CBO TESTIMONY

Statement of
Dan L. Crippen
Director

Federal Budget Estimating

before the
Subcommittee on Legislative and Budget Process
Committee on Rules
U.S. House of Representatives

May 9, 2002

This statement is embargoed until 10:30 a.m. (EDT) on Thursday, May 9, 2002. The contents may not be published, transmitted, or otherwise communicated by any print, broadcast, or electronic media before that time.

CONGRESSIONAL BUDGET OFFICE
SECOND AND D STREETS, S.W.
WASHINGTON, D.C. 20515

Madam Chairman and Members of the Committee, I am happy to appear before you this morning to discuss how the Congressional Budget Office (CBO) can best inform the Congress about its economic and budget projections and about the dynamic economic consequences of tax and spending proposals.

SUMMARY AND INTRODUCTION

The Congressional Budget and Impoundment Control Act of 1974 set up a process that allows the Congress to take the primary role in formulating the budget—a role that in previous years had been performed by the Administration. That law assigns to CBO the tasks of making baseline projections of revenues and outlays and estimating the budgetary effects of the spending proposals reported by committees. It gives to the Joint Committee on Taxation (JCT) the job of preparing estimates for most revenue legislation. The two organizations coordinate their efforts on estimates for complex pieces of legislation that affect both revenues and outlays.

CBO's and JCT's estimates play an important role in the legislative process, providing the Congress with a capacity independent of the Administration's to evaluate budgetary proposals. Since the inception of the Congressional budget process in 1975, those estimates have been used to assess whether a bill will breach the limits in the budget resolution or be subject to a point of order on the floor of the House or Senate. Since the passage of the Budget Enforcement Act in 1990, the Congress has used those estimates to monitor compliance with discretionary spending caps and with the pay-as-you-go requirements for legislation that affects revenues or mandatory spending.

Much of the body of federal law and regulation affects the performance of the economy. In fact, changing how the economy works is the objective of many legislative proposals. Thus, information about the macroeconomic effects of proposed legislation and the implications of those effects for the budget may often be useful in the legislative process. (The term "dynamic" refers to those macroeconomic effects as well as to the microeconomic effects that are reflected in CBO's and JCT's cost estimates.)

In terms of projecting the cost of legislation as it passes through the Congress, CBO's and JCT's formal estimates do not—and, I suggest, could not—include those macroeconomic effects in a useful and credible way. There are four reasons.

First, the macroeconomic consequences of today's actions will be determined by policy decisions that have not yet been made. When policy decisions have budgetary

implications, they can affect future policy by altering the budgetary resources that will be available. For example, a current spending increase or tax cut must be financed with either lower spending or higher taxes in the future. Such future decisions about financing frequently determine the macroeconomic effects of policies under consideration. There is a fundamental difference between a tax cut financed by a roughly contemporaneous cut in spending and a tax cut financed by additional borrowing for several years and higher taxes after that. The first may well increase gross domestic product (GDP); the second is very likely to reduce it.

Put another way, if you believe that cutting taxes today will help hold down federal spending in the future, then in general, a tax cut is more likely to help the economy grow. If, however, you believe that a tax cut today will need to be reversed in a few years, then future economic growth may be diminished. In either case, the empirical evidence for those outcomes suggests that the effects would be small, given the size of fiscal policy changes relative to the size of the economy.

Any estimate of the macroeconomic impact of a policy proposal that was included in a cost estimate would have to make a specific assumption about those future policy actions. The ordinary conventions of the baseline, for example, would constrain the estimate to assuming that tax cuts would be financed by borrowing. Under that assumption, any positive effect of lower marginal tax rates could be partially or totally offset by the drag of debt on capital formation (investment) and growth. As a practical matter, under that assumption, few tax cuts would be estimated to have a positive impact on the economy.

There is no objective way to choose which assumption to use, and differing assumptions can produce opposite results. CBO could make an assumption about what the next five Congresses and at least two Presidents will do, but doing so would subject us and the results to a chorus of controversy. Although the lines between choices are not bright, those possible assumptions tend to break along partisan lines, making any choice arbitrary at best.

Second, in addition to the need to specify alternative future policies, the assessment of legislative effects on the economy is often confounded by offsetting effects. In general, tax cuts result in increased after-tax income and therefore reduce the incentive to work. However, cuts in marginal rates also increase the incremental payoff from work and boost work incentives.

More specifically, the reduction in marginal rates enacted in last year's tax legislation should increase the labor supply, but by small amounts because of the small size of the reduction and because the alternative minimum tax will counteract the positive effects in later years. Conversely, the increase in the child tax credit will probably diminish labor participation by second earners.

Third, to attribute any short-run stimulative effects to legislation, estimators must assume that monetary policy will remain constant (that the Federal Reserve will not react to a change in fiscal policy)—an assumption not likely to prove true. In addition, there is a question about how to ensure consistency among estimates as the economy changes over a session of Congress.

Fourth, and potentially most important, the reaction of taxpayers to specific policy changes may be based as much on their perceptions of a change as on the enacted provisions. For example, do taxpayers assume that the sunset (expiration) of last year's tax cuts will take place as scheduled, or that some provisions will expire and not others?

In short, integrating dynamic scoring into cost estimates would pose intractable problems. Before I go into detail about those issues, I want to describe how CBO prepares its economic and budget forecasts and what kind of dynamic effects are built into its cost estimates.

CBO'S ECONOMIC AND BUDGET PROJECTIONS

In many cases, the accuracy of cost estimates is not very sensitive to the accuracy of the baseline economic and budget projections that underlie them. However, those baseline projections are important because they determine CBO's estimate of future budgetary trends under current policy.

The Baseline Concept

Each year, CBO prepares a set of spending and revenue projections that assume the continuation of current laws and policies. Those projections are known as the baseline. Such a current-law baseline is not intended to be a prediction of federal spending and receipts. After all, any such prediction would have to include some assumptions about potential changes in current laws. Instead, the baseline serves as a neutral benchmark against which lawmakers can gauge the effects of proposed changes in spending and revenue policies. It is constructed according to rules set forth in law,

mainly in the Balanced Budget and Emergency Deficit Control Act of 1985 and the Congressional Budget Act of 1974.

For revenues and mandatory spending, section 257(b) of the Deficit Control Act requires that the baseline be projected as though current laws will continue without change. In most cases, the laws that govern revenues and mandatory spending are permanent. The baseline projections therefore reflect only anticipated changes in the economy, demographics, and other relevant factors that affect the implementation of those laws.[1]

The rules differ for discretionary spending, which is governed by annual appropriation acts. Section 257(c) of the Deficit Control Act states that projections of discretionary budget authority after the current year should be adjusted to reflect inflation—using specified indexes—as well as a few other factors (such as the costs of renewing certain expiring housing contracts and of annualizing adjustments to federal pay). Accordingly, CBO's baseline extrapolates discretionary spending from the current level, adjusting for projected rates of inflation and other specified factors over the next 10 years.

That formulaic approach to developing baseline projections can be problematic. For example, all discretionary budget authority appropriated for the current year is inflated and extended through the entire projection period even if it was enacted for an emergency or other one-time event. Some emergency appropriations may not be repeated, but various types of emergency appropriations arise every year. In addition, some appropriations will naturally vary from year to year, such as funding for the decennial census.

The Deficit Control Act does not allow for any adjustments to that mechanical approach, but the Budget Committees have the flexibility of choosing different assumptions for a "budget resolution baseline," and CBO has frequently provided the committees with alternative estimates to allow for such adjustments. In any case, the baseline is a reasonable starting point for the annual consideration of budgetary plans and specific policy options. Annual baseline projections represent CBO's best judg-

1. Under Section 257(b) of the Deficit Control Act, the baseline must assume that expiring mandatory spending programs will continue if they have outlays of more than $50 million in the current year and were established on or before the enactment date of the Balanced Budget Act of 1997. Programs established after that date are not automatically extended in the baseline. Expiring excise taxes dedicated to a trust fund are extended at current rates; but section 257(b) does not provide for extending other expiring tax provisions, including those that have routinely been extended in the past.

ment about how the economy and other factors will affect federal revenues and spending under existing laws and policies.

Economic and Budget Projections

CBO's baseline budget projections rely on the agency's economic forecasts. Those forecasts have been about as accurate, on average, as those of private forecasters and the Administration. All forecasters have missed forecasts of recessions—but the evidence shows that there is no reliable way to predict recessions. CBO has often been cautious in its projections, but that caution has sometimes served it well.

Before the most recent recession, CBO anticipated a slowdown in the economy. Although CBO was not at all sure when that slowdown would occur, it was sure that the growth rates of more than 4 percent that had prevailed for four years could not continue without causing inflationary pressures in the labor market. CBO shared that view with many other forecasters, including those at the Federal Reserve. The first intimation that the slowdown could be serious came in January 2001, when the Federal Reserve's Board of Governors began to lower interest rates. CBO instituted a "recession watch" at that point to ensure that it did not overlook any signs, either in official data or in anecdotal evidence, that might indicate that the slowdown was turning into a recession. At no time through the summer of 2001 did the recession-watch team think that the evidence supported much more than a 50 percent probability of recession. Consequently, CBO's summer 2001 economic update continued to forecast a slowdown without recession, although it did discuss the economy's unusually high vulnerability to recession.[2]

After the attacks of September 11, the economy turned down sharply enough to cause the slowdown already under way to be considered a recession. Like most forecasters, CBO anticipated that the recession, although mild by historical standards, would nevertheless be deep enough to slow revenue growth and to last for a couple of quarters. Whether CBO was right or wrong on that score remains unclear. The headline estimates of GDP growth and unemployment suggest that the recession was much milder than CBO had anticipated. However, taxable income seems to have taken a much more significant hit than the GDP figures suggest. And CBO received confirmation recently that the Bureau of Economic Analysis (BEA) significantly overestimated wage and salary income in 2001. As a result, even while BEA is releasing

2. See Congressional Budget Office, *The Budget and Economic Outlook: An Update* (August 2001), Chapter 2.

estimates of GDP growth of more than 5 percent for the first quarter of 2002, revenues are coming in even weaker than CBO's January or March 2002 forecasts anticipated.

That episode illustrates several points. First, CBO's economic forecasts generally do not differ greatly from those of private forecasters. CBO regularly studies its own record and those of other forecasters to see what can be learned and it publishes those analyses.[3] Second, both CBO and private forecasters have to contend with changing and inconsistent data, which makes describing past events and forecasting future events difficult. Third, despite those difficulties, CBO's prediction last summer that the economy would barely avoid a recession would most likely have proved true had the attacks of September 11 not occurred.

CBO has also attempted to evaluate the accuracy of its budget projections. That task is much more difficult than evaluating economic projections because, as noted above, CBO's baseline budget projections reflect the economic and budgetary consequences of current law at the time they are made and assume that current policies will not change. CBO removes the effects of legislative changes when it measures the accuracy of its budget projections. The result is the "fan chart" that CBO first published in January 2001 and updated and improved in January 2002 (see Figure 1). That chart shows the range of uncertainty around CBO's baseline projections of the surplus or deficit based on the accuracy of its past projections. (The chart extends out only five years, because CBO has too short a record of 10-year forecasts to allow useful analysis.)[4]

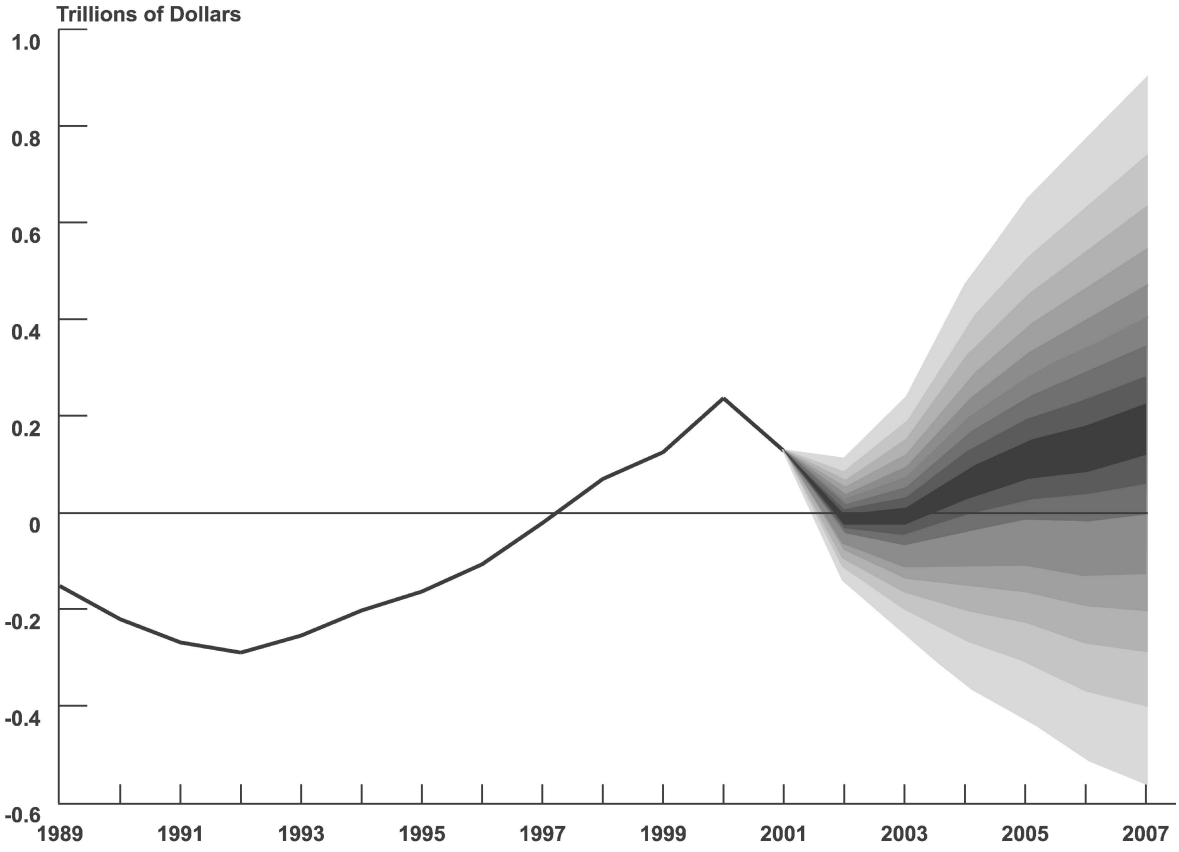
As expected, CBO's analysis shows that the accuracy of its budget projections is closely linked to the accuracy of its economic projections; that accuracy falls off quickly as the projection horizon extends. CBO has also learned from its analysis that cyclical movements in the economy have larger budgetary effects than can be attributed simply to the cyclical movement of major income categories. CBO is working to incorporate those additional cyclical movements—such as changes in the proportion of total income going to highly taxed households—into its projection models.

---

3. See Congressional Budget Office, *CBO's Economic Forecasting Record* (February 2002), available at www.cbo.gov.

4. CBO published its first 10-year forecast in August 1995.

Figure 1.
Uncertainty in CBO's Projections of the Total Budget Surplus Under Current Policies



SOURCE: Congressional Budget Office.

NOTES: This figure shows the estimated likelihood of alternative projections of the surplus or deficit under current policies. The calculations are based on CBO's past track record. CBO's January 2002 baseline projections fall in the middle of the darkest area. Under the assumption that policies do not change, the probability is 10 percent that actual surpluses or deficits will fall in the darkest area and 90 percent that they will fall within the whole shaded area.

Actual surpluses or deficits will of course be affected by legislation enacted during the next 10 years, including decisions about discretionary spending. The effects of future legislation are not included in this figure.

An explanation of how this probability distribution was calculated is available at www.cbo.gov.

Aside from CBO's own analyses, a number of outside economists have studied CBO's projections. In separate analyses, Rudolph Penner (a former CBO director) and Alan Auerbach found no evidence that CBO's budget projections have been biased—that is, have been overly optimistic or overly pessimistic—over the course of the agency's history.[5] Some strings of optimistic and pessimistic forecasts might suggest the possibility that certain information could have been better used. However, Penner suggested other reasons for such strings to occur, such as caution in identifying changes in trends. Stephen McNees, an analyst at the Federal Reserve Bank of Boston, tracked the accuracy of private and official economic forecasts for many years; his latest study, published in 1995, found that CBO's forecasts were as good as private forecasts and better than some alternative models.[6]

HOW DYNAMIC ARE CURRENT COST ESTIMATES?

Estimating the revenue effects of a tax proposal requires two pieces of information: the proposed change in the tax rate and the resulting change in the tax base. A static estimate assumes that the tax base does not change in response to a change in the tax rate. For example, a static revenue estimate of a proposed tax on luxury cars would simply multiply the tax rate by a baseline number of luxury cars sold. Such a static estimate would neglect the fact that the tax would discourage people from purchasing luxury cars, so it would probably overestimate the revenue increase from imposing the tax.

Neither JCT, CBO, nor the Administration actually produces static budget estimates. All revenue estimates used in the policy process include estimates of the effect on the tax base of changes in tax rates. JCT's and CBO's estimates of the budgetary impact of spending and tax proposals incorporate a wide variety of behavioral changes in response to economic incentives; those changes are often called dynamic effects.

Revenue estimates typically include effects related to the timing of economic activity, effects related to shifting income between taxable and nontaxable categories, effects on supply and demand, and interactions with other taxes. For example, timing effects in a cost estimate of an increase in the capital gains tax account for the fact that tax-

5. See Rudolph G. Penner, *Errors in Budget Forecasting* (Washington, D.C.: Urban Institute, April 2001); and Alan J. Auerbach, "On the Performance and Use of Government Revenue Forecasts," *National Tax Journal*, vol. 52, no. 4 (1999), pp. 767-782.

6. See Stephen K. McNees, "An Assessment of the 'Official' Economic Forecasts," *New England Economic Review* (July/August 1995).

payers will accelerate their realizations of gains to avoid the higher tax rate. Similarly, the scheduled expiration of tax breaks that are not expected to be extended is usually accompanied by a temporary shift in economic activity. Cost estimates of an increase in marginal income tax rates include the effect on the tax base that comes from recharacterizing compensation from taxable wages and salaries to nontaxable fringe benefits. Supply and demand effects show up in cost estimates for a gasoline tax; those estimates reflect the fact that higher tax rates induce consumers to buy less gasoline. Likewise, estimates of changes in the capital gains tax take account of the fact that taxpayers will (even apart from timing effects) realize more gains at lower tax rates.

Policy changes can also have repercussions for taxes other than those they affect directly. For example, cost estimates of changes in depreciation schedules take into account the changes in payroll tax liabilities of self-employed people that result from their changed proprietorship income. Likewise, estimates of increases in indirect taxes, such as excise taxes, reflect reductions in income taxes that result from the fact that excise taxes reduce other types of income.

Those same principles apply to spending programs. If a proposal would alter a benefit program, CBO's cost estimate would reflect any change in participation that was likely to result. For example, CBO's estimate of the cost of a proposal to change Medicare payments to health care providers incorporates its estimate of resulting changes in the volume of services provided. Similarly, CBO's estimates for pending agriculture legislation include anticipated effects on crop prices and production.

ASSESSING THE MACROECONOMIC IMPACTS OF LEGISLATION

Information about the macroeconomic effects of proposed legislation and the budgetary implications of those effects could often be useful in the legislative process. Such information would include the effects of tax changes on saving or labor supply (and therefore on growth). It also might include effects from additional income generated when lower tax rates promote entrepreneurship, or increases or decreases in output caused by the impact of subsidies or taxes on the allocation of resources among various activities. Some analysts also suggest including demand-side effects, such as the increased employment and economic activity during periods of recession and recovery that stems from tax cuts or spending hikes.

Although those macroeconomic effects are important, it may be impossible to incorporate them in budget scoring in a way that is credible. Any forecast of the economy

involves judgments about many complex issues, and CBO routinely has to make assumptions on the basis of incomplete information and its best judgment. Nevertheless, dynamic scoring involves more fundamental problems than do most of the other types of analyses for which CBO is responsible. One of the most serious conceptual problems is that the predicted macroeconomic effects of a particular piece of legislation will depend critically on the analyst's assumptions about how the change will influence future policy decisions.

Any estimate of the macroeconomic impact of a policy proposal included in a cost estimate would have to make a specific assumption (either rule-based or ad hoc) about future policy actions. For example, the ordinary conventions of the baseline would constrain the estimate to assuming that tax cuts would be financed by borrowing. Thus, any positive effect from lower marginal tax rates could be partially or totally offset by the drag of debt on investment and growth. In practice, because most tax bills include provisions other than cuts in marginal rates, few of those bills would have a positive estimated effect on the economy under baseline conventions.

Information about macroeconomic impacts can be more usefully presented in other ways than in a cost estimate. CBO has frequently described the macroeconomic effects of both past and proposed legislation either in separate reports or in its description of the economic assumptions underlying a baseline (for various examples, see the appendix). In those reports, CBO is not constrained by the conventions of baseline estimating and can explore the implications of alternative assumptions. Thus, CBO can describe how the macroeconomic effects of a policy change depend on its financing.

CBO faces some of the same problems in constructing its baseline, which also has to reflect estimates of the macroeconomic effects of policy—in this case, of the taxes and spending programs currently in place. Those estimates are difficult to make, in large part because of uncertainties about the future policy implications of current policy. However, uncertainties about the macroeconomic effects of fiscal policy, although important, probably do not loom large in the broad context of an economic forecast. CBO's analysis of its past forecasting inaccuracies does not suggest that better estimates of the effects of policy on the economy would have significantly improved its record of forecasting revenues.

The rest of this section of my statement examines the problems of policy analysis in greater detail, first reviewing the ways in which policy can affect the economy and then discussing the interactions with future policy that make assessing macroeco-

nomic impacts difficult. CBO's analysis of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) illustrates the types of problems that arise and shows why a meaningful assessment of the macroeconomic consequences cannot be captured in a single number used as an input in a cost estimate.

Effects on Saving and Labor Supply

The main macroeconomic effects that current procedures leave out of cost estimates are those that affect the level of production through saving and labor supply. Tracing the effects of changes in taxes or spending on labor supply and saving, and consequently on GDP and receipts, is complicated by several factors.

First, the effects could go in either direction depending on the particulars of the policy change. For example, an increase in the child tax credit would tend to reduce the labor supply because it would raise families' after-tax income. In turn, that boost in income might lessen some people's incentive to work, especially second earners in families with one person already working full time. In contrast, the effect on labor supply of cutting marginal tax rates is theoretically ambiguous. Although such a cut would increase after-tax pay from work, thus giving people an incentive to work more, it would also increase families' after-tax income, which could decrease work. Empirical studies suggest that, in total, cutting marginal tax rates probably increases labor supply modestly.[7]

Second, the economic effects of a tax cut—or a spending increase—also depend on how the policy would redistribute resources among generations and income groups. For example, a Social Security reform that reduced current workers' expectations of the benefits that will be paid to them when they retire would be likely to reduce current consumption and increase saving.

Third, tracking effects on national saving is complex because there are offsetting influences to consider. For instance, a tax cut would normally reduce revenues and government saving (unless spending cuts followed). Depending on the details of the proposal, however, it might increase or decrease private saving.

7. Congressional Budget Office, *Labor Supply and Taxes*, CBO Paper (January 1996).

Effects on Entrepreneurship

Tax policy can also affect the economy more subtly, by changing the environment for entrepreneurship and innovation. By that route, higher tax rates could slow economic growth and reduce tax receipts below what would be estimated under current procedures.

Quantifying effects on entrepreneurship is difficult, however. A few recent studies measuring the willingness of people to leave salaried jobs and start small businesses have found some evidence suggesting that the progressivity of the tax system (that is, the extent to which taxes increase as incomes rise) diminishes entrepreneurship.[8] How that effect translates into innovation and improvements in productivity remains to be established. Moreover, because tax evasion appears to be greater among noncorporate firms than among corporate ones, it is even more difficult to determine whether revenues would be increased or decreased as a result.

Effects on Economic Efficiency

Many legislative proposals take the form of tax preferences or subsidies, so they alter the allocation of labor and capital in the economy, sometimes adversely and sometimes favorably. Consequently, even if a given tax preference or subsidy increases investment (capital formation), it can also have the effect of reducing how productive that capital is by shifting resources from more-productive to less-productive activities.

Those impacts affect GDP and the tax base, but they can be difficult to quantify. Their effects can also be counterintuitive. A subsidy designed to offset a problem that exists in a market can introduce other inefficiencies; similarly, a tax preference can have unintended effects that result in diverting capital and labor to less-productive uses.

Other types of legislation besides those that mainly alter taxes or government spending can significantly affect efficiency and output. For example, changes in laws that affect regulation of the economy—such as environmental or worker safety laws, airline or telecommunications deregulation, changes in the minimum wage, or bank-

8. R. Glenn Hubbard and William M. Gentry, "Tax Policy and Entrepreneurial Entry," *American Economic Review*, vol. 90, no. 2 (May 2000), pp. 283-287; and Mark H. Showalter and Norman K. Thurston, "Taxes and Labor Supply of High-Income Physicians," *Journal of Public Economics*, vol. 66, no. 1 (October 1997), pp. 73-97.

ruptcy reform—could also alter business decisions. Such legislation would be very hard to analyze—perhaps impossible, because in many cases its effect would depend on the details of implementing regulations—but it could certainly alter the performance of the economy.

Effects on Demand

The previously mentioned effects are ways in which budget policy can influence the supply side of the economy. However, when people talk about using a tax cut to avoid or climb out of a recession, they are describing another way in which fiscal policy affects the economy—through its short-term impact on overall spending, or demand-side effects. (Those are often called Keynesian effects, after the economist who first pointed out their significance.)

Demand-side effects tend to have a temporary impact on real income and employment, but only to the extent that the economy is below its normal capacity to produce. Once output and employment reach their long-term sustainable levels, additional stimulus tends to translate into higher inflation. So the effect of budget legislation on macroeconomic demand depends critically on where the economy is in the business cycle and where it will be throughout the 10-year budget window. CBO makes no attempt to forecast the business cycle more than 18 months to two years ahead.[9]

Including demand-side effects in cost estimates would present severe problems. To begin with, several different pieces of legislation might each have the potential by itself to boost demand and therefore output. But if the House or Senate passed one of those pieces of legislation, the others would have less of a problem to remedy. That situation creates the possibility of substantial double-counting of the same output gains.

In addition, figuring out the likely effect of fiscal policy on short-run spending is complicated by the possible responses of the Federal Reserve, which is also implementing policy to achieve its own targets for output and unemployment. Chairman Alan Greenspan and the Federal Open Market Committee navigate between recession and inflation by controlling economywide spending, but they use monetary rather than fiscal policy to do so. The Federal Reserve takes fiscal policy into account, along with other factors, in determining the need for additional monetary

9. See, for example, Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2003-2012* (January 2002), p. 36.

actions. Thus, instead of assuming that fiscal policy affects spending independent of monetary policy, one might reasonably assume that changes in fiscal policy are changes in policy that the Federal Reserve no longer has to undertake. The fiscal policy change might therefore be credited with little or no incremental effect on demand. Depending on which of those views one takes, the demand-side effects of fiscal policy will appear very different.

The appropriate assumption about how monetary policy will respond to changes in fiscal policy is something that could evolve over time, even with respect to a particular piece of legislation. Business-cycle conditions change, as does the aggressiveness with which the Federal Reserve uses monetary policy to counter business cycles. Any assumption about the way in which monetary policy would respond is highly speculative, requiring guesses about not only the Federal Reserve's behavior but also the challenges it will face.

What Does a Legislative Proposal Displace?

The difficulty of assessing interactions of fiscal and monetary policy is just one example of a pervasive problem with dynamic scoring: how to determine a proposal's broader policy consequences. Even when CBO knows all of the details of a proposed policy change, such as a tax cut, it still does not know what would happen to fiscal policy without the tax cut. Would spending be higher now or in the future, or would there be a tax cut later? Would a tax cut now be reversed in a decade? Would only government borrowing change within the budget window? The answers to those questions are often crucial to evaluating the macroeconomic impact of proposed legislation.

Finding agreement on the most likely course of future policy is unlikely. Some people argue that cutting taxes now is good for the economy because otherwise the size of the surplus will encourage additional government spending. Others argue that too large a tax cut is bad for the economy because it uses up surpluses that could be available to pay retirement and health costs and other needed government expenses. Those arguments turn on different assumptions about what other policy changes would follow from a tax cut, and they reflect fundamentally different views of the political process. Macroeconomic models suggest that those different assumptions would produce very different macroeconomic outcomes.

To forecast the effect of such policy changes on the economy, CBO would not only have to forecast the implications for future government policy decisions but also

need to guess what individuals and business leaders believe those implications will be. Economists agree that expectations have a significant effect on economic responses. A tax cut that is believed to be permanent, for instance, is likely to have very different implications for spending and labor-supply decisions than one that is believed to be transitory.

The Example of EGTRRA

CBO's and JCT's analyses of the Economic Growth and Tax Relief Reconciliation Act of 2001 illustrate the extent to which estimates are already dynamic. They also demonstrate the difficulties of estimating the dynamic macroeconomic effects of legislation. JCT's estimators were responsible for including many of the microdynamic effects. CBO's analysis, completed after passage of the legislation, added its assessment of the macrodynamic effects to JCT's analysis. The two analyses together suggest that even such a large package of measures as EGTRRA probably has only relatively small implications for incentives to work and to save, in part because the package contains provisions with opposite implications. CBO's analysis also underscored the sensitivity of those conclusions to assumptions about how other policies would be affected by the law's changes.

JCT's cost estimate included that agency's best estimate of several behavioral responses to the law. Those responses included the shift of a portion of compensation into taxable wages and salaries and away from nontaxable fringe benefits in response to EGTRRA's reduction in marginal tax rates. (Nontaxable fringe benefits include items such as employers' contributions to retirement plans and employer-paid health insurance.) That shift offset a portion of the budgetary cost of EGTRRA. JCT also included estimates for a number of changes in the way people plan their estates, such as choosing to give different amounts of taxable gifts.

CBO's estimate of the macroeconomic effects of EGTRRA appeared not in a cost estimate but in its update of the economic outlook published in the summer of 2001.[10] Consistent with the rules for producing the baseline, the base-case analysis assumed no change in future tax or spending policies as a result of the legislation—the tax reductions were assumed to be offset by a decrease in budget surpluses. However, the economic analysis deviated from normal budget rules in that it did not consider the effects of the law's scheduled sunset in 2010.

---

10. Congressional Budget Office, *The Budget and Economic Outlook: An Update* (August 2001), pp. 34-35.

Effects on Work and Private Saving. CBO found that EGTRRA contained a number of provisions with different, and sometimes opposing, macroeconomic effects that were not part of JCT's cost estimate. Some of those provisions created incentives for people to work more or to save more.

By CBO's estimate, EGTRRA will reduce the average effective marginal tax rate on income from labor in 2006 by about 1.8 percentage points (or one-twentieth of the current tax rate) and the average effective marginal rate on capital income by 0.5 percentage points (or one-fortieth of the current tax rate). Other provisions will have the opposite effect. For example, boosting the child tax credit will probably reduce the supply of labor by raising families' after-tax income, thereby lessening the incentive for possible second earners in those families to work. CBO estimated that if the law did not expire, the net effect of all those factors would be to increase labor supply after a decade by between 0.1 percent and 0.4 percent.

CBO also concluded that under base-case assumptions, EGTRRA will probably increase private saving because it reduces marginal tax rates on capital income and thus enhances the incentives for people to save. The legislation may also increase saving among some low-income people through its nonrefundable credit for contributions to individual retirement accounts or 401(k) plans. However, increases in private saving are likely to be quite small, given the small reduction in the effective tax rate on capital income.

Effects on Demand. CBO's analysis of EGTRRA focused on the law's long-term macroeconomic effects, even though the perceived need for a short-term economic stimulus to lessen an impending recession may have played an important part in its passage. As it turned out, the components of the law aimed at promoting short-term stimulus were perhaps uniquely well timed (in comparison with other efforts to use fiscal policy to combat recession).[11] Most important, the law provided an initial rebate of taxes payable on income earned in 2001. Although initial surveys could not find any evidence that the rebates increased consumption when they were issued in the third quarter of 2001, they were in place to help consumers weather the difficult period after September 11 and may have contributed to the continued strength of consumer spending.

---

11. See Congressional Budget Office, *The Standardized Budget and Other Adjusted Budget Measures* (April 2002), available at www.cbo.gov.

As noted above, assessing the amount of macroeconomic stimulus provided by any fiscal policy package is complicated by the need to guess what the Federal Reserve's response might be. Indeed, views of what actions the Federal Reserve might take have changed in the period since EGTRRA was enacted. Last summer, CBO and most other forecasters anticipated a relatively mild slowdown in the economy, which might not have dipped into recession. However, that projection reflected both the stimulus in EGTRRA and monetary policy actions. The Federal Reserve had already acted vigorously early in 2001 to lower interest rates, and in the absence of fiscal stimulus, it might have lowered rates even further.

After September 11, most forecasters switched to believing that the economy was entering at least a moderate—and possibly a severe—recession. In those circumstances, the fact that fiscal policy was fortuitously providing a stimulus at exactly the right moment was presumably very helpful to the Federal Reserve, which faces constraints on the effectiveness of monetary policy when economic conditions deteriorate sharply.

The recession, however, has proved to be the mildest on record, and many forecasters now anticipate the moment when monetary policy may begin to tighten. It is once again plausible to imagine that had EGTRRA provided no fiscal stimulus, the Federal Reserve would have lowered rates more and kept them down longer.

Some analysts have suggested that EGTRRA may have actually contracted demand in the short run by raising long-term interest rates (in response to smaller expected future surpluses). But it is not clear that EGTRRA reduced expected future surpluses. Well before the tax legislation was under consideration, many market participants assumed that such large surpluses would not materialize. Consequently, they did not expect EGTRRA to increase future borrowing requirements significantly, and accordingly they did not alter their expectations of future interest rates.

Implications for Future Policy. In its analysis of EGTRRA, CBO emphasized that the quantitative conclusions about the law's macroeconomic effects are very sensitive to assumptions about policy responses as well as to the public's expectations about those responses. Ordinary baseline assumptions are inadequate for such an analysis. One example was noted in the preceding paragraph: EGTRRA's actual effect on interest rates reflected not how the law deviated from a constant-policy baseline but how it changed people's expectations about future policy. More generally, analyzing

EGTRRA as if, without a tax cut, no other policies would ever change implies the unlikely outcome that the tax cut will permanently reduce revenues relative to spending.

CBO concluded that the law might either increase or decrease GDP depending, among other things, on assumptions about its implications for future policy. If the tax cuts in EGTRRA are accompanied by a comparable reduction in government spending, GDP is likely to be higher than it would have been without EGTRRA, and revenue increases from that additional growth will offset a portion of the law's budgetary cost. By contrast, if EGTRRA turns out to reduce the government's surplus, national saving and GDP are likely to fall, and the budgetary cost of the law will most likely be larger than JCT estimated.

Because the tax cuts are scheduled to expire, people's beliefs about whether they will indeed end are critical in the later years of the estimate. That problem has implications for both the dynamic effects normally included in cost estimates and the macroeconomic feedback effects that are not. Because of the sunset, EGTRRA provides for one of the largest tax increases ever in 2011. If the public believes that the increase is likely to occur, that belief can change substantially the extent to which people try to take advantage of the lower tax rates in the interim. Similarly, the chance that scheduled cuts in tax rates may not take place can alter behavior now.

OTHER TYPES OF LEGISLATION

Much of the discussion of dynamic scoring has been limited to revenues. But all the concepts that apply to receipts apply to outlays as well. Indeed, many of the same principles apply to nonbudgetary legislation. So as not to distort policy choices, CBO and JCT should inform the Congress about the likely macroeconomic effects of all legislation that might affect the budget.

A large number of spending proposals are rooted in claims that they will increase output. Education, research, and infrastructure spending are all examples of outlays that, because they are by their nature investment, can potentially boost output and generate more receipts.[12] Advocates of other outlays, such as health care, could make similar claims. In addition to the potential supply-side effects on output, all outlays

12. CBO examined those issues in two reports: *The Economic Effects of Federal Spending on Infrastructure and Other Investments* (June 1998), and chapter 3 of *Budget Options* (February 2001).

can lay claim to demand effects. Those effects are generally regarded as even stronger for spending than for taxes.

Incorporating a full range of dynamic effects in cost estimates for outlays is especially problematic with regard to appropriations. Unlike the laws that affect entitlement programs, appropriation legislation does not extend across the entire budget horizon. Decisions about discretionary spending are made one year at a time. It would make little sense to try to analyze the macroeconomic effect of each additional year of spending—rather, any useful analysis would have to make broad assumptions about what spending would be in the future. But the difficulty of analyzing discretionary spending does not mean that it has no effect on the economy: it is still one-third of the budget and a crucial determinant of that budget's balance and thus of government saving. Although including discretionary spending in a prospective analysis of the macroeconomic effects of fiscal policy would pose severe problems, leaving it out would tend to bias the information provided to the Congress about the effects of policy.

Further complicating cost estimates of spending is the fact that the effects are not confined to outlays. By their very nature, economic changes that stem from policy decisions on the spending side of the budget play out on the revenue side. As a result, a fully dynamic estimate for a reform of Social Security could, if the reform was likely to alter national saving and growth, affect estimates of the federal tax base and federal revenues in the long run.

The effect could also go in the other direction, influencing distant parts of the spending side of the budget. Almost any large policy change that affected the economy significantly would affect interest rates. Besides debt-service costs, changes in interest rates would alter spending for a number of programs that involve lending or borrowing.

Because the macrodynamic effects of revenues affect spending and vice versa, including them creates jurisdictional problems for the Congressional budget process itself. Once macroeconomic effects are taken into account, a spending bill has revenue implications, potentially causing a piece of spending legislation to be of concern to the tax-writing committees. Committee allocations under the Budget Act would probably need to reflect the effects of spending legislation on revenues and the effects of tax legislation on outlays, which would add a great deal of complexity to the budget process. And to incorporate such interactions into the estimate of a bill's cost, it might be necessary to make changes to the laws governing the budget process.

CAN CBO IMPROVE ITS BASELINE PROJECTIONS BY ACCOUNTING FOR MACROECONOMIC FEEDBACKS IN ITS COST ESTIMATES?

Some people believe that including more dynamic effects in CBO's and JCT's cost estimates would improve the accuracy of CBO's baseline budget projections, but that does not seem to be the case.

When CBO prepares its baseline budget projections, its economic forecast incorporates the effects of current policy.[13] So CBO's baselines are already a fully dynamic representation of the effects of current policy. Moreover, there is no evidence that CBO is making any systematic mistakes in its assessment of the effects of policy in the baseline. A comprehensive review of CBO's revenue baselines after changes in tax law shows no pattern of underestimating revenue following tax cuts or overestimating it following tax increases.[14]

It is difficult to estimate precisely the full dynamic effects of legislation on program costs or on revenues, even after enactment. The underlying determinants of revenues and program costs change for a variety of reasons, many of which are hard to identify. Even years later, there is rarely an "actual" figure—an indisputable measure of what the legislation actually did—with which to compare an estimate.

In practice, inaccuracies in forecasting receipts appear largely to reflect difficulties in predicting turning points in the business cycle, shortcomings in the most recently available income measures used in CBO's models, and inherently unpredictable events such as shifts in the distribution of income and rapid changes in stock prices. On the outlay side, errors in estimating result from various economic and technical factors. Interest rates, the unemployment rate, inflation, and economic growth may differ from CBO's forecast and thereby affect outlays for interest, federal credit programs, unemployment compensation, benefit programs that are indexed to inflation, and means-tested entitlement programs. In general, those sources of error do not seem to be related to any failure to predict the macroeconomic effects of legislative changes.

---

13. See, for example, Congressional Budget Office, *The Budget and Economic Outlook: An Update* (August 2001).

14. Congressional Budget Office, *Projecting Federal Tax Revenues and the Effects of Changes in Tax Law*, CBO Paper (December 1998). Also see Penner, *Errors in Budget Forecasting*; and Auerbach, "On the Performance and Use of Government Revenue Forecasts."

CBO regularly reviews the accuracy of its budget projections to improve its forecasting methods. When actual data differ significantly from projections, CBO analyzes the reasons underlying the differences and makes changes on the basis of those findings. For example, forecasts of capital gains receipts have contributed in both directions to inaccuracies in revenue forecasts. Capital gains realizations were below what CBO had expected in 1989 and the early 1990s but above expectations in 1996, 1998, and 1999. On those occasions, CBO reviewed and revised its methods for forecasting capital gains receipts. In no instance did the analysis of errors or the revision in methodology suggest that the errors had resulted from a failure to account for the macroeconomic feedbacks of capital gains legislation.

CONCLUSION

CBO does not believe that "dynamic scoring" by it and JCT, incorporating the macroeconomic effects of legislative changes into the process of estimating a bill's cost, would improve the analysis provided to the Congress. There is no objective way that Congressional staff can make assumptions about the actions of current and future Congresses, about public expectations of those actions, or about future monetary policy. Such assumptions would drive results and undermine their credibility. Favorable estimates would be sought for spending programs as well as for tax provisions. The current process may be far from perfect, but it is also far better than one that would require dynamic scoring.

The Congress needs complete information about the budgetary effects of any tax or spending legislation. Given the nature of the budget process and the fundamental limitations of macroeconomic analysis, however, that information is most appropriately provided not in cost estimates but in separate reports and analyses that are not required to fit into the constrained assumptions necessary for cost estimates.

APPENDIX: PAST ESTIMATES OF THE MACROECONOMIC IMPACTS OF LEGISLATION

The Congressional Budget Office has consistently published assessments of the macroeconomic effects of major policy actions or proposals, although it has not incorporated those assessments into cost estimates of proposed legislation for scoring purposes. For example:

- CBO has regularly included in its annual budget and economic outlook a discussion of the effects of major budgetary changes on its macroeconomic forecast. Last summer, for example, CBO published its analysis of how the Economic Growth and Tax Relief Reconciliation Act of 2001 would affect the long-term economic outlook. In previous years, CBO published estimates of the macroeconomic effects of welfare reform and of the reconciliation package of 1997.

- CBO provided a detailed analysis of the likely macroeconomic effects of a proposed cut in capital gains taxes in a paper requested by the Chairman of the House Ways and Means Committee.[1]

- CBO published its analysis of the potential macroeconomic effects of major tax reform (flattening rates and broadening the base of the income tax as well as substituting a consumption tax for the income tax).[2] In addition, CBO contributed papers to a conference on tax reform that the Joint Committee on Taxation held in 1997.

- CBO's analyses of the many health proposals made in 1994 included discussions of probable macroeconomic effects.[3]

---

1. Congressional Budget Office, *An Analysis of the Potential Macroeconomic Effects of the Economic Growth Act of 1998,* CBO Memorandum (August 1998).

2. Congressional Budget Office, *The Economic Effects of Comprehensive Tax Reform* (July 1997).

3. Congressional Budget Office, *An Analysis of the Administration's Health Proposal* (February 1994); *An Analysis of the Managed Competition Act* (April 1994); *A Preliminary Analysis of the Health Security Act as Reported by the Senate Committee on Finance* (August 9, 1994); *A Preliminary Analysis of Senator Mitchell's Health Proposal* (August 9, 1994); *An Analysis of Congressman Michel's Health Proposal* (August 29, 1994); *An Analysis of the Bipartisan Health Care Reform Act* (October 7, 1994); and *An Analysis of Congressman Gephardt's Health Proposal* (December 27, 1994).

- In 1995, 1996, and 1997, CBO indicated in broad terms in its economic and budget outlooks how a smaller deficit might contribute to growth by increasing national saving (the so-called fiscal dividend).[4]

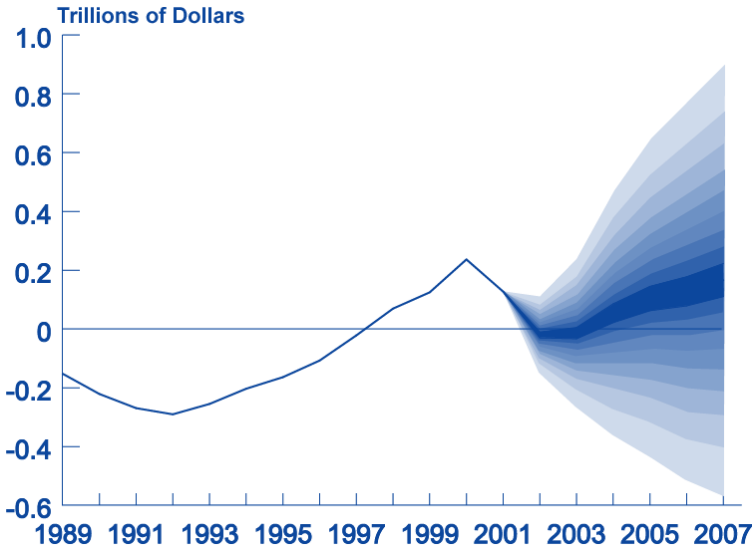
- CBO recently published a report analyzing approaches to providing short-term economic stimulus through tax-related options.[5] It concluded that most of the tax cuts that the report analyzed were unlikely to generate large first-year increases in gross domestic product.

4. Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1996-2000* (January 1995); *The Economic and Budget Outlook: Fiscal Years 1997-2006* (May 1996); and *The Economic and Budget Outlook: Fiscal Years 1998-2007* (January 1997).

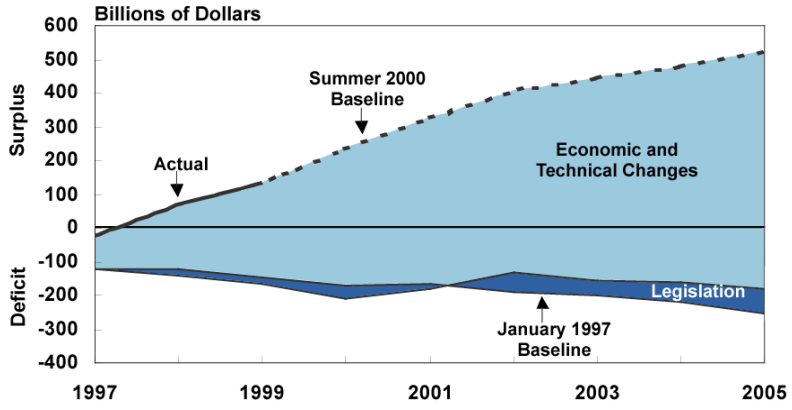
5. Congressional Budget Office, *Economic Stimulus: Evaluating Proposed Changes in Tax Policy,* CBO Paper (January 2002).

Charts Presented at the Hearing

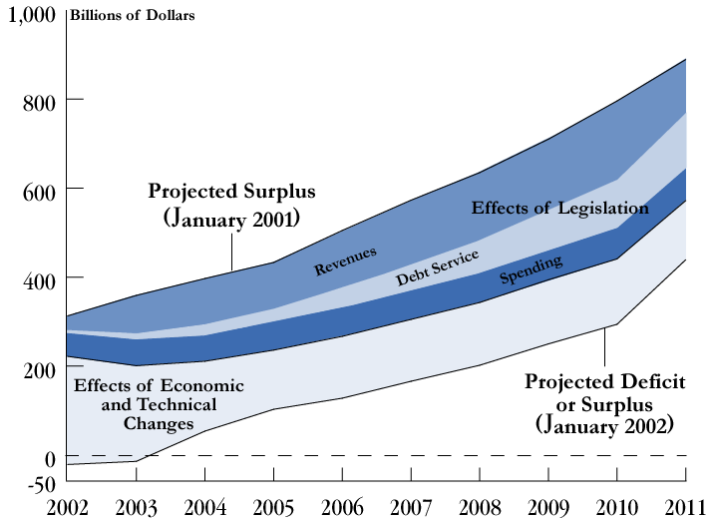
Uncertainty in CBO's Projections of the Total Budget Surplus Under Current Policies



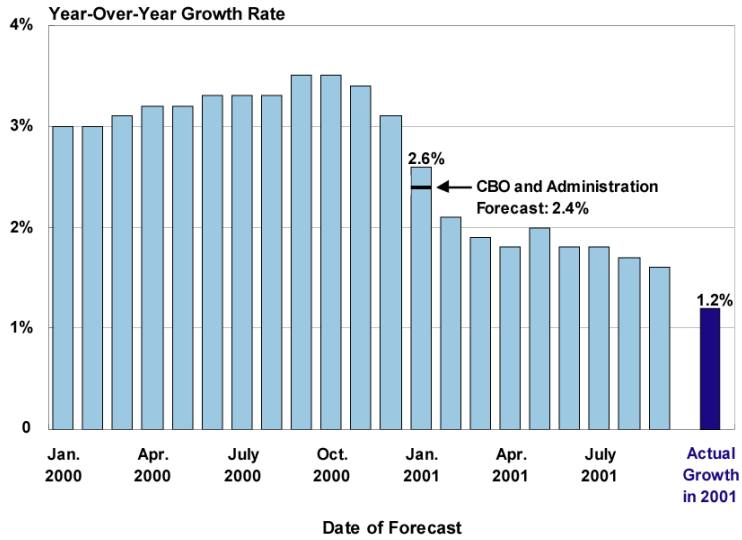
CBO's July 2000 Update to the Outlook: Changes in CBO's Baseline Projections Since 1997



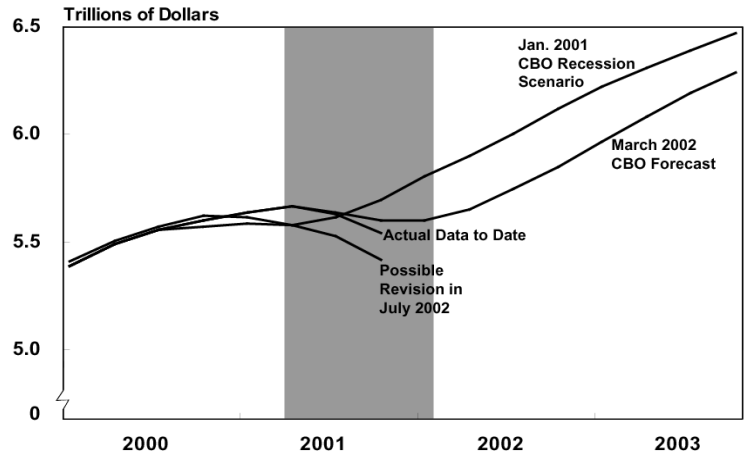
CBO's January 2002 Budget and Economic Outlook: Why CBO's Budget Projections Changed



Evolution of Consensus Forecasts of Real GDP Growth for 2001



Tax Base*



NOTE: The shaded area indicates the period of recession that was assumed to end in January 2002.

* = Wages and Salaries Plus Domestic Book Profits Minus State and Local Corporate Taxes