate Centrist Coalition Stimulus Package, November 14, 2001.

Notes to Table 6:

1. Provides a rebate of 300 per individual, 500 per head of household, and 600 per couple for taxpayers filing a tax return in 2000 (excluding dependents). Rebate reduced by the amount of earlier rebate.

2. The Coalition estimate of the 10-year cost of this provision is 26 billion. This proposal is similar to one in the Senate Finance bill. Using the ratio from the official cost estimate for that bill, the JEC re-estimated the 10-year cost to account for the fact that firms will be able to take fewer deductions in the out years and thus pay more in taxes.

3. Extend carryback period from 2 years to 5 years, and waive the AMT 90 limitation on allowance of losses.

4. Increase from 25,000 to 35,000 the amount that small businesses may expense under Section 179, and increase beginning point of phaseout to 325,000, for 12 months.

5. Refundable tax credit for 50 of COBRA premiums, not to exceed 140 per month for singles and 340 per month for families. Expires December 31, 2002. The Center on Budget and Policy Priorities re-estimated this provision because the estimated cost for the 50 credit in this proposal is higher than that of a 75 grant to individuals in the Senate bill. CBPP estimates the one-year cost as 3.2 billion, 4.6 billion over ten years. ("Centrist Coalition's Disappointing Stimulus Proposal," November 16, 2001, Center on Budget and Policy Priorities.)

6. Provide 13 additional weeks of unemployment benefits to all eligible workers who exhaust their regular unemployment benefits and have an active benefit year. Expires twelve months after enactment of bill. The Coalition estimate of the 10-year cost of this provision is 8 billion. The JEC used the CBO estimate of a similar provision in the Senate bill.

7. Grants to states to help displaced workers maintain health coverage, supplement their income or receive job training. It is unlikely, however, that the full 5 billion would be spent in the first year because states would need time to establish procedures to distribute the funds. Using the CBO estimate of a similar provision in the House bill, it is more likely that only 1.5 billion would be spent in 2002.

A COMPARISON OF THE PROVISIONS IN THE PACKAGES

compare provisions of the Congressional proposals in five areas: tax cuts for families, tax cuts for businesses and corporations, unemployment assistance, health insurance coverage for displaced workers, and revenue sharing with the states.

Tax Cuts for Families and Individuals

The Senate Finance Committee bill provides the most stimulus bang-for-the-buck by targeting all its tax cuts for families and individuals to lower-income households. These households have limited discretionary income and thus will more likely spend any tax rebate to meet basic economic needs. The other three proposals also include tax cuts for higher-income families in addition to the rebate for low-income working families, although the Senate Centrist plan would target three-fourths of its individual tax relief to low-income households. Studies have shown that higher-income households are more likely to save a significant portion of any tax cut they receive. While saving is important for long-term economic growth once the economy has recovered, spending is more important for promoting recovery when the economy is weak.

Tax rebate for lower-income households. This summer's income tax rebates were limited to the amount of a taxpayer's income tax liability based on calendar year 2000 tax returns. Some 17 million households who filed tax returns received less than the full amount of the rebate because of this limitation, while an additional 34 million households failed to qualify for any rebate.

All four proposals would provide rebates to people who filed a 2000 tax return but received only a partial rebate or no rebate at all in the last round. Those eligible include millions of lower-income families who work and pay payroll taxes but had insufficient income tax liability to receive the full income tax rebate in the first round. The rebate would be $600 for married couples, $500 for heads of households, and $300 for singles, less the amount of any rebate previously received, and would cost an estimated $14 billion.

Even though the rebate would represent a one-time tax cut, which economists usually believe is less effective in stimulating consumption than a permanent cut, this particular rebate would be effective stimulus because it is targeted to low-income households who typically are cash-constrained and thus likely to spend a significant fraction of any new source of income.

In addition to the rebate, the House bill would accelerate scheduled income tax rate cuts for taxpayers whose incomes are high enough to put them beyond the 15 percent tax bracket.

In particular, the House bill would accelerate to 2002 the cut in the "28 percent" bracket scheduled for 2004 and 2006. The tax cut passed in June, lowered the 28 percent rate to 27 percent in 2002 and will reduce it further to 26 percent in 2004 and 25 percent in 2006. Accelerating the reduction to 25 percent to next year would cost $54 billion over the next five years—almost four times as much as the rebate for lower-income households. The Senate Republican alternative would go even further, accelerating all of the upper-tax bracket rate reductions. That proposal would cost $121 billion over five years, nearly nine times as much as the rebate for lower-income households.

Proposals for accelerating the tax rate reductions are not only extremely expensive, they are also ineffective stimulus for the economy. The bulk of the benefits go to higher-income households. Accelerating the upper-bracket rate cuts would benefit less than one-fourth of households who file income taxes (and thus an even smaller fraction of all households, including non-filers). These households are much less likely to increase consumption in response to this one-time windfall.

In addition to the rebate, the Senate Coalition plan provides additional tax relief to families with moderate and higher incomes by increasing the income range over which the 10 percent tax bracket—the lowest tax bracket—applies. This change was scheduled to take effect in 2008. All taxpayers pay this rate on part of their income. This change has the desirable effect of lowering the marginal tax rate faced by some households currently in the 15 percent tax bracket, but only households whose income places them in the new 15 percent bracket or above will receive the full tax reduction of $100 for a married couple ($50 for single taxpayers). A married couple with two children, for example, would need income of about $34,000 or more to benefit fully from the proposal. The Centrist plan would also accelerate to 2002 part of the tax rate cut scheduled for 2004, reducing the 27 percent tax rate to 26 percent. This is not as large a tax cut as either in the House bill or the Senate Republican alternative, but would still cost $27 billion—nearly twice the cost of the tax rebate for low-income families.

Tax Cuts for Businesses and Corporations

All four proposals provide incentives for businesses and corporations to increase investment. By targeting most of its tax relief for businesses to these investment incentives, the Senate Finance bill would generate more immediate increases in investment per dollar spent. A higher proportion of the business tax cut provisions in the House bill, by contrast, are either not likely to spur investment at all or else create incentives for investment beyond the first year and thus would be of no help with economy recovery.

Additional depreciation allowances. Corporations and businesses can recover the cost of investments through annual deductions for depreciation. The percentage of the cost deductible in each year depends on the recovery period and the depreciation methods allowed for different types of investments. Generally, the more businesses can deduct in the first year, the greater the tax saving. In terms of cost, proposals to accelerate depreciation lead to revenue losses in the early years, but those costs are made up in later years when businesses take smaller

depreciation deductions than they otherwise would have. There is, however, a net budget cost because the revenue loss in the early years results in increased debt service costs over time.

The Senate Finance bill would allow businesses and corporations an additional first-year depreciation deduction equal to 10 percent of the cost of the investment. This "bonus depreciation" would apply to property placed in service before January 1, 2003. The temporary nature of these provisions increases the stimulative potential while lowering costs–hence, maximizing the "bang per buck." When investment tax cuts are temporary, businesses are more likely to immediately invest and expand production and in turn hire more workers because of the "now or never" nature of the tax cut. Temporary tax provisions geared toward new investment are much more effective at encouraging new economic activity than are permanent reductions in corporate tax rates or other cuts in capital income taxes.

In contrast, the House bill and the Senate Republican alternative would allow businesses an additional first-year deduction of 30 percent, which would apply to new investments for the next 36 months. Because this proposal provides incentives over a longer horizon, it is less likely to induce new investment now. In fact, it may not provide any incentive to increase investment for the next two-years. Given the current uncertain investment climate, businesses can wait until well into 2004 before undertaking new investment, and still receive the full benefits from the additional depreciation deduction. This proposal would also create a disincentive for investment in 2005 once the additional deduction no longer applied. There likely would be substantial pressure to make the provision permanent at that time, an extremely costly option.

The Centrist plan would allow businesses to immediately deduct 20 percent of their investment costs in 2002 rather than the 10 percent proposed by the Finance Committee. The additional depreciation deductions would be applicable to new investment over the next 12 months as in the Senate Finance proposal.

Temporarily extend the loss carryback period from 2 years to 5 years. Businesses and corporations with tax deductions in excess of income can use such "net operating losses" to reduce taxes in other years. In general losses may be carried forward 20 years and carried back 2 years to reduce taxable income in those years.

The Senate Finance Committee bill, the House bill, and the Senate Coalition plan would extend the carryback period for losses from its current 2 years to 5 years. The Senate version would apply to losses incurred for the next year, the House version for losses in the next three years. Temporarily extending the loss carryback period would improve cash flow for corporations and businesses whose profits have slipped during the current economic downturn. Extending the applicable period for the next three years, however, would benefit businesses that continue to show losses, presumably long after the economy has recovered.

Extending the loss carryback period would help formerly profitable businesses with current losses, firms that might otherwise be likely to lay off workers. It would not have a large long-term revenue loss because firms that could deduct current losses now, generally would have been able to carry forward those losses and deduct them in the future when they returned to profitability. Although such a provision fails to provide a direct price incentive to undertake new investment, by improving cash flow for constrained businesses, it could encourage a higher level of production and employment than would have otherwise occurred. There is no guarantee that businesses will use their tax saving in this way, however.

Repeal the corporate alternative minimum tax. Enacted in its present form in the Tax Reform Act of 1986, the corporate alternative minimum tax (AMT) was intended to reduce tax-sheltering activity. It operates parallel to the ordinary corporate income tax, with a broader base and a lower rate. Firms pay the higher of regular tax liability or AMT liability but receive credits for AMT payments in excess of their regular tax liability. They can use these credits to reduce regular taxes owed in future years.

The Senate Finance bill and the Senate Coalition proposal would modify the AMT to prevent businesses from losing the tax saving from the bonus depreciation provisions. The Senate Republican alternative would repeal the corporate AMT going forward, while the House bill would go even further by repealing the AMT and fully refunding credits for past AMT payments.

Reducing or eliminating the corporate AMT would raise returns to existing assets of large corporations without necessarily boosting new investment. With more generous depreciation allowances, for example, firms that stayed on the AMT would face a greater incentive to invest, but firms that would end up back on the regular corporate tax system might actually face less marginal incentive to invest, because their marginal tax rate would have increased (even though their average tax rate would fall). Small businesses would not benefit at all from AMT relief because the Taxpayer Relief Act of 1997 already exempted small firms from the AMT. Large firms also received substantial relief in 1997 when AMT depreciation allowances were made more generous.

Proponents argue that repealing the alternative minimum tax would encourage investment by increasing corporate cash flow. Given that firms currently operate at the lowest capacity utilization since 1983 (currently about 73 percent), it is unlikely that they will undertake new investment to increase output. Efforts to increase consumer demand will likely have a greater immediate impact on new investment than attempts to increase after-tax corporate income.

Expanded Unemployment Insurance Assistance

The Senate Finance bill would extend the duration of unemployment insurance, expand coverage, and increase benefit amounts. The Senate Coalition plan contains some but not all of the provisions in the Finance Committee plan. The House bill provides limited unemployment assistance, while the Senate Republican alternative fails to even address the issue.

In November 2001, 8.2 million people were unemployed, over 400,000 more than in the previous month and over 1.1 more than in September. Another 4.5 million people who wanted full-time work could only find part-time employment. The unemployment rate rose by 0.3 percentage points to 5.7 percent in November, the highest level since August 1995. Since October 2000, when the number of unemployed and the unemployment rate were at their most recent lows, unemployment has risen by 2.6 million and the unemployment rate has gone up by 1.8 percentage points. Since the beginning of the recession in March 2001, the rate has gone up by 1.4 percentage points.

The unemployment rate likely will continue to rise even after the economy begins to recover. For example, during the 1990-1991 recession, the unemployment rate reached 6.8 percent, yet the following year, after the recession had officially ended, the rate climbed to 7.5 percent.

Recipients must be actively looking for work and have been attached to the workforce. Benefits are limited to 26 weeks. In November, over 1.1 million workers had been unemployed for 27 weeks or more. States with high unemployment levels can access the Extended Benefits program, which provides an additional 13 weeks of coverage when one of three specific high unemployment criteria is met. At present, no state meets those criteria.

Unemployment Insurance is an important anti-recessionary government program. Its impact is automatic and immediately counter-cyclical. During periods of increasing unemployment, total earnings decline and consumer spending falls. UI benefits partially replace these lost earnings, thereby lessening the overall decline in consumer spending. Payments fall as the economy recovers and workers are re-employed.

Even in the best of times, the UI program has significant weaknesses that tend to disproportionately affect women, low-wage workers, and part-time workers. First, many workers exhaust benefits, even when conditions fail to trigger payments under the extended benefits program. In 1999, 2.3 million people exhausted their regular unemployment benefits--32 percent of all those receiving benefits in 1999. For the 12 months ending with October 2001, 2.6 million workers had already exhausted their benefits. The number of unemployed who exhaust benefits will likely rise substantially well after the officially defined recession has ended. Although the last recession ended in 1991, 3.9 million people exhausted their regular benefits in 1992.

Second, coverage rates are low in the current UI system, particularly among low-wage and part-time workers. In 1999, only 38 percent those unemployed received benefits. Although about two fifths of unemployed high-wage earners received benefits, less than 20 percent of low-wage ($8.00 an hour or less) earners did so. Even though nearly one in five workers is employed

part-time (35 hours a week or less) part-time workers are not covered in most-states – in fact, 30 states explicitly exclude those looking for only part-time work for UI coverage.

Senate Finance Committee provisions

The Senate Finance Committee bill addresses many of the current limits and weaknesses of the Unemployment Insurance program temporarily expanding coverage and benefits during the recession. The Senate UI proposal comprises four basic provisions: 1) extend unemployment benefits (until December 2002) by 13 weeks to those who exhaust regular benefits after September 11, 2001; 2) expand UI coverage to unemployed workers seeking part-time work and those who would be eligible if their most recent earnings were considered; 3) supplement benefit payments by an additional 15 percent or $25 per week, whichever is greater; and 4) transfer additional funds from the Federal unemployment trust fund accounts to state accounts to cover administrative costs of the above provisions.

The Senate Finance proposal funnels money into the hands of people very likely to use the funds immediately and not divert them into savings. Thus, the money goes almost entirely to support immediate consumer demand and stimulate the economy sooner rather than later. In addition, part-time workers and those who would qualify for benefits only by using more recent earnings tend to earn less than other workers. A portion of the funds, therefore, will be targeted to those likely to have the greater need.

All provisions would be felt immediately through a greater number of people now qualifying for benefits, an increase in payments to all beneficiaries, and additional coverage for those workers who had exhausted regular benefits after September 11, 2001. Because these unemployment provisions are temporary, they do not have long-term costs (apart from additional debt service). Even if they were permanent, the costs would decline as the economy recovers and the number of workers claiming regular and extended benefits falls.

House provisions

The House bill offers very little for unemployed workers. The bill's one UI provision is to speed-up an already-slated transfer of $9.3 billion from the federal unemployment trust fund to the state unemployment accounts, with no restriction on the money's use. The following are some of the problems with such a proposal.

Insufficient size. The accelerated $9.3 billion in transfers likely will prove insufficient to meet the increased demands on the program. Immediately following the last recession, $36.8 billion (in nominal dollars) was spent in 1992 alone for unemployment benefits, including an additional 13 weeks of coverage. During 2000, an estimated $21.5 billion regular and Extended Benefits were paid.

No guarantee of proper use. Since there are no restrictions on the use of these funds, states can conceivably use them to shore up their individual UI accounts and make no additional

benefit payments. In fact, CBO projects that only $700 million of the $9.3 billion would likely be spent in fiscal year 2002.

No immediate impact. Since the funds are to be transferred to the states' accounts for use and dissemination, nearly all states wishing to expand benefits would need to undertake specific legislative action, delaying payment of benefits by at least several months.

Funds not allocated based upon need. The House proposal allocates funds to states in proportion to their UI revenues already raised. Thus, states with stronger economies in recent years will receive more money, while those experiencing higher rates of unemployment will not.

Does not address existing coverage inadequacies. Nothing in the House bill addresses the problem that UI coverage disproportionately misses lower-wage workers in most states by not covering part-time workers and not including the most recent earnings in calculating benefits.

Senate Centrist Coalition proposal

Like the Senate Finance bill, the Senate coalition proposal extends unemployment benefits for an additional 13 weeks. The coalition estimates the cost of this provision to be $8 billion in 2002.

The proposal, however, fails to include some of the additional provisions in the Senate Finance bill such as an increase in unemployment benefits, or broadened eligibility. Currently, many lower-income workers are ineligible for unemployment because they are only seeking part-time work or because the most recent quarter is not used to calculate their eligibility.

Health Insurance Coverage

Sixty-five percent of all Americans get their health insurance coverage through their employer. As unemployment increases, many people will be at increased risk of losing their coverage. The Consolidated Budget Reconciliation Act of 1985 (COBRA) requires employers to offer employees and their families the option of continuing group health insurance coverage in case of termination of employment, reduction in hours, retirement, death of the employee, and divorce or separation. In the event of termination or reduced hours employees can continue coverage for 18 months. In all other events, they can continue it for 36 months. Employers are not required to pay for this coverage.

Just under 60 percent of workers are eligible to continue their health coverage under the COBRA provisions. However, most displaced workers fail to take advantage of this opportunity. In 1999, only 7 percent of unemployed adults elected COBRA coverage. Research shows that high costs are one deterrent to COBRA usage. Costs for those who are unemployed are typically higher than those for workers because the unemployed no longer receive employer subsidies of the premiums. People continuing their coverage under COBRA can pay up to 102 percent of the

cost of the premiums. This expense can be quite steep. In 2001, the average monthly premium for employer-sponsored health insurance plan was $221 for individuals and $588 for families.

Over forty percent of adults and their depends fail to meet eligibility standards for continuing health insurance coverage under COBRA. There are stark differences in eligibility by income. Two-thirds of workers and their dependents with incomes above 300 percent of poverty were eligible for COBRA in 1999, as opposed to only one-third of workers and dependents with incomes below 200 percent of poverty.

These differences may be due to two factors. Lower-income workers are less likely to be offered insurance through their employer.. In 1999, about one-half of workers earning less than $7 per hour were offered employer-sponsored health insurance, as opposed to over 90 percent of workers earning more than $15 per hour. Second, even if offered health insurance, lower- income workers may decline the coverage because they cannot afford their share of the premiums.

Senate Finance Committee provisions

Premium assistance for COBRA health insurance coverage. The Senate Finance committee bill addresses the problem of the high cost of continuing health insurance coverage. Under the bill the federal government would pick up 75 percent of the cost of health insurance premiums for unemployed workers who chose to extend their health insurance coverage under COBRA. Workers who lose their jobs after September 11, 2001 and are eligible for COBRA coverage would receive the 75 percent premium subsidy for up to 12 months, or until the end of calendar year 2002, whichever came first. The bill would also allow state Medicaid programs to subsidize the remainder of the premium for low-income workers eligible for the 75 percent COBRA premium subsidy.

Medicaid coverage for displaced workers not eligible for COBRA. The Senate Finance Committee proposal would temporarily allow states would provide Medicaid coverage for up to 12 months to workers laid off after September 11, 2001 and before December 7, 2002, who are uninsured and not eligible to continue their health insurance coverage under COBRA. The bill would provide full subsidies for workers with incomes of up to 250 percent of the poverty threshold, and reduced assistance for those with incomes up to 450 percent of poverty. All benefits would end by December 31, 2002, regardless of how long a worker had been covered.

Under provisions of the bill, the federal government would pay a portion of the additional Medicaid costs. The federal government normally pays at least 50 percent of the cost of Medicaid in each State, and can pay as much as 83 percent, depending on per capita income in the state. States receive a higher federal payment for expenditures under the State Children's Health Insurance Program (SCHIP). Under SCHIP, the federal government pays at least 65 percent of the cost of the state SCHIP program, and can pay as much as 85 percent. Federal payments for newly covered Medicaid beneficiaries under the Act would be at the enhanced SCHIP rate.

House provisions

The House bill provides only limited funding for health insurance for lower-income unemployed workers. The bill provides a $3 billion increase in funding for the Social Services Block Grant (SSBG) for FY 2002. States may use the additional funds to help unemployed workers who are not eligible for federal insurance programs to purchase health insurance in the private market.

In addition, the House bill would temporarily loosen requirements for unemployed persons to use personal savings to pay health insurance premiums. Specifically, individuals who are eligible for unemployment benefits for four consecutive weeks between September 11, 2001 and December 31, 2002 can make penalty-free withdrawals from their IRA or retirement savings accounts to pay for health insurance costs. Current law limits this tax break to individuals who have been collecting unemployment benefits for at least 12 weeks. HR 3090 would also extend the Medical Savings Account (MSA) demonstration project for one year to December 31, 2003. MSAs are tax-advantaged personal savings accounts for unreimbursed medical expenses, including premiums for high-deductible health insurance.

The problems and limitations of the House proposals for health insurance are similar to the problems with the bill's unemployment insurance provisions.

Inadequate amount of assistance: In 2001, the average annual premium cost of an employer-sponsored health insurance plan for family coverage is $7,000. Premiums in the non-group market would likely be higher, and $3 billion is not sufficient to provide a meaningful subsidy to millions of unemployed and uninsured individuals. The House proposal fails to provide any additional funds for Medicaid, even though state Medicaid rolls are likely to swell with rising unemployment.

No guarantee of proper use: The SSBG is used to fund a variety of social services such as job training, child care and foster care. The House bill stipulates that states may use the additional $3 billion to help people purchase health insurance but it does not require them to use the funds for this purpose.

Limited immediate impact: Currently, states do not use any SSBG funds to help families pay for health insurance. The CBO projects that it would take states several months to set up eligibility criteria and disbursement mechanisms for the new funds. It estimates that only one-third of the allocated funds would be spent in 2002.

Funds not allocated based upon need: SSBG funds are allocated based on state population. This formula does not take into account those regions that have been particularly hard hit by the events of September 11th and the economic downturn. In addition, lower-income workers are less likely to have investments in IRAs or MSAs. Therefore, the bill's tax incentives

for the purchase of health insurance would do little to help the low-income unemployed attain coverage.

Does not address existing coverage inadequacies: Additional funds can give individuals the ability to purchase health insurance but would not guarantee them access to coverage, particularly in the non-group market. In many states, insurers can deny non-group coverage to individuals – or impose extensive exclusions or premium increases – based on pre-existing health conditions. In addition, some insurers require an application fee, further increasing the cost of securing coverage.

Senate Centrist Coalition proposal

The Centrist plan would provide some funds for unemployed workers to continue purchasing health insurance in the private market. The proposal calls for a refundable, advancable tax credit that could be used to pay up to half of the premium costs for COBRA coverage. The Centrists estimate that this provision will cost $4.7 billion in 2002 and $8.5 billion over ten years. While more generous than the House proposal, it would help fewer workers than the Senate plan which would provide a direct subsidy of up to 75 percent of the cost of COBRA premiums. Under the Centrist provision, families would still need to cover 50 percent of the cost of premiums.

Because many low-income workers are not eligible for COBRA, the proposal also includes $5 billion in National Emergency Grants. States can use these funds to help individuals purchase insurance in the private market. As noted previously, however, there are significant obstacles to securing coverage in the private, non-group market even with sufficient funds. In addition, the National Emergency Grants can also be used for job training and income support, not just health insurance.

Like the House proposal, the Centrists plan provides no additional funds for Medicaid. With rising unemployment, more and more people will become eligible for Medicaid coverage. The increase in Medicaid rolls will put further fiscal pressure on states. In addition, many low-income individuals may not be able to afford health insurance in the private market – even with a 50 percent tax credit – and will likely join the ranks of the uninsured. The Senate proposal includes several provisions to help relieve the financial burden on states and help extend health insurance coverage to the low-income unemployed.

State Revenue Sharing

The slowing economy has reduced state revenue growth, in some cases quite sharply. State revenues increased only 2.6 percent in nominal terms between the second quarter of 2000 and the second quarter of 2001, compared with an 11.4 percent increase over the prior year. This was the lowest level of real revenue growth in eight years. So far, the slowdown in revenues is still mild compared with that seen in the last recession, but as the economy weakens further, revenues are likely to continue to fall. Corporate tax collections have taken the biggest hit so far,

but all major components of tax revenue have slowed, including personal income taxes and sales taxes.

This slowdown in revenues potentially has major implications for state budgets in this fiscal year. Almost all states have either constitutional or statutory requirements to maintain balanced budgets, requiring them to reduce spending as revenues slow. This constraint makes it difficult for states to undertake counter-cyclical spending or tax programs themselves, and lessens their ability to respond to the needs of residents particularly hard-hit by the recession. Seven states have already instituted across-the-board spending cuts, and others have implemented hiring freezes and targeted program reductions. Cities and other localities are facing similar budget dilemmas, as both state pass-throughs and revenues from their own sources fall.

Cutting state and local spending or raising taxes during a recession is not a good idea, either as an economic policy or in servicing the needs of those hurt by the downtown. Almost all safety net programs, for example, are administered and often funded at the state or local level. State and local governments are also major employers, and declines in their budgets can translate directly into higher unemployment rates.

The economic downturn will put increased pressure on the Medicaid program, increasing costs for the States. For example, the recent increase in the unemployment rate to 5.7 percent from a low of 4.5 percent as recently as July of this year, could increase the number of people eligible for Medicaid by over 1.5 million and cause state Medicaid expenditures to rise by more than $1.2 billion. If the unemployment rate rose to 6.5 percent, Medicaid enrollment could jump by another 1.6 million people. These increases in enrollments, coupled with rising medical costs, would put pressure on states to cut Medicaid expenditures and leave more people uninsured.

Temporary increase in Medicaid matching rates paid to states. The Senate Finance Committee bill would help states meet rising Medicaid costs from the economic downturn by temporarily increasing the federal Medicaid match rate. A temporary increase in match rates, effective for fiscal year 2002 only, could help states provide needed medical services to unemployed and low-income workers, as well as to the elderly and the disabled.

The federal government normally pays at least 50 percent of the cost of Medicaid in each state, and can pay as much as 83 percent, depending on per capita income in the state. Because Medicaid match rates depend in part on recent state income levels, and many states experienced strong income growth in the period immediately before the current economic downturn, more than half the states will see a reduction in their federal match rate in fiscal year 2002. This will impose additional fiscal stress in states where revenues are already falling and where Medicaid expenditures are likely to increase as unemployment rises.

The bill would allow states in which the federal matching rate is scheduled to fall in fiscal year 2002 to retain their fiscal year 2001 rate. States in which the match rate is scheduled to rise in fiscal year 2002 would shift to the higher rate. The matching rate in all states would increase by 1.5 percent. The rate would increase by an additional 1.5 percent--for a total increase of 3.0 percent--in states with higher unemployment rates than the national average for a three-month period.

DO THE PACKAGES MEASURE UP TO THE PRINCIPLES?

While it is important to compare the individual provisions of different economic recovery packages, it is also worthwhile to evaluate the proposals in their entirety. The principles set forth by the House and Senate Budget Committees call for an economic recovery package that will have a rapid and substantial impact on the economy, yet maintain a level of budget discipline. The Senate Finance proposal comes much closer than the others to meeting these principles.

Rapid Impact:

The Senate Finance proposal is the only package that focuses almost all its stimulus on 2002, when the economy will be weakest. Tax and spending provisions in 2002 would account for just less than 90 percent of the cost of the package over the next four years, and 93 percent of the total cost over ten years (see Table 7). The Senate coalition plan would concentrate almost three-fourths of its stimulus in 2001.

In contrast, the House bill and the Senate Republican alternative would concentrate more of their stimulative effect in 2003 through 2005. The House proposal would spend less than half of its total four-year cost in 2002. The Senate Republican proposal would spend only about one-third of the four-year cost in the first year. With this delayed impact, these proposals run the risk of creating stimulus when the economy is already well into a recovery and thus forcing the Federal Reserve to raise interest rates in the future as a hedge against inflation.

Short Duration:

Stimulus needs to be not only quick but also temporary. In order to balance the need for short-term stimulus with the importance of long-term budget discipline, a stimulus plan should limit the amount of multi-year budget effects. The Senate Finance bill primarily contains tax and spending provisions that expire at the end of 2002. The House bill and the Senate Republican proposal are almost entirely composed of permanent tax cuts, or "temporary" provisions that last for 3 years or more. The Senate coalition plan contains both provisions that expire in 2002 and those that last for a number of years.

Table 7
Percent of the Total Stimulus in the First Year

	Cost in billions			Cost in 2002 as percent of 4-year and 10-year cost	
		2002-05	2002-11	2002-05	2002-11
House Bill	101.1	214.8	163.8	47	62
Senate Finance Bill	66.6	74.5	71.2	89	93
Senate Republican Alternative	89.0	244.0	175.0	36	51
Senate Centrist Coalition Alternative	75.3	-	102.4	-	74

Source: Compiled by the Joint Economic Committee Democratic staff.

Notes:
The total cost of the Senate Centrist Coalition Alternative for 2002-2005 is not available.

Targets:

One of the core objectives of the economic recovery package is to "help those most vulnerable in an economic downturn." To that end, all four stimulus plans include a tax rebate for low-income workers who did not receive a full rebate last summer. However, the House bill, the Senate Republican alternative, and the Senate Coalition plan also include tax breaks for high-income individuals. The Senate Republican proposal would spend twice as much on the high-income tax break as on the rebate for low-income workers in 2002, and over nine times as much over ten years. These high-income tax breaks violate the pledge to help those most in need. They are also inefficient in terms of stimulus because research has shown that lower-income individuals are much more likely to spend a tax rebate than higher-income individuals.

The Senate Finance bill also provides more extensive help to the most vulnerable workers through increased and expanded unemployment and health insurance benefits. Over 20 percent of the Senate Finance bill's cost in 2002 would be spent on expanded unemployment benefits for people who lost a job after September 11, and an additional 10 percent on health insurance coverage for people displaced workers (see Table 8). Just less than one-fourth of the cost of the Senate coalition plan in 2002 would be spent on unemployment assistance, health insurance, and worker training. The House bill provides only limited funds for these provisions, while the Senate Republican bill provides no assistance for these needs.

The House bill and the Senate Republican alternative target more than half of their stimulus in 2002 toward business tax cuts. A large portion of that tax relief, however, is not targeted to new investment. In contrast, nearly all the business relief in the Senate Finance bill

provides temporary incentives for new investment.

Offsets:

None of the proposals offset the cost of immediate recovery with future spending reductions or tax increases. All the plans would add to the federal budget deficit now projected for the near future. The Senate Finance Committee proposal, however, would limit the impact on the deficit to about $75 billion over the next four years, while the House bill and the Senate Republican alternative would each add well over $200 billion to the deficit in 2002-2005.

Table 8
Distribution of Tax Relief and Spending Within Each Package

	PERCENT OF TOTAL COST IN 2002			
	House bill	Senate bill	Senate Republican Proposal	Senate Centrist Coalition
TAX PROVISIONS				
Individual Relief:				
Rebate for low-income workers	13.6	21.4	15.7	18.6
Expand 10 percent income tax bracket	-	-	-	6.6
Rate cuts and other benefits for higher- income taxpayers	14.6	-	30.3	8.6
Business Relief:				
Incentives for new investment	39.9	22.4	43.8	35.7
Other tax cuts for businesses	30.1	6.9	10.1	6.0
Other Tax Provisions:				
Tax incentives for NYC and victims of terrorism tax relief	-	3.2	-	-
Extenders and other provisions	0.2	2.3	-	0.8
NON-TAX PROVISIONS				
Assistance for Displaced Workers:				
Unemployment insurance	0.7	22.4	-	10.8
Health insurance coverage	1.0	10.4	-	-
Other Spending Provisions:				
Revenue sharing with the states	-	7.1	-	6.6
Other spending	-	4.2	-	-

Source: Calculations by the Joint Economic Committee Democratic staff.

HOW MUCH STIMULUS WOULD THE PROPOSALS PROVIDE?

To gauge the impact on the economy of the proposals, the Joint Economic Committee Democratic staff simulated the effect of different provisions using the Washington University Macroeconomic model described earlier. These simulations suggest that the supplemental rebate and increased transfer payments to dislocated workers are especially potent and cost effective ways of boosting real (inflation-adjusted) gross domestic product (GDP) over the short term. These results support the position that targeting the stimulus to those most vulnerable to the economic downturn is also sound economic and budget policy.

Table 9 details the results of the simulations. The JEC Democratic staff examined eight alternative forms of fiscal stimulus:

- An individual income tax rebate for those lower-income taxpayers who did not receive any rebate this past summer.
- Accelerate to 2002 the reduction in the 27 percent income tax rate to 25 percent scheduled to go into effect in 2006.
- Accelerate to 2002 the entire schedule of individual income tax rate reductions scheduled for 2006.
- Allow businesses an additional first-year depreciation deduction of 30 percent of their equipment purchases for 24 months.
- Repeal the corporate AMT.
- Repeal the corporate AMT and refund past AMT credits.
- Extend unemployment insurance coverage.
- Extend health insurance coverage for displaced workers.

Except for the depreciation deduction, each of these is an element of at least one of the proposed fiscal stimulus packages that lawmakers are now considering.[1] All of the policies were assumed to commence in the first quarter of 2002.

The simulations assume that the Federal Reserve responds to the alternative fiscal policies by holding nonborrowed reserves fixed at their baseline levels. That means that the central bank is willing to allow the fiscal alternatives to boost demand but that it would not counteract any demand-induced increases in short-term rates. That monetary policy assumption is less restrictive than the Taylor rule policy under which the Federal Reserve attempts to keep

1 The JEC staff did not simulate the bonus depreciation proposal, which is a hybrid of actual proposals. The simulations reported in the text were published by Macroeconomic Advisers LLC in their *Economic Outlook* (volume 19, number 10, November 14, 2001). That study examined an expensing provision that lay between the 10 percent expensing for 12 months in the Senate Finance Committee bill and the 30 percent expensing for 36 months in the House bill and the Senate Republican alternative. Few macroeconomic models have the type of structure needed to simulate a temporary investment incentive. Accordingly, most of the calculations of the investment response must be calculated outside the model—using subjective assessments as to how rapidly firms will respond—and then introduced as exogenous adjustments in the macroeconomic model. That is what Macroeconomic Advisers did in developing estimates of the effects of their expensing alternative on GDP.

output and inflation in line with its own targets. By the same token, the monetary response assumed here is probably more restrictive than having the central bank fix the federal funds rate at baseline levels. The fixed nonborrowed reserves assumption seemed most reasonable for the current experiment, because the central bank has expressed its interest in seeing some fiscal stimulus.

The rebate was the single most effective stimulus over the near term, raising real GDP by 0.4 percent (on an annual basis) in the first quarter and 0.5 percent in the second through fourth quarters (see Table 9). The rebate was introduced into the model as a one-time increase in federal transfer payments to reflect its targeting to lower-income recipients. On average, lower-income households have a higher marginal propensity to consume out of additional income.

The same logic held true for those provisions that would increase spending for unemployment and health insurance. The rebate was more effective than those other spending programs over the near term because the rebate was spent entirely during the first quarter of 2002.

Other policies were not nearly as cost effective or else provided little stimulus in the near term. The tax rebate provided more than thirteen times the increase in GDP in the first year per dollar of ten-year revenue cost as accelerating all the individual income tax rate cuts scheduled for 2006 to 2002. Accelerating to 2002 just the reduction in the 27 percent rate to 25 percent was not as cost effective as the spending proposals. Even though that option produced about the same first year impact on GDP, the total cost was more than twice as high. The corporate tax reductions (the AMT provisions) are very ineffective stimulants. The refunding of past credits is a windfall gain to qualifying businesses, and extremely unlikely to induce increased capital spending.

It is likely that temporary expensing for 12 months would be more stimulative over the near term than the 24-month alternative presented here because businesses would have a limited window over which to make new investment. Moreover, temporary expensing for 36 months almost certainly would be less stimulative in 2002 (the appropriate window for stimulus) than a similar 12-month incentive. The temporary expensing incentives encourage businesses to move forward their expenditures on equipment. However, within the period the incentive is in place, businesses also have good reasons to wait as long as they can before investing. Introducing new capital is costly and often irreversible—as such, businesses would value the option of waiting to invest. For this reason, it is desirable that expensing incentives intended as temporary fiscal stimulus have as narrow a window as is practical.

Table 9
NEAR-TERM ECONOMIC EFFECTS OF ALTERNATIVE STIMULUS POLICIES

	Total 10-Year Cost at Baseline Level of GDP (billions of dollars)	RESPONSE AT END OF THE QUARTER (Percentage increase in real GDP)			
		First	Second	Third	Fourth
TAX OPTIONS					
Individual Income Tax					
Supplemental rebate	14.2	.4	.5	.5	.5
Accelerate the 25 percent income tax rate	53.7	.1	.1	.2	.2
Accelerate all of the 2006 rate reductions	121.0	.2	.3	.3	.4
Corporate Income Tax					
30 percent bonus depreciation for 24 months[1]	-	0	.1	.1	.2
Repeal corporate AMT	22.0	0	0	0	0
Repeal corporate AMT and refund past credits	24.1	0	0	.1	.1
SPENDING OPTIONS					
Extend unemployment insurance[2]	20.1	.1	.2	.2	.1
Extend health insurance coverage for displaced workers[3]	10.2	.1	.1	.1	.1

Source: Simulations by the Joint Economic Committee Democratic staff using the Washington University Macroeconomic Model. Expensing simulation published by Macroeconomic Advisers, LLC, *Economic Outlook*, Volume 19 (Number 10), November 14, 2001.

Notes:

1. The ten-year budgetary costs of the depreciation proposal were not available. The first year cost as simulated in the model was 33 billion. Unlike the other proposals examined here, the depreciation proposal shifts current tax liabilities into the future, yielding little long-run budgetary impacts (aside from debt service costs).
2. Simulation uses the unemployment proposal in the Senate Finance bill: extending unemployment benefits, raising benefits, and widening the scope of eligible workers.
3. Simulation uses the health insurance proposals in the Senate Finance bill: 75 COBRA subsidy, temporary Medicaid coverage, and Medicaid-funded COBRA subsidy for low-income workers. It does not include the increased Medicaid Federal Medical Assistance Percentage (FMAP) for 2002.

APPENDIX A: A Payroll Tax Holiday

Senators on both sides of the aisle recently have expressed interest in the idea of a payroll tax holiday as a vehicle for putting more income in people's pockets. Both workers and employers would be exempt from the Social Security payroll tax for one month. Currently, workers and employers each pay 6.2 percent of earnings up to $80,400. For an individual making $40,000 a year, the holiday would increase their take-home pay by $207. The employer would also save the same amount.

The proposal is based on legislation (S.1717) introduced by Senator Pete Domenici (R-New Mexico), along with Senators Christopher Bond (R-Missouri) and William Frist (R-Tennessee), on November 16, 2001. In a press release, Senator Domenici estimated that the payroll tax holiday would pump $40 billion into the economy quickly.

Under the Domenici plan, the Social Security trust fund would not lose tax revenue because of the payroll tax holiday. Funds from general revenues would be transferred to the trust fund to make up for the one-month loss of contributions. The holiday would also be disregarded in calculating individuals' Social Security benefits in the future.

Impact on Lower Income Workers

All workers, except those with earnings above the taxable maximum, would keep an additional 6.2 percent of their earnings. The dollar amount of the tax saving would be greater for higher-income workers. For example, a worker earning $80,400 or more would take home an additional $415 while a worker earning $20,000 would take home an additional $103. As it is currently written, the Domenici plan does not specifically target the payroll tax holiday to lower- and middle-income workers. However, the original proposal would have set the holiday for December 2001, when most higher-income workers would have already earned more than the taxable maximum of $80,400. Because they would not pay any payroll tax in December, they would get no benefit from the payroll holiday. If the proposal went into effect in January, and if there were no change in the way the holiday was implemented, higher-income workers would receive the maximum dollar tax saving. A payroll tax holiday is far less concentrated on lower-income workers than the tax rebate in the current congressional proposals.

Tax Break for Businesses

The Domenici bill gives a tax break to businesses because employers are also exempted from paying their portion of the payroll tax. While economists believe that workers bear the burden of employer payroll taxes over the long-term through lower wages, it is unlikely that the tax saving from a one-month payroll tax holiday would pass through to employees. This tax break probably will not have a significant short-run impact on the economy. The tax holiday is a one-time tax break for employers and it is not tied to any requirements (e.g. new business investment). Therefore, employers have no incentive to spend the money quickly or invest in significant new spending on new hires or equipment.

Implementation Problems

There are some serious implementation issues that might make this proposal infeasible. According to the American Payroll Association, it could take up to six months to properly educate all employers about the holiday and allow for the necessary changes to be made in payroll software. It takes one to two months for employers to make the necessary software adjustments just for a tax rate change. The software changes needed to suspend Social Security taxes for one month would be much more extensive due to the stringent reporting requirements. In addition, the December timing of the Domenici bill brings further complications because payroll administrators would also be handling W2 forms and other end-of-the-year administrative duties at the same time. The time lag necessary to implement the payroll holiday means that it is likely not the best method for short-term economic stimulus.

APPENDIX B. Economic Stimulus Proposals Side-by Side

	House Bill	Senate Finance Proposal	Senate Republican Proposal	Senate Centrist Proposal
Individual Tax Provisions				
Rebate for Low-Income Workers	Provide rebate of $300 per individual, $500 per head of household, and $600 per couple for taxpayers who filed a tax return in 2000; rebate reduced by the amount of previous rebate. **Cost FY 02: $13.7 billion** **10 Year: $13.7 billion**	Provide rebate of $300 per individual, $500 per head of household, and $600 per couple for taxpayers who filed a tax return in 2000; rebate reduced by the amount of previous rebate. **Cost FY 02: $14.2 billion** **10 Year: $14.2 billion**	Provide rebate of $300 per individual, $500 per head of household, and $600 per couple for taxpayers who filed a tax return in 2000; rebate reduced by the amount of previous rebate. **Cost FY 02: $14 billion** **10 Year: $14 billion**	Provide rebate of $300 per individual, $500 per head of household, and $600 per couple for taxpayers who filed a tax return in 2000, rebate reduced by the amount of previous rebate. **Cost FY 02: $14 billion** **10 Year: $14 billion**
Tax Bracket Acceleration	Accelerate to 2002 the 25% individual income tax rate scheduled for 2006. **Cost FY 02: $12.8 billion** **10 Year: $53.7 billion**	No Provision	Accelerate to 2002 the 25%, 28%, 33%, and 35% individual income tax rates scheduled for 2006. **Cost FY 02: $27 billion** **10 Year: $121 billion**	Accelerate to 2002 the 26% individual income tax rate scheduled for 2004. The rate will fall to 25% in 2006 as scheduled. **Cost FY 02: $6.5 billion** **10 Year: $27 billion** Accelerate to 2002 the widening of the 10% individual income tax bracket to $14,000 for married couples and $7,000 for singles, scheduled for 2008. **FY 02 Cost: $5 billion** **10 Year: $30 billion**
Capital Gains Cut	Reduce the 10% and 20% tax rates on long-term capital gains to 8% and 18%, respectively. Repeal the 5-year holding period rule and the election to "mark to market." **Cost FY 02: $500 million** **10 Year: $10.4 billion**	No Provision	No Provision	No Provision
Increase Individual AMT Exemption	Increase the individual AMT exemption amount to $52,200 for joint returns and to $37,350 for non-joint returns in 2002 and 2003, and to $50,700 and $36,600 in 2004. **Cost FY 02: $700 million** **10 Year: $6.3 billion**	No Provision	No Provision	No Provision

	House Bill	Senate Finance Proposal	Senate Republican Proposal	Senate Centrist Proposal

Increase Deduction of Capital Losses	Increase maximum deduction of capital losses against ordinary income from $3,000 to $4,000 for tax year 2001, and to $5,000 for tax year 2002. **Cost FY 02: $800 million** **10 Year:$ 1.9 billion**	No provision	No Provision	No Provision
Individual Tax Total	Cost FY 02: $28.5 billion 10 Year: $96 billion	Cost FY 02: $14.2 billion 10 Year: $42 billion	Cost FY 02: $41 billion 10 Year: $135 billion	Cost FY 02: $25.5 billion 10 Year: $71 billion

	House Bill	Senate Finance Proposal	Senate Republican Proposal	Senate Centrist Proposal
Business Tax Provisions				
Bonus Depreciation	Allow additional first-year depreciation deduction of 30% for investments in capital and software placed in service over the next 36 months. Remaining 70% depreciated under current rules. **Cost FY 02: $39.3 billion** **10 Year: $17.9 billion**	Allow additional first-year depreciation deduction of 10% for investments in capital assets with lives of 20 years or less, software, leasehold improvements and property eligible for the income forecast methods, placed in service over the next 12 months. Remaining 90% depreciated under current rules. **Cost FY 02: $14.0 billion** **10 Year: $2.2 billion**	Allow additional first-year depreciation deduction of 30% for investments in capital and software placed in service over next 36 months. Remaining 70% depreciated under current rules. **Cost FY 02: $39 billion** **10 Year: $18 billion**	Allow additional first-year depreciation deduction of 20% for investments in capital and software placed in service over the next 36 months. Remaining 80% depreciated under current rules. **Cost FY 02: $26 billion** **10 Year: $4.1 billion**
Extend Loss Carryback Period	Extend the net operating loss carryback from 2 to 5 years for losses suffered between September 11, 2001 and September of 2004 and waive AMT 90% limitation on allowance of losses, for the next 36 months. **Cost FY 02: $4.7 billion** **10 Year: $500 million**	Extend carryback period from 2 to 5 years and waive AMT 90% limitation on allowance of losses for 12 months. **Cost FY 02: $4.6 billion** **10 Year: $100 million**	No Provision	Extend the carryback period from 2 to 5 years for losses between September 11, 2001 and September 2004 and waive AMT 90% limitation on allowance of losses. **Cost FY 02: $4.5 billion** **10 Year: $100 million**
Corporate AMT	Repeal the corporate AMT and fully refund AMT credits. **Cost FY 02: $25.4 billion** **10 Year: $24.1 billion**	No Provision.	Prospective repeal. Does not allow refunds for past AMT credits. **Cost FY 02: $9 billion** **10 Year: $22 billion**	No Provision
Expand Small	Increase from $25,000 to $35,000 the amount that small businesses may expense under Section 179 and	Increase from $25,000 to $35,000 the amount that small businesses may expense under Section 179 and	No Provision	Increase from $25,000 to $35,000 the amount that small businesses may expense under Section 179 and increase beginning

Business Expensing	increase beginning point for phaseout to $325,000 for 24 months. **Cost FY 02: $900 million** **10 Year: $300 million**	increase beginning point for phaseout to $325,000 for 24 months. **Cost FY 02: $900 million** **10 Year: $100 million**		point for phaseout to $325,000 for 24 months. **Cost FY 02: $900 million** **10 Year: $100 million**
Leasehold Improvement	Allows improvements on leased properties to be deducted on a 15-year depreciation schedule, 24 years shorter than the current law. This applies to improvements made on leased properties after September 11, 2001. **Cost FY 02: $100 million** **10 Year: $7.1 billion**	Included in expensing provision.	No Provision	No Provision

	House Bill	Senate Finance Proposal	Senate Republican Proposal	Senate Centrist Proposal
Extend Deferral of Multinational Business Income (subpart F)	Permanently extends current temporary exemption from subpart F rules for "active financing" multi-national corporations, which include banking, insurance, and financing. **Cost FY 02: $300 million** **10 Year: $21.3 billion**	No Provision	No Provision	No Provision
Additional Provisions	No Provision	Includes $9 billion of Amtrak tax credit bonds for one year and a broadband internet access tax credit for one year **Cost FY 02: $500 million** **10 Year: $4.9 billion**	No Provision	No Provision
Extend Certain Expiring Provisions	Extend expiring tax provisions and technical amendments. **Cost FY 02: $200 million** **10 Year: $2.2 billion**	Extend certain expiring tax and trade provisions **Cost FY 02: $1 billion** **10 Year: $3.1 billion**	No Provision	Extend certain expiring tax provisions. **Cost FY 02: $600 million** **10 Year: $2.6 billion**
Tax incentives for NYC and Victims of Terrorism Tax Relief	No Provisions	Provide tax relief for victims of Sept 11 and Oklahoma City terrorist attacks; and allows an employer wage credit of up to $4,800 per employee per taxable year in the New York Recovery Zone; authorize tax-exempt private activity bonds for rebuilding in the area; provide incentives for reinvestment in New York City; and other provisions. ***Cost FY 02: $2.1 billion*** ***10 Year: $5.7 billion***	No Provision	No Provision
Business Tax Total	Cost FY 02: $700 billion 10 Year: $34 billion	Cost FY 02: $3.1 billion 10 Year: $16 billion	Cost FY 02: $3.6 billion 10 Year: $46 billion	Cost FY 02: $32 billion 10 Year: $8.0 billion
TAX TOTAL	Cost FY 02: $49.2 billion 10 Year: $154 billion	Cost FY 02: $5 billion 10 Year: $30 billion	Cost FY 02: $9 billion 10 Year: $175 billion	Cost FY 02: $7.5 billion 10 Year: $73 billion

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	House Bill	Senate Finance Proposal	Senate Republican Proposal	Senate Centrist Proposal
Non-Tax Provisions				
Unemployment Insurance	Accelerate transfers from federal unemployment accounts to the states, including an immediate transfer of $9.3 billion that states would have received in 2003-2005. **Cost FY 02: $700 million** **10 Year: $1.4 billion**	Extend benefits 13 weeks for those who have exhausted regular benefits; require states to use most recent earnings data to determine UI eligibility and provide benefits to certain part-time workers; temporary federal supplement to UI benefits of 15% or $25 per week, whichever is higher; ends 12/31/02 **Cost FY 02: $14.9 billion** **10 Year: $20.1 billion**	*No Provision*	Extends benefits up to 13 weeks to all eligible workers who have exhausted their regular benefits and have an active benefit year. Expires 12 months after enactment. **Cost FY 02: $8.1 billion** **10 Year: $11 billion**
COBRA	COBRA assistance could be provided from Social Service Block Grant funds (see below).	75% Federal subsidy for COBRA premiums for individuals who are COBRA eligible and have become unemployed after Sept. 11; premium assistance would be provided for up to 12 mo., expires 12/31/02 **Cost FY 02: $5.1 billion** **10 Year: $7.4 billion**	No Provision	Advanceable, refundable tax credit for purchase of COBRA coverage; credit worth 50% of premium costs, not to exceed a total of $140/month for single coverage and $340/month for family coverage; expires 12/31/02 **Cost FY 02: $4.7 billion** **10 Year: $8.5 billion**
Medicaid	No Provision	Allows states: 1) to offer short-term Medicaid coverage to those unemployed after Sept. 11 and are ineligible for COBRA, coverage would be available for 12 mo. at the time of enrollment, but would terminate after 12/31/02, states would receive CHIP match to provide coverage; 2) for workers below 200 percent of the federal poverty level, states can choose to subsidize, through Medicaid, the portion of COBRA that is not covered by the 75% federal subsidy **Cost FY 02: $1.8 billion** **10 Year: $2.8 billion**	No Provision	No Provision
Health Coverage and Training	Increase Social Services Block Grant for one year, funds can be used for health insurance assistance or other assistance to unemployed workers. **Cost FY 02: $1 billion**	No Provision	No Provision	Fund National Emergency Grants to states to use for worker training for unemployed. **Cost FY 02: $5 billion** **10 Year: $5 billion**

	10 Year: $3 billion			
	House Bill	**Senate Finance Proposal**	**Senate Republican Proposal**	**Senate Centrist Proposal**
Revenue Sharing (Enhanced FMAP match)	No Provision	States in which the federal Medicaid matching rate in FY '02 would be "held harmless" and retain their FY 01 matching rate, states in which the rates are rising would shift to the FY02 rate; all states would receive federal Medicaid matching rate increase of 1.5%; states with higher than average unemployment rate over the past three months would receive an additional 1.5% increase-to a total of 3.0%; for FY 02 only **Cost FY 02: $4.7 billion** **10 Year: $5.1 billion**	No Provision	No Provision
Agriculture Relief	No provision	Provide disaster assistance to crop and livestock producers, loans and grants for rural development and other provisions **Cost FY 02: $2.8 billion** **10 Year: $5.5 billion**	No Provision	No Provision
Net Tax Provisions Total	Cost FY 02: $1.6 billion 10 Year: [illegible] billion	Cost FY 02: $29.6 billion 10 Year: $40.4 billion	No new tax provisions	Cost FY 02: $1.8 billion 10 Year: $2.5 billion
Total Stimulus	FY 02 Total: $101 billion 10 Year Total: $638 billion	FY 02 Total: $60 billion 10 Year Total: $79 billion	FY 02 Total: $52 billion 10 Year Total: $128 billion	FY 02 Total: [illegible] billion 10 Year Total: $102 billion

Economic Stimulus: General Principles and Options

October 17, 2001

EXECUTIVE SUMMARY

The events of September 11th have taken a toll on the economy as well as the nation. With the country now closer to the brink of recession, President Bush and Congressional leaders have agreed to craft an economic stimulus package in an effort to spark the faltering economy.

In general, the design of a stimulus package should be focused on two objectives. First, it should have a rapid impact that injects spending into the economy, shores up business and consumer confidence, and assists those most vulnerable to an economic slowdown as quickly as possible. At the same time, however, an economic stimulus package should recognize the importance of fiscal discipline over the long-term to economic growth. Thus, measures to stimulate the economy should be limited in time, so that as the economy recovers, the budget can come back into substantial surplus.

If the stimulus is sizeable but comes too late–in other words, after the economy has started to recuperate–it can do harm to the economy by creating new inflationary pressures without much offsetting benefit. If tax cuts or other stimulus measures do not generate new spending while economic performance is sub-par, they are an ineffective waste of budgetary resources.

This report assesses a variety of stimulus proposals in light of their impacts on the economy and the degree to which they have a stimulative effect. The cost estimates attached to each proposal are preliminary. The estimates were prepared by the Democratic staff of the Joint Economic Committee or taken from published estimates by the Joint Committee on Taxation, to facilitate discussion of alternative proposals estimated on a consistent basis.

Overall, measures that increase consumer incomes directly are likely to have the greatest impact on short-run consumer spending, and therefore will stimulate the economy most quickly and effectively. Spending proposals have an important place in any stimulus package, because they can often be implemented fairly quickly, can be turned off when they are no longer needed, and can be targeted to those most affected by the recession.

Proposals involving spending on safety net programs such as Unemployment Insurance and the Food Stamp Program benefit those likely to be hurt most by a recession and decline automatically in size as the unemployment rate and the poverty rate fall during recovery. Discretionary spending proposals on infrastructure programs or for purposes such as revenue sharing with states are even easier to reduce, simply by appropriating fewer funds in years when the need is less.

The relative merits of alternative tax stimulus proposals depend heavily on their likely effects on short-term consumption. Consumer spending was the key reason that the economic slowdown prior to September 11th was not a full-scale recession. Now that consumer confidence is shaken, consumer spending is much more likely to fall. While some tax stimulus options would target business investment, it is highly questionable whether businesses will want to undertake new investment while business inventories remain high, capacity utilization is low, and consumer demand looks so weak. Boosting consumption would give business more reason to invest and actually could provide a greater stimulus to investment than a cut in the effective tax rate on investment. Moreover, investment incentives are usually targeted to particular types of capital or particular industries, creating preferences that are not necessarily justified given a general slowing of the economy.

One way to encourage greater short-term consumption would be to direct more of any new tax cut toward lower-income households who out of necessity spend larger fractions of their income. Because only households who paid federal income taxes received the rebate, many lower-income families who work and pay payroll taxes were left out.

The events of September 11th have increased pressures to spend more of the short-run federal budget, and have made it more appropriate to allow some budget deficit in the near term. The long-term pressures on the government budget due to the impending retirement of the baby boomers have not gone away, however.

Eventually, money spent on stimulus now should be offset in the future, in order to maintain the long-run growth of the economy and allow us to meet our future needs. Further, if a stimulus package is seen as committing large amounts of public funds out in the future (long after the economy will have recovered), markets will react by pushing longer-term interest rates up. This in turn would have a depressing effect on *current* economic activity. Therefore, implementing permanent policies for the sake of short-run stimulus is likely to prove counter-productive.

A relatively easy way to "pay for" the short-run stimulus package over time (and after the economy recovers) is by "freezing" portions of the tax cut a few years from now, at a less-than-fully-phased-in level. Such a strategy would preserve the long-term strategy of maintaining fiscal discipline, while reducing the scheduled tax cut only for the two percent of Americans with the highest incomes.

INTRODUCTION: THE NEED FOR STIMULUS

The terrorist attacks of September 11 have affected our nation in a wide variety of ways. One significant effect has been a sharp blow to our economy. While our long-term growth prospects remain strong, it now looks as though the country may go through a period of economic weakness and rising unemployment before we regain our economic footing and once again are growing strongly. A well-designed economic stimulus package can play an important role in mitigating that weakness and promoting a rapid recovery. In the short run, such a package may well push the budget into deficit. But as long as we are careful to enact an economic stimulus package that has its maximum impact in the short run and does not undermine long-term fiscal discipline, we can afford to take the measures necessary to defend the country and get the economy moving again.

The economy was already weak at the time of the terrorist attacks. Growth in GDP had been slowing, and was only 0.3 percent in the second quarter. The unemployment rate, which had been close to 4 percent for all of 2000, had increased to 4.5 percent in the spring and then to 4.9 percent in August. Factory operating rates plunged to their lowest levels since 1983, as producers of computers, semiconductors, and communications equipment are operating with more idle capacity than ever before. Domestic and foreign demands for U.S.-produced capital goods plummeted in the second quarter of the year.

Some observers predicted that a turnaround in economic activity was imminent, but the shock to the economy from the terrorist attacks dashed hopes for a quick revival. Comprehensive government statistics on the state of the economy are published with a lag, but there was abundant evidence that economic activity stalled in the immediate aftermath of the attacks. The latest unemployment report, based on data from the week of the attacks and therefore not representative of any subsequent effects, showed a sharp drop in payroll employment of almost 200,000 jobs. Since September 11, businesses have announced more than 100,000 layoffs, and new claims for unemployment insurance have surged. Moreover, preliminary estimates indicate that retail sales declined in September by far more than most analysts had predicted.

The consensus forecast anticipates that the economy will contract in the third and fourth quarters. Recovery is expected in 2002, but the shock to business and consumer confidence has been substantial, and the downside risks, particularly for household spending and exports, are real. Ongoing surveys of households report that a majority of consumers expect job and income prospects to worsen.

The key to achieving a rapid recovery is to bolster incomes. When cash-strapped households cut back on their spending, businesses will face falling sales and will be reluctant to invest. That would further lower incomes, initiating a downward spiral of economic activity. The traditional remedy in such a case is economic stimulus. The Federal Reserve has been providing such stimulus through the year with a succession of interest rate cuts. But the President and the Congress are nearing agreement that more stimulus will be required. We have already taken actions to provide some of that stimulus through emergency recovery spending and the actions taken to assist the airline industry. These measures alone will provide and additional $40 billion of spending in 2002.

At this point, there is still a lack of hard information as to how much additional stimulus is needed. Yet, for it to be most effective, the stimulus must be decided upon and implemented as rapidly as possible. As a result, a stimulus package will necessarily entail risks that the amount of federal government support will turn out to have been insufficient, on the one hand, or too generous on the other. If the stimulus is too small, it would fail to keep the economy from slipping into the downward spiral. If the stimulus were too large, it could boost demand so much that prices would rise and the inflation rate would move upward. In that case, the Federal Reserve would be under pressure to reduce, if not reverse, its stimulus much sooner than anyone had expected, leaving it to work against the fiscal stimulus and further disrupting economic activity. The fiscal stimulus should be crafted so as to minimize those risks.

GENERAL PRINCIPLES FOR A STIMULUS PACKAGE

In general, the design of a stimulus package should be focused on two objectives. First, it should have a rapid impact that injects spending into the economy, shores up business and consumer confidence, and assists those most vulnerable to an economic slowdown as quickly as possible. At the same time, however, an economic stimulus package should recognize the importance of fiscal discipline over the long-term to economic growth. Thus, measures to stimulate the economy should be limited in time, so that as the economy recovers, the budget can come back into substantial surplus. If we allow the cyclical budget deficit that we are likely to face in the short-term to turn into a long-term structural deficit we will have done ourselves a disservice. To abandon long-run budget discipline would not only be a disservice to future generations; it would also be a disservice to ourselves because financial markets would impose a price on us today in the form of higher interest rates that would undermine the positive effects of any stimulus we were trying to provide.

In particular, a stimulus package should adhere to the following principles:

- Adequate size. Any stimulus package should be large enough to have an impact on a $10 trillion economy. A bipartisan report by the Senate and House Budget Committees laying out principles for economic stimulus recommends further action that would bring the total amount of stimulus in 2002 up to about $100 billion (1 percent of GDP). This is the figure that Federal Reserve Chairman Alan Greenspan and former Treasury Secretary Robert Rubin have recommended to the Congress. More may turn out to be required if the economy does not respond quickly, but too large an immediate injection could overstimulate the economy and increase inflationary pressures.

- Rapid impact. The bulk of the stimulus should be felt in the next two or three quarters when the economy is weak. More often than not, economic stimulus in the past has not been implemented until the economy was already recovering. Stimulus that comes too late forces the Federal Reserve to raise interest rates in order to keep demand from growing so fast as to generate inflation.

- Short duration. Stimulus proposals should be designed to phase out rapidly. Because of the enduring importance of long-term fiscal discipline, stimulus proposals should not have significant multi-year budgetary effects. Thus permanent tax cuts or new infrastructure spending that spends out slowly are not attractive candidates for stimulus,

whatever their overall policy merits. Safety net programs such as Unemployment Insurance, on the other hand, are designed to be counter-cyclical, contracting as the economy improves. Increases in these programs are therefore a better choice for providing fiscal stimulus without significantly boosting spending when stimulus is no longer needed.

- Maximum effectiveness. Stimulus proposals should maximize the amount of short-term economic activity created per dollar of outlays or revenue lost. For example, a tax cut for low- or moderate-income households who are likely to spend nearly all of the extra income is more effective as stimulus than a similarly sized tax cut for higher-income households who are more likely to save a substantial portion of it. Similarly, increased government outlays to provide unemployment benefits for those who lose their jobs are likely to be spent quickly.

This report assesses a variety of stimulus proposals in light of these criteria. It does not recommend any particular proposal or package of proposals; rather, it tries to give the pros and cons of each proposal and to discuss the extent to which proposals are or are not consistent with the principles laid out above. In addition, the report considers specific proposals only in light of their potential impacts on the economy. It does not assess their merits on the basis of other criteria; nor does it address proposals whose primary purpose does not relate to economic stimulus. For example, we may assume that the costs of providing for national security and for countering terrorism will be large in the coming years, but those costs are not addressed here. How much should be spent on security is not an issue that can be or should be assessed primarily on economic grounds, although to preserve the health of the economy we may eventually need to adjust other spending or tax policies to accommodate needs in this area.

FISCAL STIMULUS ALREADY IN PLACE

The combination of tax cuts enacted in June of this year, emergency spending and aid to the airline industry will amount to about $40 billion in fiscal stimulus in FY 2001, and over $100 billion in fiscal stimulus in FY 2002, about 1 percent of expected GDP in that year (see Table 1).

Supplemental spending. Congress has approved $25 billion in additional spending for defense and education beyond that agreed to in the budget resolution.

Emergency spending. Congress has approved $40 billion in emergency spending through the Emergency Supplemental Appropriations Act for Recovery From and Response to Terrorist Attacks on the United States (H.R. 2888). The Act provides an immediate $10 billion to cover a response to the attacks, repairs to facilities, and increased anti-terrorist and other security efforts. It makes another $10 billion available 15 days after the White House informs Congress of a plan for its use, and provides that the remaining $20 billion will be incorporated into FY 2002 spending bills.

Airline assistance. Congress has also approved a package to assist the airline industry overcome their short-term financial problems–The Air Transportation Safety and System Stabilization Act (H.R. 2926). The package includes $5 billion in immediate cash assistance, $10 billion in loan assurances, as well as some relief from liability arising from terrorist actions and money for increased security. The $5 billion is designed to

offset the revenue losses suffered due to the temporary grounding of all flights and the ongoing flight reduction, while the $10 billion is meant to help the industry secure longer term financing for continuing operations.

Table 1

Fiscal Policy Changes Already Enacted

Fiscal Year:	2001	2002	Total Impact 2001-2011[1]
Spending Increases (billions of dollars):			
Additions to FY 2002 Discretionary Spending[2]	-	10	25
Emergency Anti-Terrorism Supplemental	-	25	40
Airline Assistance	-	6	15
Total Spending Increases:	-	41	80
Tax Changes (billions of dollars):			
Revenue Reductions Resulting from the Economic Growth and Tax Relief Reconciliation Act of 2001[3]	-41	-71	-1,349
Outlays for Refundable Tax Credits Included in the Economic Growth and Tax Relief Reconciliation Act of 2002	4	6	92
Total (Net) Revenue Reduction:[3]	-37	-65	-1,256

Sources: Joint Economic Committee (JEC) - Democratic Staff
Congressional Budget Office (CBO), "The Budget and Economic Outlook," August 2001.

Notes: 1. Includes only amounts specified in appropriations bills or the tax act. Does not include any allowances for carrying funds forward beyond amounts appropriated. Also excludes debt service impacts on new spending.
2. Estimate reflects $25 billion in supplemental appropriations for spending on defense and education. Outlays for 2002 based on CBO's composite outlay rate for discretionary spending
3. Based on estimates given in table 1-4 of "The Budget and Economic Outlook," Congressional Budget Office, August 2001. Amounts shown are net of effects of corporate tax payment data changes.

Tax relief. The final installment of the advance refunds of 2001 taxes was sent out in September. In all, some $38 billion was paid out as tax rebates in July, August, and September while an additional $2 billion in tax relief came through reduced tax withholding in the final quarter of FY 2001. About $70 billion in tax cuts is scheduled to take place in FY 2002. Those cuts will be spread throughout the year through reduced withholding and smaller quarterly payments.

As Table 1 demonstrates, there is substantial fiscal stimulus already in place, and most of the stimulus enacted so far will come through tax reductions rather than through spending increases. The $41 billion in tax rebates that went out this summer turn out to have been well-timed to help the economy in the short run. Tax cuts already passed for next year will have a total net impact of about $71 billion in FY 2002 and Congress now has enacted a total of about $41 billion in new spending for FY 2002. Together, the tax and spending stimulus already in place for FY 2002 will equal just over 1 percent of expected GDP.

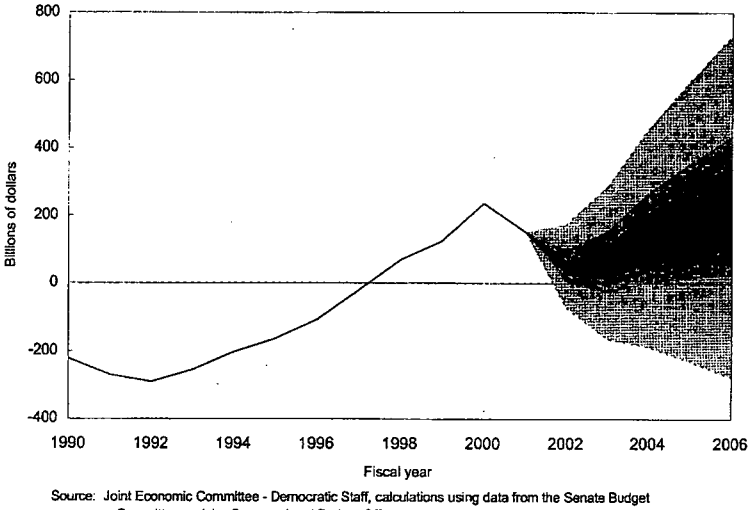
Although the recently enacted spending increases will have some effect in 2003 and later, unless these spending increases are incorporated into baseline spending for specific programs, they will have little impact on the overall economy over the next ten years. The tax cut, however, will total over $1.3 trillion over the next 10 years, or about 1 percent of GDP per year in 2003 through 2010.

IMPACT ON THE BUDGET

Tax cuts and a weakening economy had already worsened the budget outlook between January and August, when the Congressional Budget Office released its Budget and Economic Update. Subsequent events have further eroded projected budget surpluses, especially over the next few years. The bipartisan report of the House and Senate Budget Committee chairmen and ranking members estimates that the surplus in 2002 has fallen to $52 billion as a result of economic weakness and actions taken to date. This is a baseline figure and does not include a wide variety of other possible claims on the surplus, including policies in the budget resolution that have not yet been enacted. Thus a stimulus package of the size we are describing would most likely put the budget into deficit in 2002.

It is worth emphasizing that there is considerable uncertainty surrounding such a budget estimate. The JEC Democratic staff, together with the Budget Committee staff, have updated the Congressional Budget Office's January analysis of the economic and technical uncertainty underlying their budget forecast. Based on CBO's past forecasting record, there is a fairly wide probability distribution of outcomes around the $52 billion surplus estimate for 2002. For example, there is roughly a 50 percent chance that with no further change in policy the surplus would be somewhere between $2 billion and $100 billion, but a 50 percent chance that it could be larger than $100 billion or smaller than $2 billion (see Figure 1). Once again, these are estimates for the current baseline, and do not include the effects of any stimulus action or other claims on the budget beyond actions that have already been taken.

Figure 1.
Uncertainty in the Senate Budget Committee Budget Surplus Projections



Source: Joint Economic Committee - Democratic Staff, calculations using data from the Senate Budget Committee and the Congressional Budget Office.

PREVENTING LONG-RUN ECONOMIC DAMAGE

The primary goal for a stimulus package is to stimulate new consumer spending as soon as possible, in order to shore up the demand for goods and services and keep the economy running at something close to its potential. If the stimulus is sizeable but comes too late–in other words, after the economy has started to recuperate–it can do harm to the economy by creating new inflationary pressures without much offsetting benefit. If tax cuts or other stimulus measures do not generate new spending while economic performance is sub-par, they are an ineffective waste of budgetary resources.

Economists usually consider monetary policy a more effective stabilization tool than fiscal policy. It is easy for the Fed to implement a new interest rate quickly, as well as to reverse past changes when the economy recovers (although even monetary policy operates with some lag). Fiscal policy is typically harder to implement quickly, and can be harder to reverse when conditions improve. It has the advantage, however, that it can be directed to specific sectors of the economy that may be in need. The appropriate monetary policy depends on the environment set up by fiscal policy: the Fed has more room to maneuver when fiscal policy represents an appropriate response–that is, when tax and spending policies are not overly stimulative or restrictive. In the 1980s, for example, monetary policy was forced to be more restrictive with higher interest rates as fiscal policy was particularly loose, featuring very large on-going deficits.

The events of September 11th have increased pressures to spend more of the short-run federal budget, and have made it more appropriate to allow some budget deficit in the near term. But this new loosening of the purse strings does not mean that there should no longer be any fiscal restraints. The long-term pressures on the government budget due to the impending retirement of the baby boomers have not gone away. If a stimulus package is seen as committing large amounts of public funds out in the future (long after the economy will have recovered), markets will react by pushing longer-term interest rates up. This in turn would have a depressing effect on *current* economic activity. Thus, implementing permanent policies for the sake of short-run stimulus is likely to prove counter-productive.

In the long run, the vitality of our economy will depend on our capacity to produce output and generate income. Economists stress the crucial importance of maintaining an adequate level of national saving, in order to fund the investment that must take place if the economy is to grow. Over-committing future years of the public budget in the name of stimulus will not only undermine the short-run effectiveness of the policy, but will also worsen our longer-run economic prospects by making it more likely that national saving will fall short of what is needed. Such over-commitment need not take the form of policies that are explicitly characterized as permanent; policies that are labeled "temporary" and yet are simply hard to "turn off" in practice are dangerous in this regard, too.

Thus, an appropriate fiscal policy response must be effective at stimulating consumption optimally in the short run, while maintaining a sufficient degree of fiscal responsibility over the longer run.

SPENDING PROPOSALS

Spending proposals have an important place in any stimulus package, because they can often be implemented fairly quickly, can be turned off when they are no longer needed, and can be targeted on those most affected by the recession. Proposals involving spending on safety net programs such as Unemployment Insurance and the Food Stamp Program decline automatically in size as the unemployment rate and the poverty rate fall during recovery. Discretionary spending proposals on infrastructure programs or for purposes such as revenue sharing with states are even easier to reduce, simply by appropriating fewer funds in years when the need is less. This section looks first at proposals that would provide federal funds directly to families and individuals through benefit programs, and second at proposals that would produce some economic stimulus while helping to build public infrastructure. Third, proposals to help states and localities hit by the recession are examined.

The cost estimates attached to each proposal are very rough, and were prepared by the Democratic staff of the Joint Economic Committee to facilitate discussion of alternative proposals estimated on a consistent basis. The spending estimates are based on the assumption that unemployment will rise by about one percentage point and income growth will be flat or slightly negative over the next two quarters. Some recovery is assumed by the second half of 2002, with a return to a sustainable growth path by the end of that year. These assumptions are consistent with the views currently being expressed by most economic forecasters, but actual economic performance could be either better or worse than this. If stimulus is not put in place quickly, or if it fails to spark a rapid recovery, additional spending or tax cuts beyond the time frame considered here may become appropriate.

Note that the cost estimates attached to the proposals are very rough preliminary estimates. Also, only proposals that would have their primary impact in FY 2002 have been included. This excludes some proposals that have some substantial merits from a policy perspective, but whose primary costs would occur after the period in which stimulus is expected to be needed.

Additionally, the proposals that are included have been specified so as to confine most of their costs to the FY 2002 window. As a result, the estimates presented here are sometimes lower than other analysts have suggested for similar proposals that would be in effect over a longer period. Finally, we have not included any proposals for small program changes that would cost less than $100 million, nor have we included funds that would be appropriated in FY 2002 but that would be likely to be spent out over a much longer period.

I. Federal Spending on Programs for Families and Individuals

This section focuses on proposals that would provide federal benefits specifically to people and families affected by an economic downturn. These proposals have been divided into three major categories: expansions in Unemployment Insurance; expansions in health care coverage for the unemployed; and patching the social safety net. The "safety net" category includes proposals that pertain to cash assistance, food aid, and housing assistance. Table 2 summarizes the costs of potential spending proposals in these areas.

1. Expand Unemployment Insurance Coverage and Benefits

Unemployment Insurance (UI) is considered one of the most important anti-recessionary government resources when unemployment rises. Its impact is automatic and immediately counter-cyclical. During periods of increasing unemployment earnings drop, dampening consumer spending (which is two-thirds of total spending). UI benefits partially replace these lost earnings. When the economy is expanding, the taxes on earnings that fund the UI state trust funds act as a damper on earnings growth, and thus on increased spending.

To encourage workers to seek employment, UI benefits are set at a portion of previous earnings (anywhere from 50 to 70 percent). Employers with a higher proportion of workers who receive benefits are penalized with higher levies, to discourage employers from using the UI system to support workers routinely laid-off and rehired. Recipients must be actively looking for work and must have been attached to the workforce. Benefits are limited to 26 weeks. States with high unemployment levels can access the Extended Benefits program, which provides for an additional 13 weeks of coverage when one of three specific high unemployment criteria is met.

Table 2

Federal Spending on Programs for Families and Individuals Spending Proposals Fiscal Year 2002	Estimated Costs
Expand Unemployment Insurance (UI) Coverage and Benefits	
Expand UI Coverage	
Count earnings from the most recent quarter of work	$0.7 billion
Cover former full- or part-time workers now looking for part-time work	$0.5 billion
Temporarily Supplement Unemployment Benefits	
Provide a temporary federal supplement to UI benefits	
$25 per week for each unemployed worker	$5.5 billion
$25 per week or 15% of basic benefit-which ever is larger	$7.0 billion
Extend Unemployment Insurance Benefits for an Additional 13 weeks	$8.0 billion
Provide Federal UI Funds to States for Program Administration	$0.5 billion
Expand Health Insurance Coverage for Unemployed Workers and Their Families	
Subsidize COBRA Coverage	$4.0 billion
Extend Medicaid Coverage for Low-Income Unemployed Workers	$3.0 billion
Temporarily Increase the Federal Medicaid Match Rate	$4.5 billion
Patch the Safety Net for Low-Income Families Hit by the Recession	
Provide More Income to Needy Families	
Establish a new TANF contingency fund	$0.5 billion
Re-establish the TANF supplemental grant program	$0.3 billion
Pass through all child support payments collected on behalf to TANF recipients to those recipients	$2.0 billion
Expand Food Aid for Needy Families	
Temporarily reinstate benefits for able-bodied unemployed persons without dependents	$1.0 billion
Temporarily increase benefit levels in the Food Stamp Program	$2.5 billion
Raise the asset level allowed in the Food Stamp Program	$0.2 billion
Expand the WIC program to serve all those anticipated to be eligible under an economic downturn	$0.3 billion
Increase Housing Subsidies to Serve More Needy Families	
Expand the Section 8 housing subsidy program to provide and additional 100,000 housing vouchers	$0.6 billion
Provide additional assistance to fund short term rent, utilities and mortgage assistance for low income households through the FEMA Emergency Food and Shelter Program	$0.1 billion

Source: Joint Economic Committee (JEC) - Democratic Staff

Note: All cost estimates are preliminary estimates. Refer to text for specific policy assumptions.

A. Expand UI Coverage

The current UI system does not cover most low-wage and part-time workers. In 1999, only 38 percent those unemployed received benefits. The GAO found that while two fifths of unemployed high-wage earners get UI, less than 20 percent of low-wage ($8.00 an hour or less) earners do. And even though nearly one in five workers is employed part-time (35 hours a week or less) they are not covered in most-states – in fact, 30 states explicitly exclude those looking for only part-time work for UI coverage.

Two options that could expand coverage for low-income workers:

- **Count earnings from the most recent quarter of work in calculating eligibility.** Currently, many states do not count the most recent earnings, which prevents some unemployed workers who had not been employed for many previous quarters from receiving benefits. This proposal could provide benefits to more than 300,000 workers in FY 2002. Estimated FY 2002 cost: $700 million

- **Cover former full- or part-time workers now looking for part-time work.** This could also extend coverage to an additional 350,000 or more unemployed workers in FY 2002.Estimated FY 2002 cost: $500 million.

B. Temporarily Supplement Unemployment Benefits

Unemployment Insurance benefits are generally substantially lower than the amounts workers earned while employed, and are available only for the first 26 weeks of a spell of unemployment. In periods of high unemployment Extended Benefits may also be available for an additional 13 weeks, although there are few states with unemployment rates likely to be high enough during the next year to trigger Extended Benefits under current law.

Federal funds could be used to supplement unemployment insurance benefits temporarily to provide some immediate stimulus during a recession. Unemployed workers are likely to spend any additional income they receive immediately, since they are generally facing substantial reductions in their regular income. Possible proposals include:

- **Provide a temporary federal supplement to UI benefits.** Providing a federal supplement of $25 a week for each unemployed worker for the duration of FY 2002, for example, would cost roughly $5.5 billion (depending on unemployment rates and on the proportion of the newly-unemployed who qualify for unemployment benefits). Providing a supplementary benefit of $25 a week or 15 percent of the basic benefit, whichever was larger, would cost a bit more–roughly $7 billion–with the extra funds going to workers who normally earn higher wages.

- **Extend Unemployment Insurance Benefits for an Additional 13 Weeks.** Providing an extra 13 weeks of unemployment insurance benefits during a recession for those who have exhausted their first 26 weeks of benefits (without requiring the current EB program to be triggered) would cost roughly $8 billion during FY 2002 (again depending on unemployment rates and the duration of unemployment). However, since relatively few workers have currently been unemployed for close to 26 weeks, most of the impact of this

proposal would be felt in the second quarter of calendar year 2002 or beyond. Extensions beyond 13 weeks would have larger potential impacts in FY 2003 than in FY 2002.

C. Provide Federal UI Funds to States for Program Administration

States administer the UI program, but are required to keep reserves for the program in federal accounts. Releasing some of the almost $40 billion currently held in these federal accounts to states for administrative purposes could accelerate the implementation of any program changes enacted, and could provide some stimulus by allowing states to hire additional workers to process UI claims. As unemployment rates rise in a recession, such additional workers become necessary if benefits are to be paid in a timely manner. The costs of this proposal would depend, of course, on the amounts released. States could probably use up to $500 million in FY 2002 without simply replacing state funds that have already been allocated for UI administration.

2. Expand Health Insurance Coverage for Unemployed Workers and Their Families

As unemployment increases, many Americans will be at increased risk of losing their health insurance coverage. COBRA gives employees and their families the option of continuing their group health insurance coverage in case of certain events; termination of employment, reduction in hours, death of the employee, and divorce or separation. If an employee is terminated or their hours are reduced, they can continue coverage for 18 months. In all other events, they can continue it for 36 months.

Unfortunately, however, many unemployed people cannot afford to continue to pay their health insurance premiums while they are unemployed. Premiums for those who are unemployed are typically higher than for workers, because those who are no longer employed are not receiving employer subsidies. Further, low-income workers frequently lack health insurance even when they are employed, and such workers will not be eligible for health insurance coverage under COBRA. Specific proposals to address these problems include:

- **Subsidize COBRA coverage** for unemployed workers and their families. If the federal government picked up 50 percent of the cost of health insurance premiums for unemployed workers who chose to extend their health insurance coverage under COBRA, for example, the costs would be roughly $4 billion in FY 2002, depending on the extent to which unemployed workers elected to take up such coverage. Even with a 50 percent match rate, however, some workers would not be able to afford premiums for COBRA while unemployed. This cost estimate assumes that such workers with incomes below 200 percent of the poverty line would have their full premium paid by Medicaid. This estimate also assumes that the COBRA subsidy would last for 12 months or until the end of FY 2002, whichever came first. The estimate could be substantially higher if the period of benefit receipt were expanded.

- **Extend Medicaid coverage for low-income unemployed workers** and their families. The costs of this proposal would depend on exactly how it was implemented, and on whether the federal government paid the full costs of the expansion or simply agreed to match spending by states which granted Medicaid coverage under the proposal. If benefits were extended to all families with a member losing a job in FY 2002 and with incomes below 200 percent of the poverty level, for example, and if the federal government picked up the full costs of such benefits during the period of unemployment, total costs in FY 2002 would be (very) roughly $3 billion (again depending on the level and duration of

unemployment). Picking up costs for such families for as long as they remain eligible in terms of income (rather than ending eligibility when unemployment ends) could cost substantially more. It would also introduce substantial inequities between low-income workers who had experienced a spell of unemployment and those who had been employed continuously in jobs without health insurance or with unaffordable insurance costs.

Note that the proposals estimated here would apply only to people losing a job in FY 2002, and would provide benefits only during 2002. Many other proposals for expanded health care coverage exist, and most would provide benefits over a longer period. The period covered in these proposals was deliberately kept short to conform to the principle that extra spending should be concentrated during the period when the economy was expected to need stimulus. These estimates assume that recovery will be well underway by the end of 2002.

An additional Medicaid proposal put forward by the Center on Budget and Policy Priorities would focus on helping states meet the temporary rise in Medicaid costs that will result from the economic downturn, by temporarily increasing the federal Medicaid match rate. Their specific proposal is as follows:

- **Temporarily increase the federal Medicaid match rate.** Because Medicaid match rates depend in part on recent state income levels, and many states experienced strong income growth in the period immediately before the current economic downturn, more than half the states will see a reduction in their federal match rate for Medicaid spending in 2002. This will impose additional fiscal stress in states where revenues are already falling and where Medicaid expenditures are likely to increase as unemployment rises. A temporary increase in match rates, effective for FY 2002 only, could help states provide needed medical services to unemployed and low-income workers, as well as to the elderly and the disabled. If the federal match rate were increased in 2002 by one percentage point for all states, with a further two percentage points for states with unemployment rates over the national average, for example, the total cost in FY 2002 would be roughly $4.5 billion.

3. Patch the Safety Net for Low-Income Families Hit by the Recession

Many "safety net" programs exist to help low-income families, but these programs face increasing strains in periods of high unemployment and high poverty rates. Recessions increase hardships for families at risk for many different types of social problems, and these increased risks translate into increased needs social programs. Many such programs are either discretionary in nature or are funded through block grants, and thus do not automatically increase spending when needs increase. An appropriate and useful form of stimulus spending, therefore, would be to increase the amounts spent on these programs as the slowdown in the economy increases the need for the services they provide. A return to lower spending levels as the economy improves will occur automatically in programs such as TANF and The Food Stamp Program, and should be relatively easy to implement in most of the discretionary spending programs.

A. Provide More Income to Needy Families

The major program providing cash aid to needy families with dependent children, the Temporary Assistance to Needy Families (TANF) program, became a block grant to states under the 1996 welfare reform bill. Under that bill, a contingency fund was established to deal with increased needs during recessions, but required large increases in state funding before any federal

contingency funds could be received. That contingency fund expired on Sept. 30, 2001. There was also a supplemental grant available for states experiencing increases in their low-income populations, but that has also expired.

In a recession states may need access to more funds for needy families than are allowed for under the block grant, however. Providing more contingency funds to states to pay benefits would be highly stimulative, because benefit recipients are very low-income and will almost certainly spend any benefits received immediately. Proposals to expand funding for the provision of benefits to welfare recipients include:

- **Establish a new TANF contingency fund.** Allow states that have spent their full block grant funds on eligible programs and have exhausted their reserve funds to draw upon a federal contingency fund to pay benefits for newly-eligible recipients for the remainder of FY 2002. States would be required to match federal benefit payments at their Medicaid program match rates. This fund could be set to expire after one year, to be replaced by a new approach to contingency funding in the normal TANF reauthorization process. If state caseloads rose by an average of 10 percent as a result of the economic downturn, roughly $500 million in additional FY 2002 funding would be needed in the contingency fund to meet all likely state calls upon the fund.

- **Re-establish the TANF supplemental grant program.** Extending this program, which provides supplemental grants to the 17 poorest states, for one year would cost about $300 million in FY 2002.

- **Pass through all child support payments collected on behalf of TANF recipients to those recipients.** The Federal government, along with some states, now withholds all or part of the child support payments collected on behalf of welfare recipients and former welfare recipients, in order to pay the costs of Child Support Enforcement programs (which serve both welfare recipients and other custodial parents.) If the federal government picked up both the federal and state costs of Child Support Enforcement for TANF recipients, these families would receive more total income. Passing through these payments to the families would also give non-custodial parents more incentive to make the payments, which now are frequently of little actual benefit to the children they are supposed to support. This proposal would cost roughly $1 billion in additional federal costs in FY 2002, and roughly another $1 billion to reimburse states for their Child Support Enforcement costs.

B. Expand Food Aid for Needy Families

The Food Stamp Program (FSP) is the only assistance program that serves almost all low-income persons and families, without regard to their characteristics. Under the welfare reform package enacted in 1996 benefits for able-bodied unemployed persons without dependents were eliminated, but the FSP is still extremely responsive to changes in the unemployment rate and as a result provides an excellent offset to cyclical changes in the economy. Food stamp benefits are almost always spent within 30 days of being issued, making FSP expansions an effective way to stimulate the economy in the very near term. Proposals to expand the Food Stamp Program include:

- **Temporarily reinstate benefits for able-bodied unemployed persons without dependents.** Food stamp benefits were eliminated for this group in 1996 out of concerns

that many such recipients might be abusing the system or simply refusing to work. In periods of high unemployment, however, some non-disabled persons with low educations or other barriers to employment may have trouble finding jobs even if they are willing to work. Extending food stamp eligibility to this group temporarily during the economic downturn would cost about $1 billion in FY2002.

- **Temporarily increase benefit levels in the Food Stamp Program.** Food stamp benefits are quite low–about 81 cents per person per meal. They are based on the Thrifty Food Plan (TFP), a low-cost food budget estimated by the Dept. of Agriculture. Some analysts have argued that the methodology used to calculate the TFP is out of date, and fails to reflect food costs realistically in an era in which few families have much time to invest in preparing meals. Additionally, increases in food stamp benefits are easy to implement–most states could raise benefit payments in 30 to 60 days with few administrative costs. An increase in food stamp benefits to 110 percent of the Thrifty Food Plan amount could be a fast, temporary form of stimulus. Such an increase would cost about $2.5 billion in FY 2002.

- **Raise the asset level allowed in the Food Stamp Program.** In order to qualify for food stamps, families must not have significant assets that could be drawn upon to meet their needs. This asset test, which allows only $2000 in assets for most households, can be a barrier to participation for some needy persons who do not want to give up everything they own in order to become eligible. The amount of assets allowed has not been increased in some time, with the result that the real value of allowed assets has declined over time as prices have increased. Raising the amount of assets a family can own and still receive food stamps to $5000 would expand FSP eligibility. This proposal could be hard to repeal after the economy recovered, but food stamp eligibility will fall in any case during an economic recovery. The cost of such an asset-limit increase would be about $200 million in FY 2002.

In addition to the FSP, a smaller but also very important food supplement program is the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). WIC is a discretionary funding program that provides food and nutritional supplements to low income pregnant and nursing women and their very young children. Funding levels for WIC proposed by the Administration and included in the House Appropriations bill were based on much lower estimates of unemployment than are now anticipated. To serve all eligible participants, WIC spending would have to be increased. Specifically, some have proposed:

- **Expand the WIC program to serve all those anticipated to be eligible under an economic downturn.** WIC participation rises during economic downturns, as more women and children become sufficiently needy to qualify for benefits. The appropriations levels currently proposed for this year would be insufficient to fund benefits for all those eligible if unemployment rates rise. If there were a substantial increase in unemployment rates in FY 2002, perhaps to the range of 5.5 to 6 percent, as many as 500,000 additional persons might become eligible for the program. Meeting the needs of all these new eligibles would cost about $300 million in FY 2002.

C. Increase Housing Subsidies to Serve More Needy Families

Many areas of the country are already experiencing an acute shortage of affordable rental housing for extremely low-income families. These problems are likely to worsen as low-wage earners become unemployed during an economic downturn. If these families can no longer afford to pay the rent on the units in which they currently live, they are at risk of becoming homeless. Making additional rental subsidies available to low-income families can help to prevent this. Additional short-term assistance to families in particularly hard-hit areas could also be effective in preventing homelessness. Specific proposals include:

- **Expand the Section 8 housing subsidy program to provide an additional 100,000 housing vouchers.** These vouchers could be distributed to jurisdictions that have already used 95 percent or more of the vouchers currently available to them. Many of these jurisdictions have long waiting lists for housing assistance, guaranteeing that the additional rental subsidies would be used immediately. This proposal would cost about $600 million in FY 2002.

- **Provide additional assistance to fund short term rent, utilities and mortgage assistance for low income households through the FEMA Emergency Food and Shelter Program.** The FEMA Emergency Food and Shelter Program provides assistance to persons and families in areas experiencing emergencies, including severe economic need. They are well-positioned to distribute such emergency funding through their national network of non-profit social service and faith-based organizations. They could distribute an additional $100 million in emergency shelter aid in FY 2002.

II. Federal Spending on Infrastructure and Investment

There are many infrastructure and investment proposals that make economic sense and that would provide positive economic returns if funded. As a source of economic stimulus, however, these proposals often have the drawback that it takes time to plan and implement good infrastructure investments. As a result, money appropriated now may not have a direct economic impact until some considerably later date–possibly after the need for stimulus has lessened. For that reason, proposals to fund extremely urgent projects or those that were already in the pipeline but that are in danger of losing funding during an economic downturn are likely to be the most successful in providing immediate stimulus. This section focuses primarily on such proposals. Although many other infrastructure proposals could potentially be justified on policy grounds, we have not included proposals where we believe that most actual spending would occur outside FY 2002 window.

1. Renew Federal Aid for School Construction

The Department of Education's National Center for Education Statistics has estimated that more than three-fourths of the nation's schools need to invest money in repairs or renovation. In addition, elementary school enrollments have increased by 12 percent over the past decade, and many districts need to construct new schools or significantly expand existing ones. The National Education Association estimates that nationally more than $300 billion is needed for school construction and repair.

Most school construction is financed at the state and local levels. But as local budgets get tighter during an economic downturn, school districts may be forced to cut back on needed school

repairs and building. Further, some districts already lack the fiscal capacity they would need to keep up with their needs for safe classroom space. As school construction slows, we can expect that jobs in the construction industry will be lost.

Although most federal support for school construction has come indirectly through tax incentives, additional tax breaks for school construction bonds would not be an efficient way to get funds to schools immediately. In FY 2001, however, Congress approved $1.2 billion in direct federal funding for school renovation and repair. These funds were distributed to high-need districts that lacked the resources to pay for urgent repairs and renovation, but FY 2002 funding for the program was not included in the Administration's budget. Renewing this aid could provide some economic stimulus to these high-need districts.

- **Renew funding to provide for urgent repairs and renovations in high-need school districts.** Funding provided to high-need school districts under the FY 2001 appropriation could be renewed for FY 2002. Such funds could be distributed fairly quickly, and once received by school districts would typically be spent almost immediately, since they are reserved for urgent repairs. A small amount of additional funding could go to the Dept. of Education to expedite the distribution of the funds to appropriate school districts, under the criteria which they have already established. As much as $1.5 billion could probably be distributed in FY 2002 to fund short-term, urgent projects.

2. Provide Additional Federal Funding and Loan Guarantees for Low-Income Housing

Government spending on the construction of low-income housing can be highly stimulative, since it typically provides relatively large numbers of jobs while also resulting in much-needed affordable housing for lower-income people. However, it generally has the drawback that it takes a substantial amount of time for any new money appropriated to translate into new construction projects. As a consequence, the resulting economic stimulus may occur too late to help the economy in the short run, and may contribute to overspending down the road. The current weakness of the economy, however, has meant that many housing projects that have already been planned and in some cases even started have been brought to a halt, as private and state and local funding sources have tightened their budgets. An infusion of money from the Federal government now could save these projects and the jobs and new housing units that they represent.

- **Provide additional funding and loan guarantees for low-income housing projects currently in the pipeline.** Additional funding for low-income housing could be distributed through HUD's HOME program, which funds the construction of low-income rental housing, the rehabilitation of existing rental housing stock, and the provision of mortgages to low-income households. It is uncertain how much money could actually be spent on construction or other activities that would occur this fiscal year, but if the requirement for local matching funds were waived, many currently pending projects could be started immediately. If no match were required for these additional funds and HUD were directed to expedite their release, it is likely that at least $2 billion could be distributed and spent in FY 2002 for qualifying projects that have already completed at least preliminary construction plans.

- **Provide additional funding for the Public Housing Operating Fund.** Public housing is the core federal program for serving extremely low-income families, many of whom are elderly and working poor. The Operating Fund allows housing authorities to pay for ongoing operations, including maintenance and utilities. Housing authorities have long lists of ongoing maintenance needs and projects in need of funding. Additional funding could accelerate these projects, including addressing immediate and significant maintenance problems, such as replacement of old heating systems and the provision of new roofs. The Operating Fund is typically spent very quickly, and it is estimated that about $1 billion in funding could be usefully spent in FY 2002.

3. Strengthen Rail Transportation as an Alternative to Aviation

The disaster recovery and stimulus measures passed so far have already included a substantial package of aid to airlines and measures to improve the safety of air transport. Some have argued that rail transport should also be strengthened, both for security reasons and to help support the tourism industry as increasing numbers of consumers have become reluctant to fly. Since Sept. 11th, Amtrak ridership has been up by about 17 percent nationally relative to the same period last year. Unfortunately, most of Amtrak's passenger routes remain unprofitable, and GAO estimates that the system is almost $300 million away from achieving operating self-sufficiency. Under current law, Amtrak is required to become self-sufficient in its operating budget by Oct. 2002 or face liquidation. The system also needs major capital improvements which cannot be funded out of its current budget. If the rail system is to become a viable alternative to air transportation, it will need substantial federal funding.

Table 3

Federal Spending on Infrastructure and Investment Spending Proposals Fiscal Year 2002	Estimated Costs
Renew Federal Aid for School Construction	
Renew Funding to Provide for Urgent Repairs and Renovations in High-Need School Districts	$1.5 billion
Provide Additional Federal Funding and Loan Guarantees for Low-Income Housing	
Provide Additional Funding and Loan Guarantees for Low-Income Housing Projects Currently in the Pipeline	$2.0 billion
Provide Additional Funding for the Public Housing Operating Fund	$1.0 billion
Strengthen Rail Transportation as an Alternative to Aviation	
Upgrade the Security and Safety of Rail Transport	$1.5 billion
Upgrade the Rail System to Accommodate Increased Traffic	$1.6 billion
Increase Funding for Highways and Mass Transit	
Increase Funding for Highways and Highway Maintenance Projects Currently Planned or Underway	$3.0 billion
Increase Federal Funding for Existing Mass Transit Projects	$1.0 billion
Fund Additional Currently-Authorized Water and Waste-Water Infrastructure Projects	$1.0 billion

Source: Joint Economic Committee (JEC) - Democratic Staff

Note: All cost estimates are preliminary estimates. Refer to text for specific policy assumptions.

Whether federal investments in rail transport are justified on security grounds is not the question that must be asked in considering expenditures solely from the point of view of economic stimulus, however. As noted elsewhere, to provide effective economic stimulus, expenditures must be usable within the very near future–capital improvements that are authorized this year but not actually made for several more years will have no stimulative effect during the current downturn, and if not offset elsewhere in the budget may cause overspending at a later date when the economy is in recovery. On the other hand, spending on Amtrak, if it can be accomplished quickly, could have a particularly strong effect on the economy if it both produced jobs in the short run and improved the demand for tourism-related goods in the localities served by rail transport. To be effective in that latter goal, however, potential tourists must also be convinced that rail travel is safe. Two proposals for increased spending on railroads that might have some stimulative effect, therefore, are as follow:

- **Upgrade the security and safety of rail transport.** Amtrak estimates that in the wake of the terrorist attacks it needs about $500 million for new measures such as security cameras and guards in order to assure the safety of railroad passengers and workers. In addition, the system also has some substantial longer-standing safety and security concerns. Amtrak's CEO has estimated that about $1 billion is needed to ensure the safety of bridges and tunnels along the busy Northeast corridor, for example, where Amtrak's most successful routes are located. Most of these repairs could be undertaken quickly if money were available. One proposal, therefore, would be to allocate $1.5 billion to Amtrak in FY 2002 to upgrade rail safety and security.

- **Upgrade the rail system to accommodate increased traffic.** Amtrak's CEO has also warned that the state of the rail system's capital equipment is currently unsatisfactory. Some substantial work is needed simply to bring the existing track system into a state of "good repair," and more would be needed to complete the high-speed rail program in the Northeast corridor. Amtrak has estimated that it will need about $1.6 billion in FY 2002 to meet current needs and accommodate projected increases in traffic nationwide.

4. Increase funding for highways and mass transit.

As with spending on rail transport, some spending on other surface transport may be needed to improve security. Such spending may also have some benefits for tourism and related industries, and in the longer run may serve to reduce transportation costs for a large variety of goods. This spending can only serve as a stimulus to the economy, however, if it occurs in a timely manner. Most states have a number of highway and transit projects in the pipeline; as with housing projects, the limiting factor is often the requirement for state or local matching for any federal funds used. Therefore, the suspension of match requirements for additional highway and transit funding to take place in FY 2002 may be necessary to facilitate rapid spending of any new funds allocated. Even with such a suspension, however, a realistic stimulus proposal must take account of how much states and localities can actually do in FY 2002.

It seems likely that at least as much as would be freed up by a temporary suspension of the match requirement could be spent fairly quickly. Using that as a rough estimate of useful funding levels leads to the following proposals:

- **Increase funding for highways and highway maintenance projects currently planned or underway.** We estimate that if state match requirements were relaxed for projects

scheduled for FY 2002 completion, up to $3 billion in additional funding could be spent in FY 2002.

- **Increase federal funding for existing mass transit projects.** Mass transit projects are funded by the federal government under rules similar to those for highways, and a state match is required. We estimate that if matching requirements were temporarily suspended, an additional $1 billion could be spent in FY 2002.

5. Fund additional currently-authorized water and waste-water infrastructure projects.

Most federal funding of water projects takes place through appropriations to State Revolving Funds (SRFs), which are used to make loans to municipalities. FY 2001 appropriations for the clean water SRFs, the safe drinking water SRFs, and water-related grants totaled about $3.6 billion. While most states do have a backlog of not-yet-funded proposals, it is unlikely that all of that backlog can actually be spent-out in one year. We believe that $1 billion would be a realistic estimate of the amount of additional funding that could actually go out the door for such projects during FY 2002.

III. Federal Aid to States and Localities

The slowing economy has reduced state revenue growth, in some cases quite sharply. State revenues increased only 2.6 percent in nominal terms over the between the second quarter of 2000 and the second quarter of 2001, compared with an 11.4 percent increase over the prior year. This has resulted in the lowest level of real revenue growth in eight years. So far, the slowdown in revenues is still mild compared with that seen in the last recession, but as the economy weakens further, revenues are likely to continue to fall. Corporate tax collections have taken the biggest hit so far, but all major components of tax revenue have slowed, including personal income taxes and sales taxes.

This slowdown in revenues has potentially major implications for state budgets for the upcoming fiscal year. Almost all states now have either constitutional or statutory requirements to maintain balanced budgets, requiring them to reduce spending as revenues slow. This makes it difficult for states to undertake counter-cyclical spending or tax programs themselves, and lessens their ability to respond to the needs of those residents particularly hard-hit by the recession. Seven states have already instituted across-the-board spending cuts, and others have implemented hiring freezes and targeted program reductions. Cities and other localities are facing similar budget dilemmas, as both state pass-throughs and revenues from their own sources fall.

Cutting state and local spending or raising taxes as we slide into recession is not a good idea, either from an economic perspective or from the perspective that many services provided by states and localities become even more needed as the economy slows. Almost all of our safety net programs, for example, are administered and often funded at the state or local level. State and local governments are also major employers, and declines in their budgets can translate directly into higher unemployment rates.

All of these concerns argue that some form of Federal revenue sharing with state and local governments could be an effective and useful way to provide fiscal stimulus. Several options are available. A very broad program could be implemented, with direct grants to states and localities

based on size, for example. Or the program could be more targeted, with grants based on the extent to which a given state or locality has been affected by the economic downturn, or on the extent of its pre-existing need.

The advantage of a broader program is that it would be easiest to implement, and could potentially get large sums of money into the economy quite rapidly. States that are facing budget imbalances and potential spending cuts or freezes will presumably respond to additional revenues by spending more than they would have in the very short run. On the other hand, states and localities that are not yet in fiscal difficulties might be much slower to spend any new revenues or to reduce taxes accordingly.

The advantages of a more targeted approach are that states and localities that are the hardest hit by the downturn are the ones most likely to benefit from additional economic stimulus in the short run, and are also the areas where need is likely to be greatest. Setting up a program to measure need and allocate funds, however, could slow the release of federal revenues.

Examples of proposals that would embody these alternate approaches include:

- **Provide Federal revenue sharing funds to all states and federal jurisdictions based on population size.** This proposal would allocate a fixed amount of funding over states and similar jurisdictions based on the number of people living in each jurisdiction. The advantages of the proposal are that it would be easy to implement and the money could be released quickly, and each jurisdiction would be able to spend the funds according to its own priorities. The disadvantage would be that the funds would not be well-targeted to those who need them most, and states with lesser amounts of need might be slow to make use of their funds, reducing their stimulative impacts.

- **Provide Federal revenue sharing funds to states with high unemployment or poverty rates.** This proposal would make funds available to states based on their needs. This could be done in several different ways. For example, a given amount could be set aside, and states could apply for a share of the funds based on their specific needs. Cut-off points for eligibility could be established, and as changing state circumstances lowered or raised unemployment and poverty rates, grant sizes could be adjusted. Grants could be made on a quarterly basis to facilitate adjustment, and the program could be ended as soon as the national economy improved. This approach would have the advantage of greater flexibility and responsiveness to local conditions, but would potentially be cumbersome to administer. An alternative, more like the first proposal, would be to appropriate a single amount for FY 2002, and then distribute it across states under a formula based on unemployment and poverty rates.

- **Provide revenue sharing funds directly to cities or low-income localities.** City budgets are typically just as strained during downturns as are state budgets, and many of our nation's poorest citizens live in inner-city areas. During an economic downturn, these areas are likely to be particularly hard-hit. A third approach would be to provide revenue sharing funds directly to cities or to specific these jurisdictions such as Empowerment Zones, to fund services to the unemployed and to very low-income workers and families. Again, either a case by case grant-making strategy or a more general formula-based allocation could be used, although in the interests of timeliness a simpler distribution mechanism might be preferred.

No estimated costs have been given for these proposals, because revenue sharing proposals of all of these types could be funded at almost any level the Congress chose. In choosing a level, however, it is useful to consider how fast states and localities are likely to be able to spend any additional funding they receive.

TAX CUT PROPOSALS

The relative merits of alternative tax stimulus proposals depend heavily on their likely effects on short-term consumption. Consumer spending was the key reason that the economic slowdown prior to September 11th was not a full-scale recession. Now that consumer confidence is shaken, consumer spending is likely to fall. Tax cuts have been proposed as one way to restore consumer confidence, get more income into the hands of consumers, and boost consumer spending. This could be achieved both by cutting household taxes directly and by cutting taxes for businesses, thereby boosting investment and profitability, which may in turn help to preserve jobs and provide "trickle down" benefits to taxpayers who are not business owners.

Overall, measures that increase consumer incomes directly are likely to have the greatest impact on short-run consumer spending, and therefore will stimulate the economy most quickly and effectively. Business tax cuts will generally take longer to affect consumers, and their effects on investment may be largely offset by increases in the public debt, which will reduce the funds available for investment in the short run. For lower-income consumers, either approach is likely to be less effective than direct increases in spending on Unemployment Insurance, the Food Stamp Program, and other benefits that go directly to people and families likely to be hard hit by a recession.

This section looks first at tax cuts that would mainly affect families and individual taxpayers, and then at tax cuts aimed at businesses. As with the section on spending proposals, the estimates given are rough and focus primarily on the short-run stimulus that would be provided by each proposal, although for those proposals that would have substantial long-run costs as well the probable magnitude of those costs is also discussed.

Table 4

Tax Cut Proposals Fiscal Year 2002	Estimated Costs
Tax Cuts for Families and Individuals	
Provide Additional Tax Rebates to Families and Individuals	
Extend the recent tax rebate to also cover payroll taxes	$13.7 billion
Temporarily suspend payroll tax withholding	$47.0 billion
Reimburse states for a sales tax rebate	na
Accelerate Scheduled Income Tax Cuts	
Accelerate the increase in the child credit	*
Accelerate the tax rate reductions scheduled for 2006	
Accelerating the future cuts scheduled for 2006 to January 2002	$26.8 billion
Accelerating the future cuts scheduled for 2004 to January 2002	$11.8 billion
Reduce the Tax on Capital Gains	
Apply the lower capitol gains tax rates on assets held for 5 years to all gains	$ 0.5 billion
Tax Cuts for Businesses	
Reduce Corporate Income Tax Rates	
Permanently reduce corporate tax rates	
Reduce corporate tax rates by 10 percent for one year	$21.5 billion
Repeal the corporate alternative minimum tax	$25.4 billion
Provide a Tax Credit for New Investment	
Enact a temporary investment tax credit	$59.0 billion
Enact an incremental investment tax credit	na
Allow Full or Partial Expensing of New Investment	
Temporarily allow full expensing for all three- and five-year assets	$96.0 billion
Temporarily allow partial expensing for all assets with lives of 20 years or less	$39.3 billion
Temporarily increase expensing for small businesses	$ 0.9 billion
Extend New Operating Loss Carryback Period	
Allow 5-year carryback for net operating losses	$4.7 billion

Source: Joint Economic Committee (JEC) - Democratic Staff

Note: All cost estimates are preliminary.

I. Tax Cuts for Families and Individuals

Tax reductions at the personal level are potentially more effective at stimulating the economy in the near term than are business tax cuts, for several reasons. First, new government spending for infrastructure and security already will provide a big boost to national investment, so that the value added from business tax cuts and private investment may be relatively small, and such tax cuts would also involve a loss of revenue (public saving) that would offset much of the new private investment stimulated. Second, business tax incentives to stimulate extra private investment may not be very effective when businesses face low demand from consumers. Third, business tax cuts ultimately boost the incomes of households who own capital, who tend to be higher-income households who are least in need of assistance and also the least likely to spend all of their extra income.

The cost estimates for the following options are preliminary. Most estimates are from the Joint Committee on Taxation. Estimates for temporarily suspending payroll tax withholding and for accelerating scheduled increases in the child credit were prepared by the Democratic Staff of the Joint Economic Committee. Estimates for a temporary investment tax credit and temporary full expensing for new investment were supplied by the Democratic Staff of the Committee on Ways and Means.

1. Provide Additional Tax Rebates to Families and Individuals

An additional tax rebate could be an effective way to boost the economy through encouraging household consumption. A cut in personal taxes would not translate dollar for dollar into an increase in personal consumption, because households will save at least some of the additional after-tax income. Recent economic data indicate that a rather small fraction of tax rebate checks issued in August was spent immediately and instead the personal saving rate rose. A University of Michigan Survey of consumers taken in September found that most households used the tax rebate to pay down debt or increase savings rather than for new purchases. Moreover, just one-in-ten of those households thought that further tax cuts would be appropriate to improve the economy. With rebate checks still in the mail in September, however, it is much too early to tell just how much of the tax rebate households will eventually spend.

One way to encourage greater short-term consumption would be to direct more of any new tax cut toward lower-income households who out of necessity spend larger fractions of their income. Because only households who paid federal income taxes received this year's tax rebate, many lower-income families who work and pay payroll taxes were left out.

- **Extend the recent tax rebate to payroll taxes.** Some 96 million households received advance payment of the income tax cut for 2001 in the form of rebate checks sent out this summer. The rebates were limited to the amount of a taxpayer's income tax liability based on calendar year 2000 tax returns. Some 17 million households who filed tax returns received less than the full amount of the rebate because of this limitation, while an additional 34 million households did not qualify for any advance payment. Extending the tax rebate to families who work and pay Social Security payroll taxes but who did not qualify for a full rebate would benefit these 51 million households and cost about $14 billion. Because the rebate would be paid from general funds, it would not affect the Social Security trust funds.

Such a rebate would be easy to administer if, as with the existing rebate, it were based on tax return information filed for 2000. This however, would miss some families who pay payroll taxes but do not file income tax returns. Information for those families would be available from W-2 forms, although processing of such documentation would have to be put on an accelerated schedule to get rebates to those families quickly. Extending the rebate to those households would increase the cost of the option.

- **Temporarily suspend payroll tax withholding.** An alternative to a payroll tax rebate is a temporary payroll tax holiday. Employers could be instructed to temporarily suspend withholding of the payroll tax from workers' paychecks and their payments of the employer portion of the tax. This would provide an immediate boost to household take-home pay and would lower short-term employment cost for businesses. Employers would continue to report the amounts that would have been withheld, and the Social Security trust funds would be reimbursed from general revenues for the amount of payroll taxes that would have been collected. Workers would continue to receive earnings credit on their Social Security records for the full amount of their covered earnings.

  The cost of a payroll tax holiday would depend on the portion of taxes to which it applied and how long it would last. Suspending collection of one-half a percentage point of the 7.65 percent payroll tax levied on employees and employers for one year (reducing the combined rate from 15.3 percent to 14.3 percent) would cost about $47 billion in FY 2002.

- **Reimburse states for a sales tax rebate.** Economist and former member of the President's Council of Economic Advisors Alan Blinder has suggested a temporary sales tax rebate as a way to stimulate consumer spending. The federal government does not collect a general sales tax but could reimburse states for their reduced sales tax revenues if they agreed to cut tax rates. A rebate would benefit all consumers, even retirees and others without current earnings, and would directly stimulate consumption. A temporary reduction in taxes would cause people to shift spending forward in time, providing an added boost to consumption when it is most needed. It would get money in the hands of lower-income Americans, those who are most likely to spend it and most in need. But the administrative costs of a sales tax rebate would be substantial. States would need to establish a baseline to determine the reduction in the sales tax revenues. This is complicated because tax bases can differ across states and change over time. Some states have no sales tax. There also would be problems coordinating with local governments that also levy sales taxes.

2. Accelerate Scheduled Income Tax Cuts

The Economic Growth and Tax Relief Reconciliation Act enacted in June of this year provides for further cuts in individual income taxes beyond those that have already gone into effect. These include additional increases in the amount of the child tax credit, so-called marriage penalty relief, and further cuts in income tax rates for high-income taxpayers rates in 2004 and 2006. Some or all of these future cuts could be rescheduled to take effect immediately.

- **Accelerate the increase in the child credit.** The Tax Act increased the amount of the child credit from $500 to $600 per child beginning in 2002. The credit amount is scheduled to increase to $700 in 2005, $800 in 2009, and $1,000 in 2010. Low-income families can receive a refund if their credit exceeds their income tax liability. The refund

is limited to 10 percent of earnings in excess of $10,000 (indexed for inflation beginning in 2002). The percentage is scheduled to increase to 15 percent in 2005.

Increasing the credit amount to $700 and the refund rate to 15 percent of earnings this year would add about $5 billion to the cost of the child credit and would benefit the over 25 million families receiving the credit. Because the credit phases out for couples with incomes in excess of $110,000 ($75,000 for single, heads of households), most of the credit would go to low- and moderate- income households. Increasing the refund rate to 15 percent of earnings immediately would allow more low-income families to receive a refundable credit. Because most taxpayers would not claim the additional credit for tax year 2002 until they filed returns in 2003, most of the cost would occur in FY 2003.

- **Accelerate the tax rate reductions scheduled for 2006.** The Tax Act lowered income taxes for all families by creating a new 10 percent bottom tax bracket, retroactive for the entire 2001 tax year, and reducing tax rates for families in higher tax brackets. The first installment of the cut in higher tax rates took place this year. Future cuts are scheduled for 2004 and 2006. Accelerating the future cuts scheduled for 2006 to January 2002 would cost about $27 billion in FY 2002 and $122 billion in 2002 through 2011. Accelerating only the tax cuts scheduled for 2004 to January 2002 would cost $12 billion in FY 2002 and $34 billion in total.

  Less than a quarter of families and individuals filing tax returns would benefit from accelerating the tax cuts. Moreover, about 60 percent of the $28 billion revenue drain from accelerating the 2006 cuts to 2002 would go to the less than 1 percent of tax filers who are in the very highest tax bracket. These families are the least likely to spend a substantial portion of any additional tax cuts. A further cut in the tax rates faced by higher-income households would do little to further the goal of stimulating short-run consumption.

3. Reduce the Tax on Capital Gains

A capital gains cut would not encourage new economic activity. Rather, it would encourage the sale of old assets whose investment has already paid off, possibly depressing the stock market values even further. It would disproportionately benefit higher-income households, who are least likely to consume their tax cut, are least in need of support when the economy is slowing, and are already receiving the bulk of the income tax cut already passed. Some economists argue that a capital gains tax cut reduces the cost of capital and so promotes capital formation, which is good for the long run. But the overall long-run effect of a capital gains tax cut on national saving could well be negative, if the reduction in public saving outweighs any positive effects on private saving. Moreover, a bleaker outlook for the government's longer-run financial position could cause long-term interest rates to rise, which would have a depressing effect on today's economy.

- **Apply the lower capital gains tax rates on assets held for 5 years to all gains.** Capital gains from the sale of assets held for more than one year are taxed at a maximum rates of 20 percent. Assets acquired after 2000 and held for at least five years will be taxed at a maximum rate of 18 percent. Capital gains for taxpayers in the 15 percent tax bracket are taxed at a 10 percent rate or 8 percent if held for at least 5 years, regardless of when they were acquired. Applying the 18 percent and 8 percent tax rates to all long-term gains,

regardless of how long there are held or when they are acquired, would cost 0.5 billion in FY 2002 and over $10 billion in FY 2002-2011.

II. Tax Cuts for Businesses

While some tax stimulus options would target business investment, the current investment environment is not encouraging: business inventories remain high, capacity utilization is low, and consumer demand looks weak. Businesses are unlikely to commit to new investment under such conditions. Boosting consumption would give business more reason to invest and actually could provide a greater stimulus to investment than a cut in the effective tax rate on investment. Moreover, investment incentives are usually targeted to particular types of capital or particular industries, creating preferences that are not necessarily justified given a general slowing of the economy.

1. Reduce Corporate Income Tax Rates

Some have proposed including a reduction in the corporate income tax rate as part of an economic stimulus package, but a corporate tax cut is unlikely to encourage new economic activity. First, a cut in the corporate income tax rate is not targeted to new investment. The corporate income tax applies to current corporate profits, which come from income earned on past investments. Hence, much of the revenue loss of a corporate tax cut is a windfall gain to existing capital. Second, a cut in corporate taxes cannot help businesses that are currently suffering losses because those corporations do not currently pay taxes. Many of these businesses are the ones most in need of short-term assistance. Third, while in theory a corporate tax cut should lower the cost of capital for some firms and hence has the potential to encourage some new investment, in practice many businesses are not affected by the corporate tax rate.

A corporate tax cut would not benefit workers. The consensus among tax economists is that the burden of corporate taxation falls on capital, not labor, even after accounting for potential behavioral responses to the tax. This means that reducing the corporate tax raises the net-of-tax returns to capital owners, but does nothing to raise net wages. A tax cut that raises returns to capital owners is a tax cut that will not stimulate consumption very much, first, because it encourages saving rather than consumption by its price effect, and second, because it puts more money in the hands of higher-income households (capital owners) who tend to save large fractions of their income. A recent Brookings Institution analysis argues that an increase in stock values is not at all certain, and even if it does occur, the short-term stimulus would be very small relative to the policy's long-term costs.

- **Permanently reduce corporate tax rates.** A permanent corporate tax rate reduction would severely worsen the long-term budget outlook. Long-term interest rates would surely rise in response to this over-commitment of future public resources, and this could actually cause the net short-run impact of the tax cut on the economy to be negative.

- **Reduce corporate tax rates for one year.** A one-year, 10 percent cut in corporate tax rates would cost about $22 billion in FY 2002. A temporary corporate rate reduction would be even less likely to stimulate new investment than a permanent cut, because much of the payoff from new investment (in the form of taxable profits) would come later, outside the window of the tax cut. Thus, although the overall revenue loss from such a policy would be smaller than if the rate cut were permanent, a yet larger fraction of the revenue loss would be wasted on windfall gains to old capital. A temporary cut might also

ironically give businesses the incentive to postpone investment until after the lower rate expires, because investment-related tax deductions are worth more when the avoided liability is higher.

- **Repeal all or part of the corporate alternative minimum tax.** One way to reduce the effective tax rate on some corporations would be through reductions or repeal of the corporate AMT. Enacted in its present form in the Tax Reform Act of 1986, the AMT was intended to reduce tax sheltering activity. It operates parallel to the ordinary corporate income tax, with a broader base and a lower rate. Firms pay the higher of regular tax liability or AMT liability, but receive a credit for the AMT they pay, which can reduce regular taxes owed in future years. Reducing or eliminating the corporate AMT would raise returns to existing assets of large corporations without necessarily boosting new investment. With more generous depreciation allowances, for example, firms that stayed on the AMT would face a greater incentive to invest, but firms that would end up back on the regular corporate tax system might actually face less marginal incentive to invest, because their marginal tax rate would have increased (even though their average tax rate would fall). Small businesses would not benefit at all from AMT relief, because the Taxpayer Relief Act of 1997 already exempted small firms. Large firms also received substantial relief in 1997 when AMT depreciation allowances were made more generous.

  Permanent repeal of the corporate alternative minimum tax would cost about $25 billion in FY 2002 if corporations received full refunds for their unused AMT credits.

2. Provide a Tax Credit for New Investment

An investment tax credit would allow firms to receive a tax credit for some portion of the purchase cost of new capital investment. All businesses could use the credit. Generally all new capital investment except investment in long-lived assets such as building, would qualify for the credit.

The credit provides an immediate benefit to profitable businesses that make qualified new capital investments. Firms that do not have profits in the year they make new investments, and thus do not have current tax liabilities against which to use the credit, would receive a deferred benefit. They could carry forward the unused credit to years in which they again earn profits.

Even though an investment tax credit would apply only to new capital purchases, it would not be limited to purchases that businesses would not have made in the absence of the credit. Thus, some portion of the benefits from the credit would go to firms that would have made the same investments even without the credit.

- **Enact a temporary investment tax credit.** Unlike a temporary corporate tax rate cut, a temporary investment tax credit might be a more effective short-run stimulus. More firms would invest now rather than wait and see if the economy improves. In many cases they would speed-up investment that they had planned to make in the future. The downside to a temporary credit is that, because of this investment speed-up, there could be a sharp drop off in new investment when the temporary credit expires. However, if the credit has the intended effect of boosting the economy, firms may be more willing to make investments two and three years down the road when the credit expires that they would have been if sluggish economic growth had continued.

The cost of a temporary investment tax credit depends on the size of the credit and the range of investments to which it would apply. A 10 percent credit that applied to all new investment except structures, and which lasted through the end of calendar year 2002 could cost as much as $59 billion in the first year and $80 billion in total including the cost of unused credits carried forward into future years.

- **Enact an incremental investment tax credit.** It is tempting to modify an investment tax credit to try to only subsidize investment that would not have otherwise occurred. A recent analysis by the Brookings Institution suggests that one way to target the credit to minimize the windfall gains and to generate more stimulus per dollar spent is to allow the subsidy to occur only above some firm-specific investment threshold. For example, the credit could apply only to annual investment above 80 percent of the firm's average investment over the past three years. The difficulties in designing and administering an incremental credit that targets only additional investment have stymied similar proposals in the past.

3. Allow Full or Partial Expensing of New Investment

An alternative to an investment tax credit would be to allow firms to deduct the full or partial cost of new investment in the year they make the investment. Under current law, firms deduct the cost of new investment over a number of years. The length of time depends on the type of asset purchased--typically three or five years for a wide range of assets that wear out rather quickly such as cars, buses, and trucks, and certain "high-tech" investments such as computers; twenty years or more for assets that have a long useful life such as buildings and other structures.

Allowing firms to deduct the full or partial cost of assets in the year they make the investment (expensing) would provide firms with an immediate cash infusion. Full or partial expensing would only benefit firms who face corporate tax liability, and thus would not stimulate current investment for firms that are not currently profitable.

- **Allow temporary full expensing for all three- and five-year assets.** An option to allow all firms to temporarily deduct in the first year the full cost of new investment that they would normally depreciate over three or five years (thus excluding purchases of new buildings and structures), could cost about $96 billion. Because firms would not be able to claim future depreciation deductions for these assets, revenues would be higher in subsequent years than they otherwise would have been, and the long-term cost would be small.

- **Allow temporary partial expensing for all assets with lives of 20 years or less.** Allowing businesses to deduct 30 percent of the value of new capital assets in the year they purchased the asset would cost considerably less than full expensing. If the option only applied to assets that taxpayers would normally depreciate over 20 years and if expensing was in effect for three years, the cost in FY 2002 would be about $39 billion, and the three year cost would be about $96 billion. Because businesses would not be able to claim depreciation deductions in future years for the portion of the assets that were expensed, revenues would be higher than they otherwise would have been after FY 2004. Thus, the cost of the proposal is estimated to be about $18 billion over FY 2002-2011.

- **Temporarily increase expensing for small businesses.** Under current law "small businesses" (businesses with less than $200,000 of investment in one year) can deduct the full cost of new investment of up to $24,000 in the year they make the investment, rather than spreading out the deduction over a number of years. Beginning in 2003, small businesses can immediately deduct up to $25,000. Temporarily raising that investment limit would provide an investment incentive to small businesses, at relatively little cost. For example, temporarily raising the limit to $35,000 for two years and increasing the overall investment limit to $325,000 would cost about $0.9 billion in FY 2002 and $1.4 billion in FY 2003. Again, because firms would not be able to claim future depreciation deductions for the portion of investments that were expensed, future revenues would be higher. The estimated cost of the option is under $300 million for FY 2002-2011. While this would help small businesses, it would not provide much stimulus to the economy as a whole.

4. Extend Net Operating Loss Carryback Period

One way to help businesses that are not currently turning a profit and hence do not currently owe taxes is to extend loss carrybacks. Present law allows corporations to deduct their current losses from prior taxable income, going back a maximum of two years. (In practice this means the firm receives a refund for a portion of taxes previously paid.) They can also carry forward their losses up to 20 years ahead. There is currently some discussion about possibly extending the length of the loss carryback period (prior to 1997 it was three years, not two).

Extending the loss carryback period would help formerly profitable businesses with current losses, firms that might otherwise be likely to layoff workers. It would not have a large long-term revenue loss because firms that could deduct current losses now, generally would have been able to carry forward those losses and deduct them in the future when they returned to profitability.

- **Allow 5-year carryback for net operating losses.** A two-year temporary extension of the loss carryback period from 2 years to 5 years would cost about $4.7 billion in FY 2002 and $3.5 billion in FY 2003. The option would require appropriate changes to the corporate alternative minimum tax to allow the full benefits from the loss carrybacks. Because firms presumably would have been able to deduct those losses in the future when they once again had profits, there is little long run cost to this option. The estimated cost over FY 2002-2011 is just under $500 million.

CONCLUSION

Running a budget deficit in the immediate future, while our country recuperates from the terrorist attacks and works to offset the threat of recession, is entirely necessary and appropriate. The merits of each proposal as they relate to the goal of providing effective and immediate economic stimulus are critical. Before any specific set of new proposals is enacted, however, it is important to consider how these proposals might effect the economy in the long run.

Beyond the next year or two, after the economy has recovered and probably adapted to a new mix of consumer demand, public saving will need to rise. At that point the federal

government will be starting with a higher level of public debt than previously anticipated, while the retirement of the baby boomers will be that much closer–less than a decade away. Some "catching up" relative to prior budget goals will be desirable.

Fortunately, boosting public saving a few years away from now does not require raising taxes at that point. The income tax cut that has already been enacted is scheduled to phase in slowly from now until 2010, with the bulk of the revenue loss occurring in later years. The benefits of the tax cut also become increasingly skewed, with larger shares of the cut going to upper-income households over time. Thus, a relatively easy way to "pay for" the short-run stimulus package over time (and after the economy recovers) is by "freezing" portions of the tax cut a few years from now, at a less-than-fully-phased-in level. Such a strategy would preserve the long-term strategy of maintaining fiscal discipline, while reducing the scheduled tax cut only for the highest income Americans.

I. Freeze Some Further Cuts In Income Tax Rates

The Economic Growth and Tax Relief Reconciliation Act of 2001 created a new 10 percent tax bracket for a portion of taxable income that was previously taxed at 15 percent, beginning in calendar year 2001. The Act also reduced other income tax rates in a series of steps beginning in July of 2001. The 28 percent tax rate was reduced to 27 percent in that year and eventually will drop to 25 percent in calendar year 2006 and later. The 31 percent tax rate was reduced to 30 percent and eventually will fall to 28 percent in 2006. The 36 percent tax rate was reduced to 35 percent and will fall to 33 percent in 2006, while the top 39.6 percent tax rate was reduced to 38.6 percent and will fall to 35 percent in 2006.

The cut in the top marginal income tax rate benefits very few taxpayers, yet accounts for a disproportionate share of the cost of the tax cut. The latest IRS data show that in tax year 1998, of the just over 100 million taxable returns filed, only 753 thousand (or just seven-tenths of one percent) had taxable income high enough to be subject at all to the top marginal rate. Fewer than 2 percent of taxpayers had sufficient taxable income to reach the 36 percent bracket. Estimates by the Joint Committee on Taxation of the President's original tax cut proposal, which was similar to the version eventually enacted, showed that reducing the very top marginal rate alone accounted for 42 percent of the total cost of the rate cuts.

All taxpayers with income tax liability, including those in the highest brackets, benefit from reducing the marginal tax rate from 15 percent to 10 percent on some portion of taxable income. For example, for married couples the new lower rate applies to the first $12,000 of taxable income, yielding a tax cut of $600 (5 percent of $12,000). Furthermore, taxpayers in higher tax brackets have already received the additional one percentage point cut in rates that went into effect this year.

- **Freeze the top tax rate at 38.6 percent.** Freezing the top marginal rate at its current 38.6 percent level would increase future revenues by about $90 billion over 2004-2011, and would affect fewer than 1 percent of all households filing tax returns. Taxpayers in the top bracket would still benefit from the one percentage point reduction in their marginal tax rate that went into effect this year, plus the maximum benefits from the reductions in the lower marginal tax rates.

- **Freeze the top two tax rates at 38.6 percent and 35 percent.** Limiting the reductions in the top two tax rates to the one percentage point already enacted would raise $106 billion in 2004-2011. This would affect fewer than 2 percent of all households filing tax returns.

II. Freeze Further Cuts in The Estate and Gift Tax

The Tax Act also gradually raises the effective exemption amount for the estate and gift tax from $675,000 in 2001 to $3.5 million in 2009, reduces the top estate and gift tax rate in a series of steps from 55 percent in 2001 to 45 percent in 2009, and completely repeals the estate tax in 2010. Of course because the entire Act sunsets after 2010, the estate tax is back in 2011. Permanently freezing the cuts in the estate tax at the levels scheduled to take effect in 2006 would raise significant revenues and still provide substantial tax relief.

- **Freeze the Estate and Gift Tax at Its 2006 Level.** By 2006 the effective exclusion for the estate tax would be $2 million per person ($4 million for a married couple), already a significant increase over the $675,000 per person exclusion effective for 2001. With a year-2006 freeze, the top estate tax rate would stay at 46 percent rather than falling to 45 percent in 2007 and outright repeal in 2010. With a year-2006 freeze, the prior-law Federal credit for state estate and gift taxes would remain repealed, having been replaced by a deduction for state taxes. One estimate from the Democratic staff of the House Ways and Means Committee suggests that freezing the estate tax at 2006 values could raise more than $35 billion in 2006-2011.

Just as with the top marginal rate freeze, an estate tax freeze would not take away a penny of the tax reduction for the vast majority of taxpayers. Any estate with value above the current-law exemption but below $2 million would be completely unaffected by the freeze. Only estates above $2 million (or $4 million for married couple) would see some reduction in their estate tax cut. But those estates are a very small fraction of taxable estates. For example, tax data indicate that in 1999, only 3,283 estates—about 6.6 percent of all taxable estates—had a value of $5 million or more. Note that all taxable estates, including those above $2 million (or $4 million), would benefit from the still-higher exemption under the freeze proposal, because only the portions exceeding $2 million (or $4 million) would be taxable.

A Return to Deficits?
An Analysis of the Bush Administration's Mid-Session Review and the CBO Update to the Economic and Budget Outlook

September 7, 2001

EXECUTIVE SUMMARY

New reports from the Bush Administration's Office of Management and Budget (OMB) and the Congressional Budget Office (CBO) confirm that the combination of the large tax cut and the worsened economic situation have essentially eliminated any expected on-budget surplus for the next five years. Indeed, there is a growing possibility that the government's fiscal position could be even worse, with no surplus at all by the end of the decade and with a national debt that might be even higher in ten years than it is now.

The increased risks to the budget reflect, in part, the considerable uncertainty inherent in any ten-year budget projection. However, now that the projected baseline surplus is much lower than it was in January, the probability of the budget slipping back into deficit over the medium term is much higher.

The primary short-run economic risk is that household spending, which has been relatively robust this year, will slow substantially or even fall – almost certainly tipping the economy into recession. Over the long run, the greatest risk is the uncertainty as to whether recent gains in productivity growth will persist.

With the enactment of the tax cut and the softer economy, CBO's baseline budget surpluses are now considerably smaller. An update of CBO's January analysis of the probability distribution of possible budget outcomes by the Democratic Staff of the Joint Economic Committee shows that *the probability that the overall budget could be in deficit in 2006 is now between 15 and 20 percent.*

A 15 to 20 percent chance of a deficit in 2006 may seem acceptable to some policymakers. However, higher than expected surpluses have few costs – it is easy enough to increase spending or cut taxes. But lower than expected surpluses can cause long-term distortions in economic and fiscal policies. Fiscal discipline, once lost, is difficult to restore.

Uncertainty in the budget forecasts implies a corresponding uncertainty about our ability to pay down debt. The JEC Democratic Staff analyzed the probability distribution of debt forecasts and found the following:

- The Federal government has about a 50-50 chance of still being a net debtor in 2011.

- There is an almost even chance (better than 45 percent) that the amount of debt that will be paid down by 2011 is less than the maximum that could be paid down.

- There is a 15 to 20 percent – or nearly one-in-five – chance that the debt held by the public in 2011 will be *greater* than it was at the end of 2000.

No one knows if the economy will continue to grow slowly or will rebound quickly. In either case, there is some chance that current surplus estimates will probably be too high. In the face of considerable downside economic risks and budget forecast uncertainties, it is extremely unwise for policymakers to treat projections of budget surpluses five and ten years out as if they were money in the bank.

The large tax cut will make it difficult to proceed with fiscal policies that could produce short-term economic stimulus if the current slowdown continues. In addition, the tax cut hampers the nation's ability to address important priorities such as health care, education, and defense, while also preparing for the retirement of the baby boom generation.

The CBO budget baseline analyzed in this paper assumes the continuation of current laws and policies. It does not include the Bush Administration's likely defense request or proposals included in the budget resolution but not yet enacted such as a new prescription drug benefit, home health care, expanded health coverage, agriculture, and veterans programs. Nor does it include tax changes such as extending provisions that will expire or fixing the growing alternative minimum tax problem that has been exacerbated by the tax cut. Action on these popular measures would further increase the probability of deficits re-emerging.

INTRODUCTION

Recent reports from the Administration's Office of Management and Budget and the Congressional Budget Office confirm what most economic and budget observers have known for a while: the combination of the large tax cut and the worsened economic situation has greatly reduced anticipated budget surpluses.[1] Indeed, those factors have essentially eliminated any expected on-budget surplus for the next five years.

The tax cut makes it difficult to proceed with fiscal policies that could produce short-term economic stimulus if the current slowdown were to continue. In addition, the

[1] See Office of Management and Budget, Mid-Session Review (August 2001), and Congressional Budget Office, The Budget and Economic Outlook: An Update (August 2001).

tax cut detracts from the nation's ability to address important priorities in the areas of health care, education, and defense, while at the same time preparing for the retirement of the baby boom generation.

What may be less widely recognized is that the risks of a much worse government fiscal position have increased noticeably. Those risks include the possibility that there will be no surplus at all by the end of the decade and that the national debt could be even higher in ten years than it is now.

The increased risks to the budget reflect in part the considerable uncertainty inherent in any ten-year budget projection. Now that the projected baseline surplus is much lower than it was in January, the probability of the budget slipping back into deficit over the medium term is much higher. Within the framework of that uncertainty, several specific risks stand out. One, short-run risk, is that household spending, a relatively robust source of demand so far this year, will slow substantially or even fall, which would almost certainly send the economy into recession. Another risk is that, over the long-term, the recent gains in productivity growth may not persist.

Finally, alongside these economic sources of uncertainty are the uncertainties associated with projecting the budget when the economy is at a turning point from a period of rapid growth to a slowdown, as it is now. Budget projections are notoriously difficult at such turning points. The track record of past forecasts suggests a tendency for projections to be too optimistic (specifically, underestimating deficits) for a number of years during an economic slowdown, and to be too pessimistic (overestimating deficits) during times of rapid economic growth.

There is no way to know if the economy is facing a recession or a prolonged slowdown, or if it will rebound quickly. Even with a favorable outcome, surplus estimates may be too high. The alternative possibilities call for added caution from the users of the current budget forecasts. It is extremely unwise for policymakers to continue to treat projections of budget surpluses five and ten years out as if they were money in the bank. Policymakers should be especially sensitive to downside risks, because it is generally difficult to restore fiscal discipline once the budget falls into a structural deficit.

In this report we consider the latest revisions to CBO's economic forecast and compare the new forecast to the economic forecast in the Administration's Mid-Session Review. We review the combined effect of economic changes and the tax cuts enacted in the Economic Growth and Tax Relief Reconciliation Act of 2001 on the short- and long-term projections for the budget surplus.

We highlight specific risks to the economic and budget forecast including a possible downturn in consumer spending in the near term, lower than expected growth in productivity over the longer term, and the possibility that recent positive "budget surprises" may unwind as the economy slows down. We then consider the effect of uncertainty on the distribution of possible outcomes for the budget and for federal

government debt over the next ten years, using the same methodology as in CBO's January 2001 Economic and Budget Update.

THE REVISED ECONOMIC OUTLOOK

Both CBO and the Administration now expect the economy to perform less well in 2001 than they had anticipated at the beginning of the year, although neither expects the economy to slide into a recession. The Administration is much more optimistic than CBO for next year, expecting an immediate and strong rebound. CBO expects the sluggish economic performance of this year to continue at least into the first half of next year.

The CBO and the Administration outlooks for the longer term are largely unchanged from earlier this year, although the Administration continues to be more optimistic than CBO about unemployment and longer-term interest rates. Both expect the economy to grow at slightly over 3 percent per year in real (inflation-adjusted) terms, more than a full percentage point below the average annual growth over the past four years.

A Short-Term Slowdown in Economic Growth

Both CBO and the Administration expect that real (inflation-adjusted) gross domestic product (GDP) will grow by 1.7 percent over the course of calendar year 2001—the same as the August Blue Chip Consensus forecast, but significantly less than the 2.4 percent growth rate that CBO had expected in its January forecast (**Table 1**).

A growth rate of less than 2 percent would be a significant drop from the annual growth rate of more than 4 percent that the economy has averaged since 1995, but it seems increasingly unlikely that the economy will meet even those diminished expectations. Revised estimates by the Commerce Department, released after publication

Table 1. Projection of Real GDP for Calendar Years 2001-2011 (Percentage Change)

	Actual 2000	2001	2002	2003-2006	2007-2011
CBO (August)	4.1	1.7	2.6	3.2	3.2
CBO (January)	--	2.4	3.4	3.1	3.1
Administration (August)	4.1	1.7	3.2	3.3	3.1
Administration (April)	--	2.4	3.3	3.2	3.1

of the recent CBO and Administration forecasts, peg second quarter growth at a barely perceptible 0.2 percent annual rate. Combined with a 1.3 percent annual growth rate in the first quarter, the second-quarter slump means that the economy would need to grow at an average rate of better than 2.5 percent in the third and fourth quarters to reach 1.7 percent growth for the full year. With capital spending still declining, that outcome would imply an acceleration in household spending that is unlikely, given the weakened prospects for employment.

CBO is much less optimistic in its current forecast for 2002 than it was six months ago. CBO now projects that the economy will grow at a 2.6 percent annual rate in 2002, down from a projected growth rate of 3.4 percent in its January report. It expects that the unemployment rate will rise to 5.2 percent rather than the 4.5 percent it had previously forecast, and that interest rates on 10-year Treasury notes will be 30 basis points higher at 5.6 percent rather than 5.3 percent.

CBO notes that long-term interest rates have remained relatively stable this year, despite the large cumulative cut by the Federal Reserve in its target for the federal funds rate. The failure of long-term rates to fall in line with short-term rates may reflect the bond market's unease about the long-term effects of the tax cut. CBO writes on page 32 of its current report that the relatively high long-term interest rates "may reflect investor's anticipation of economic recovery, or of future acceleration of inflation or both. It is also possible that slower economic growth and the new tax law, by lowering projected surpluses, have raised investor's expectations about the federal government's future demand for credit."

In contrast with CBO's short-term forecast, the Administration's mid-session review projects a robust economy next year. The Administration forecast calls for real GDP to grow at a rate of 3.2 percent for 2002. The Administration expects the unemployment rate to average 4.8 percent next year and the rate on ten-year Treasury notes to yield an average long-term interest rate of 5.2 percent (both are 0.4 percentage points below CBO's forecast).

Little Change in the Long-Term Outlook

The CBO projection for the long-term beyond 2002 is little changed since January. CBO projects a 3.2 percent annual growth rate of real GDP over the 2003-2011 period. For the 2003-2006 period, CBO projects a higher unemployment rate than it did six months ago (5.2 percent vs. 4.7 percent) and a slightly higher interest rate on 10-year Treasury notes (5.8 percent vs. 5.6 percent). The agency expects those rates to persist through 2011.

Also little changed since January, the Administration's long-term projection is slightly more sanguine about the long-term than CBO's. Although the projected growth rate in real GDP is nearly the same as the CBO forecast over the 2003-2011 period, the Administration expects lower long-term interest rates (5.2 percent vs. 5.8 percent) and lower unemployment rates (4.6 percent vs. 5.2 percent) over the entire period. By

themselves, these differences would make the Administration's budget projections more optimistic than CBO's.

In the August forecast, CBO projects the same 3.3 percent average growth for potential GDP over the 2001-11 period as it had in January. That growth is an estimate of how much the economy can grow without causing the inflation rate to rise, and is determined by two factors: the size of the labor force (strictly speaking, number of hours worked) and labor force productivity (output per hour worked).

CBO has lowered its expectation for growth in potential labor force productivity (measured for the non-farm business sector) from an annual rate of 2.7 percent to 2.5 percent, but has increased its projection for labor force growth by an offsetting amount, keeping potential GDP growth unchanged. Just this past January, CBO had increased its projection of the growth in potential labor force productivity to 2.7 percent, up from the 2.3 percent growth forecast a year earlier.

CBO's unchanged long-term outlook reflects the agency's expectation that the recently enacted tax bill will have little effect on the long-term economic outlook. As noted on page 34 of CBO's report "The cumulative effects of the new tax law on the economy are uncertain but will probably be small. Labor supply may rise modestly as a result of the reductions in marginal tax rates (the rates that apply to the last dollar earned); however, national saving may fall. Whether the tax cut will raise or lower real (inflation-adjusted) gross domestic product (GDP) in the long run is unknown, but any effect is likely to be less than half of a percentage point in 2011."

THE OUTLOOK FOR REVENUES AND THE SURPLUS

The revenue picture is not as rosy as it appeared six months ago. The passage of the Economic Growth and Tax Relief Reconciliation Act of 2001 in June of this year, coupled with the slowdown in economic growth and especially the recent declines in corporate profits, have greatly reduced expected revenues.

Anticipated revenues for 2001 are down by $124 billion from the amount projected by CBO in January. While $70 billion of that revision is the result of the tax bill enacted in June of this year, the remaining decline is due to economic and technical changes that reflect a weaker economy and lower-than-expected tax collections. Projected revenues for 2002 are down by $102 billion, and by $1.4 trillion over the entire 2002-2011 period. Most of the drop is from the tax legislation; the remainder is from worsening economic conditions and the expectation that weaker tax collections will persist into the future.

Cost of the Tax Bill

CBO estimates that the cost of the Tax Act, including new outlays for refundable tax credits, will reach $1.35 trillion over the 2001-2011 period. That estimate does not include the associated increase in interest payments, which could total nearly $400 billion over 2001-2011. About 70 percent of the direct cost of the Tax Act (some $932 billion) comes after 2005, and thus can hardly be justified as stimulus needed to meet the current economic slowdown. Indeed, less than 10 percent of the combined tax cut and increase in refundable credits occurs in 2001 and 2002.

Even these totals understate the true cost of the Administration's tax policies. The Tax Act contained a number of provisions that expire before the end of the ten-year budget window. All the remaining provisions expire at the end of 2010. It is very unlikely that the tax cuts will be allowed to expire as scheduled. Extending these expiring provisions would add an additional $255 billion to the cost of the Tax Act in 2002-2011, according to estimates by the Joint Committee on Taxation. In addition to the expiring provisions in the Tax Act, there are a number of other popular provisions of the tax code, enacted before this year, that will expire before 2010. These include the welfare-to-work and work opportunity tax credits, scheduled to expire this year, and the research and experimentation tax credit, which expires in 2004. Permanently extending these other expiring provisions would cost another $142 billion over 2002-2011.

Disappearing Corporate Profits

The CBO forecast for revenues in 2001 is also down by $54 billion from the January forecast for economic and technical reasons unrelated to the Tax Act. The revenue projections are down by $71 billion in 2002 and $63 billion in 2003 because of those economic and technical factors. A sizeable portion of that decline stems from the recent drop in corporate profits. The annualized profits of non-financial corporations have fallen by nearly $60 billion so far this year. CBO expects that corporate profits will remain weak over the next few years: it expects corporate profits as a share of GDP to drop by 1.5 percentage points to 7.9 percent this year and 7.5 percent in 2002 before rebounding to 7.8 percent in 2003 and 8.1 percent in 2004 **(Table 2)**.

Table 2. Projection of Corporate Book Profits for Calendar Years 2001-2011 (Percentage of GDP)

	Actual 2000	2001	2002	2003-2006	2007-2011
CBO (August)	8.6	7.9	7.5	8.0	8.1
CBO (January)	--	8.9	8.5	8.2	8.0
Administration (August)	8.6	7.7	8.9	8.9	8.0
Administration (April)	--	9.1	8.9	8.8	8.2

The Administration, in contrast, sees a strong and immediate recovery in corporate profits, projecting corporate profits of 8.9 percent of GDP in 2002, and over 2003-2006. The stronger outlook for corporate profits boosts the Administration near-term revenue projections. Its forecast for corporate income tax revenue is higher than CBO's by $19 billion in 2002 and $26 billion in 2003.

A Lower Surplus in 2001 and Beyond

Largely as a result of the drop-off in revenues in 2001 and later years, the CBO projection for the budget surplus is down dramatically from three months ago **(Table 3)**. For FY 2001, CBO projects a total budget surplus of $153 billion, compared with $281 billion projected in January and $275 billion projected in May. The surplus projection for 2002-2011 is now $3.4 trillion, down by over $2.2 trillion since May. Nearly three-quarters of the decline in the projected surplus over the 2002-2011 period since the May forecast is the result of the tax cut and its associated higher interest payments.

The Administration projects a slightly higher surplus than CBO in 2001 and over the 2002-2011 period **(Table 4)**. In contrast to the Administration, CBO projects a small on-budget deficit of 9 billion for FY2001. (The on-budget account excludes spending and revenues of Social Security and the Postal Service). Part of this difference reflects a controversial change in accounting procedures by the Administration.

Table 3. Change in CBO's Projection of the Surplus From May 2001 to August 2001

	2001	2002	2002-2006	2007-2011	2002-2011
Total Surplus (May)	275	304	2,002	3,627	5,629
Legislative	-81	-52	-603	1,168	-1,771
Tax Act[a]	-74	-41	-554	-1,103	-1,657
Other[a]	-7	-10	-49	-65	-113
Economic	-25	-48	-224	-59	-283
Technical	-16	-27	-93	-84	-177
Total Surplus (August)	153	176	1,082	2,314	3,397

a. Includes the increase in debt-service costs resulting from legislative actions.

Table 4. Comparison of Current Service Surplus Projections For Fiscal Years 2001-2011

	Actual 2000	2001	2002	2002-2006	2007-2011	2002-2011
CBO (August)						
On Budget	87	-9	2	49	799	847
Off Budget	150	162	174	1,034	1,516	2,549
Total	236	153	176	1,082	2,314	3,397
Administration (August)						
On Budget	87	2	18	235	1,068	1,304
Off Budget	150	156	169	1,058	1,481	2,538
Total	236	158	187	1,293	2,549	3,842

UNCERTAINTIES IN THE ECONOMIC OUTLOOK

A number of risks beset the budget outlook. Risks to the near-term economic outlook center on factors that might impede a smooth recovery. Although there are many downside risks to the short-term outlook – such as further weakening in foreign economies, or an even slower rebound in capital spending than most analysts currently expect – the most important risk for the near term is the possibility that household spending might slow sharply. Once into the medium term, however, the paramount economic risk is that the productivity improvements of the late 1990s may not persist as projected. In addition to those economic risks, policymakers must also take into account the possibilities that fortuitous circumstances – such as recent "revenue surprises" – may unwind in coming years.

Will Consumer Spending Continue to Sustain the Economy in the Short Run?

So far this year, consumer spending has sustained the economy. As business investment, and particularly investment in information technology, has collapsed, growth in household spending has held up. If consumer spending were to slow sharply, however, the economy could slip into a recession.

Since 1992, growth of real consumption expenditures has tended to outpace increases in real personal disposable income. As a consequence, the measured rate of household saving has declined. But these measures do not incorporate the influences of changes in household wealth on consumption. For most of the past decade, household net worth has been on the rise, owing mostly to skyrocketing equity values. That rise in household equity wealth may account for the increase in household spending and the corresponding decline in measured household saving since 1995.

If so, what happens when stocks stop rising, or, worse, when equity prices come down? Some of that has already begun—equity prices are nearly twenty percent below their levels just a year ago. It's possible that a portion of that decline may only now be working through the lagged impacts of wealth on consumption. A further sharp decline in equity prices coming at a time when labor markets are weakening and credit demands are tightening might lead to a sharp spending retrenchment by households.

Will Productivity Growth Hold-Up Over the Longer Term?

A major source of uncertainty for the longer-term projection centers on whether or not productivity will continue to grow at the accelerated pace that it did during the latter half of the 1990s. Between 1996 and mid-2000, growth in nonfarm business output per hour averaged 2.6 percent at an annual rate, a pickup from the 1.5 percent annual rate that had prevailed since 1990. However, since the middle of last year productivity growth has slipped back to a 1.5 percent average pace.

Most analysts would agree that some of the slower growth in productivity since mid-2000 is due to the slowing of the economy–for most of the postwar period, productivity has tended to grow during economic upswings. But there is no consensus among economic analysts as to whether the acceleration in productivity growth during the late 1990s was permanent. As a result, alternative assumptions within a relatively wide range of prospective growth paths currently seem equally plausible.

When sustained over ten years, small changes in productivity growth can have enormous implications for the budget. According to CBO rules of thumb, a sustained decline in productivity growth that would produce a permanent 0.4 percentage point reduction in the growth rate of real GDP, would result in cumulative reductions in the budget surplus of just under a trillion dollars after 10 years, if other factors do not change. Given the sensitivity of the budget to even slight changes in productivity growth, a prudent course would be to avoid presuming that the higher rate of productivity growth the nation has enjoyed in recent years will continue.

Will Favorable Budget Surprises Unwind?

Over the late 1990s, the budget surplus was boosted by unusually favorable trends in revenues and spending–even unusual relative to a particularly robust economy. These unusual trends led to repeated positive "surprises" in the budget surplus over those years. Given recent changes in the economy, CBO now predicts (prudently) that these trends will unwind somewhat over the 10-year forecast window. But having to project the relationship between budgetary variables and economic ones adds yet another layer of uncertainty to the budget projections, and yet another way in which actual outcomes could turn out worse than predicted.

For example, on the revenue side, personal income tax revenues grew faster than GDP over the late 1990s. This was largely the result of two factors. First, a dramatic growth in capital gains realizations, closely tied to the run-up in the stock market. Second, real income gains among higher-income households pushed more income into the higher marginal tax rate brackets, increasing the amount of tax collected from each additional dollar of income. This rise in revenues occurred even though there were no increases in statutory tax rates.

In its current projection, CBO assumes that capital gains realizations relative to GDP will gradually level off to the historic average. But nothing guarantees that this share will not dip below that average, at least temporarily, as might be expected in a prolonged stock market decline. If this were to happen, revenues would turn out to be lower than CBO now predicts. In fact, since January of this year CBO has revised downward its prediction of individual receipts for 2001 by $15 billion, to "reflect weakness in current revenue collections that is not explained by current measures of economic activity."

On the spending side, an important contributor to the growing budget surplus over the late 1990s was unusually slow growth in health care spending, particularly through stricter compliance with Medicare payment rules after the Balanced Budget Act of 1997. Although Medicare outlays had grown by an average of 11 percent a year during the first half of the 1990s, between 1997 and 1999 the rate of growth slowed each year, with outlays actually declining by 1 percent in 1999. These declines were associated with increased enforcement of anti-fraud rules, which may have produced a short-term "windfall" for the Medicare program.

But recent legislation has increased payment rates and the natural market forces are expected to continue their upward pressure on health costs. As a result, in January 2001 CBO projected that Medicare spending will grow by more than 10 percent in 2001 and by an average of 7.2 percent per year for the period from 2001 through 2011. Although this is a reasonable prediction, it does not allow for the possibility that health care service providers may try to make up some of the losses they recently suffered, or that health care costs may rise faster than average in the near future for other reasons. If so, growth in Medicare spending could turn out to be higher – yet another factor that could lead to actual surpluses that are lower than now predicted.

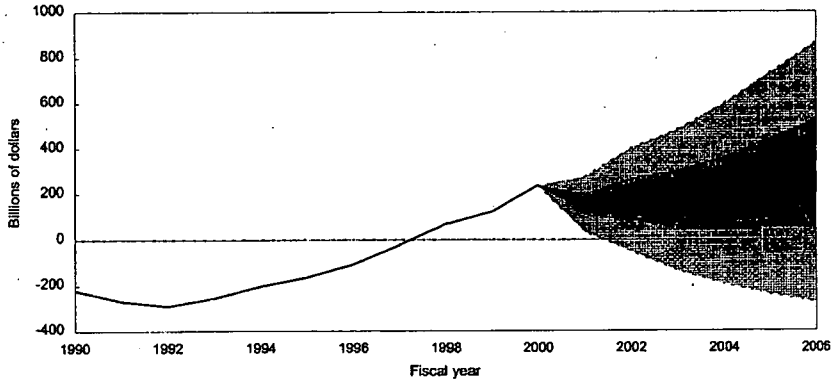
A RETURN TO DEFICITS?

In the Budget and Economic Outlook released in January, the CBO included an analysis that showed the uncertainty in its budget forecasts through 2006 based on its own past forecasting errors. At that time, the cumulative baseline budget surpluses were $5.6 trillion, and the baseline surpluses were large and growing over time. CBO's analysis showed, however, that there was sufficient uncertainty in its forecast that the normal margin of error included the possibility that the budget would be in deficit as soon as 2004.

With the passage of the tax cut and the softer economy, CBO's baseline budget surpluses are now considerably smaller. CBO has not updated its January analysis of the distribution of budget outcomes, but the Democratic Staff of the Joint Economic Committee has. Using the CBO methodology (see Methodology), the JEC estimates that

the probability that the overall budget could be in deficit in 2006 (the final year of the original CBO analysis) is now between 15 and 20 percent (**Figure 1**).

Figure 1.
Uncertainty in CBO's Budget Surplus Projections



Source: JEC Democratic staff based on budget and economic projections from Congressional Budget Office, *The Budget and Economic Outlook: An Update* (August 2001).

Note: The figure shows the estimated likelihood of alternative surplus projections using CBO's past track record in projecting the surplus. CBO's August baseline falls in the middle of the darkest area. The distribution indicates that under current policies, there is about a 20 percent probability that the budget will be in deficit by fiscal year 2006.

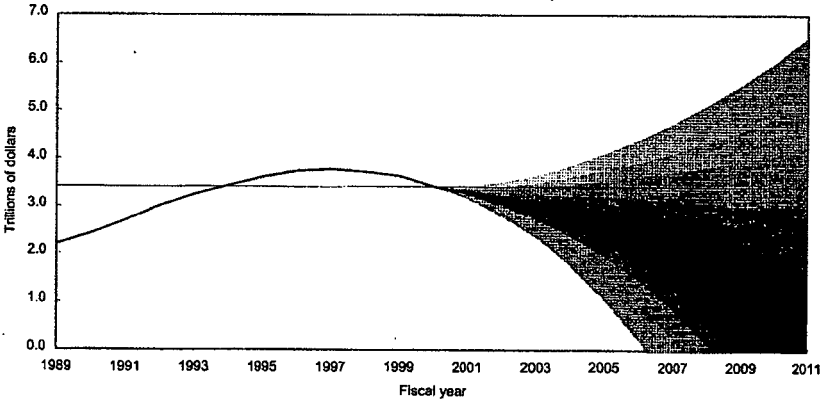
Debt held by the public was $3.4 trillion at the end of fiscal year 2000. In CBO's baseline budget forecast (which assumes that current policies remain in place), this debt could theoretically be mostly extinguished by 2011. In practice, however, some of this debt cannot easily be retired, including some debt that matures after 2011, some special-purpose bonds held by states, and some savings bonds.

Thus, CBO assumes that the net indebtedness of the Federal government of $56 billion in 2011 will be composed of $876 billion of debt held by the public and a balance of $820 billion of uncommitted funds (assets) held by the government. However, a former Treasury Department official in charge of debt management has estimated that the amount of debt that would be truly hard to redeem is smaller than the CBO estimate (about $500 billion).

The analysis of uncertainty in the budget forecasts can be used to infer uncertainty about the debt. This requires extending the CBO methodology to project probability distributions of budget surpluses in each year from 2001 to 2011 and calculating the resulting probability distributions of debt.

The JEC staff has done such an analysis and found that there is about a 50-50 chance that the Federal government will still be a net debtor in 2011. There is an almost even chance (better than 45 percent) that the amount of debt that will be paid down is less than the maximum that could be paid down (based on the assumption of $500 billion of truly hard-to-redeem debt). Finally, there is a 15 to 20 percent chance – nearly one chance in five – that the debt held by the public in 2011 will be *greater* than it was at the end of 2000 **(Figure 2)**.

Figure 2.
Uncertainty in Public Debt Projections



Source: JEC Democratic staff based on budget and economic projections from Congressional Budget Office, *The Budget and Economic Outlook: An Update* (August 2001).

Note: The figure shows the likelihood of alternative projections of the publicly held debt using CBO's past track record in projecting the surplus as well as CBO's current assumptions about how much of net federal obligations are financed by means other than issuing debt to the public. CBO's August baseline falls in the middle of the darkest area. The distribution indicates that under current policies there is about a 20 percent probability that debt held by the public in 2011 will exceed $3.4 trillion, the amount of publicly held debt at the end of fiscal year 2000.

CONCLUSION

CBO forecasts a budget surplus of $3.4 trillion over the next ten years. The Administration's projection is a somewhat higher $3.8 trillion. These estimates are within a reasonable range, given what we know today about the outlook for the future of the economy. But budget forecasting is a highly uncertain business, particularly when the economy is at a turning point, as it appears to be now. And while these surpluses appear large, so are our future commitments. As a result, there will be little room to maneuver should economic growth be weaker than now projected.

The retirement of the baby boom generation is only a few years away. We must meet the commitments we have made to the workers of that generation to provide retirement security and health care coverage in their old age. If our surplus estimates turn out to be too high, we will have many fewer options in meeting those commitments.

While there is a case to be made that economic stimulus is needed in the short run, justifying tax cuts now, the Administration's long-term fiscal policy puts us on a risky path. It could destroy the fiscal discipline we have so recently achieved. Given the uncertainty of our surplus projections—indeed, the 15 to 20 percent possibility of a deficit by 2006—it would be prudent to take a more conservative budget path. Ensuring that we will be able to pay down our debt will put us in a stronger position to meet our future commitments in Social Security and Medicare, as the Administration has promised we will do.

METHODOLOGY

The analysis by the JEC of the uncertainty in projecting budget outcomes updates and extends research released by CBO earlier this year.* Using CBO's methods, the JEC updated CBO's estimates of the distribution of budget outcomes through 2006, based upon CBO's latest budget baseline and economic assumptions. The most significant revision was CBO's lower baseline projection for the federal surplus, which had the effect of lowering the center of the distribution from its levels in CBO's previous analysis. CBO's revised projections for interest rates had a slight effect on the estimated debt burdens associated with the alternative surplus paths.

The JEC extended the CBO's original analysis in two respects. First, the JEC calculated the distribution for the years 2001 through 2011, not through 2006 as CBO had done originally. This extension required an additional assumption beyond those made by CBO: the JEC assumed that the probability distribution for *changes* in the surplus errors (relative to revenues) for the years 2007 through 2011 is identical to that used by CBO for the years 2002 through 2006. Given that CBO's published track record of budget projections for ten years is rather small, that assumption seemed to be the most natural way of extending CBO's analysis through 2011.

Second, the JEC extended the original CBO analysis to calculate a distribution of debt outcomes. Assuming that the amount of new federal obligations financed by means other than issuing debt to the public was held constant at the levels currently projected by CBO, each one of the simulated paths for the budget balance was cumulated into a corresponding path for the publicly-held federal debt.

The original CBO estimates treated the budget outcomes for fiscal year 2001 as completely uncertain. While a legitimate assumption in January, that assumption is far less plausible in the last month of the fiscal year. For that reason, the JEC recomputed the distribution of budget outcomes two ways, first following the CBO procedures from January, and second assuming that the fiscal year 2001 federal surplus was equal to CBO's baseline projection with complete certainty. The latter assumption, of course, narrowed the range of uncertainty in each of the years from 2002 through 2011 relative to the estimates based on the assumption of a completely uncertain surplus in fiscal year 2001. JEC reports the ranges of uncertainty from the alternative estimates in the text. The figures are based on the assumption that CBO used in its original analysis, namely, that the budget outcome for fiscal 2001 is uncertain.

* See Congressional Budget Office, *Uncertainties in Projecting Budget Surpluses: A Discussion of Data and Methods*, February 2001.

What Do Families Really Get from the Tax Cut?

June 18, 2001

EXECUTIVE SUMMARY

In the Economic Growth and Tax Relief Reconciliation Act of 2001, Congress modified the President's original tax plan to provide more tax relief for lower-income working families and add additional tax benefits for retirement saving and education, while still remaining within the $1.35 trillion, 11-year constraint set by the budget resolution.

A smaller reduction in the top tax rate paid for some of the extras, but most of the additional tax relief was squeezed into the budget through a series of maneuvers and gimmicks. These included stretching out the phase-in of the rate cuts, delaying implementation of some provisions until the second five years, "sunsetting" other provisions after the fifth year, and sunsetting the entire Act at the end of 2010.

In addition, although the Tax Act provides modest relief from the Alternative Minimum Tax (AMT) in 2001 through 2004, it relies on the AMT in the later years to pay for a significant part of the tax cut, by reducing or eliminating the tax cut for an increasing number of families.

These convoluted maneuvers not only have serious budgetary implications, but at a more practical level, they have made it more difficult for people to determine what they will receive from this tax cut. This paper illuminates some key features of the tax cut by calculating how they will affect different representative families over each of the next ten years.

While the Act initially directs more tax relief toward lower-income families, the relative benefits to the highest-income households will grow dramatically over the 2001-10 period, as the cuts in marginal tax rates for higher-income taxpayers and the repeal of the personal exemption and itemized deduction phase-outs take effect.

- From 2001 to 2010, the inflation-adjusted value of the tax cut to married couples with two children and $20,000 of gross income (in 2001 dollars) will double. But for high-income families with $500,000 or $1 million in income, the cut will increase more than six-fold and ten-fold, respectively. However, a family with $200,000 in income will actually lose its tax cut entirely because of the AMT.

  Most single, childless taxpayers will receive a very small tax cut, that will shrink over

time.

- In 2001, the new 10 percent bracket results in a tax cut of $300 for singles with at least $6,000 of taxable income. But singles with less income will receive a smaller tax cut. Moreover, by the time this bracket is indexed for inflation, the real value of the tax cut is less than $300. Only about one-fourth of singles have enough taxable income to benefit from cuts in the higher bracket rates.

Many families will see their tax cuts reduced or eliminated by the AMT, especially families that itemize deductions and live in states with relatively high state and local income taxes. In fact, many married, two-earner couples with children, who currently face some of the highest marriage penalties, will receive no tax cut after the first few years.

- By 2004, the AMT will begin to reduce the tax cut for some married couples with two children and $170,000 to $380,000 in income (in 2001 dollars); by 2005, the AMT will completely eliminate the cut for certain families with incomes of around $200,000.

- Over time, the range of married-couple families with reduced or eliminated tax cuts widens dramatically. By 2010, many married couples with two children and gross incomes as low as $75,000 in 2001 dollars will see their tax cut reduced by the AMT, and many families with gross incomes as low as $120,000 will receive no cut. Meanwhile, families with gross incomes above $690,000 will remain unaffected by the AMT, leaving their tax cut fully intact.

The lack of relief provided to a rapidly growing number of AMT families will create strong political pressure to address the AMT problem. Thus, a more realistic cost estimate of the tax bill should include the cost of AMT relief, as well as the cost of not sunsetting the tax cuts.

- Accounting for just the AMT raises the true cost of this tax cut to around $1.7 trillion over eleven years. Further, adding the cost of extending the tax bill to the end of the budget window brings the total 2001-11 cost to $1.8 trillion. A full accounting might well include the permanent costs of the slowly phased-in provisions or any additional costs from extending other tax provisions.

Although the President claims this tax plan provides a sizeable tax cut for all income tax payers, this analysis shows that many taxpayers will not receive the tax cuts they expect. Many provisions are slow to take full effect, the benefits to single, childless taxpayers are limited, and the AMT will erode the cuts for an increasing number of families.

INTRODUCTION

In the Economic Growth and Tax Relief Reconciliation Act of 2001, Congress modified the President's original tax plan to provide more tax relief for lower-income working families and add additional tax benefits for retirement saving and education, while still remaining within a $1.35 trillion, 11-year budget constraint.

A smaller reduction in the top marginal tax rate paid for some of these extras–although eliminating the phase-outs of itemized deductions and personal exemptions at higher incomes offset some of the reduced tax cut for higher-income taxpayers. Most of the additional tax relief was squeezed into the budget constraint through a series of budgetary maneuvers and gimmicks. These included stretching out the phase-in of the tax cuts, delaying implementation of some provisions until the second five years, "sunsetting" other provisions after the fifth year, and sunsetting the entire Act at the end of 2010.

In addition, although the Tax Act contains a small amount of relief from the Alternative Minimum Tax (AMT) in 2001 through 2004, it relies on the AMT in later years to pay for a significant part of the tax cut, by reducing or eliminating the benefits of the tax cut for an increasing number of families over time.

Existing information on how different families benefit from this tax cut can be confusing because the calculations often show only the fully phased-in version of the tax cut, which does not actually apply until many years from now. In addition, analyses that overlook the effect of the AMT, or fail to reflect the fact that key features of the AMT are not indexed for inflation, miss how severely the benefits will be eroded over the life of the Tax Act.

This paper calculates the tax cuts for different representative families over each of the next ten years. It highlights that while Congress did redirect more tax relief toward lower-income families than the President's plan did, the relative benefits to the highest-income households will still grow dramatically over the 2001-10 period, as the cuts in marginal tax rates for higher-income taxpayers and the repeal of the personal exemption and itemized deduction phase-outs take effect. It also shows a sometimes-overlooked feature of the tax bill, namely that single, childless taxpayers will receive a very small benefit from the tax cut, which will shrink over time for most.

The paper also presents calculations showing that certain families will see reduced or eliminated tax cuts because of the AMT, and that many two-earner families with children will in fact get *no* tax benefit from this bill after the first few years. The lack of relief provided to these families makes it all the more likely that the public will demand action on the AMT problem, and soon. Thus, a calculation of the true cost of this tax bill should include not only the missing final-year cost of the tax cut, but also future AMT relief. This relief has been made even more costly because of this bill, and enacting it will tilt tax relief in favor of higher-income families to an even greater extent than the current Tax Act.

The paper shows only the effects of the key income tax provisions. It does not include the effects of the reduction and repeal of the estate tax or other features of the Tax Act that increased child care credits and added incentives for education and retirement saving.

II. Effects of the Tax Cut on Different Types of Households

A Tax Act this complex provides widely varying benefits to households of different types and sizes. These effects also vary over time. This section highlights some major conclusions that can be drawn concerning specific effects on different types of families.

The distribution of the tax cut by income level changes over the budget window. Although lower-income households are major beneficiaries of the tax cut in the early years, over time the gains to upper-income households increase in relative importance. In 2001, the pattern of the tax cuts is dominated by two factors: the increase in the child credit from $500 to $600 and the reduction in the tax rate from 15 percent to 10 percent on the first $12,000 of taxable income for married couples, $10,000 of taxable income for head of household filers, and $6,000 of taxable income for single taxpayers. Taken together, these two provisions reduce taxes by $800 for married couples with two children, and by $700 for a single parent with two children (**Table 1**).

Families with incomes taxed at rates above 15 percent also receive a small immediate benefit from the first year cut in marginal rates in higher tax brackets; some higher-income households will also benefit from the increase in the AMT exemption. Lower-income families also receive a larger tax cut than other families due to the refundability of the child credit.

Over the next ten years, however, a number of factors change this distribution. First, further reductions in marginal tax rates in higher tax brackets do not fully take effect until 2006, when the final installment of the rate cuts drops the top rate from 37.6 percent to 35 percent and reduces other rates by one percentage point. The elimination of personal exemption and itemized deduction phase-outs does not begin until 2006, and those provisions are not completely repealed until 2010. Those changes increase the relative tax cuts for the highest-income households.

Second, the increase in the standard deduction and the extension of the 15 percent bracket for married couples phase in during the second five years. An increased standard deduction helps all married couples who do not itemize deductions. The extension of the 15 percent bracket helps only those married couples with taxable income above the 15 percent bracket–about 40 percent of married couples filing joint returns in 1997.

Third, more high-income families get pushed onto the AMT after 2004, so that their tax cuts decline or even disappear completely. The AMT, however, will not affect the highest-

income families.

By 2010, the real dollar value of the tax cut to a married couple with two children and $20,000 in gross income (in 2001 dollars) will double. But for families with $500,000 or $1 million in income, the tax cut will increase six-fold and ten-fold, respectively. However, some families with $200,000 in income will actually have lost their tax cut entirely because of the AMT.

For a single parent with two children and income of $40,000 or less, the tax cut will actually decrease in real value from 2001 through 2004. In 2005, when the value of the child credit increases from $600 to $700 per child, the tax cut will increase, but then it will decline again until the child credit increases again in 2009 and 2010.

The percentage change in after-tax income also shows a change in distribution over time (**Figure 1**). For example, in 2001 a married couple with two children and income of $20,000 would see about a 4.8 percent increase in after-tax income, more than double the percentage increase of 1.9 percent for comparable families with income of $50,000, and dwarfing the 0.8 and 0.7 percent increases for families at $200,000 and $1 million, respectively (although the dollar value of their tax cuts would still substantially exceed the cut received by the lower-income families).

By 2010, however, the pattern changes: no longer do percentage increases in after-tax income fall at higher gross income levels. The percentage increase in after-tax income for the $20,000 family (9.6 percent) still exceeds that for the $1 million family (7.0 percent), but by a much smaller amount, while the boost to families at $200,000 is completely eliminated due to the AMT. Overall, the tax cut produces a U-shape pattern of percentage changes in after-tax income.

Without the AMT, the pattern of tax cuts relative to income would look quite different (**Figure 2**). If taxpayers were not subject to the AMT, families with incomes starting at about the equivalent of $75,000 in today's dollars would receive a bigger tax cut in 2010, and the distribution of tax cuts would not be as progressive over the middle-to-high income range. Families with incomes of about $20,000 in today's dollars would still receive the largest tax cuts as a percentage of after-tax income.

Refundability helps low-income families.

Low-income families benefit from the Tax Act largely because of the refundability of the child credit, which was added to the original Administration proposal by the Senate, and in a much more limited form by the House. Under the Tax Act, which closely follows the Senate version, low-income families receive refundable child credits of up to 10 percent of their earnings (15 percent beginning in 2005) in excess of $10,000. Families are eligible for the refundable credit beginning in 2001.

Refundability allows working families without income tax liability--but who pay payroll taxes--to receive some benefit from the tax cut, and it increases the tax cut for lower-income working families with small income tax liability. Under the original Administration proposal, a married couple with two children and income of $25,000 or less would not have received any tax cut. Under the Tax Act, low-income families with children can receive a small refundable credit once their earnings exceed $10,000. For example, a married couple with two children and income of $15,000 can expect to receive a refundable credit of $500 in 2001.

The Tax Act makes the child credit refundable for many more families, but it also phases-in the increase in the credit over the next decade. The per-child credit does not reach $1,000 until 2010, by which time it is worth less than $800 in today's dollars. The credit reverts back to $500 by 2011, when the Act sunsets. In addition, unlike all other tax brackets, the new 10 percent bracket is not indexed for inflation until 2009, and although the end point of the 10 percent bracket is extended by $1,000 for single filers and $2,000 for married couples in 2008, it is not increased for heads of households. Thus, for heads of households the tax saving from the lower tax rate will diminish over time when measured in today's dollars.

The net result is that many taxpayers will not receive the tax cuts originally advertised by proponents of the tax bill. Had the bill provided an *immediate* doubling of the child credit to $1,000 per child, plus the addition of the 10 percent bottom tax rate, a working single mother with two children would have received a tax cut of $1,500 in 2001 ($1,000 from the child credit, and $500 from the bottom rate reduction). The timing of provisions in the final bill, however, prevents a single parent with income between $25,000 and $45,000 from ever seeing a tax cut of that size in today's dollars (**Figure 3**).

Relief for single, childless households is limited.
With the expansion of the child credit and the provisions for marriage penalty relief, most of the benefits of this Tax Act are directed toward married couples and families with children. Single, childless taxpayers will see some reduction in taxes from the lower tax rates, but for most singles those cuts will be small.

The new 10 percent bracket covers only the first $6,000 of taxable income for singles in 2001, resulting in a tax cut of $300 for those singles with at least $6,000 of taxable income. Singles with less income will see a smaller tax cut. Singles with taxable income above the starting point for the 28 percent bracket ($27,050 in 2001) will also benefit from the cut in tax rates in higher brackets, but relatively few singles have that much taxable income. In 1997, the latest year for which statistics are available, only 25 percent of single returns had any taxable income in excess of the 15 percent bracket.

Because the $6,000 ceiling on the new 10 percent bracket for singles does not increase until 2008 and is not indexed until 2009, the $300 tax cut for singles will decline in real value over time. For example, by 2007 a single tax filer with $30,000 of income in today's dollars will receive the equivalent of a $257 tax cut (**Table 2**). The increase in the ceiling for the 10 percent

bracket will bump up the tax cut to about $290 in 2008, where it will remain until 2010.

The Alternative Minimum Tax reduces or eliminates tax cuts for some families.
The Alternative Minimum Tax was created to ensure that high-income households would not be able to shelter large fractions of their income from taxes. It requires that taxpayers recompute their liability based on a broader-based definition of income, but that income is subject to a flatter rate structure with marginal rates of 26 and 28 percent.

If the AMT liability is higher than that obtained through the ordinary income tax structure, the household pays an amount equal to the AMT instead. Because the top AMT rate of 28 percent is considerably lower than the previous top marginal rate under the ordinary income tax (of 39.6 percent), the very highest-income households would be less likely to face AMT liability than households in the previous 31- and 36-percent brackets, with slightly lower (but still high) gross incomes. (At very high incomes, the effect of the high marginal rate under the ordinary income tax outweighs the effect of the broader AMT base.)

The AMT was already a problem that was expected to worsen even *before* the Tax Act. The AMT replaces personal exemptions and the standard deduction with a fixed exemption amount for married couples and single taxpayers. This exemption is not indexed for inflation, so over time increasing numbers of taxpayers with lower incomes will be subject to the AMT. Further, under the AMT taxpayers who itemize their deductions cannot deduct state and local income taxes, which are allowable deductions under the regular tax. Thus, taxpayers in higher income tax states are more likely to find themselves paying the AMT.

When the Taxpayer Relief Act of 1997 added new personal income tax preferences, experts pointed out that the new cuts meant that more families would become subject to the AMT than would have been the case under prior law. This year's Act makes the situation even worse.

The Act is designed to provide relief to all taxpayers, but *particularly* married households with children. However, families with children, in certain income ranges, are actually the most likely to see their benefits eroded by the AMT. Although families can claim child credits under the AMT, the advantages of lower marginal tax rates are lost. In addition, other features of the Tax Act such as the repeal of the personal exemption phase-out that would have reduced taxes for higher-income families with children, provide no benefit to families that are subject to the AMT.

While the modest amount of AMT relief in the first four years (from an increased AMT exemption level) prevents benefits from eroding initially, by 2004 the AMT will begin to reduce the tax cut for some married couples with two children and $170,000 to $380,000 in income (in 2001 dollars), depending upon the extent of their state and local income tax deductions, and by

2005 it will completely eliminate the cut for certain families with about $200,000 in income **(Figure 4)**.

Over time, the range of married-couple families with reduced or eliminated tax cuts due to the AMT widens dramatically. By 2010, many married couples with two children and gross income as low as $75,000 (in 2001 dollars) will see their tax cut reduced by the AMT, and many families with gross income as low as $120,000 will get *no* cut. Meanwhile, the AMT will leave fully intact the tax cuts for families with gross incomes exceeding $690,000.

While the particular timing of when certain families lose all or part of their tax cut depends upon the amount of state and local income tax deductions they claim, the AMT will eventually reduce or eliminate the tax cut for families in these income ranges even if they claim no tax deductions. Moreover, the impact of the AMT will be even worse for families who claim additional personal credits, such as for child care expenses, that are not allowable under the AMT.

III. Budgetary Implications

The tax plan relies on unsustainable budget strategies that will only become more untenable over time. In order to fit into the $1.35 trillion, 2001-11 budget, many of the features that have the largest permanent costs are phased in very slowly, and the entire Act terminates at the end of 2010 (artificially reducing the cost in the last year). The treatment of the AMT just adds to the understatement of true costs: not only does the Act ignore existing AMT issues, it uses the increasing scope of the AMT to obscure further the true cost of the bill, while making the AMT problem worse and even more costly to fix.

The above calculations show how the AMT will eventually eliminate some or all of the tax cut over a wide income range for many two-earner families with children, despite the limited AMT relief provided over the first few years. This is not a trivial segment of the population; hence, eroding the tax cut for taxpayers already on or entering the AMT significantly reduces the official cost of the tax bill.

The Joint Committee on Taxation (JCT) estimates that while the number of taxpayers affected by the AMT under current law would have risen to 17.5 million by 2010 (from 1.5 million this year), that number will more than double–to *35.5 million*–as a result of the tax bill. That is nearly one-third of all taxpayers in 2010, according to a June 2000 Treasury Department analysis.

While the JCT did not estimate the cost of eventually fixing the AMT as a result of the conference agreement bill, its estimates for earlier versions of the President's tax bill suggest that the plan's incremental effect alone could add between $300 and $400 billion to the 11-year cost of more permanent AMT relief.

In other words, the conference agreement's true cost, after accounting for the AMT problem alone, is raised to around $1.7 trillion over eleven years. Adding the expense of extending the tax bill to the end of the budget window (instead of allowing the sunsetting at the end of 2010) brings the total 2001-11 cost to $1.8 trillion (**Figure 5**). Because of the phase-ins, the cost in the next 10 years is substantially larger. Nor do these costs include other likely tax actions, such as extending the research and experimentation tax credit.

IV. Conclusion

Although the President claims this Tax Act provides a sizeable tax cut for all income tax payers, this analysis shows that many taxpayers will not receive a tax cut as large as they might expect. Many provisions are slow to take full effect, the benefits to single, childless taxpayers are limited, and finally, the AMT will erode the cuts for an increasing number of families with children.

Despite the addition of further tax relief to lower-income families, the dollar value of the tax cut is still heavily skewed toward the highest-income households and this uneven distribution increases over time. In addition, the budgetary implications of the Act are disturbing. Official estimates understate the true cost because of gimmicks such as delayed phase-ins and sunsets. Finally, the Act relies on the AMT to pay for part of its cost, while making that problem only more severe and costly to fix in the future.

Table 1

Dollar Amount of Tax Cut for Families with Children

(2001 dollars)

Married Couple with Two Children

Adjusted Gross Income	Current Law Income Tax 2001	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
$10,000	-4,000	0	0	0	0	0	0	0	0	0	0
$20,000	-2,553	1,000	1,204	1,198	1,191	1,600	1,599	1,562	1,700	1,834	2,022
$30,000	173	740	938	932	917	1,301	1,341	1,325	1,502	1,707	2,018
$40,000	2,120	800	778	758	739	941	997	986	1,077	1,302	1,614
$50,000	3,335	800	778	758	739	901	879	858	921	1,076	1,381
$75,000	6,886	820	816	796	813	1,365	1,230	1,201	1,172	1,306	1,592
$100,000	12,556	921	1,019	999	1,218	1,383	1,123	918	774	796	971
$200,000	38,110	1,136	1,654	1,640	1,216	0	0	0	0	0	0
$500,000	136,557	2,464	4,291	4,275	7,966	8,344	15,458	15,378	15,298	15,229	15,168
$1,000,000	302,877	4,554	8,491	8,475	16,366	16,744	37,768	37,924	42,591	42,562	46,961

Head of Household with Two Children

Adjusted Gross Income	Current Law Income Tax 2001	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
$10,000	-4,000	0	0	0	0	0	0	0	0	0	0
$20,000	-2,553	735	709	670	650	811	768	744	720	845	1,133
$30,000	751	700	681	663	646	811	791	772	753	908	1,214
$40,000	2,555	700	681	663	646	811	791	772	753	908	1,214
$50,000	3,770	700	681	663	646	811	791	859	1,008	1,306	1,592
$75,000	8,862	779	838	821	958	890	775	667	560	617	828
$100,000	15,532	680	846	834	1,048	353	184	0	0	0	0
$200,000	41,655	672	506	492	517	0	0	0	0	0	0
$500,000	138,931	2,399	4,284	4,270	8,053	8,041	16,002	15,994	17,685	17,615	17,554

Note: Assumes all income is from earnings, both spouses in the married couple work, both children qualify for the child credit, itemized deductions are 19 percent of income, and state and local income tax deductions are 40 percent of total itemized deductions.

Source: Joint Economic Committee, Democratic Staff.

Table 2

Dollar Amount of Tax Cut for Single Households

(2001 dollars)

Adjusted Gross Income	Current Law Income Tax 2001	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
$10,000	328	128	128	128	126	126	127	127	126	127	126
$20,000	1,883	300	292	284	277	270	264	257	293	292	293
$30,000	3,210	300	292	284	277	270	264	257	293	292	293
$40,000	4,744	312	316	308	323	316	333	326	361	361	362
$50,000	7,012	353	397	389	485	478	576	569	604	604	605
$75,000	12,682	454	599	591	890	883	1,183	1,177	1,212	1,212	1,212
$100,000	18,728	555	802	794	1,295	1,288	1,791	1,784	1,819	1,819	1,820
$200,000	46,240	978	1,648	1,640	2,988	2,965	2,526	2,095	1,674	1,271	871
$500,000	141,715	2,245	4,181	4,173	8,053	8,046	15,426	15,420	17,080	17,073	18,698

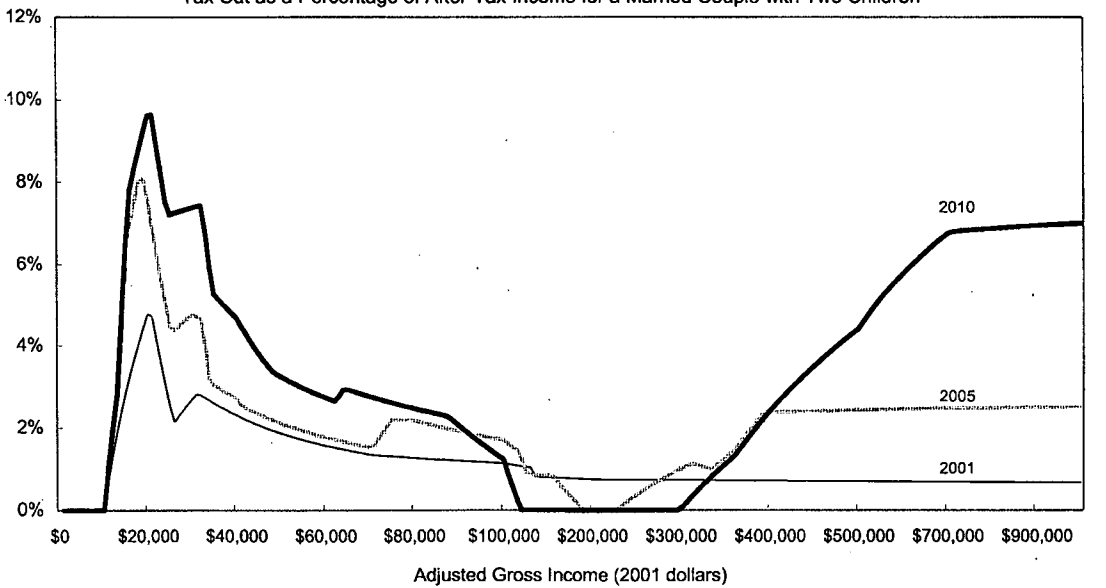
Note: Assumes all income is from earnings, itemized deductions are 19 percent of income, and state and local income tax deductions are 40 percent of total itemized deductions.

Source: Joint Economic Committee, Democratic Staff.

Figure 1

Benefits Shift in Favor of Higher-Income Families over Time

Tax Cut as a Percentage of After-Tax Income for a Married Couple with Two Children

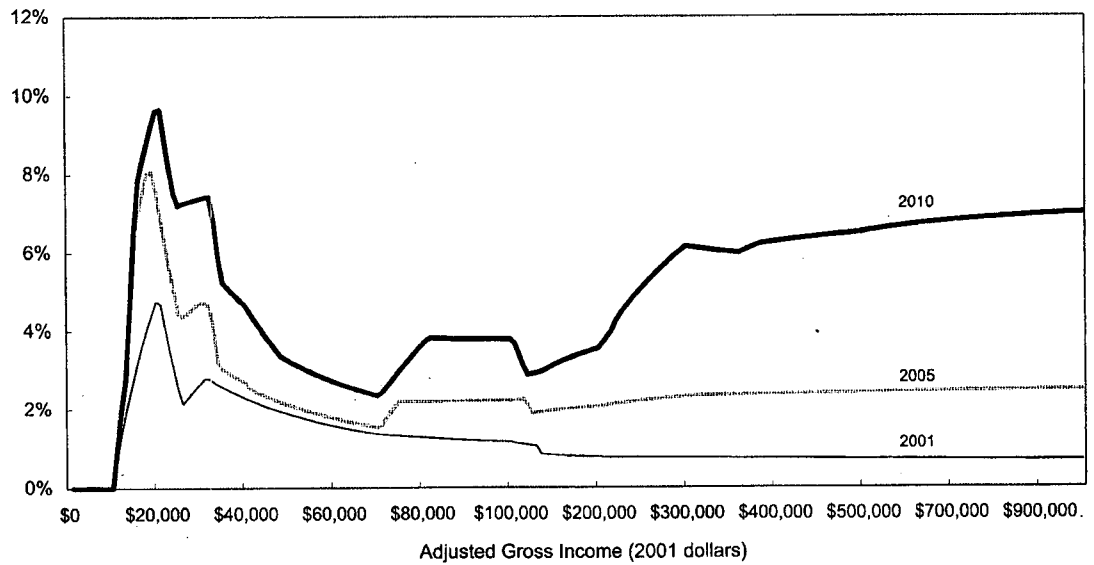


Note: Assumes all income is from earnings, both spouses work, both children qualify for the child credit, itemized deductions are 19 percent of income, and state and local income tax deductions are 40 percent of total itemized deductions.
Source: Joint Economic Committee, Democratic Staff.

Figure 2

Tax Cut Would Be Less Progressive If Not for the AMT

Tax Cut as a Percentage of After-Tax Income for a Married Couple with Two Children In the Absence of the AMT

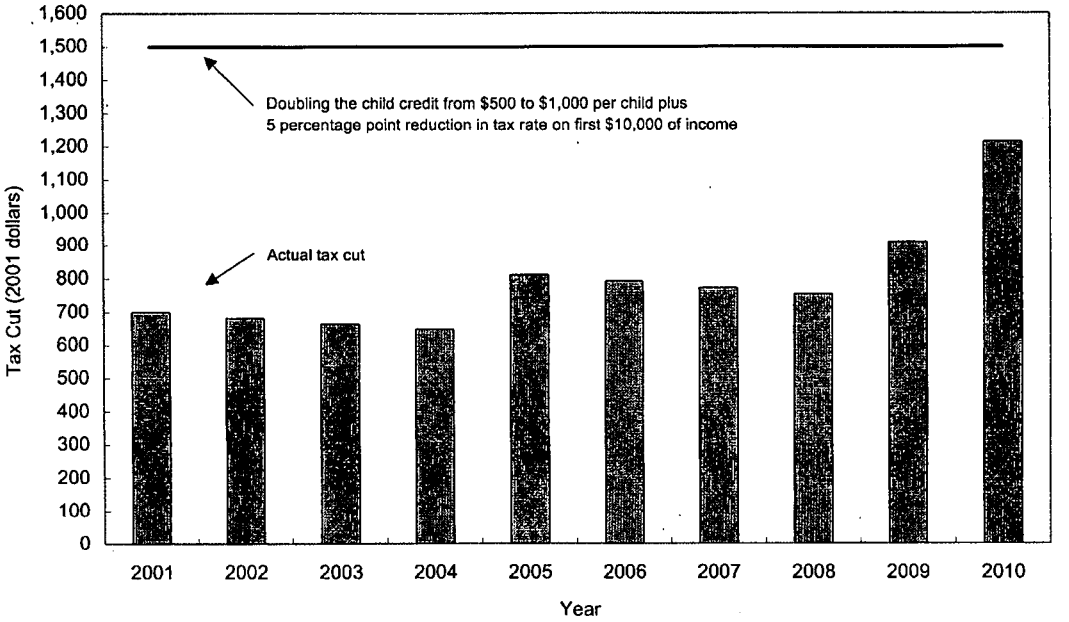


Note: Assumes all income is from earnings, both spouses work, both children qualify for the child credit, itemized deductions are 19 percent of income, and state and local income tax deductions are 40 percent of total itemized deductions.
Source: Joint Economic Committee, Democratic Staff.

Figure 3

Tax Cut Is Less Than Promised for Single Parents

Tax Cut for a Single Parent with Two Children and Income between $25,000 and $45,000

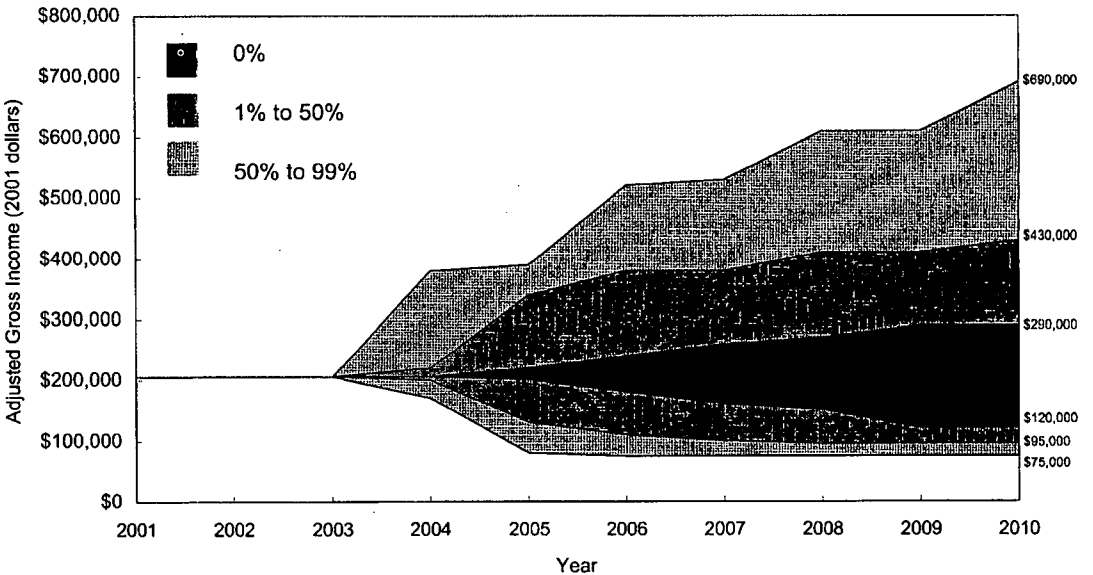


Source: Joint Economic Committee, Democratic Staff.

Figure 4

AMT Reduces or Eliminates the Tax Cut for Many

Percent of Tax Cut Remaining after AMT for a Married Couple with Two Children

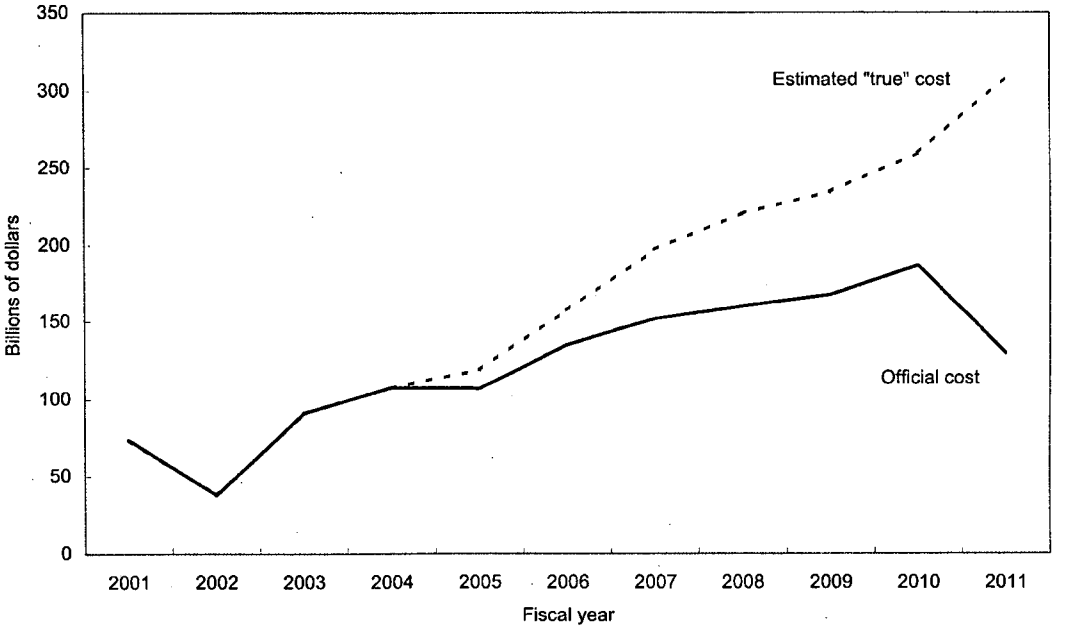


Note: Assumes all income is from earnings, both spouses work, both children qualify for the child credit, itemized deductions are 19 percent of income, and state and local income tax deductions are 40 percent of total itemized deductions.

Source: Joint Economic Committee, Democratic Staff.

Figure 5

Cost of Tax Cut Is Greater Than Advertised



Sources: Official cost is from Joint Committee on Taxation; estimated "true" cost is based on Center on Budget and Policy Priorities estimates.

Myths About the Estate Tax: Rhetoric versus Reality

May 17, 2001

EXECUTIVE SUMMARY

President Bush and many Congressional Republicans have argued that repeal of the estate tax is an essential element of their tax proposal. However, much of the rhetoric about the importance of repealing the estate tax seems to be based more on myth than on reality. The economic evidence discussed in this report contrasts the following myths and realities:

Myth: *The estate tax is a "death tax."*

Reality: The overwhelming majority of Americans face no tax liability under the federal estate tax when they die. Only very large estates are taxed.

Myth: *The estate tax is a "double tax" that significantly reduces the size of the capital stock and hampers economic growth.*

Reality: Unrealized capital gains that have never been taxed are a significant amount of the wealth in estates. The impact of the estate tax on investment and growth is ambiguous.

Myth: *Evasion and avoidance of the estate tax greatly reduce the amount of revenue that is collected, rendering the tax both inefficient and regressive.*

Reality: The estate and gift tax raises significant revenue and is highly progressive, even accounting for any distortionary costs associated with the tax.

Myth: *The estate tax is especially burdensome on family-owned businesses and farms.*

Reality: Only a small fraction of taxable estates consist primarily of small business or farm assets, and there are already special provisions to ease the burden of the estate tax on small businesses and farms. Forced liquidation due to the estate tax is extremely rare.

Myth: *Charitable giving would be unaffected by repeal of the estate tax.*

Reality: The most recent empirical evidence suggests that eliminating the estate tax would reduce both charitable bequests and charitable contributions by a noticeable amount.

Myth: *Repeal of the estate tax is affordable and is necessary to grant significant tax relief.*

Reality: The bills before the Congress as part of the 2001 tax debate understate the full cost of repealing the estate tax because they delay full repeal until the end of the 10-year budget window. Simply raising the exemption level would cut the revenue loss substantially while still benefiting many taxpayers.

Myth: *The estate tax can be easily replaced by a change in capital gains taxation.*

Reality: Modifying capital gains rules to more fully tax gains at death would add its own complexities and induce new forms of tax shelters.

Myths About the Estate Tax: Rhetoric versus Reality

President Bush and many Congressional Republicans have argued that repeal of the estate tax is an essential element of their tax proposal. However, much of the rhetoric about the importance of repealing the estate tax seems to be based more on myth than on reality. Economic evidence and analysis show that reality is quite different from several popular myths.

Myth: ***The estate tax is a "death tax."***

Reality: The overwhelming majority of Americans face no tax liability under the federal estate tax when they die. Only very large estates are taxed.

About 2½ million adults died in 1999, but only 49,870 estates incurred a tax liability. In other words, fewer than 2 percent of adult deaths resulted in any estate tax liability.

Current law provides a "unified credit" that effectively exempts $675,000 from the estate and gift taxes, on top of the gift-tax exclusion of $10,000 per recipient per year. For married couples, the gift-tax exclusion and unified credit apply separately with respect to each spouse. Thus, a couple can transfer $20,000 per child tax free in *each year* of their lives, and an additional $1.35 million tax free as bequests. The unified credit is already scheduled to increase, in stages, to $1 million by 2006, so that a married couple could transfer up to $2 million without either spouse's estate incurring any estate tax liability.

Myth: ***The estate tax is a "double tax" that significantly reduces the size of the capital stock and hampers economic growth.***

Reality: Unrealized capital gains that have never been taxed are a significant amount of the wealth in estates. The impact of the estate tax on investment and growth is ambiguous.

Unrealized capital gains are not taxed under the federal income tax; thus, individuals who accumulate unrealized gains in their estates have not yet been taxed on those gains. Under current law, beneficiaries will never incur any income tax liability on these gains either. Economists James Poterba and Scott Weisbenner have recently estimated that 36 percent of wealth in all taxable estates is in the form of unrealized capital gains that will not be subject to the individual income tax. For estates that exceed $10 million, the figure is 56 percent.

In theory, the estate tax could discourage the buildup of wealth because, once wealth exceeds the exempted amount, only a portion of each additional dollar of saving is passed on to beneficiaries.

However, it could also encourage wealth accumulation to the extent that people have an after-tax target for the amount of wealth they would like to pass on.

To the extent that repealing the estate tax increased capital formation, it would have to do it by increasing national saving. But that outcome is highly uncertain for a number of reasons. First, for saving to increase, the positive effect of a larger return to saving (what economists call the "substitution effect") would have to offset the negative effect of a reduced need to save to achieve any given target of wealth (what economists call the "income effect"). Second, even without any income effect, the positive response to the higher rate of return could be very small, depending on the motives for saving and bequests. Economists have identified a number of possible motives, with differing implications for whether repealing the estate tax would encourage or discourage saving—but they have not reached a consensus on which are the most important. As a recent Congressional Research Service report by Jane Gravelle and Steven Maguire explains, the overall effect of repeal on a decedent's saving is never unambiguously positive, no matter what the motives explaining bequests, while the effect on the heirs' saving can often be unambiguously negative (because an increase in or even the anticipation of receiving wealth encourages greater consumption out of current income).

Some economists believe that the estate tax inhibits other sources of economic growth. For example, a 1999 analysis by Douglas Holtz-Eakin 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. But as William Gale and Joel Slemrod 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. 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's 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.

Economic analysis of the effects of estate taxes or marginal tax rates 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 national saving unchanged. However, to the extent that repealing the estate tax is an alternative to greater debt reduction, this analysis is incomplete. The loss in national saving due to smaller debt reduction is very likely to exceed any gain from the repeal of the estate tax.

Myth: ***Evasion and avoidance of the estate tax greatly reduce the amount of revenue that is collected, rendering the tax both inefficient and regressive.***

Reality: The estate and gift tax raises significant revenue and is highly progressive, even accounting for any distortionary costs associated with the tax.

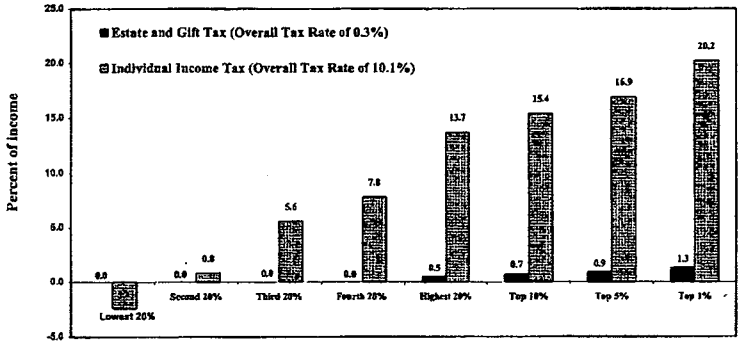
The federal estate and gift tax collected about $29 billion in revenue in 2000. In addition, the federal credit for state estate or inheritance taxes, which acts as a transfer to states that maintain their own estate or inheritance taxes, contributed about $6 billion to state tax revenues. The CBO estimates that the federal tax alone will raise $380 billion over the next ten years.

Economists recognize that taxes can impose efficiency costs in addition to the direct revenue effects. As discussed in the previous section, however, the evidence on whether saving and investment are much affected by the estate tax is mixed at best. Economists have come to learn that the kinds of distortions most likely to occur are associated with sophisticated tax and estate planning (for example, labeling given amounts of capital income in ways that minimize tax burdens) rather than effects on real economic decisions (such as choosing to save instead of consume). This view of which motivations matter most is supported by a number of papers in the conference volume examining the 1986 tax reform, *Do Taxes Matter?* edited by Joel Slemrod.

Some have used the fact that the largest estates pay slightly lower average tax rates than somewhat smaller estates to argue that the estate tax is not progressive. And in fact, tax data from 1999 indicate that the average tax rate paid by estates of $20 million or more was 19.7 percent of the gross estate value, which was lower than the 27.1 percent of gross value paid by estates valued between $10 million and $20 million. But this difference arises because the richest estates qualified for much higher deductions, mainly associated with their charitable bequests. In other words, the estate tax is progressive among estates according to the value of the *net* taxable estate. In absolute dollar terms, the estate tax collects far more tax from the largest gross estates than it does from estates in the next largest category.

Progressivity should be assessed across the entire income distribution, not just among those who pay any particular tax. In this proper context, the estate tax is by far the most progressive form of federal taxation. Receipts are highly concentrated in the highest income categories, as are any costs associated with avoidance. The estate tax is the most progressive because the distribution of bequeathed wealth is more concentrated than the distribution of wealth in general, which is already much more concentrated than the distribution of income. Although the estate tax is a much smaller share of overall federal tax receipts than is the income tax, the estate tax adds to the progressivity of the overall federal tax system because it is more progressive than the income tax (see chart on next page). The Treasury analysis shown in the chart follows the standard methodology of distributing the estate tax across decedents, but Gale and Slemrod have shown that the distribution is almost as concentrated when the tax is distributed to beneficiaries. This is because both the decedents and the beneficiaries of estates large enough to be subject to the estate tax tend to have high incomes.

Distribution of Estate and Income Tax Receipts by Income Group



Source: Cronin, Office of Tax Analysis, U.S. Treasury Department (1999)

Myth: ***The estate tax is especially burdensome on family-owned businesses and farms.***

Reality: Only a small fraction of taxable estates consist primarily of small business or farm assets, and there are already special provisions to ease the burden of the estate tax on small businesses and farms. Forced liquidation due to the estate tax is extremely rare.

Family-owned businesses and farms already get special treatment under the estate tax through three main channels: higher effective exemptions, tax deferral, and preferential valuation of assets. The Congressional Research Service report cited above estimates that only about 7.5 percent of farm owner decedents, and 4.4 percent of business owner decedents, pay taxes on their estates. The same report estimates that very few of these lack enough liquid assets to pay their estate tax: even without accounting for the special exemptions granted to these family-owned businesses and farms, only 3 to 4 percent of estates would be at risk for lacking enough liquid assets. Given the larger exemption available to small businesses and farms under current law, the 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." Indeed, the *New York Times* recently reported that an Iowa State University economist has not been able to find a single documented example of a family farm lost to the estate tax. Nor could the American Farm Bureau Federation cite an example.

In addition, small businesses and farms are even less likely than taxable estates in general to have paid capital gains taxes. Poterba and Weisbenner found that 82 percent of all business and farm assets within estates larger than $10 million are unrealized capital gains. In other words, the vast majority of the value of large farm estates has never been taxed by the income tax system.

Myth: Charitable giving would be unaffected by repeal of the estate tax.

Reality: The most recent empirical evidence suggests that eliminating the estate tax would reduce both charitable bequests and charitable contributions by a noticeable amount.

One way to avoid paying the estate tax is to draw down one's potentially taxable estate by giving to charity, either during one's lifetime or as a charitable bequest at death. Thus, one concern about estate tax repeal is that it would reduce charitable giving.

As with the economic research on how taxes affect saving, the existing body of research examining the effects of the estate tax on charitable giving does encompass a broad range of predictions. But the most recent analyses using the most sophisticated econometric techniques find a positive and significant relationship between estate taxes and lifetime charitable giving. David Joulfaian, a Treasury Department economist, has estimated that eliminating the estate tax would reduce charitable bequests by about 12 percent, or about $1.3 billion in 1998. Pamela Greene and Robert McClellan, Congressional Budget Office economists, recently estimated that repeal of the estate tax would decrease charitable contributions (annual giving) by about 6½ percent.

Myth: Repeal of the estate tax is affordable and is necessary to grant significant tax relief.

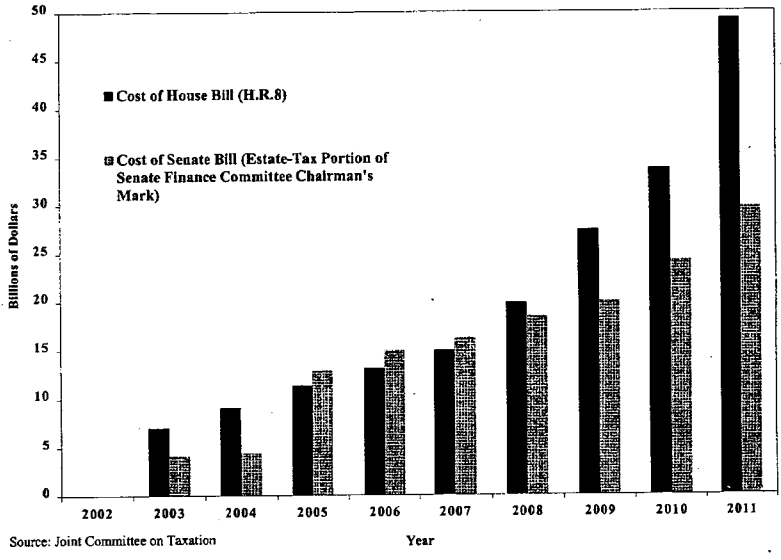
Reality: The bills before the Congress as part of the 2001 tax debate understate the full cost of repealing the estate tax because they delay full repeal until the end of the 10-year budget window. Simply raising the exemption level would cut the revenue loss substantially while still benefiting many taxpayers.

The House and Senate proposals to repeal the estate tax mask the permanent cost of repeal due to severe "backloading" (see chart on next page). With the estate tax not fully repealed until 2011 (the last year of the budget window), the 10-year cost greatly understates the fully phased-in cost of the plan. For example, the Joint Committee on Taxation estimated that the House version (H.R. 8) would cost $186 billion between 2002 and 2011—less than one-third of the 10-year cost they estimated for immediate repeal ($662 billion). The costs of repeal include interactions with other taxes reflecting tax avoidance strategies.

The Senate version tried to address the avoidance issue by repealing only the estate tax while preserving the gift tax. But pressure to repeal the gift tax could mount as well. Iris Lav of the Center on Budget and Policy Priorities estimates that if estate tax repeal leads to eventual gift tax repeal, the actual revenue loss from the Senate plan could be as much as 80 percent higher than the Joint Committee on Taxation's $144 billion estimate.

Federal estate tax repeal would hurt state budgets, too. Citizens for Tax Justice has estimated that states could lose up to $18.5 billion per year from repeal of the federal estate tax. Most of that loss arises from the loss of the federal credit for state estate and inheritance taxes, while part is due to the likely pressure there would be for states to repeal their own supplemental estate or inheritance taxes.

House and Senate Estate Tax Bills Hide the Permanent Cost of Repeal

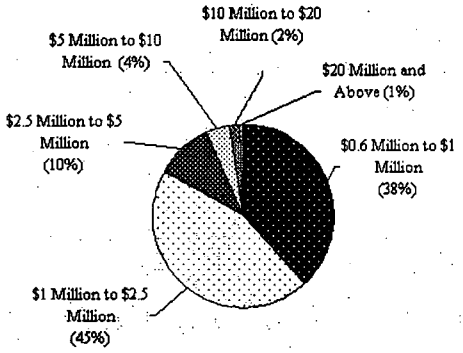


Source: Joint Committee on Taxation

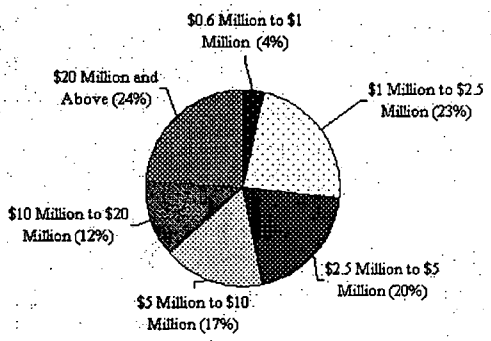
An alternative to repeal that would greatly reduce the revenue loss would be to raise the exemption level. For example, raising the estate tax exemption to a level of $5 million per estate would exempt all but a few of the largest estates from taxation. Tax data indicate that in 1999, only 3,283 estates—about 6.6 percent of all taxable estates—had a value of $5 million or more (see chart on next page). These 3,283 estates paid over half of total estate tax revenues, implying that the cost of going to full repeal would be greatly higher than the cost of raising the exemption, but would benefit only a small additional fraction of currently-taxable estates. (Note that *all* taxable estates, including those 6.6 percent at the top, would benefit from the higher exemption, because only the portions exceeding $5 million would be taxable.)

The Small Fraction of Estates Over $5 Million Pay the Bulk of the Estate Tax

Taxable Estate Returns by Size of Gross Estate, 1999



Share of Net Estate Taxes by Size of Gross Estate, 1999



Note: Gross estates below about $600,000 were exempt from estate taxation because of the unified credit.
Source: JEC calculations based on Internal Revenue Service, Statistics of Income Division, May 2001.

Myth: ***The estate tax can be easily replaced by a change in capital gains taxation.***

Reality: **Modifying capital gains rules to more fully tax gains at death would add its own complexities and induce new forms of tax shelters.**

Current capital gains tax rules allow assets to be revalued when they are transferred at death, without either the estate or the beneficiary having to pay any income tax on the resulting capital gains (although those gains might be subject to the estate tax if the estate is large enough). If and when an heir eventually sells the asset and realizes a gain, the capital gains tax is paid on the difference between the sale price and the "stepped-up" basis. (The tax would be zero if the heirs sold the asset immediately.) Because one argument for keeping the estate tax has been that it serves as a backstop for the income tax, some specific repeal proposals include a "carry-over basis" provision that limits (but does not eliminate) the step-up allowed under current law. Experts believe that these changes to capital gains rules would replace only a small fraction of the revenues lost by estate tax repeal. Capital gains taxes can still be avoided as long as the capital gains remain unrealized. Moreover, tax attorneys have argued convincingly that new income-tax avoidance strategies will be devised, as the Joint Committee on Taxation has acknowledged in its revenue estimates. Implementing carry-over basis is also likely to increase, rather than decrease, the complexity of the overall tax system, even with repeal of the estate tax.

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Who Faces the Highest Marginal Tax Rates?

May 8, 2001

EXECUTIVE SUMMARY

Cutting marginal tax rates for all taxpayers is a centerpiece of the Republican tax plan. In particular, reducing the top personal income tax rate from 39.6 to 33 percent is touted as essential, both to decrease taxes for those who face the highest burdens and to stimulate economic growth.

But there are several problems with this position:

- **Reducing the top rate will make no difference to the taxes paid by more than 99 percent of all taxpayers.** Fewer than one percent of taxpayers have incomes high enough so that they currently face the 39.6 percent tax rate, while two-thirds of taxpayers face a top marginal income tax rate of 15 percent. Taxpayers in income brackets below the top would receive no benefits at all from a cut in the top rate.

- **Reducing the tax rate paid in the lowest tax bracket, in contrast, would reduce taxes for almost everyone who pays income taxes, regardless of income level.** All income taxpayers pay the lowest rate on at least part of their incomes, so all would benefit from a reduction in the lowest rate. At the same time, taxpayers at the lowest income levels would also get to keep a larger share of each additional dollar they earned.

- **High marginal tax rates are at least as much of a problem for many families at the lower end of the income distribution as for those at the top.** In fact, because some taxes and tax credits phase out before the top income range, low and moderate-income families may get to keep a smaller share of each additional dollar they earn than do families in the highest income tax bracket.

- **The effects of rate reductions on work incentives could be at least as important for lower-income families as for high-income ones.** Reducing marginal rates at the bottom could encourage low-income households to work more hours—a move that would give them little additional income under current tax rates. Research suggests that reducing rates at the top end, if it has any effect at all, is most likely to encourage the spouses of high-earning workers to get jobs rather than stay at home.

- **To the extent that rate cuts produce economic stimulus, cuts affecting lower-income taxpayers are likely to be the most effective.** Lower-income households are more likely than those at the top of the distribution to spend any additional dollars that they take home, which would increase the immediate economic impact of the tax cuts.

I. Marginal versus average tax rates: Which tax rates are high, and for whom?

A longstanding principle of our tax systems is that taxes should be based on ability to pay. The system is progressive, with higher-income taxpayers paying a higher share of their income in taxes. For example, a family with a total income of $160,000 might owe as much as $40,000, or 25 percent of their total income, in federal taxes. A similar-sized family with an income of $30,000, in contrast, would owe much less—perhaps $4,500, counting payroll taxes. The *average* tax rate for this family—their total tax payments divided by their total income—would therefore be much less: about 15 percent, compared with the 25 percent paid by the higher-income family. Of course, the actual take-home, after-tax income of the lower-income family would still be much lower—about $ 25,500, compared with $120,000 for the higher-income family.

If each of these families gets a similar-sized increase in pay, the progressiveness of the tax system means that the higher-income family will pay a larger proportion of that increase to the government in taxes, and their share of the total taxes paid will go up. But when we have a situation like the one that we've seen in the last decade—when before-tax income increased much more for people at the top of the income scale than it did for others—the share of after-tax income going to higher-income families can increase as well.

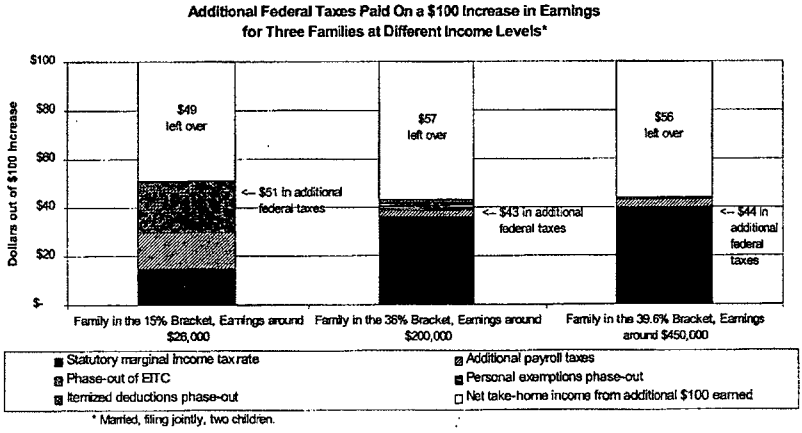
The reason why taxes go up as a share of total income as income rises is that incomes at different levels are subject to different statutory tax rates under the personal income tax system. For example, a family of four that takes the standard deduction and claims four exemptions would pay no income taxes on their first $25,000 or so in earnings. They would pay 15 cents in income taxes out of every additional dollar they earn over this exemption level, up through about $70,000 in annual earnings. At annual earnings of $70,000, only the $45,000 in income that they earn over the exemption level would actually be counted as *taxable income.* If such a family has additional earnings above $70,000, say, $80,000, these additional earnings would place them in the 28-percent tax bracket. However, this higher tax rate of 28 percent would apply only to the $10,000 of taxable income they received that was over the $70,000 threshold. Such a family's *marginal* tax rate would be 28 percent, because they would now be paying 28 cents in income taxes out of each additional dollar that they earn, but their *average* tax rate would be well below 28 percent, because they would still be paying 15 cents in income taxes out of each dollar on most of their income, and no income tax at all on some of their income. Overall, this family would pay about $9,550 in income taxes (15 percent of the amount between $25,000 and $70,000, plus 28 percent of the amount over $70,000), giving them an overall average income tax rate of just under 12 percent.

Marginal tax rates therefore measure the *change* in tax liability associated with a specific *change* in income, and comparing marginal rates can reveal how the tax system affects

incentives to work more or to save more. Marginal tax rates are affected by the statutory rate structure built into the tax system—the specific tax rates associated with particular income brackets—but they are also affected by other factors that influence taxable income and take-home pay. Lower-income taxpayers pay a marginal income tax rate of 15 percent on their earnings, for example, but that doesn't mean that they actually get to keep 85 cents out of each additional dollar they earn. In addition to the 15 cents in income tax, they bear the burden of additional payroll taxes, and they may lose additional sources of support as their eligibility for tax credits such as the Earned Income Tax Credit (EITC) phases out.

As a result, the *effective* marginal tax rate—the marginal tax rate taking all tax-related changes in income into account—that families face may be substantially higher than the statutory marginal income tax rate for families in their tax bracket. While the statutory tax rate at the bottom of the taxable income scale is only 15 percent, many lower-income working families will actually lose a much larger proportion of each additional dollar they earn to taxes. For example, for each additional dollar earned at incomes under the payroll tax ceiling a family's payroll taxes go up by another 15.3 cents—7.65 percent taken directly from their paychecks, and another 7.65 percent paid for them by their employers. Most economists believe that the employer's share of the tax eventually comes out of wages also, because employers in competitive industries will be forced to offer lower wages than they otherwise would have if they are to pay the tax and still price their products competitively. In addition, families with two or more children who fall into the lower part of the15-percent tax bracket will have incomes in the "phase-out" range of the EITC, and would lose 21 cents in tax credits with an additional dollar of earnings. Thus, even considering just *federal* taxes, the *effective* marginal tax rate facing some families in the lowest statutory tax bracket can be not just 15 percent, but instead, over 50 percent.

Effective marginal tax rates are even higher for still lower-income households just above the poverty level, who are (ironically) "exempt" from the income tax because their incomes are so low. Accounting for the changes that would occur in such a family's food stamps and other forms of assistance (such as child care and health care subsidies) as a result of an increase in earnings, the overall effective marginal tax rate can reach 100 percent or more, as benefits disappear just as fast as income increases! In other words, some households face the prospect of "no net gain" from an increase in their before-tax labor income. A major goal of welfare reform was to "make work pay" for such families, and increased earnings disregards in many states' welfare programs have helped to lower these high marginal rates. But unfortunately, earnings disregards generally phase out over time, leaving long-term low-income workers with children in just as awkward a position as they were in before.



In contrast, although highest-income households are subject to phase-outs of their own, their effective federal marginal tax rates fall well short of the effective rates facing those lower-income families subject to EITC phase-out (see figure below). The highest effective marginal rates among high-income households are those of taxpayers in the 36-percent bracket who are also subject to phase-outs of personal exemptions and itemized deductions—but these features boost effective rates by only a few percentage points at most. (Taxpayers in the very top 39.6-percent bracket are well above the phase-out range for personal exemptions, implying that that particular phase-out adds nothing to their effective marginal rate.)

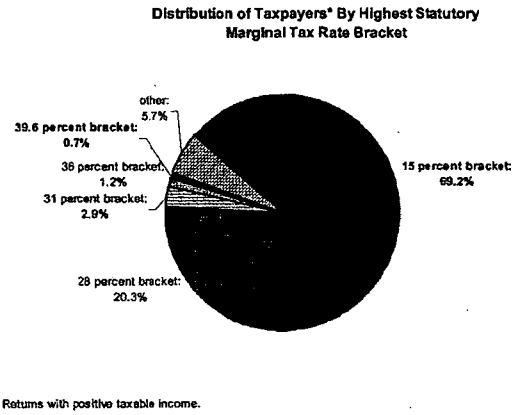
Adding the effects of federal-level payroll taxes to the marginal tax rate calculation raises higher-income effective marginal rates much less than it raises lower-income effective rates. That is because the Social Security (OASDI) portion of those taxes is collected only on earnings up to about $80,000 per earner (resulting in a zero marginal tax rate above that level), while the Medicare HI portion of those taxes—with no taxable maximum—is only 2.9% of the 15.3% total payroll rate. Thus, payroll taxes bring the high-end effective marginal tax rate up to no more than 44 percent for families in the 36-percent income tax bracket (which starts at over $166,500 in taxable income), unless the family has large amounts of unearned income or includes at least three earners all filing on the same tax return. Incomes high enough to be in the 36- or 39.6-percent brackets would be well past the phase-out levels of other tax preferences such as child credits, dependent care credits, and Individual Retirement Accounts, so these features would not add anything to such families' effective marginal tax rates. (Note that to face a statutory marginal rate of 36 percent in 2001, a married-couple family must have *taxable* income—income after exemptions and deductions—of over $166,500; to be in the 39.6-percent bracket, taxable income must exceed $297,350.).

Additional Federal Taxes Paid with a $100 Increase in Earnings for Three Families at Different Income Levels (married taxpayers filing jointly, two children)

Federal Tax Feature:	Family in the 15% Bracket, Earnings around $26,000:	Family in the 36% Bracket, Earnings around $200,000:	Family in the 39.6% Bracket, Earnings around $450,000:
Statutory marginal income tax rate	$15	$36	$40
+ Additional payroll taxes	$15	$3	$3
+ Phase-out of EITC	$21	$0	$0
+ Phase-out of child tax credit, IRAs	$0 (income too low)	$0 (income too high)	$0
+ Phase-out of personal exemptions	$0 (income too low)	$3	$0 (income too high)
+ Phase-out of itemized deductions	$0 (income too low)	$1	$1
Total additional federal taxes due to $100 increase in earnings:	$51	$43	$44

II. Who would benefit from a cut in the top marginal tax rate?

One of the reasons why a cut in the top marginal rate would be unlikely to affect the economy in any significant way is simply because it would affect very few taxpayers. The IRS's Statistics of Income (tax return data) indicate that in tax year 1997, of the 99,217,292 total returns filed, only 691,359 of them (or just seven-tenths of one percent) had taxable income high enough to be subject at all to the top (39.6 percent) marginal rate. Even including the second-highest bracket of 36 percent, fewer than 2 percent of taxpayers faced either of the top two statutory marginal tax rates. In contrast, nearly 69 million taxpayers—more than two-thirds of all taxpayers—had taxable income low enough so that their last dollars earned were taxed at the bottom statutory rate of 15 percent. Among single-parent heads of households, the contrast is even starker: fewer than one-half of one percent of those taxpayers were in the top two brackets,



while 89 percent were in the 15-percent bracket. Thus, the vast majority of taxpayers would not benefit from a reduction of the top marginal tax rates.

III. Why are marginal tax rates so high at the bottom?

The Earned Income Tax Credit is at least part of the reason why some low-income families face high marginal tax rates. The credit helps many low-income families, but it can raise marginal tax rates for some workers. The credit unambiguously increases incentives for individuals to go to work: in order to receive any of the credit, one must have earnings. In fact, over a "phase-in" range at very low incomes (up to around $10,000 for families with two or more children), it encourages people to increase their earnings, by contributing an extra 40 cents for each additional dollar earned. But past the income range in which families qualify for the maximum credit, the EITC is phased *out* as earnings increase. This adds over 21 percent to the effective marginal tax rate for families with two or more children, hence *reducing* the incentive for a low-income worker to increase hours or move to a higher-paying job. Because for some families the phase-out range of the EITC extends into the level of income that is subject to income taxes, families caught in that overlap are subject to some of the highest effective marginal tax rates in the federal tax system. Research has confirmed that the EITC has two different effects: it has a significantly positive effect on labor force participation, but has a smaller negative effect on hours of work for people who are already in the labor market and whose earnings fall into the phase-out range.

Some work disincentives are inevitable in any program targeted to low-income families, because the benefits received must decline as earnings rise if the program is not to be prohibitively expensive. In addition to the federal EITC, many states have come up with their own versions of the EITC that "piggyback" on the federal program. While these state versions add to the size of the overall credit and give people even larger incentive to choose working over not working, the more generous combined EITC implies that even more must be phased out as income rises. Hence, somewhat ironically, state EITCs raise effective marginal tax rates in the phase-out range still further (even as they further boost after-tax incomes). In some cases the state EITC boosts the marginal tax rate by more than 15 additional percentage points.

Despite the inevitable increase in effective marginal rates arising from the EITC phase-out, there *are* ways to expand the generosity of the credit without exacerbating the problems caused by high rates. For example, extending the phase-out range of income while keeping other features the same would reduce the effective marginal tax rate for those currently in the phase-out range, while extending the benefits of the EITC to some families who currently do not qualify. (For newly-eligible families, however, effective marginal tax rates would come up as their tax burdens fell.) Increasing the level of income at which the EITC starts phasing out, even keeping the current phase-out rate, is another option. This would push off the boost in marginal rates to higher income levels and could help "smooth" overall marginal rates, because the EITC's current phase out range is just above poverty level, where many other assistance programs phase out as well.

IV. How can we reduce tax rates for all taxpayers, both at the top and at the bottom?

Proponents of the President's plan often seem to suggest that reducing all marginal tax rates is necessary in order to provide tax relief to all taxpayers. But this again confuses marginal and average tax rates. All families who pay personal income taxes pay the 15-percent marginal rate on at least the first portion of their taxable income. For married-couple families filing joint returns, for example, the first $45,200 of taxable income (that is, income in excess of the roughly $25,000 of deductions and exemptions) is subject to the 15-percent tax rate in 2001. Even if a family's income is high enough to place the last dollars it earns in a higher statutory bracket, a reduction in the bottom statutory rate would still reduce its tax burden. For example, reducing the bottom marginal tax rate from 15 percent to 10 percent on the first $12,000 of taxable income for married couples is worth $600 (5 percent of $12,000) for *all* married couples with taxable incomes greater than $12,000, regardless of their statutory marginal rate bracket. The reduction in the top marginal rates in the President's plan is simply *not* necessary for the purposes of extending tax relief to all taxpayers.

Reductions in the top marginal rates do, however, make up a very large share of the costs of the President's tax cut proposal. The Joint Committee on Taxation estimates that the parts of the President's tax cut plan that reduce tax rates above 15 percent (the 28-, 31-, 36-, and 39.6-

percent brackets) would cost $560 billion over 10 years. Reducing the very top marginal rate alone (which would affect fewer than one percent of taxpayers) accounts for 42 percent of this total cost.

What a reduction in the bottom rate alone would *not* do, however, is reduce effective marginal tax rates at the top of the income distribution. Given this, the potential economic benefits of reducing the top marginal rate must be evaluated relative to the potential benefits from alternative ways of reducing taxes. Research suggests that any positive effects from such marginal rate reductions on saving and labor supply would be small. Economists have found that the people most likely to respond to reductions in the top statutory marginal tax rates are women who are secondary earners married to high-wage men—in other words, women whose earnings tend to be discretionary in nature. Their high-paid husbands, in contrast, are generally already working more than full-time, and are quite unlikely to change their labor supply in response to relatively small changes in marginal tax rates. Encouraging increased labor supply from high-income secondary earners would not necessarily be more productive than encouraging low-income workers with incomes near the poverty level to increase their hours or move to a higher-paying job.

Moreover, cutting the top statutory marginal tax rates is costly in terms of revenue loss because the tax rate on every dollar above the top rate threshold would be reduced. If a reduction in the top rates means a larger overall tax cut, the potential economic benefits of that rate cut must be weighed against the costs associated with the decreased public saving that would result from it. In the long run, economic growth depends on saving and investment. A large reduction in the federal surplus will reduce public saving, and it is unlikely to be offset dollar for dollar by an increase in private saving. This will in turn reduce the total pool of resources available for future investment.

The Administration has recently argued that more public saving is not currently needed, and that indeed the economy may be moving into a recession and needs fiscal stimulus. If that is the case, tax cuts focused on those in the top brackets are likely to be relatively ineffective, since research shows that low-income families are much more likely to spend any additional resources they get than are higher-income ones. And for a given aggregate size of the tax cut package, the benefits of a high-end rate reduction that affects hardly anyone ought to be compared with the benefits from an alternative that would provide more significant relief for *all* taxpayers.

The President's tax plan includes other pieces beyond the reduction of statutory marginal tax rates, some of which could potentially benefit lower-income taxpayers. One such feature is the proposed doubling of the child tax credit. This would benefit the family with $26,000 in income featured above, by reducing their taxable income down below the new, higher exemption level that would result from the increased allowance for each child. Thus, their effective marginal tax rate would be reduced from 51 percent to 36 percent, because the component of taxes resulting from the statutory tax rate of 15 percent would be wiped out. The increased exemption level would also benefit some higher-bracket families who are close to the bottom of

their tax bracket, and hence would be pushed down to a lower one. But without making the child tax credit refundable, the President's plan still does nothing to reduce the very highest of effective marginal tax rates, those facing families with incomes just above the poverty level. The JEC Democratic staff is now preparing an additional study that will further explore how different tax proposals would affect the marginal tax rates and overall tax burdens of low-income families.

V. Conclusion

In conclusion, high marginal rates are paid not only by the small number of taxpayers at the very top of the income distribution, but also by many taxpayers in lower tax brackets. This problem particularly affects low-income earners with children who have earnings in the phase-out range of the EITC. If the policy goal is to allow families to keep more of each additional dollar that they earn, it is these families who most need our attention. Reducing the top statutory tax rate from 39.6 percent to 33 percent would affect fewer than one percent of taxpayers, but would account for 42 percent of the total costs of reducing marginal tax rates above 15 percent. These dollars could be much better spent to reduce taxes for all taxpayers, and particularly for those lower-income families who actually face the highest marginal tax rates; to reduce debt; or to meet high-priority national investment needs.

Assessing Losses for the Airline Industry and Its Workers in the Aftermath of the Terrorist Attacks

October 3, 2001

EXECUTIVE SUMMARY

In response to urgent pleas from the airline industry and President Bush, Congress has enacted the Air Transportation Safety and System Stabilization Act (the 'airline bill') to help the airline industry deal with the financial ramifications of the September 11th attacks.

The bill provides $5 billion in direct cash grants to the industry to be distributed among airlines according to their share of total available seat miles before the attack. Loan guarantees worth $10 billion are also included in the package. For the next six months, the bill also provides compensation to airlines for increased insurance costs and limits the liability for third party damages resulting from an act of terrorism. At the same time, the possibility of punitive damages being awarded as a result of a terrorist act has been eliminated.

This analysis finds that the industry losses are probably not as high as industry analysts have suggested, either for the four-day government stoppage or for future losses. The actual loss from the four-day shut down was probably between $850 million and $1.1 billion, not the $1.4 billion estimated by the industry. Prior to the attacks, Wall Street was predicting losses for September of $540 million dollars, or about five percent of revenues per day. Subtracting the five percent that the airlines would have lost anyway would reduce the estimated costs of the government stoppage to between $815 million and $1 billion.

The industry estimate of losses for the last 19 days of September totals $5 billion; however, the JEC Democratic staff finds that actual losses are likely to be between $3.25 and $4 billion. Even this estimate is likely to be on the high side, as it does not account for the fact that fewer costs are fixed over time. In fact, Wall Street analysts are only projecting between $2 billion and $4.5 billion in additional industry losses through the end of 2001.

While the airline support package does not include any provisions for laid-off workers, a wide range of options exists for aiding workers. Given more realistic loss estimates, it's likely that the airlines could afford to be more generous to workers in providing severance. In addition, airlines also could be required to pay severance as a precondition for receiving government aid or loan assurances.

Congress is also considering separate measures that would address airline security concerns and aid to workers as the industry struggles to regain its footing.

BACKGROUND ON THE AIRLINE INDUSTRY

The airline business is inherently riskier than many others. The industry is capital intensive, meaning that relatively large shares of its costs are fixed and, therefore, must be paid whether or not planes are full or flying. Such costs include leases or loan payments for planes, payments for gates at airports, etc. When business is good, this

gives airlines the chance to make money, as their costs do not rise as quickly as capacity factor (the share of available seat-miles that are paid for) and income. When business is bad, airlines can find life difficult, as costs do not fall as quickly as revenues. This makes the airlines particularly sensitive to the business cycle.

In recent history, the industry as a whole has tended to have relatively low cash reserves, paying most of their operating costs out of concurrent revenues, with some additional cash generated by selling corporate bonds and other borrowing. During the four-day government-imposed shutdown, airlines had essentially no money coming in while they continued to pay their fixed operating costs, forcing them to rely on existing cash balances to pay their bills.

In lean times, airlines can operate for extended periods of time with negative cash flow because revenues will cover a large part of their costs (Pan Am lost money for about a decade before finally closing down). Airlines may have a much shorter survival period under the current, extraordinary circumstances – early estimates put the industry's cash reserves at about 30-days' worth of expenses.

Whether or not an individual airline will declare bankruptcy depends on what happens once it exhausts its cash reserves. If it had been on solid financial ground previously and was expected to return to profitability, it may be able to raise the cash it needs on the bond market or through some other means. If the shutdown had been caused by some extreme weather event that had no impact on future expectations, there would be little concern for the industry beyond weathering the short-term negative cash flow. This is clearly not the case now.

With consumers continuing to stay away, airlines will have a hard time convincing potential lenders that their investments are safe and, therefore, they are likely to face high interest rates. In fact this was already the case for much of the industry preceding the September 11th attacks, when much of the industry's bonds were rated in the high-risk "junk" category. US Airways was in particular trouble, facing possible restructuring or bankruptcy, especially after its failed merger with United Airlines.

AIRLINE BILL PROVISIONS FOR THE INDUSTRY

The Air Transportation Safety and System Stabilization Act (the 'airline bill') includes several different measures to help the airline industry deal with the financial ramifications of the September 11th attacks. In direct cash, the bill provides $5 billion in grants to the industry to be distributed among airlines according to their share of total available seat miles before the attack.

The bill also makes $10 billion of federal money available for airlines to use as collateral on loans. Because the airline business is more risky now than before, the cost of borrowing money could be very high. By providing federal collateral, lenders will be able to rely on the government to pay up to $10 billion in industry loans if the airlines should default. The board charged with overseeing the fund is empowered to require airlines to back this collateral with warrants (basically options) for the federal government to buy airline stock to recoup any actual payout of this $10 billion collateral.

Additionally, the bill provides compensation to airlines for increased insurance costs for the next six months. Liability for third party damages resulting from an act of

terrorism is limited to $100 million per incident, with the federal government assuming liability for the rest, for the next six months. At the same time, the possibility of punitive damages being awarded as a result of a terrorist act has been eliminated.

A fund and process for distributing funds to the victims of the attacks both in the air and on the ground is established by the legislation. Anyone who files for a claim waives the right to sue either United or American Airlines for losses. The size of the fund has not been established, and the amount of compensation an individual receives will be determined based on the actual losses, earnings, and degree to which the claimant's losses are insured. Finally, the bill limits the total liability for United and American Airlines to the amount for which they were insured.

DIRECT IMPACT OF THE GOVERNMENT SHUTDOWN

During the four day 'groundstop' when domestic airlines were essentially completely grounded, the industry incurred substantial hardship. The industry estimated losses of about $1.4 billion, although this is likely to be on the high side. They calculated this number by simply multiplying their daily operational costs of $340 million by four under the presumption that with no money coming in, these expenses would not be recovered.[1]

That approach overestimates the costs for at least two reasons. First, while a relatively high share of the industry's operating costs is fixed, some costs are variable and are thus not incurred if flights are grounded. What share of costs are variable is difficult to determine and depends on the time frame considered. In the short-run, costs often considered variable might actually be fixed.

Under some union contracts, workers will still get paid if flights are cancelled, so that some employee compensation must be paid. Similarly, salaried workers would also continue to be paid through the stoppage. (If the four days were counted against paid leave it would reduce the industry's liabilities because they would be carrying fewer paid employee-days on their books, but it would have no impact on their short-term cash flow.) If the industry expects lean times to persist, they may choose to lay off workers (as almost all U.S. airlines have), so that these costs become variable over longer periods of time.

Jet fuel, which makes up about 15% of operating costs, may be partially fixed in the short run. While airlines are not actually burning fuel as their planes sit on the ground, most airlines likely buy much of their fuel with long-term contracts. If they do not need the fuel, they can break the contract, for which presumably there is a penalty, or they can buy it and store it for use later.

Given that airlines are operating well below capacity and thus have much less need for fuel, it is unlikely that they have the storage capacity to hold four days of fuel along with increasing inventories of any unused fuel purchased since the groundstop was lifted. Whether they reduced fuel purchases by not taking deliveries during the groundstop or by attempting to manage inventories determines when their cash flows

[1] Testimony of the Air Transport Association on the Financial Condition of the Airline Industry, Leo F. Mullin, Chairman and CEO, Delta Air Lines, before the U.S. House of Representatives Committee on Transportation and Infrastructure (9/19/01).

would be affected, but eventually the vast majority of expenses for fuel for the grounded flights will not be incurred. Including them in the loss figure is therefore inappropriate.

Together, employee compensation and jet fuel make up about 50 percent of operating expenses for the industry as a whole (compensation is 35 percent and fuel is about 15 percent). Given this and the fact that about 40 percent of industry employees were covered by collective bargaining agreements in 1998, it is reasonable to expect that 20-35 percent of operating costs during the groundstop were not fixed costs and will not be paid. Therefore, actual losses from the four-day shutdown are likely to be between $850 million and $1.1 billion. However, this analysis focuses only on employee compensation and fuel and does not count other variable costs such as passenger services and maintenance. Some Wall Street analysts estimate much lower costs, estimating that the groundstop cost airlines about $100 million in fixed costs per day.[2]

Additionally, the airline industry analysis assumes that the canceled flights on average would have at least broken even or earned a profit. Imagine, however, a flight that cost $100,000 to operate but that would have only been three quarters full, bringing $75,000 in revenues. The airline would have lost $25,000 on that flight if it had flown.

Imagine now that the government, for whatever reason, canceled that flight. In this example, the cost of the government grounding to the airline would have been the $75,000 in lost ticket revenue. It would have lost the other $25,000 anyway.

Using the industry's calculation method, however, the full $100,000 would have been counted as losses caused by the government grounding. Given that the industry was widely expected to lose about $2 billion for calendar year 2001 (and was expected to incur a 5% loss for September prior to the attacks), it is likely that the average canceled flight would have lost money, so that counting 100 percent of operational expenses as costs of the shutdown overstates the actual cost.[3] Taking these projected losses into account would further reduce the costs of the four-day groundstop to between $815 million and $1 billion.

ONGOING INDUSTRY LOSSES

Obviously, as air travel remains at low levels, airlines will face mounting losses. The industry estimated its losses through the end of September to be about $3.4 billion (in addition to the $1.4 billion they claimed for the four-day groundstop) and losses of about $24 billion in total by the end of June 2002. This is based on the same methodology used by the industry to calculate the costs of the groundstop, and on assumptions that passenger travel will return to 60 percent of what it otherwise would have been by the end of 2001, increasing to 75 percent by the end of March 2002 and to 85 percent by the end of June 2002.

These estimates are also likely to overstate costs, because the airlines are not operating the same number of flights as they had planned, further reducing their variable costs. This is reflected in the fact that the airlines have announced nearly 100,000 layoffs since the attack. Assuming that the airline estimate for the rest of September is off by

[2] See: http://www.dismal.com/thoughts/article.asp?aid=1369

[3] Merrill Lynch as quoted by Reuters on 9/5/01. Available at http://biz.yahoo.com/rf/010905/n05281679.html

about the same proportion as their four-day estimate would reduce the estimate of losses through October 1 from about $5 billion to between $3.25 billion and $4 billion. Even this estimate is likely to be on the high side, as it does not account for the decreasing fixed nature of costs over time, nor does it take into account other variable costs, including maintenance and passenger services. In fact, Wall Street analysts are projecting between $2 billion and $4.5 billion in additional industry losses through the end of 2001, as opposed to the industry estimate of $5 billion for just the last 19 days of September.[4]

Looking beyond September 30th, the industry's method of calculating losses is even less appropriate, since more of the costs that had been fixed in the short run become variable as time passes. While the industry may have had to pay unionized and salaried workers during the four-day groundstop, labor costs will fall after the announced layoffs. With average annual costs of about $65,000 per employee, the announced layoffs alone will save the industry roughly $4.5 billion through June 2002. This estimate does not include the cost of severance, because it is unclear which airlines will pay severance and how many of their workers will benefit.

Again, Wall Street estimates are far less dire than those of the industry. Previous estimates had projected the industry would earn a slim profit of about $630 million in 2002. Since the attack, Wall Street is projecting losses of about $400 million, meaning that they expect the industry will lose about $1 billion in 2002 as a result of the attack and ensuing economic weakness.

Estimates of Airline Industry and Workers' Losses

(Billions of Current Dollars)

	Calendar Year (CY) 2001-2002			
Airline Industry Losses	Sep 11 to Sep 15	Sep 11 to Sep 30	Sep 11 to Dec 31	Sep 11 to Jun 30
ATA	1.4	5	n/a	24
JEC	0.82-1.1	3.25-4.0	n/a	n/a
Wall Street	n/a	n/a	2.0-4.5	3.0-5.5*
Worker Losses	n/a	n/a	1.5	4.5

* Wall Street estimates are for all of 2002

Source: ATA: Air Transport Association; JEC: Joint Economic Committee, Democratic Staff.

Two other factors need to be considered as well. The first is the possible federalization of airport security and the other is the increased insurance cost that the airlines are likely to face. Both of these remain fairly uncertain. If security were completely federalized, as proposed in S. 1447, the Aviation Security Act, the airlines would save about $700 million annually. On September 26th, President Bush proposed only partial federal control of aviation security. The proposal would require federal management of airport screening, but the actual screening would be conducted by private

[4] Merrill Lynch as quoted by CNNfn on 8/5/01. Available at <http://cnnfn.cnn.com/2001/08/21/companies/airlines_downgrades/index.htm>; and UBS Warburg as quoted by the Associated Press on 9/22/01. Available at <http://news.excite.com/news/ap/010922/22/airlines-outlook.

companies. In addition, training would also be required. However, on October 2nd President Bush indicated that he would accept the federalization of airport security if Congress deems it necessary.

The insurance question is far more complicated. As mentioned above, the recently signed airline bill provides relief for United and American Airlines from liability for damages both on the ground and for passengers of the hijacked flights. Their current insurance provides coverage for the planes they lost as well as liability coverage for up to $1.5 billion per incident, though this will likely not cover the potential liability for the two New York crashes. (The coverage cannot be combined, so that if one crash cost less than $1.5 billion the extra coverage could not be applied to another crash that exceeded $1.5 billion.) The bill limits the airlines' liability to the amount for which they were insured, so that they will not have to pay for damages out of future operating revenues.

As a result of the crashes, airlines are losing their current coverage for acts of terrorism. Insurance companies have proposed that terrorism insurance be covered with an add-on policy, paid for by an additional $1.25 surcharge per passenger. This additional coverage would cost about $1 billion per year. As mentioned above, the airline bill will provide funds to the industry to cover these expenses for the next 6 months. Beyond that, how much of the surcharge will be borne by the airlines in the form of lower ticket prices is unknowable at this point. However, it is unlikely that consumer demand would respond much to such a small surcharge, which would allow airlines to recover much, if not all, of the surcharge.

THE IMPACT ON WORKERS

As mentioned above, the airlines have announced almost 100,000 layoffs since September 11th. Some airlines have also announced that they will be offering no severance packages to these workers, invoking the *force majeure* clause in union contracts that allows them to unilaterally declare an emergency and not pay severance.

While the airline support package also does not include any provisions for laid-off workers, a wide range of options for aiding workers exists. One would be to require airlines to pay severance as a precondition of receiving government aid or loan assurances, although this would not help those who would not be eligible for severance under existing contracts (a particular problem for the roughly 60 percent of employees not covered by union contracts).

A proposal has been offered to extend unemployment insurance (UI) for an additional 52 weeks for laid-off airline employees. It is hard to estimate the cost of this since it depends largely on the rate at which laid off workers find new jobs beyond the initial 26 weeks of standard UI coverage. Given that UI replaces, on average, about 35 percent of lost wages with no provision of health or other benefits, workers will likely need additional aid.

A government funded severance package that covered 100 percent of wages and benefits would cost approximately $500 million per month. If coverage were provided through June of 2002, when the industry expects air travel demand to rise to 85 percent of previously expected levels, this would cost approximately $4.5 billion.