Budget Blues:
The Fiscal Outlook
and Options for Reform

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Abstract

Establishing a sustainable fiscal policy is central to the nation's long-term economic prospects, but requires a clear understanding of how past and current policies affect future resources. The federal budget should, but does not, provide this information, both because the task is difficult and current accounting practices are deficient. This paper shows that adjusting the official budget for many accounting and economic issues implies a bleak fiscal outlook that presents policymakers with difficult choices. We also explore options to restore fiscal sustainability directly and to improve the budget process that governs fiscal decisions.

The other chapters in this book focus on a particular area of public policy. Should society devote more resources to helping unskilled workers get job training? Should defense spending increase? Should we provide new tax subsidies for retirement saving? This chapter focuses on a broader, but in some sense more straightforward, question: Once all the individual components and policies are added together, is the government living within its means? Are the tax laws that legislators have enacted consistent with the spending programs they have created?

If tax and spending decisions only had implications for the current year, it would be straightforward to determine whether the government was living within its means—one could simply compare revenue and spending in that year. But the economic effects of past and current legislation play out over many years—even decades. As a result, decisionmakers and the public require a clear understanding of the claims that previously enacted laws and current decisions make on resources not only today but also in the future, and on whether laws currently in place commit the government to future taxes that equal, exceed, or fall short of future spending obligations. Indeed, it is difficult to see how intelligent fiscal policy could be made in the absence of such information.

Ideally, the federal budget would provide this information. In practice, it does not, at least partially because of the difficulty of the task itself. But even compared with what is feasible within a timely and understandable budget, current practice falls short of the desirable. First, the budget uses assumptions defining current tax and spending policy that are unrealistic. Second, official budget projections employ a ten-year horizon. Practical considerations make some limit necessary, as projections become more speculative as the horizon lengthens. But such a budget "window" excludes the fiscal effects associated with the aging of the baby boomers, most of which will occur well after the next ten years. Third, even within the ten-year budget window,

budget projections are uncertain, in part because the economic events that affect the projections are difficult to predict accurately.

The upshot is that the official budget bears little relation to the underlying financial status of the federal government. A person asking if the government is living within its means would be hard-pressed to find the answer in current official budget projections.

But getting the answer right is important because a government living beyond its means can impose substantial costs on the economy. If revenues are not sufficient to match spending, the government must meet the shortfall by printing money or by borrowing.[1] Sustained reliance on printing money to finance deficits can lead to escalating price inflation, which can have debilitating consequences. Sustained reliance on government borrowing leads to significant reductions in the domestic capital stock (to the extent that government borrowing draws financing away from private capital in the United States) or increased indebtedness to the rest of the world (to the extent that government borrowing draws financing from other countries). Regardless of how the government borrowing is financed, Americans' claims on future output would be reduced and future living standards harmed. As a result, establishing and maintaining a sustainable fiscal policy is central to the nation's long-term prospects for growth.[2]

The government's ability to run a sustainable fiscal policy, though, depends on the provision of appropriate information. More accurate budget figures would give policymakers and the public the best available information to guide policy choices. For example, when President

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1. Theoretically, the government could also sell some of its assets to finance an imbalance between revenue and expenditure. (In the federal budget, asset sales are misleadingly classified as spending reductions rather than as a source of financing for a deficit, so they reduce the measured deficit rather than provide a means of financing it.)

2. It can also have an effect on the economy's short-run performance, if increased government borrowing raises interest rates, and hence makes investment more costly. See William Gale and Peter Orszag, "The Economic Effects of Long-Term Fiscal Discipline," Urban-Brookings Tax Policy Center Discussion Paper 8 (April 2003).

George W. Bush came into office, the official projected ten-year surplus was $5.6 trillion—more than 4 percent of the economy—over the ensuing ten years. More realistic estimates, however, suggested that, even before considering the president's tax cut, the ten-year surplus was only about $1 trillion and was substantially uncertain, and longer-term projections showed a significant fiscal shortfall.[3] Nevertheless, the public debate that led to the $1.35 trillion tax cut in 2001 ignored the long-term figures and focused on the faulty, official ten-year projections. To be sure, some would argue that the tax cut was the right choice under any budget situation. At the very least, though, a more informative debate and a better-informed decision would have occurred if policymakers and the public had focused on more realistic budget figures.

The difference between the official budget estimates and more reasonable projections are even more striking today, in part because the 2001 tax cut exacerbated the bias in the official numbers. Indeed, the impact of more realistic spending and tax assumptions has become large enough to convert a forecast ten-year surplus of $1.3 trillion into a *deficit* of more than $4.5 trillion. The resulting deficit amounts to more than 3 percent of the economy and about 16 percent of federal revenues during the next ten years.

Using longer time horizons, the budget picture is even bleaker. Although the government provides no regular budget estimates beyond a ten-year horizon, spending on Social Security, Medicare, and Medicaid is almost certain to grow faster than national income or revenues as the baby boom generation retires, life spans lengthen, and per capita health care expenditures rise. We estimate that federal revenues are likely to fall short of federal spending by 4 to 8 percent of GDP in the long run. That is, it would require an increase in federal revenues of about 21–39

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3. Alan J. Auerbach and William G. Gale, "Tax Cuts and the Budget," *Tax Notes*, vol. 90 (March 2001), pp. 1869–82.

percent, a comparable decline in spending, or some combination of the two, to bring the long-term budget into balance. These projections, even more than the ten-year forecasts, are subject to error, but a large shortfall is probably a safe bet even after taking the relevant uncertainties into account.

The resulting budget outlook—bad over the next decade and worse in future years—presents policymakers with difficult choices. There are only three ways to close the fiscal gap: encouraging economic growth, which makes the costs of federal spending more affordable; raising tax revenues; or reducing spending. The first way is easy to embrace but hard to achieve. The second and third are politically difficult: Tax increases and spending cuts are not popular, however necessary they may be.

Given the uncertainty inherent in the long-term estimates—which implies the possibility that large long-term deficits might not materialize—and the daunting economic and political risks associated with large-scale tax increases and spending cuts, elected officials have so far chosen not only to ignore the long-term problems but also to make them worse by enacting substantial tax cuts and spending increases in recent years.

We believe that increasing the fiscal gap is a significant policy error and that actions to reduce the gap should come sooner rather than later. We present estimates of the extent to which alternative tax and spending policies would close the fiscal gap. Moreover, because the actions needed are politically difficult, we also examine changes in budget rules that could nudge elected officials toward responsible behavior. Although it is possible to make the budget process more conducive to long-term fiscal discipline, in the end there is no substitute for making painful choices.

Building Blocks

Budget experts use a specialized vocabulary as short-hand to represent complex concepts and rules (box 1). The most common measure of the federal government activity is the "unified budget," which was adopted in 1967 to implement recommendations of the President's Commission on Budget Concepts. It includes almost all the activities of the federal government. Expenditures and revenues are measured on a cash-equivalent basis, which means that accrued and accruing assets and liabilities are generally not counted.[4]

The unified budget is useful for several purposes. The unified budget balance essentially equals the change in federal government debt held by the public. Deficits correspond to increases, surpluses to reductions, in debt held by the public. The unified budget balance shows net cash flow between the private sector and the federal government. It is one indicator of the impact of government operations on the private economy.

It is an imperfect indicator, however.[5] The state of the economy affects outlays and revenues, and hence the unified budget surplus or deficit. During a recession, for example, tax revenues tend to fall, and spending through such programs as Food Stamps, unemployment insurance, and Medicaid tend to expand. As a result, unified budget deficits tend to increase and surpluses tend to fall even if policy is unchanged. Analysts sometimes use a "cyclically adjusted" budget balance to eliminate such transitory economic influences. Such a cyclically adjusted balance is an estimate of what the budget balance would be if economic resources were fully

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4. Under the Federal Credit Reform Act of 1990, only the subsidy cost of a government loan or loan guarantee is recorded in the unified budget. Interest on the public debt is also recorded on an accrual basis. For example, implicit interest on a zero-coupon bond is recorded as an outlay while it accrues. Other minor divergences from pure cash-flow accounting also exist.

5. Other actions of the government, such as regulations, can affect the private economy without affecting federal spending or revenues.

employed. A deficit in the budget as conventionally reported may reflect no more than the transitory effects of an economic slowdown; a deficit in the cyclically adjusted budget suggests a structural imbalance between revenues and expenditures.

Another reason the unified budget is not an accurate indicator of the effect of government policy on the economy is that to the extent that currently legislated policies have effects in future years, they can influence the economy now but not show up in short-term budget projections. In some cases, the lags can be quite long. As a result, cash flow over a few years provides a misleading picture of the long-term budget position of the federal government when current or past policies result in a spending-revenue imbalance after the end of the budget projection period. Under current laws, the primary source of such imbalances is long-term commitments to pay pension and health care benefits to the elderly through Social Security, Medicare, Medicaid, and the Federal Employees Retirement program. There are several potential ways to address this problem, each with different strengths and weaknesses.

One approach is to retain the ten-year budget horizon but exclude some or all of these programs from the official budget. In various pieces of legislation between 1983 and 1990, Congress took a step in this direction by classifying Social Security as "off-budget."[6] The Congressional Budget Office and the Office of Management and Budget now report revenues and expenditures not only for the unified budget but also for "off-budget" programs and "on-budget" programs. The exclusion from the on-budget accounts of current cash flow surpluses in Social Security partially offsets the omission of sizable deficits in that program that are expected to occur in years beyond the ten-year budget window. Focusing on the on-budget accounts,

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6. At the same time, Congress also designated the U.S. Postal Service as an off-budget entity. The Postal Service's budgetary impact, though, is a tiny fraction of Social Security's.

rather than the unified budget, gives a somewhat more accurate picture of the current fiscal status of the government. Even so, that emphasis is only an awkward half-step to examining long-term budget issues directly.

An alternative solution is to extend the budget horizon beyond ten years. The Social Security and Medicare actuaries, for example, annually publish 75-year projections of the financial balance under these programs. This approach captures projected shortfalls in Social Security and other programs and generates long-term budget figures. Naturally, however, estimating over a longer horizon means increased uncertainty.

The Ten-Year Budget Outlook

Figure 1 shows the Congressional Budget Office's (CBO's) January 2003 budget baseline for the unified budget and the on-budget accounts. The CBO reports that the unified budget deficit was $158 billion in 2002. The baseline projects a unified deficit of $199 billion in 2003, with the deficit then falling and eventually turning to a surplus by 2007. The official projected surplus then rises to more than $500 billion by 2013.[7] As a result, the budget for 2004 through 2009 runs a cumulative deficit, and more than 90 percent of the cumulative $1.3 trillion ten-year surplus for 2004 to 2013 is accounted for by surpluses projected for 2011 to 2013. Outside of Social Security, the ten-year budget now faces a baseline deficit of $1.2 trillion, with deficits in every year through 2011.

Adjusting the Baseline for Likely Outcomes

The CBO publishes such revenue and outlay baselines at least twice a year. The CBO describes the budget baseline as a mechanical forecast of current policy that is intended to serve

7. All years reported are fiscal years. Fiscal year *x* ends on September 30 of calendar year *x*.

only as a "neutral benchmark....according to rules [that are] set forth in law and long-standing practices."[8] The baseline is used for measuring the costs of proposals that change tax law, spending rules, or spending amounts to ensure that such proposals are consistent with the current rules.

The CBO baseline budget projections dominate public discussions of the fiscal status of the government, but as CBO itself emphasizes, the baseline is not intended to predict likely budget outcomes, for at least three reasons. First, major new initiatives may be enacted. Second, the economy—and with it revenue and spending totals—may evolve differently than the baseline projections assume. Third, the assumptions about spending and tax policy options used to develop the baseline are often unrealistic.

To obtain a better understanding of whether the government is living within its means under current policies, we adjust the baseline budget figures. To do this, we maintain the assumption that no major new initiatives are enacted and that the economy evolves according to CBO's projection. But we make what we believe are more realistic assumptions than the baseline about what constitutes current policy for spending and taxes. This clearly involves judgment calls, so we also explain the adjustments and their justifications.

The CBO baseline assumptions do not appear to be good predictors of likely outcomes for discretionary spending, which represents slightly more than a third of total outlays and requires new appropriations by Congress every year. That is, in any given year, there are no laws explaining what discretionary spending will be in future years. This raises the issue of what levels should be assumed in the budget projections for such spending. The CBO routinely

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8. Congressional Budget Office, "The Budget and Economic Outlook: Fiscal Years 2003-2012" (January 2002), p. xiii.

assumes that *real* discretionary spending (that is, spending adjusted for inflation) will remain constant at the level prevailing in the first year of the ten-year budget period. Because population and income grow over time, this assumption implies that by 2013 discretionary spending will fall by about 20 percent relative to gross domestic product (GDP) and by about 8 percent in real per capita terms.

Although judgments may reasonably differ about future spending choices, CBO's assumption is unrealistic—either as a measure that holds current policy constant or as a prediction of likely spending outcomes.[9] In order to maintain current policy, we believe that a baseline computed on the assumption that real discretionary spending grows at the same rate as the population would be appropriate.[10] This is the same criterion endorsed by George W. Bush as a presidential candidate.[11]

The second area where the baseline makes unrealistic assumptions involves expiring tax provisions. The CBO assumes that Congress will extend expiring spending programs but is

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9. As a measure of likely budget outcomes, we believe that holding discretionary spending constant as a share of GDP would be appropriate. As CBO notes, nondefense discretionary spending has been roughly constant as a share of GDP since the early 1980s. Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2004-2013* (January 2003). Defense and homeland security spending will likely rise as a share of GDP over the next decade. For convenience, we also report budget measures below with discretionary spending held constant as a share of GDP.

10. In recent years, CBO has presented sensitivity analysis with a variety of alternative discretionary spending paths. Theoretically, one would prefer the measure that best reflects the cost of maintaining a given level of government services. The problem arises because some types of discretionary spending (such as FBI staffing) likely require real increases that at least keep pace with population growth in order to maintain a given level of services, whereas others (such as administrative expenses for government departments) may be largely fixed in real terms and therefore not need to keep pace with population growth. Still other types of spending (such as the costs of inspecting imports, which may be proportionate to the volume of imports) may require a constant or rising share of output in order to maintain a constant level of services. In any case, both casual inspection of the fixed cost component of various categories of spending and historical analysis of spending trends suggest that real discretionary spending is unlikely to decline sharply on a per capita basis.

11. Bush argued that an "honest comparison" of spending growth should take inflation and population growth into account." Wayne Slater, "Bush Defends Fiscal Record, Scolds Forbes: His Ads on Spending Challenged," *Dallas Morning News*, October 28, 1999, p. 14A; and Jackie Calmes, "In Debate on Spending, Forbes vs. Bush Resemble Bush vs. Richards, and Both Sides May Be Right," *New York Times*, November 5, 1999, p. A20.

legally required to assume that all temporary tax provisions (other than excise taxes dedicated to trust funds) expire as scheduled, even if Congress has repeatedly renewed them. The assumption about spending is reasonable, since spending programs with expiration dates are normally renewed. But the assumption about taxes is not reasonable in most cases. The Internal Revenue Code currently contains three sorts of expiring tax provisions. The first includes provisions of the 2001 tax cut, the Economic Growth and Tax Relief Reconciliation Act (EGTRRA). All of these provisions "sunset" or end automatically in the next ten years. The second category includes the elements of the 2002 economic stimulus package. Third, other tax provisions have statutory expiration dates but are routinely extended for a few years at a time as their expiration date approaches. We believe that the most accurate assumption of current policy, on balance, would be that these various provisions will be extended (box 2).

The individual alternative minimum tax (AMT) is a dramatic example of how following current law generates unlikely outcomes. The individual AMT was designed in the late 1960s, and then strengthened in 1986, to curb excessive use of tax shelters and other means of tax avoidance (box 3). The AMT runs parallel to the regular income tax system. It uses a somewhat different measure of income, permits fewer deductions, and applies flatter rates than the regular income tax. Taxpayers must compute tax liability under both the conventional income tax and the AMT and pay the larger liability. In practice, the AMT currently generates larger liability for so few taxpayers—about 3 percent—that few filers, other than the tiny minority who might be affected, bother with it.

Because the AMT is not adjusted for inflation, while the ordinary income tax is, the AMT applies to ever more taxpayers as prices rise. In addition, EGTRRA, which cut the ordinary income tax but not the AMT, will greatly increase the number of people subject to the AMT. All

told, by 2010 an estimated 36 million filers will become subject to the AMT under current law. This result is troubling in large part because the AMT is significantly more complex than the regular tax. Policymakers will therefore be under powerful pressure to modify the AMT.

Our budget estimates reflect current policy toward the AMT in two ways. First, we assume that provisions of the AMT that are slated to expire before the end of the budget window are granted a continuance. Under current law, the AMT exemption is increased for 2001 to 2004, but after 2004 it reverts to its 2000 level. We assume that the temporary increase in the exemption is made permanent. Also, under current law, the use of nonrefundable personal credits against the AMT is allowed through 2003. We assume that this provision is made permanent as well. Our second adjustment is to index the AMT exemption, brackets, and phaseouts for inflation starting in 2004 and to allow dependent exemptions in the AMT.[12]

In table 1, these costs are distributed in two places. The cost of extending the exemption and use of nonrefundable credits is shown as an "adjustment for expiring tax provisions" and based on CBO estimates. The additional costs of indexing and adding a dependent exemption are shown separately and are based on estimates using the Tax Policy Center microsimulation model. Taken together, the adjustments would reduce revenues by $638 billion and add $114 billion to debt service costs, for a total budgetary cost of $752 billion. Even so, it would leave 8.5 million taxpayers on the AMT in 2013 assuming that EGTRRA is extended—well above current numbers but well below the 43.5 million slated to face the AMT without such changes.

12. This is "plan 2" in Leonard E. Burman and coauthors and is designed to reduce the effects of the AMT on households with income below $100,000. Leonard E. Burman, William G. Gale, Jeffrey Rohaly, and Benjamin H. Harris, "The Individual AMT: Problems and Potential Solutions." Urban-Brookings Tax Policy Center Discussion Paper 5 (September 2002).

Retirement Funds

The unified budget baseline generally uses cash-flow accounting to measure outlays and revenues over a fixed period, currently ten years. For programs under which future liabilities are accruing, this practice is misleading. Currently, taxes earmarked to pay for Social Security and Medicare Hospital Insurance exceed outlays on those programs. But in the long run, the programs face significant deficits. Yet the current cash-flow surpluses in Medicare and Social Security, and general revenues allocated to trust funds for future federal military and civilian employee pension programs, are counted as part of the unified budget. As noted, one approach to dealing with this kind of program is to move the programs off budget, and that is the approach we follow.[13]

Implications of the Adjustments

Table 1 and figure 2 show the sizable effects of adjusting the surplus for current policy assumptions and retirement trust funds. The CBO unified budget baseline projects a ten-year surplus of $1.3 trillion, with surpluses rising sharply over time. Adjusting the CBO baseline for our assumptions regarding current policy implies that the unified budget will be in *deficit* to the tune of $1.1 trillion over the next decade. Notably, the adjusted unified budget would be in deficit every year through 2013. Adjusting further by taking the retirement funds off budget would generate a ten-year deficit of $4.5 trillion. If discretionary spending were held constant as

13. This economic logic may help explain the significant, bipartisan political support for the notion that retirement trust funds ought to be kept separate from the rest of the budget. Both Houses of Congress voted overwhelmingly in 2000 to support measures that protected the Medicare Hospital Insurance trust fund from being used to finance other programs or tax cuts. See Patti Mohr, "House Passes Social Security and Medicare Lockbox Legislation," *Tax Notes*, vol. 90 (February 2001), pp. 981–83. A recent legislative proposal would provide similar protection to military pensions. (U.S. House of Representatives, 107 Cong. 1 sess., H. RES. 23, January 30, 2001.) Almost all states already separate pension reserves from their operating budgets.

a share of GDP, rather than on a real, per capita basis, each of the ten-year deficits would be about $1 trillion larger.

Although the precise figures should not be taken literally because of uncertainty and other factors, the basic trends in the data are clear. First, the CBO baseline suggests that the budgetary future contains rising surpluses over time, at least within the ten-year window. Our adjusted baseline suggests rising deficits over time. Second, the differences grow over time. By 2013, the annual difference between the official projected unified budget and our alternative unified budget is more than $600 billion. Third, acknowledging that the retirement trust funds are running current surpluses but will run deficits in the future makes the budget outlook far worse. The adjusted budget outcome outside of the retirement trust funds—$4.5 trillion—is almost $6 trillion less than the baseline budget outcome over the next decade, and the difference between the official unified projection and our adjusted nonretirement trust fund budget exceeds $1 trillion in 2013 alone.

The Long-Term Fiscal Gap

The adjusted budget measures in table 1 and figure 2 depict more accurately than does the CBO unified budget baseline the cash-flow budget prospects over the next decade. Yet any budget measure that is limited to developments over the next decade is inherently imperfect. As noted, although Social Security and Medicare are currently running cash flow surpluses, each program faces large and growing projected cash-flow deficits under current law. In the context of an aging population and rapidly rising medical care expenditures, an accurate picture of the government's long-term fiscal status is impossible without inclusion of these deficits.

We present estimates of the "fiscal gap," the increase in taxes or reductions in noninterest expenditures, measured as a share of GDP, that would be required if implemented immediately

to hold constant the ratio of government debt to GDP.[14] This measure of the fiscal gap describes the current long-term budgetary status of the government.

We present several measures of the gap. One set uses the CBO baseline for spending and taxes over the next decade. After the first decade, we assume that all taxes (including those earmarked to pay for Social Security and Medicare) and discretionary spending remain the same share of GDP as they were in 2012.[15] We assume that Social Security and Medicare expenditures follow the 2002 intermediate projections of the Social Security and Medicare actuaries. We also assume that Medicaid spending grows at a rate determined by the growth of the population and per capita health care spending. Interest payments are determined by debt accrual and interest rates. We present estimates through 2075 and for the indefinite future.

The least pessimistic projection uses CBO's baseline revenue and spending figures for the next decade and then the long-term assumptions for the rest of the period ending in 2075. Under these assumptions, the fiscal gap is 1.6 percent of GDP (table 2).[16] An immediate tax

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14. If underlying rates of growth of spending and taxes are stable, any small increase in the ratio of debt to GDP would lead to further increases, with attendant jumps in interest costs, leading to an explosive increase in the debt-GDP ratio. See Alan J. Auerbach, "The U.S. Fiscal Problem: Where We Are, How We Got Here, and Where We're Going," in Stanley Fischer and Julio Rotemberg, eds., *NBER Macroeconomics Annual* (Cambridge, Mass.: National Bureau of Economic Research, 1994); Alan J. Auerbach, "Quantifying the Current U.S. Fiscal Imbalance," *National Tax Journal*, vol. 50 (September 1997), pp. 387–98; Alan J. Auerbach and William G. Gale, "Does the Budget Surplus Justify a Large-Scale Tax Cut?" *Tax Notes*, vol. 82 (March 1999), pp. 1827–50; Alan J. Auerbach and William G. Gale, "Perspectives on the Budget Surplus," *National Tax Journal*, vol. 53 (September 2000), pp. 459–73; Alan J. Auerbach and William G. Gale, "Tax Cuts and the Budget," *Tax Notes*, vol. 90 (March 2001), pp. 1869–82; and Congressional Budget Office, "The Long-Term Budget Outlook" (October 2000).

15. In fact, under current law payroll taxes would decline and income taxes would increase as a fraction of GDP. Payroll taxes are levied on cash wages; because fringe benefits, which are not subject to payroll tax, are expected to increase as a share of GDP, while total labor compensation is projected to be roughly constant, the share of GDP taking the form of taxable wages is projected to fall. Income taxes would claim an ever larger share of GDP, as bracket widths, personal exemptions, and the standard deduction are not indexed for increases in real incomes.

16. This figure is lower than the comparable estimate presented in Auerbach, Gale, and Orszag, "The Budget Outlook and Options for Fiscal Policy." Three factors explain the change. Our previous estimate (and all other long-term estimates in that paper) was too high by nearly 2 percent of GDP as a result of our misinterpretation of unpublished projections obtained from CBO. In addition, the short-term outlook has worsened in the intervening

increase or spending cut of 1.6 percent of GDP in each year from 2003 through 2075 would maintain fiscal balance over this period. That shift translates into a current tax increase or spending cut of about $170 billion a year—approximately 8 percent of the budget.

These fiscal gap figures reflect a sharp projected rise in spending on Social Security, Medicare, and Medicaid—from about 9 percent of GDP in 2012 to 15 percent by 2040 and 21 percent by 2075, the last year of this projection. Under this projection, these three programs would ultimately absorb a larger share of GDP than all of the federal government today. To be sure, these programs have been amended frequently in the past, and virtually no one expects them to persist unchanged for the next seven decades. The projections, however, indicate what will happen if action is not taken, thereby serving as a benchmark that indicates the size of the changes in spending and revenues that are needed.

Because these programs grow faster than GDP, extending the horizon increases the fiscal gap. To maintain the ratio of debt to GDP indefinitely requires increasing taxes or cutting spending by 4.4 percent of GDP. The gap increases with the projection period because the budget is projected to be substantially in deficit after 2075. This result, like the earlier one, is explained mainly by population aging and attendant increases in pension and health care costs.

The fiscal gap is sensitive to revenue and spending assumptions over the next decade. Using our adjusted revenue and spending figures for the next ten years, and assuming those changes persist over time, raises the fiscal gap through 2075 from 1.4 to 4.9 percent of GDP. Using our adjusted baseline implies that it would take spending cuts or tax increases equal to 7.8 percent of GDP to close the *permanent* fiscal gap, rather than 4.4 percent of GDP under the CBO

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months, while the long-term projections for entitlement spending have improved somewhat, roughly offsetting each other in effect over the 75-year horizon.

baseline. These comparisons underscore the fact that changes within the current budget window can have a large effect on the long-term gap if they persist.

Uncertainty

Substantial uncertainty surrounds the short- and long-term budget projections. Much of the problem stems from the fact that the surplus or deficit is the difference between two large quantities, taxes and spending. Small percentage errors in either one can cause large percentage changes in the difference between them. For example, if annual economic growth exceeded forecasts by 0.5 percentage point, the economy would be about 5 percent larger than forecast after a decade. Revenues would increase above and spending would decline below forecasts. The resulting budget surplus would be $1 trillion dollars larger or the deficit $1 trillion smaller than forecast. Such a shift would be sufficient to double the CBO baseline surplus shown in table 1. Conversely, annual growth about 0.5 percentage point below forecast would be sufficient to eliminate almost the entire projected ten-year surplus.[17] In addition, revenues significantly exceeded what revenue estimators had expected in the late 1990s and fell significantly short in 2001–02, even controlling for the size of the economy.

As a result, budget projections can change significantly on a year-to-year basis. For example, in January 2001, CBO forecast a unified budget surplus for 2002 to 2011 of $5.6 trillion. Shortly thereafter, Congress and the administration agreed to cut taxes over the next decade. The economy weakened, and the nation fell victim to terrorist attack. A scant eighteen months later, the overall surplus for the 2002 to 2011 time period had fallen to $336 billion. Of this $5.3 trillion shift, the 2001 tax cut and the associated increases in interest payments

17. Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2004-2013* (January 2003).

accounted for about $1.7 trillion. The economy, stock market, and other factors accounted for the rest.

The Congressional Budget Office is unusually candid in acknowledging these projection surprises. Recent CBO publications have included a "fan graph," based on CBO's past forecasts, which shows the likelihood of different budget outcomes (figure 3 reproduces the fan graph for 2002). The graph shows the wide range of possible short- and medium-term outcomes.

Not only are forecasts often far off the mark, but errors in one direction tend to be followed by errors in the same direction the next year. It is particularly difficult to predict and understand turning points. Nonetheless, CBO's forecasts appear to be unbiased in the sense that positive and negative errors have roughly offset one another over time and are at least as good as those provided by the Office of Management and Budget (OMB), the major macroeconometric models, and the Blue Chip forecasters.[18] Long-term projections are subject to these and other uncertainties. Small differences in growth rates sustained for extended periods can have surprisingly large economic effects. For example, if the United States were to grow by 3 percent per year it would be about twice as large by 2075 as it would be if it grew 2 percent annually. Holding the tax system fixed, government revenues would be much higher with 3 percent growth than with 2 percent growth. Whatever a rapidly growing economy chooses to do with the extra revenues—cut tax rates, boost government spending, or pay down public debt—it has vastly

18. See, for example, Alan J. Auerbach, "On the Performance and Use of Government Revenue Forecasts, " *National Tax Journal,* vol. 52 (December 1999), pp. 767–82; Congressional Budget Office, "A 125-Year Picture of the Federal Government's Share of the Economy, 1950 to 2075," Long-Range Fiscal Policy Brief (July 2002); and Rudolph G. Penner, "Errors in Budget Forecasting" (Washington: Urban Institute, 2001). Although the *economic* assumptions used in the CBO budget projections may be unbiased predictions of future events, the *policy* assumptions are not. Indeed, the policies assumed in the baseline forecasts appear to be diverging ever more dramatically from more accurate reflections of "current" policies. The official baseline seems to be a particularly biased measure of fiscal status under current conditions because of the sunsets embodied in EGTRRA and the stimulus package; the looming AMT explosion; uncertainty about the course of discretionary spending (including defense and homeland security spending); and the large role played by retirement trust funds in the budget.

larger options than does a slow-growth economy. A 1 percentage point difference in annual economic growth is well within the variation found among responsible forecasts.

A second source of uncertainty is the characterization of "current policy." For example, in 2000 CBO raised its assumption about the growth of Medicare and Medicaid spending by 1 percentage point per year starting in 2020. This change alone raised the fiscal gap for the 2000–2070 period by 1.7 percent of GDP and the permanent fiscal gap by 3.4 percent of GDP.[19] The long-term projections we report also incorporate the assumption that effective income tax rates do not increase as GDP rises. But that assumption implies that bracket widths, personal exemptions, the standard deduction, and other nominal quantities increase faster than they do under current law. Otherwise, real economic growth will push households into higher marginal tax rates and raise the tax share. In this case, our "current policy" projections rest on the tacit assumption that Congress continually lowers statutory tax rates or reduces the statutory base of taxable income. In the case of Social Security and Medicare, we assume that benefits rise with average real earnings, as called for under current law. If we instead assumed constant real per capita Social Security and Medicare costs, the fiscal gap would shrink or vanish.[20] This would mean, however, that retirement benefits were falling on a continual basis relative to wages.

Changes in demographic factors and economic behavior generate a third source of uncertainty.[21] In the short run, variations in birth rates and life expectancy cannot have much effect on the labor force, the number of children who need education, or the number of elderly

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19. Auerbach and Gale, "Tax Cuts and the Budget," pp. 1869–82.

20. Martin A. Sullivan, "The Federal Budget: Is It Going to Hell?" *Tax Notes*, vol. 16 (September 2002), pp. 1303–07.

21. Henry J. Aaron and William B. Schwartz, *Creating Methuselah: Molecular Medicine and the Problems of an Aging Society* (Washington, D.C.: Brookings, 2002).

who are disproportionately likely to be dependent on public services. But over extended periods, plausible variations in demographic variables can have large effects on economic growth, which influences revenues, and on the demand for public services, which affects outlays.

The imminent retirement of the baby-boom generation, the leading edge of which turns 62 in 2008, underscores the importance of changes in retirement age in affecting federal revenues and outlays. From 1950 to the mid-1980s, American men were retiring at ever earlier ages. Labor force participation rates may now be rising a bit among men in their sixties. Whether men (and women) have begun to extend their working lives or resume the trend toward early retirement will profoundly affect the overall labor force and hence total production and tax collections. It will also influence public spending because it will affect the number of people who are dependent on Medicare and Medicaid. (The age at which people first claim Social Security benefits has little effect on overall program costs because older first-time claimants receive actuarially increased annual benefits.)

Other behaviors can have important effects on government revenues and expenditures—for example, how long young people stay in school, how many nonelderly adults drop out of the labor force, how many immigrants enter the country, how much people voluntarily save (which affects investment, economic growth, and interest rates), and what happens to workplace safety and other environmental hazards and, hence, to disability rates. Many of these behaviors depend sensitively on public policies, as well as on autonomous changes in individual preferences.

Demographic and behavioral change can interact in complex ways in their effect on the fiscal outlook. If longevity increases, retirement ages remain about where they are, and the advent of physical and mental frailty is not delayed, the aging of the baby-boom generation can impose enormous costs on the working population. However, if retirement ages increase and

medical advances delay physical and mental decline, a growing population of people of advanced years would cause less severe fiscal problems or none at all.[22]

Uncertainty makes long-term projections imprecise. Nonetheless, almost all studies that have examined the issue suggest that even if major sources of uncertainty are accounted for, serious long-term fiscal problems will remain.[23]

Policy Responses

The budget outlook presents policymakers with a complex and difficult set of problems. First, a medium-term deficit is highly likely, and a significantly larger long-term fiscal gap seems probable. Second, the sources of the two problems are quite different. The ten-year deficits entirely reflect deficits in operations of government other than Social Security or Medicare, both of which are currently running cash-flow surpluses and are expected to continue doing so for many years. Over the longer term, both Social Security and Medicare costs are likely to rise more than either taxes earmarked to them or revenues in general. These two programs, along with Medicaid, account for most of the long-term fiscal gap. Third, raising taxes or cutting spending enough to close the fiscal gap will be painful, both for the elected officials who must enact them and for the citizens who will pay higher taxes and receive fewer public services than current policy indicates.

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22. John B. Shoven, "The Impact of Major Life Expectancy Improvements on the Financing of Social Security, Medicare, and Medicaid," in Henry J. Aaron and William B. Schwartz, eds., *Creating Methuselah: Molecular Medicine and the Problems of an Aging Society* (Washington, D.C.: Brookings, 2002).

23. Ronald Lee and Ryan Edwards, "The Fiscal Impact of Population Aging in the U.S.: Assessing the Uncertainties," mimeo, University of California-Berkeley, 2001; Shoven, "The Impact of Major Life Expectancy Improvements on the Financing of Social Security, Medicare and Medicaid"; and Congressional Budget Office, "The Budget and Economic Outlook: An Update" (August 2001).

Addressing the Long-Term Fiscal Gap

Some have argued that the correct policy response to the fiscal gap is to ignore it, for any of four reasons. For example, the significant uncertainty surrounding future events means that fiscal prospects might improve markedly even without significant policy change. If so, avoiding the painful tax increases or spending cuts that would be required to close the gap is desirable. Others say that steady economic growth means that future generations will be better off than the current generation and, over long periods, much better off. If future generations are richer, they will be better able to afford the fiscal burdens. Some claim that fiscal deficits are desirable because they make it difficult to raise public spending and thus serve to constrain the size of government. Adherents of this view believe that the prospect of a smaller government provides economic (and perhaps political or ideological) benefits that outweigh the costs of worsening fiscal prospects. Finally, some analysts claim that budget deficits do not have deleterious economic effects.

We believe it would be a mistake to ignore the fiscal gap, and that all of the preceding claims are flawed. First, although fiscal prospects are uncertain, most studies show that a sizable fiscal gap will probably remain even after adjusting for a plausible range of uncertainty. Simply put, population aging and health care technologies will create budgeting problems under almost any scenario. The likelihood of a long-term fiscal gap should spur a precautionary response from policymakers now.[24]

24. Alan J. Auerbach and Kevin A. Hassett, "Uncertainty and Design of Long-Run Fiscal Policy," in Alan J. Auerbach and Ronald D. Lee, eds., *Demographic Change and Fiscal Policy* (Cambridge: Cambridge University Press, 2001), pp. 73–100, and Alan J. Auerbach and Kevin A. Hassett, "Optimal Long-Run Fiscal Policy: Constraints, Preferences and the Resolution of Uncertainty," Working Paper 9132 (Cambridge, Mass.: National Bureau of Economic Research, 2002) address the optimal policy response to uncertainty in long-term forecasts.

Although future generations will in all likelihood receive higher wages than current generations, the fiscal gap is so large under current policies that it would be prudent and fair for the current generation to bear a nontrivial portion of the costs. Doing so would still leave a sizable burden for future generations to shoulder. Moreover, one must also account for the distortionary effects of taxation in comparing the welfare of current and future generations. The welfare costs of tax distortions rise roughly with the *square* of revenues as a share of GDP, so the higher revenues required of future generations would have a much larger negative effect on welfare than is directly attributable to the increase in revenue.

Although it may make sense to constrain government, choosing to ignore the fiscal gap is a serious gamble. It may not work—or at least may not work for a long time. When taxes were cut in the 1980s, for example, federal spending rose as a share of GDP. It was not until budget rules were imposed in 1990 and reauthorized subsequently that federal spending came under control. In the meantime, the ratio of public debt to GDP doubled. Second, if reporting a larger budget deficit does constrain spending, that goal can be achieved by emphasizing the long-term fiscal gap figures just reported or some of the other measures we consider, rather than the official budget projections. The use of alternative budget measures would raise the reported deficit, but it does not create a fiscal gamble. Better budgetary rules could also help constrain federal spending. For all these reasons, if the goal is to constrain spending, ignoring (or increasing) the fiscal gap is not the best way to achieve that goal. Moreover, under current circumstances, with a fiscal gap that is large and concentrated in politically popular programs, ignoring the fiscal gap now may create the need for massive, last-minute future policy changes.

Finally, the claim that budget deficits do not have deleterious long-term effects is based on the notion that—holding spending constant—when the government increases its borrowing,

private citizens increase their saving by the same amount. The overwhelming majority of economic evidence firmly rejects this view.[25] Sustained budget deficits result in more government borrowing, less national saving, a smaller capital stock owned by Americans, and lower future incomes than if deficits were eliminated. This implies that future living standards of Americans would be significantly higher if we act now to close the fiscal gap (box 4).

Acting sooner also gives people time to adjust their own plans based on changes in public programs. Because any solution to the Social Security and Medicare financing problem will likely involve benefit cuts, tax increases, or both, acting now would give people more advance notice and a chance to modify their plans. If the fiscal gap widens with time, as current projections indicate, gradual change now may spare the nation serious dislocations from abrupt and massive change later.

Finally, if the long-term budget outlook is not kept front and center in the policy debate, elected officials can all too easily succumb to the temptation to use any temporary surpluses that emerge not to address looming problems but to finance tax cuts or spending increases that will aggravate the long-term problem. Precisely such shortsightedness seems to have contributed to the size of the tax cuts enacted in 2001.

Policies to Close the Long-Term Fiscal Gap

A variety of policies are available to help close the gap. If the tax cuts enacted in 2001 that took effect before the end of 2003 were to remain in place and were made permanent, but all cuts scheduled to take effect beyond 2003 were suspended, the fiscal gap between now and 2075,

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25. See B. Douglas Bernheim, "Ricardian Equivalence: An Evaluation of Theory and Evidence." NBER Working Paper 2330 (Cambridge, Mass.: National Bureau of Economic Research, July 1987); Douglas W. Elmendorf and N. Gregory Mankiw, "Government Debt," in John B. Taylor and Michael Woodford, eds., *Handbook of*

relative to our adjusted budget baseline, would be cut by 0.8–0.9 percent of GDP.[26] By way of comparison, the estimated Social Security deficit in the same period is 0.7 percent of GDP.[27]

An even more aggressive policy would be to take seriously the expiration dates in EGTRRA and allow the tax cut to expire as scheduled at the end of 2010. This policy would have no effect on the CBO baseline, which is based on the assumption that EGTRRA will indeed expire. But relative to our adjusted baseline, which treats EGTRRA as permanent, allowing the tax cut to expire would affect the final three years of the ten-year forecast, reducing the projected ten-year deficit by more than half a trillion dollars. More important, allowing the tax cuts to expire would reduce the fiscal gap measured to 2075 by 40 percent—from 4.9 percent to 3.2 percent of GDP.

Macroeconomics, vol. 1C (Amsterdam: Elsevier Science B.V., 1999), pp. 1615–69; and John Seater, "Ricardian Equivalence," *Journal of Economic Literature*, vol. 31 (March 1993), pp. 142–90.

26. An expiration or freeze would impose the costs of the government's fiscal imbalance primarily on high-income households, as the tax cuts scheduled to take place in future years are even more heavily skewed in favor of higher-income households than was the tax cut as a whole. William G. Gale and Samara R. Potter, "An Economic Evaluation of the Economic Growth and Tax Relief Reconciliation Act of 2001," *National Tax Journal*, vol. 55 (March 2002), pp. 133–86.

27. Board of Trustees, Federal Old Age and Survivors Insurance and Disability Insurance Trust Funds, *The 2002 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds* (2002), table VI.E5, p. 150; and Richard Kogan, Robert Greenstein, and Peter Orszag, "Social Security and the Tax Cut " (Washington, D.C.: Center for Budget and Policy Priorities, April 2002). Note that the actuarial imbalance figure is lower than the present value of the additional future cash flow required to finance scheduled benefits because of the current value of the Trust Fund.

Suspending those elements of the tax cut that have not yet been implemented or allowing the entire tax cut to expire on its legislated schedule would be clear steps toward fiscal responsibility, but a large fiscal gap would still remain. Because Medicare, Medicaid, and Social Security will constitute the bulk of the federal budget, the solution to the fiscal gap must involve these three programs. Eliminating the Social Security actuarial deficit through 2075, as just noted, would reduce the fiscal gap through 2075 by 0.7 percent of GDP.[28]

Medicare poses even more serious challenges, as health spending will be driven not only by the demographic trends that affect Social Security, but also by the revolutionary—and to date largely expenditure-increasing—technological advances emerging from biomedical research. These costs also depend sensitively on which services Medicare covers and how much of the rising total cost of care Medicare pays. Currently, Medicare coverage omits major services, such as outpatient prescription drugs and ordinary nursing home care, and patients' share of medical costs is higher than under most private insurance plans. The elderly and disabled will almost certainly have to bear increasing costs for health care. But it is also clear that higher taxes—payroll or other taxes earmarked to Medicare or general revenues—will be necessary to close the current projected deficit, finance benefits promised under current law, and modernize the Medicare benefit package.[29] Medicaid poses similar problems.

Thus, some combination of benefit reductions in Social Security and higher payments by Medicare beneficiaries seem inescapable. But so also do increased taxes to meet the costs of an

28. Technical differences in how the fiscal gap and the actuarial imbalance within Social Security are computed mean that the figures in the text are necessarily approximations.

29. National Academy of Social Insurance, "Financing Medicare's Future" (Washington, D.C., September 2000).

expanding elderly and disabled population, modernize Medicare, and assure the elderly of adequate basic income during retirement.

Addressing the Near-Term Budget Deficit

Addressing the near-term budget deficit is less important than addressing the long-term fiscal gap. In the near term, as long as economic growth is sluggish and capacity is underused, budget deficits can help stimulate aggregate demand and return the nation to its full-employment growth path. In fact, having a near-term deficit may prove useful in helping policymakers to focus on fiscal restraint that will pay off in the long run.

Nevertheless, the near-term deficit may be of concern. If long-term fiscal prospects were rosy, current deficits would raise little concern. If private saving were high, the fact that government is now in deficit and absorbing some private saving to cover the gap would not prevent the nation from using the rest of private saving to augment its capital stock. Unfortunately, neither condition is satisfied. Long-term budget prospects are poor, and private saving is low, compared with either historic averages or international standards. Thus, reducing the deficit as soon as the current recession has ended is important because continued deficits will have a significant negative effect on the nation's economic growth. Policies that increase the deficit now but reduce it in future years could be used to help stimulate the economy in the short term and provide fiscal discipline in the long term.

Improving Budgetary Governance

The political hurdles faced by any changes to close the fiscal gap heighten the importance of budget rules that might facilitate responsible decisionmaking by elected officials. Budget rules by themselves cannot produce fiscal discipline. Without a consensus that fiscal discipline is important, the rules will simply be ignored or evaded. But the rules for evaluating proposals can

affect budget outcomes. We suggest that impending deficits and the political impediments to dealing responsibly with them justify placing larger procedural obstacles before spending increases or tax cuts than before spending cuts or tax increases. They also justify the preparation and dissemination of information that reveals the long-term fiscal gap.

Budget Requirements. If controlling the deficit is the goal, why not simply mandate declining deficits or balanced budgets? One answer is that no single budget total adequately describes the government's fiscal status. Any requirement for balance or declining deficits would necessitate focus on a single such measure, which would bias decisions in favor of actions that met the standards of that measure, even if those same decisions damaged budget prospects as indicated by other measures. More fundamentally, policymakers have proved capable of evading all deficit targets yet devised, including the Gramm-Rudman-Hollings requirements under which Congress operated in the 1980s. In addition, since deficits tend to emerge when the economy weakens, balanced budget rules tend to require tax increases or spending cuts at the wrong time in the business cycle. When unemployment is rising, the best short-term policy is to let taxes fall and spending rise, through unemployment insurance, aid to the poor, and other so-called automatic stabilizers—programs under which spending increases when the economy weakens and without new legislation.

PayGo Rules. The Budget Enforcement Act of 1990 (BEA) introduced rules establishing caps on discretionary spending and pay-as-you-go (PayGo) rules governing changes in taxes and entitlement spending. Although these rules were inflexible and had serious shortcomings (for example, they encouraged trade-offs between changes in entitlements and taxes, but not between entitlements and discretionary spending), they contributed to fiscal discipline that led in the late 1990s to the emergence of substantial cash-flow surpluses. Unfortunately, when surpluses

emerged in the late 1990s Congress began to waive or circumvent the rules. Some evasions were absurd. For example, some expenses associated with the 2000 decennial Census were classified as "emergency" spending, although decennial censuses have been fielded for more than 200 years and are mandated in the Constitution. The motivation for this ludicrous misclassification was transparent—emergency spending was excluded from the discretionary spending caps.

It should be emphasized, though, that these spending transgressions were far smaller than the size of the 2001 tax cut. That is, to the extent that the disappearance of the surplus was because of policy, it was the tax cut, not spending increases, that undermined fiscal discipline.

The PayGo and other budgetary rules matter more in the Senate than in the House of Representatives, because the House can waive rules by majority vote, but waivers require 60 votes in the Senate. The BEA PayGo rules and spending caps expired in September 2002; other Senate rules are scheduled to expire in the spring of 2003. Failure to make these or similar rules a permanent part of congressional procedure would be a serious mistake.

Uncertainty. Budget rules should reflect the fact that projections are subject to error. Former Congressional Budget Office director Robert Reischauer suggested rules under which Congress could take formal cognizance of this uncertainty. Only a part of projected budget surpluses would be available for tax cuts or spending increases. The more distant the projection, the smaller the part of the projected surplus would be available. Such a rule would enable Congress to engage in long-term planning that uses a part of projected surpluses for spending increases or tax cuts but would reduce the likelihood that decisions made during a temporary period of excessive optimism would result in large deficits.[30]

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30. A related approach to uncertainty involves "trigger rules," which would cancel revenue reductions or spending increases if projected surpluses failed to materialize. Richard Kogan, "How to Avoid Over-Committing the Available Surplus: Would a Tax-Cut 'Trigger' Be Effective Or Is There a Better Way?" (Washington, D.C.: Center

The Budget Horizon. Because the House and Senate budget committees use Congressional Budget Office projections to develop funding allocations for various substantive and appropriation committees, deciding how far into the future to make such projections is significant. Projections over one or a few years create powerful biases to enact bills whose cost is small in the near term but balloons in years beyond the budget horizon. The longer the projection period, the smaller the bias. But as the projection period lengthens, uncertainties multiply. Choosing how far into the future to project expenditures and revenues is therefore a matter of judgment and requires a balance between distorted legislative incentives and the imponderables of the future. We believe that the damage to responsible legislation from any shortening of the ten-year projection period would be significant. Even with the current horizon, Congress frequently delays implementation of spending increases or tax cuts to hold down the estimated ten-year cost of their actions. For the 2001 tax cut, for example, delays in implementation, the deepening of the AMT problem, and the sunset provisions and phaseouts held down the estimated reduction in revenues (measured as a fraction of GDP) for 2001 to 2011 to about half the cost of the fully implemented tax cuts in 2011 (assuming that the provisions are made permanent).[31] Shortening the budget horizon to fewer than ten years would exacerbate this problem.

Dynamic Scoring. Under current budgetary procedures, the Congressional Joint

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on Budget and Policy Priorities, March 2001), describes several reasons why triggers may work poorly. If they are tied to surplus or deficit projections, they would create incentives for rosy forecasts. If the triggers instead depend on actual budget results, they would create incentives for timing tricks and budget gimmicks to avoid the triggers, and hence would require additional budget rules. Moreover, policy changes induced by the triggers would be procyclical: in a recession, the trigger would force spending cuts or tax increases, exactly the wrong response at the wrong time. Also, triggers attempt to determine whether future tax cuts are affordable by looking at current or previous years'—rather than projected—surpluses. Finally, triggers may simply be politically untenable: they would require Congress to cancel already passed tax cuts or spending programs.

Committee on Taxation (JCT) scores—that is, measures the costs of—new tax legislation, allowing for a variety of behavioral responses to the timing and composition of economic activity but not for changes that alter the real level of macroeconomic activity. For example, the impact of tax cuts on aggregate labor supply and investment is presumed to be zero in determining the revenue estimates. This is often referred to as static scoring.

Critics argue that static scoring biases outcomes against proposals that generate economic growth and advocate that the JCT include the macroeconomic impact of proposals on revenues—which is called dynamic scoring. While no economist doubts that tax policies can affect the macroeconomy, there are nevertheless some real concerns about estimating macroeconomic feedback effects on revenues.

The macroeconomic effects of a proposal depend sensitively on a number of complicated issues. Individuals and businesses can respond in various ways to tax policy. The extent, timing, and nature of these reactions are subject to debate. The federal government itself will have to respond to a tax cut or spending increase, since it has to finance such changes over time, but little is known about the details of these changes. Other governmental entities—including the Federal Reserve Board, state governments, and foreign governments—may also respond to the tax policy. Reasonable variation in assumptions about each of these responses can generate a very wide range of effects of the proposals on economic growth, often including positive and negative responses.

This complexity and uncertainty do not mean that policymakers should be deprived of information on the growth effects of policies, but it does mean that any single figure for the

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31. William G. Gale and Samara R. Potter, "An Economic Evaluation of the Economic Growth and Tax Relief Reconciliation Act of 2001," *National Tax Journal*, vol. 55 (March 2002), table 2.

macroeconomic impact of growth proposals is subject to substantial uncertainty, and that even the sign of the effect for many proposals will prove uncertain. As a result, we believe it would be appropriate for the JCT or the CBO to provide information on the macroeconomic effects of major policy initiatives, but that trying to provide a single number to use as part of the official scoring process would be subject to too much uncertainty to be accepted as reliable.[32]

Alternative Perspectives. For legislative purposes, Congress must rely on a single set of projections. But projections using alternative methods can enrich the understanding of Congress and the public about budget prospects. In table 2 we illustrate an alternative projection that applies different assumptions from those in official projections and that extends into the distant future. Two additional kinds of projections could also be useful.

For many purposes, accrual accounting is more informative than cash-flow accounting. Under accrual accounting, one values accrued assets and liabilities and computes the present discounted value of future spending and revenues under certain programs—namely, those that entail long-term commitments—rather than the cash flow over a limited period or present discounted value of all government activities, as in fiscal gap calculations. Accrual accounting generally affects only programs with multiyear spending or revenue provisions that are based on program eligibility—such as Social Security and Medicare—rather than discretionary appropriations. Accrual accounting has already been implemented for certain isolated government programs, including the Federal Employees Retirement System pension for federal employees, and (as of 2003) military retiree health benefits. The administration has proposed

32. For further discussion, see Alan J. Auerbach, "Dynamic Revenue Estimation," *Journal of Economic Perspectives*, vol. 10 (Winter 1996), pp. 141–57; William Gale, "Taxes, Growth, and Dynamic Analysis of New Legislation," *Tax Notes*, thirtieth anniversary issue (December 2002), pp. 29–44; and Peter R. Orszag, "Macroecomonic Implications of Federal Budget Proposals and the Saving Process," testimony before the Subcommittee on Legislative and Budget Process of the House Rules Committee, 107 Cong. 2 sess. (May 2, 2002).

extending it to all federal employees' pension and health care expenses.[33] The General Accounting Office recommends adoption of accrual budgeting for insurance programs, pension and retiree health programs, and environmental cleanup costs.[34] Other countries have employed accrual accounting to varying degrees.[35] The main disadvantage of accrual accounting is that future costs are less certain than current cash flow. Nevertheless, accrual accounting is appealing because in some senses it presents a truer picture of government's assets and obligations than does cash-flow accounting over a short horizon.[36] Although full accrual accounting may require too many assumptions to be appropriate for the budget itself, publications of studies based on accrual accounting would offer legislators and the public useful information.

Generational accounting constitutes yet another way to measure the government's fiscal position.[37] Generational accounting attempts to measure how the net burden of government is distributed across birth cohorts. Generational accounting allocates taxes and transfer payments under current policy to members of different generations and does the same for changes in taxes

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33. Congressional Budget Office, "The President's Proposal to Accrue Retirement Costs for Federal Employees" (June 2002).

34. General Accounting Office, "Budget Issues: Budget Enforcement Compliance Report," GAO-01-777 (June 2001).

35. Australia, New Zealand, and the United Kingdom have implemented full accrual accounting systems. Germany plans to supplement its cash flow accounts with accrual accounting information and Korea, the Netherlands, Sweden, and Switzerland are moving toward full accrual systems. Organisation for Economic Co-operation and Development, "A Brief Comparison of the Budgeting Systems in the G7 Countries" (Paris, April 2002).

36. Capital budgeting is often mentioned as alternative reform. Under capital budgeting, borrowing finances capital purchases, and the budget records only the annual usage cost of capital investment. A transition to capital budgeting, however, would face several problems. The definition of capital is ambiguous, would be subject to abuse, and may turn out to encourage spending rather than discourage it. President's Commission on Budget Concepts, "Report of the President's Commission on Budget Concepts" (Washington, D.C., October 1967) and the President's Commission to Study Capital Budgeting, "Report of the President's Commission to Study Capital Budgeting" (Washington, D.C., February 1999) recommend against adopting capital budgets.

37. The original formulation of generational accounting is in Alan J. Auerbach, Jagadeesh Gokhale, and Laurence J. Kotlikoff, "Generational Accounts: A Meaningful Alternative to Deficit Accounting," in David Bradford, ed., *Tax Policy and the Economy* (Cambridge, Mass.: National Bureau of Economic Research, 1991), pp. 55–110.

that may be needed to close the fiscal gap. The initial assignment of tax liabilities and the resulting generational accounts indicate how large the net present value of tax liabilities is for members of each generation.[38] The allocation of additional burdens needed to close the long-run fiscal gap indicates how different generations will be affected by the policy change.[39] Generational accounting provides insight into how different policies will affect people of different ages; with the advantage of more information, though, comes the need for more assumptions and data. As with accrual accounting, generational accounting estimates provide useful supplements to the cash-flow budget figures.

Conclusion

The United States faces significant fiscal challenges. Official projections celebrate a projected budget surplus exceeding $1 trillion over the next decade. Under realistic assumptions, however, the budget will run deficits of several trillion dollars in the next ten years, even without major new initiatives, and much larger deficits loom over the longer term as aging of the population and rising medical technology drive up pension and health care outlays. The focus on the ten-year window and other current budget rules obscures our long-term challenge. Preparing

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38. In practice, generational accounts reflect only taxes paid less transfers received. With the occasional exception of government expenditures on education, the accounts presented in past research typically have not imputed to particular generations the value of the government's purchases of goods and services. Therefore, the accounts do not show the full net benefit or burden that any generation receives from government policy as a whole, although they can show a generation's net benefit or burden from a particular policy change that affects only taxes and transfers. Thus generational accounting tells us which generations will pay for government spending rather than telling us which generations will benefit from that spending.

39. Generational accounting, traditional deficit accounting, and estimates of the long-run fiscal gap all exclude the effects of induced behavioral effects or macroeconomic responses of policy changes. For further discussion, see Hans Fehr and Laurence J. Kotlikoff, "Generational Accounting in General Equilibrium," in Alan Auerbach and others, eds. *Generational Accounting Around the World* (Chicago: University of Chicago Press, 1999), pp. 43–71. They use the simulation model in Alan J. Auerbach and Laurence J. Kotlikoff, *Dynamic Fiscal Policy* (Cambridge: Cambridge University Press, 1987) to assess the impact of general equilibrium effects on generational accounts. They find that the accounts typically provide a good approximation of the full general equilibrium impact. Also see

for the fiscal challenges ahead is America's responsibility now. Failure to make the difficult and painful choices necessary to fulfill that responsibility will imply a long-term weakening of the economy and slowing growth of living standards well into the future.

Volker Börstinghaus and Georg Hirte, "Generational Accounting versus Computable General Equilibrium," *FinanzArchiv,* vol. 58, no. 3 (2001), pp. 227–43.

Box 1. Keeping Score

Unified budget. A comprehensive display of the federal government budget, compiled with few exceptions on a cash-flow basis. The unified budget includes all regular federal programs and trust funds (such as those for Social Security and Medicare). The balance on the unified budget equals the sum of the on-budget and off-budget balances. In fiscal year 2002, the unified budget ran a deficit of $159 billion.

On-budget budget. The on-budget balance reports revenues and expenditures on all operations of government, other than of the Social Security Trust Funds and the Postal Service. It is equal to the unified budget balance minus the off-budget balance. The on-budget accounts ran a deficit in fiscal year 2002 of $318 billion.

Off-budget budget. The off-budget accounts include only the operations of the Social Security Trust Funds and the Postal Service. It is currently in surplus—by $160 billion in fiscal year 2002—but large and growing deficits are forecast after the baby boomers enter retirement.

Cyclically adjusted budget. The cyclically adjusted budget measures what the budget balance would be if the economy were fully using available capacity; it removes the effect of the business cycle on the budget. The CBO estimates a cyclically adjusted deficit of $117 billion in fiscal year 2002, about $40 billion lower than the actual deficit of $159 billion because of the recession during 2002.

Debt held by the public. Debt held by the public reflects the government's borrowing from the private sector (that is, from banks, pension plans, private bondholders, foreign investors, and others). Debt held by the public at the end of fiscal year 2002 amounted to $3.5 trillion. (Technically, this figure includes about $600 billion in debt held by the Federal Reserve Bank; many economists subtract this portion from the debt held by the public figure.)

Gross federal debt. Gross federal debt is equal to debt held by the public plus debt held by various government trust funds (including, for example, the Social Security Trust Funds). It amounted to $6.2 trillion at the end of fiscal year 2002.

Primary deficit/surplus. The primary budget excludes interest payments on the debt held by the public. It is equal to the unified budget balance excluding such interest payments. In 2002, interest payments on the debt held by the public were $179 billion. The primary budget was therefore in surplus to the tune of $20 billion—the unified budget deficit of $159 billion, less interest payments.

Mandatory spending. Mandatory spending is determined by formula or by statute, rather than by annual appropriations. For example, Social Security benefit payments are determined by a benefit formula specified by law. In 2002, mandatory spending was $1.1 trillion.

Discretionary spending. Discretionary spending is governed by 13 annual appropriations bills. It includes items such as the operating budgets for federal departments and accounts for slightly more than one-third of annual spending. Discretionary spending in 2002 was about $735 billion.

Budget baseline. A budget baseline provides a projection of future spending and revenues if policy is unchanged. The effects of policy changes can then be evaluated by comparing the outcome inclusive of the policy change to the baseline (which excludes the policy change).

Gramm-Rudman-Hollings. In 1985, Congress passed the Balanced Budget and Emergency Deficit Control Act, usually referred to as Gramm-Rudman-Hollings (sometimes as Gramm-Rudman) after the bill's principal sponsors, Phil Gramm (R-Tex.), Warren Rudman (R-N. H.), and Ernest Hollings (D-S. C.). It set deficit targets and required "sequestration" (that is, a formula reduction in spending) if the targets were not met. The Supreme Court declared the original version of the bill unconstitutional, and Congress passed a revised version.

Budget Enforcement Act. The Budget Enforcement Act of 1990 set caps on discretionary spending, which could not be exceeded except in "emergencies" and defined pay-as-you-go rules for mandatory programs and taxes. The pay-as-you-go rules were intended to ensure that expansions in mandatory spending programs or reductions in taxes were balanced by cutbacks in other mandatory programs or increases in other taxes.

EGTRRA. The Economic Growth and Tax Relief Reconciliation Act of 2001 phased in various income and estate tax reductions between 2001 and 2010. All of the changes officially sunset in 2010 or before, meaning that the tax code in 2011 would revert to its form before passage of the legislation in 2001 if action is not taken before 2011 to modify the sunset in some way.

Box 2. Expiring Provisions in the Tax Law

Under current law, all the provisions of EGTRRA terminate at the end of 2010 if they have not already been terminated by then. As of the end of 2010 the tax code reverts to what it would have been had EGTRRA never existed. Perhaps the oddest of these rules concerns the estate tax. The act repeals it at the start of 2010 and restores it at the end of 2010. Forecasters, who try to understand what "current policy" is and to forecast its budgetary implications, are hard pressed to carry out their instructions under these circumstances. In the case of the estate tax, although CBO must follow current law, virtually no one believes that current law will be implemented in full. More generally, it is unlikely that the tax provisions will sunset completely as stipulated by EGTRRA. In 2002, the Bush administration clearly stated its desire that the tax cuts be made permanent. After the 2002 elections, few doubted that many elements of EGTRRA would be made permanent.[1] But how much of it would become permanent, or when, remained obscure. Our projections assume that all tax cut provisions of EGTRRA will be made permanent.[2]

We also assume that the traditional package of expiring tax provisions will be extended.[3] In the past, these provisions have been temporarily extended each time the expiration dates approached. Indeed, CBO calls the extensions a "matter of course."[4]

How projections should handle the 2002 stimulus package—whose most important tax provision allows partial expensing for business investments—is less clear. Measures to combat recession are customarily temporary. For that reason, assuming that it will expire seems most reasonable. On the other hand, the package expires just before the 2004 election, which will create political pressure to extend it. Proponents of the bill wanted the provisions of the stimulus package permanent in the first place. For simplicity

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1. President Bush called for making the tax cuts permanent in his January 2002 State of the Union address, and the administration's 2003 and 2004 budget include such a proposal. But even before the tax cut was signed, Treasury Secretary Paul O'Neill indicated that "All these things are going to become permanent. They'll all be fixed." "Tax-Cut Gimmicks Portend Return to Deficit Spending," June 6, 2001, *USA Today*, p. 14A. Lawrence B.Lindsey refers to the tax cuts as "permanent." See Lindsey, "Why We Must Keep the Tax Cut," *Washington Post*, January 18, 2002, p. A25.

2. Donald Kiefer and others, "The Economic Growth and Tax Relief Reconciliation Act of 2001: Overview and Assessment of Effects on Taxpayers," *National Tax Journal*, vol. 55 (March 2002), pp. 89–117 make a similar assumption. Congressional Budget Office, "The Budget and Economic Update: An Outlook" (August 2001), makes the same assumption when it analyzes the economic effects of the tax cut, even though it cannot make that assumption when analyzing the budget projections themselves.

3. These include, for example, the research and experimentation tax credit, which is to expire on June 30, 2004, the Work Opportunity Tax Credit, the Welfare-to-Work Tax Credit, and several other items.

4. Congressional Budget Office, "The Budget and Economic Outlook: Fiscal Years 2002–2012" (January 2002).

and consistency with the other expiring provisions, we treat the stimulus package as a permanent tax cut. Altering this assumption would not materially affect our conclusions.

Box 3. The Alternative Minimum Tax

In 1969, public outrage following a Treasury report that 155 high-income tax filers had paid no income tax goaded Congress to enact a "minimum tax." Today's version, introduced in 1978, parallels the income tax but defines income differently, allows different deductions, and applies flatter tax rates. Taxpayers must pay the alternative minimum tax when it exceeds their regular income tax.

About 1 million households paid the AMT in 1999. By 2010, an estimated 36 million taxpayers will face it, including virtually all upper-middle-class families with two or more children. The AMT raises little revenue today. By 2008, however, it would cost more to repeal the AMT than the regular income tax.

The projected expansion can be tied directly to the last two major tax cuts. The regular income tax was indexed for inflation beginning in 1985, but the AMT was not. As a result, AMT liabilities rise every year even if income just keeps up with inflation. The 2001 tax cut reduces regular income-tax liabilities during the next decade. With AMT liability rising and regular taxes falling, ever more taxpayers find that AMT liability exceeds ordinary income taxes.

These trends are alarming because the AMT is bad tax policy. It is notoriously complex. Most taxpayers who are required to plod through the forms do not end up owing any additional tax. Those who do pay are often subjected to higher marginal tax rates than under the regular tax.

The complexity is also increasingly pointless. The AMT was originally intended to deter tax shelters but now raises less than 10 percent of its revenue from its antishelter provisions. Instead, the tax increasingly burdens married filers earning under $100,000 with several children who are subject to high state income taxes.[1]

1. See Leonard E. Burman, William G. Gale, Jeffrey Rohaly, and Benjamin H. Harris, "The Individual AMT: Problems and Potential Solutions," Urban-Brookings Tax Policy Center Discussion Paper 5 (September 2002).

Box 4. Budget Deficits, National Income, and Interest Rates

The link between the government's budget and economic performance contains several steps. First, national saving is the sum of private saving (which occurs when the private sector spends less than its after-tax income) and public saving (which occurs when the public sector runs budget surpluses). Second, national saving is used to finance domestic investment or net foreign investment—the difference between Americans' investments overseas less foreigners' investments here. That is, national saving finances the accumulation by Americans of assets at home (domestic investment) or it finances the accumulation by Americans of assets abroad (net foreign investment). Either way, the accumulation of assets due to higher national saving means that the capital stock owned by Americans is increased. Third, the returns to that additional capital—whether domestic or foreign—raise the income of Americans in the future.

Given these links, it is straightforward to see why sustained budget deficits reduce future national income. The empirical evidence suggests that private saving only offsets about 20 to 50 percent of declines in public saving due to increased deficits.[1] As a result, increases in budget deficits (declines in public saving) reduce national saving. The decline in national saving must reduce the sum of domestic and net foreign investment and hence reduce future national income.

A back-of-the-envelope calculation may help to illustrate the sizable effects of dissipating future budget surpluses. The projected ten-year budget surplus for 2002–2011 fell by $5.6 trillion between January 2001 and August 2002 according to Congressional Budget Office projections. That increase reflects the cumulative deterioration in government saving between 2002 and 2011 under the official forecasts. If 25 percent of the deterioration in government saving is offset by increased private saving, the budget shift reduces the stock of net assets owned by Americans at the end of 2011 by about $4.2 trillion. Assuming conservatively that capital earns a return of 6 percent on the margin, the deterioration in the budget balance over the next ten years reduces real gross national product (which includes income received by Americans on their foreign investments) in 2012 by $252 billion or by about 1.5 percent. This translates into about $2,100 per year for each household in the United States.[2]

When budget deficits increase and national saving falls, a related question is how national saving and investment are brought back into equality. One possible channel is

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1.See Douglas Bernheim, "A Neoclassical Perspective on Budget Deficits," *Journal of Economic Perspectives*, vol. 3 (Spring 1989), pp. 55–72; Congressional Budget Office, "Description of Economic Models" (1998); Douglas W. Elmendorf and Jeffrey B. Liebman, "Social Security Reform and National Saving in an Era of Budget Surpluses," *Brookings Papers on Economic Activities 2:* 2000, 1–71; and William G. Gale and Samara R. Potter, "An Economic Evaluation of the Economic Growth and Tax Relief Reconciliation Act of 2001," *National Tax Journal,* vol. 55 (March 2002), pp. 133–86.

2. For details of this calculation see William Gale and Peter Orszag, "The Economic Effects of Long-Term Fiscal Discipline, Urban-Brookings Tax Policy Center Discussion Paper 8 (April 2003).

that interest rates rise. At a given interest rate, a reduction in national saving relative to current domestic and net foreign investment implies a shortage of funds to finance such investments. That imbalance puts upward pressure on interest rates as firms compete for the limited pool of funds to finance their investment projects. The increase in interest rates then serves to reduce domestic and net foreign investment and bring national saving and investment back into equality. A second possibility is that the entire decline in national saving is financed by increased capital inflows from abroad. These capital inflows would dampen and perhaps eliminate the increase in domestic interest rates.

Although the potential effect of deficits on interest rates has received much attention in the policy debate, the reduction in national saving entails an economic cost regardless of whether interest rates rise. In particular, the capital inflows represent a reduction in net foreign investment and thus a reduction in future national income. The equality between national saving and domestic plus net foreign investment holds even if interest rates are unaffected, so that a reduction in national saving must therefore reduce the capital owned by Americans and future national income.

Table 1

CBO Baseline and Adjusted Budget Projections, 2004–13[a]

(Billions of dollars)

CBO unified budget (+surplus, – deficit)	+ 1,336
Adjustments for current policy	
For expiring tax provisions[b]	- 1,425
For AMT[b,c]	- 517
To hold real per capita discretionary spending constant[b]	- 525
Adjusted unified budget	- 1,131
Adjustments for retirement funds	
For Social Security	- 2.567
For Medicare	- 349
For government retirement funds	- 484
Adjusted nonretirement budget	- 4,531
If discretionary spending is a constant share of GDP[d]	
Further adjustment[b,d]	- 951
Adjusted unified budget	- 2,082
Adjusted non-retirement budget	- 5,481

Source: William Gale and Peter R. Orszag, "Perspectives on the Budget Outlook," *Tax Notes*, vol. 98 (February 2003), pp. 1005–17.

a. Fiscal years.
b. Includes effects on debt service costs.
c. As described in the text.
d. Rather than being held constant in real per capita terms.

Table 2

The Long-Term Fiscal Gap

(Percent of GDP)

Period	CBO assumptions[a]	Adjusted budget[b]
2002–2075	1.6	4.9
Permanent	4.4	7.8

Source: Authors' calculations as described in the text.

a. The CBO spending baseline holds discretionary spending authority constant in real terms from 2004 to 2013 at the level prevailing in 2003. The CBO revenue baseline assumes current law: EGTRRA and the stimulus bill sunset as legislated, other temporary tax provisions expire as scheduled, and no AMT adjustments are made.

b. The adjusted spending baseline holds discretionary spending outlays constant as a share of GDP from 2004 to 2013 at the level prevailing in 2003. The adjusted revenue baseline assumes that the phase-out and sunset provisions of EGTRRA are repealed, other temporary tax provisions are made permanent, and the AMT is charged as described in the text.

Figure 1: CBO Budget Baseline, January 2003

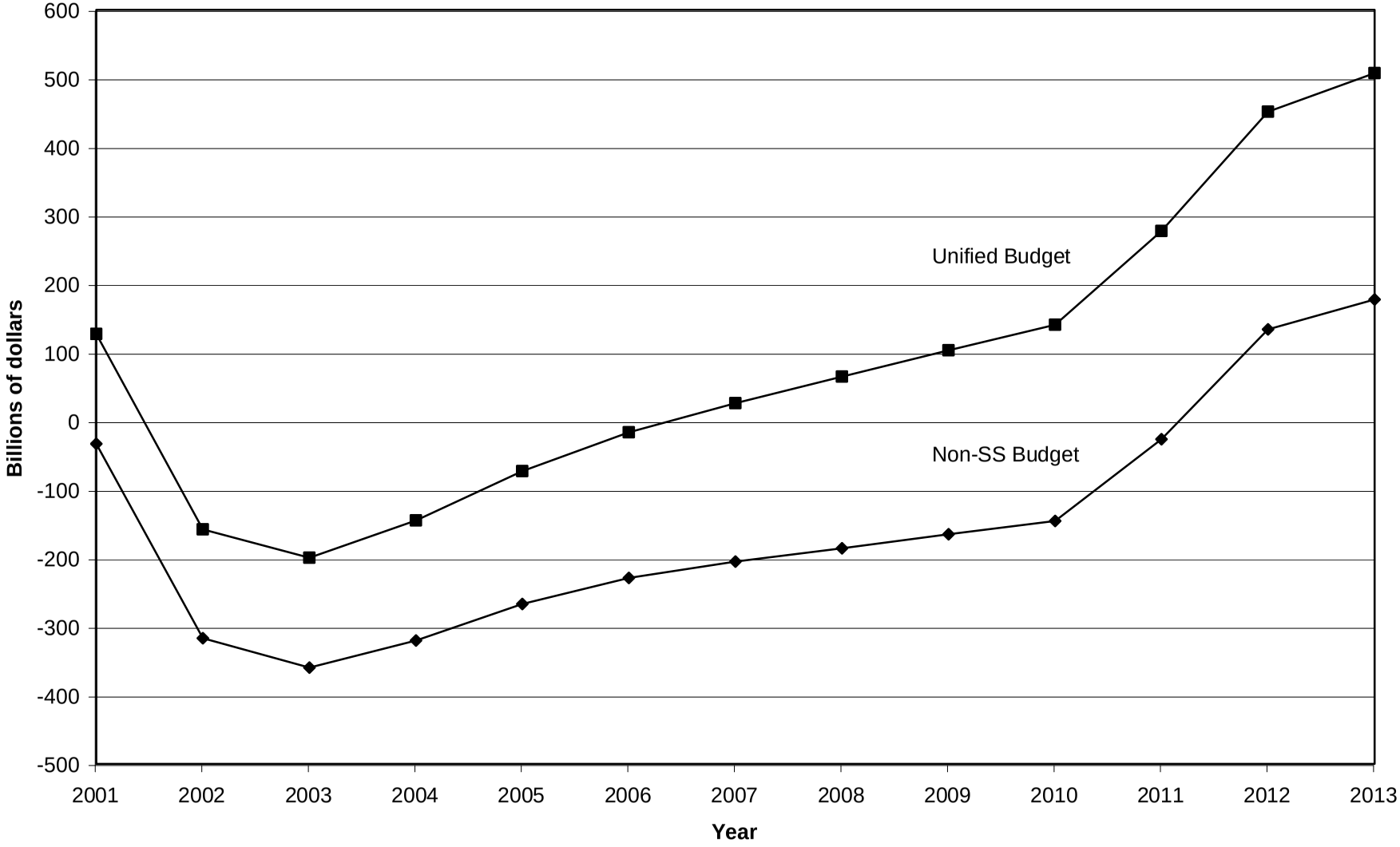


Figure 2: Baseline and Adjusted Budget Outcomes, 2003-2013

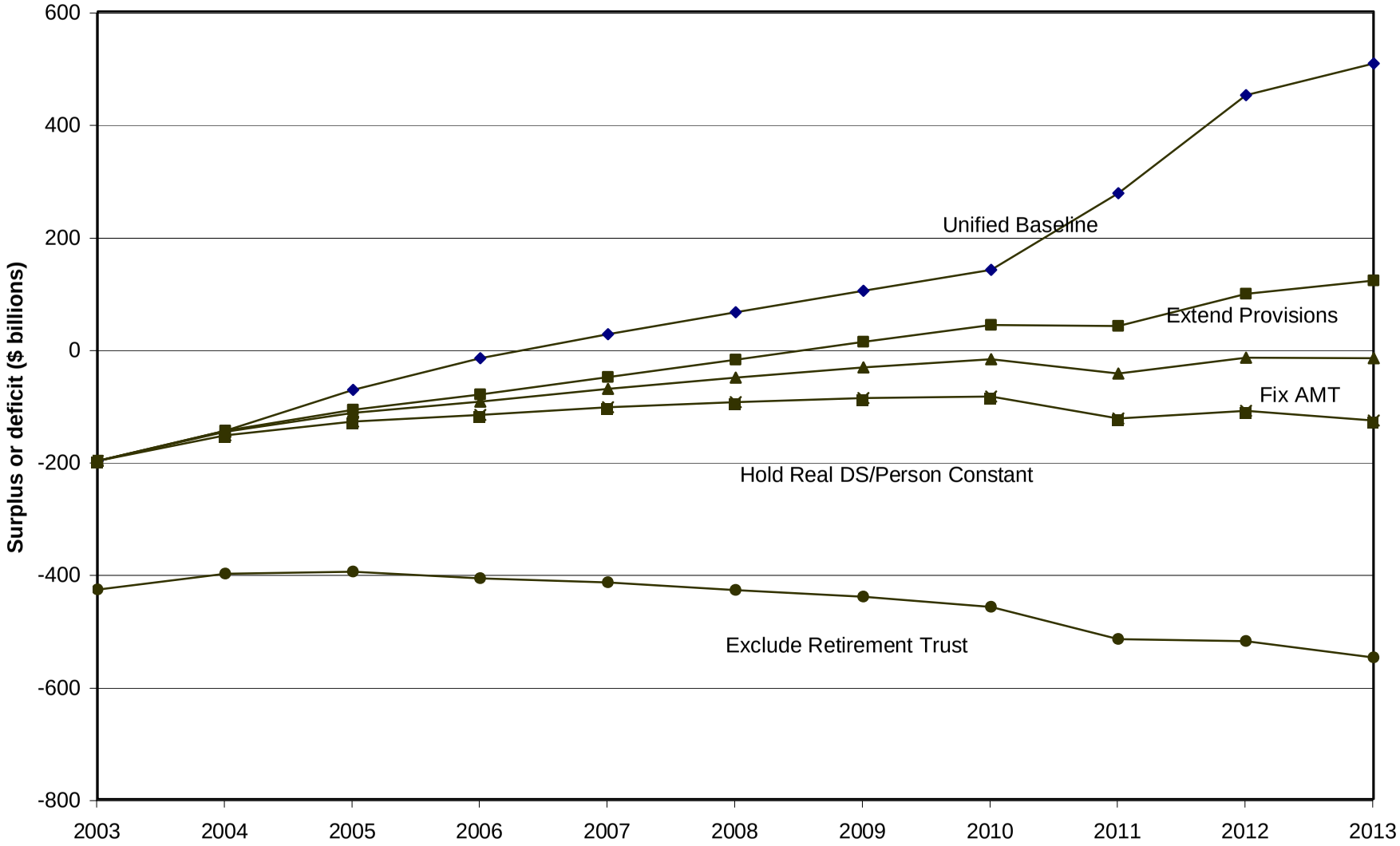
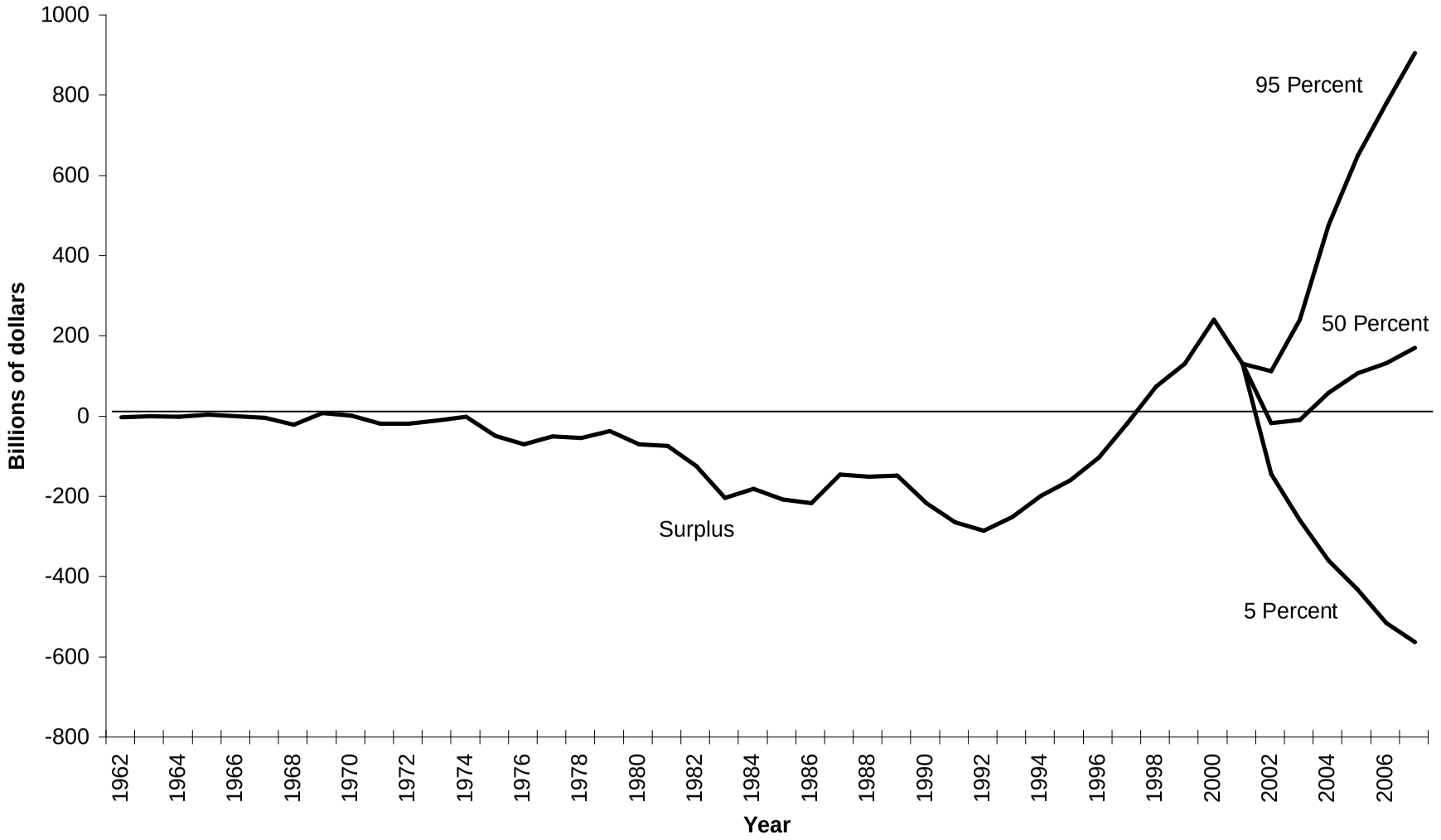


Figure 3: Uncertainty in CBO's Projection of the Unified Budget Surplus under Current Policies



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