

# **Sustained Budget Deficits: Longer-Run U.S. Economic Performance and the Risk of Financial and Fiscal Disarray**

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# **Sustained Budget Deficits: Longer-Run U.S. Economic Performance and the Risk of Financial and Fiscal Disarray**

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## **I. Introduction**

The U.S. federal budget is on an unsustainable path. In the absence of significant policy changes, federal government deficits are expected to total around \$5 trillion over the next decade. Such deficits will cause U.S. government debt, relative to GDP, to rise significantly. Thereafter, as the baby boomers increasingly reach retirement age and claim Social Security and Medicare benefits, government deficits and debt are likely to grow even more sharply. The scale of the nation's projected budgetary imbalances is now so large that the risk of severe adverse consequences must be taken very seriously, although it is impossible to predict when such consequences may occur.

Conventional analyses of sustained budget deficits demonstrate the negative effects of deficits on long-term economic growth. Under the conventional view, ongoing budget deficits decrease national saving, which reduces domestic investment and increases borrowing from abroad.<sup>1</sup> Interest rates play a key role in how the economy adjusts. The reduction in national saving raises domestic interest rates, which dampens investment and attracts capital from abroad.<sup>2</sup> The external borrowing that helps to finance the budget deficit is reflected in a larger current account deficit, creating a linkage between the budget deficit and the current account deficit. The reduction in domestic investment (which lowers productivity growth) and the increase in the current account deficit (which requires that more of the returns from the domestic capital stock accrue to foreigners) both reduce future national income, with the loss in income steadily growing over time. Under the conventional view, the costs imposed by sustained deficits tend to build gradually over time, rather than occurring suddenly.

The adverse consequences of sustained large budget deficits may well be far larger and occur more suddenly than traditional analysis suggests, however. Substantial deficits projected far into the future can cause a fundamental shift in market expectations and a related loss of confidence both at home and abroad. The unfavorable dynamic effects that could ensue are largely if not entirely excluded from the conventional analysis of budget deficits. This omission is understandable and appropriate in the context of deficits that are small and temporary; it is increasingly untenable, however, in an environment with deficits that are large and permanent. Substantial ongoing deficits may severely and adversely affect expectations and confidence, which in turn can generate a self-reinforcing negative cycle among the underlying fiscal deficit, financial markets, and the real economy:

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<sup>1</sup> The conventional view assumes that in the long term, the economy operates at, or near, full employment.

<sup>2</sup> The increase in interest rates may also exert a negative influence on aggregate demand through several channels. First, the increase in interest rates reduces investment, which is a component of aggregate demand. Second, the increase in interest rates may directly reduce interest-sensitive consumption, such as on credit-financed durable goods. Third, the increase in interest rates may indirectly reduce consumption, by reducing asset values and therefore household net wealth.

- As traders, investors, and creditors become increasingly concerned that the government would resort to high inflation to reduce the real value of government debt or that a fiscal deadlock with unpredictable consequences would arise, investor confidence may be severely undermined;
- The fiscal and current account imbalances may also cause a loss of confidence among participants in foreign exchange markets and in international credit markets, as participants in those markets become alarmed not only by the ongoing budget deficits but also by related large current account deficits;
- The loss of investor and creditor confidence, both at home and abroad, may cause investors and creditors to reallocate funds away from dollar-based investments, causing a depreciation of the exchange rate, and to demand sharply higher interest rates on U.S. government debt;
- The increase of interest rates, depreciation of the exchange rate, and decline in confidence can reduce stock prices and household wealth, raise the costs of financing to business, and reduce private-sector domestic spending;
- The disruptions to financial markets may impede the intermediation between lenders and borrowers that is vital to modern economies, as long-maturity credit markets witness potentially substantial increases in interest rates and become relatively illiquid, and the reduction in asset prices adversely affects the balance sheets of banks and other financial intermediaries;
- The inability of the federal government to restore fiscal balance may directly reduce business and consumer confidence, as the view of the ongoing deficits as a symbol of the nation's inability to address its economic problems permeates society, and the reduction in confidence can discourage investment and real economic activity;
- These various effects can feed on each other to create a mutually reinforcing cycle; for example, increased interest rates and diminished economic activity may further worsen the fiscal imbalance, which can then cause a further loss of confidence and potentially spark another round of negative feedback effects.

Although it is impossible to know at what point market expectations about the nation's large projected fiscal imbalance could trigger these types of dynamics, the harmful impacts on the economy, once these effects were in motion, would substantially magnify the costs associated with any given underlying budget deficit and depress economic activity much more than the conventional analysis would suggest. Indeed, the potential costs and fallout from such fiscal and financial disarray provide perhaps the strongest motivation for avoiding substantial, ongoing budget deficits.<sup>3</sup>

Conventional analyses of budget deficits also do not put enough emphasis on three other related factors: uncertainty; the asymmetries in the political difficulty of revenue increases and

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<sup>3</sup> As Ball and Mankiw (1995, p.117) argue, "We can only guess what level of debt will trigger a shift in investor confidence, and about the nature and severity of the effects. Despite the vagueness of fears about [these effects], these fears may be the most important reason for seeking to reduce budget deficits."

spending reductions relative to tax cuts and spending increases; and the loss of flexibility in the future from enacting tax cuts or spending increases today. Budget projections are inherently uncertain, but such uncertainty does not provide a rationale for fiscal profligacy. The uncertainty surrounding budget projections means that the outcome in the future can be either better *or* worse than expected today. Such uncertainty can actually increase the incentive for more saving ahead of time—in other words, for more fiscal discipline. In addition, it is much harder for the political system to reduce deficits than to expand them. As a result of this asymmetry, enacting a large tax cut or spending increase today is costly because it reduces the flexibility to adjust fiscal policy to future events. Therefore, large tax cuts or spending increases today carry a cost typically excluded from traditional analysis: They constrain policy-makers' flexibility to respond to unforeseen events in the future.

Thus, in our view, to ensure healthy long-run U.S. economic performance, substantial changes in fiscal policy are needed to deal preemptively with the risks stemming from sustained large budget deficits and the economic imbalances they entail. The political system, however, seems unwilling to address the threat posed by future deficits and to make the necessary choices to put the nation on a sustainable fiscal course.<sup>4</sup> Failing to act sooner rather than later, though, only makes the problem more difficult to address without considerable instability, raises the probability of fiscal and financial disarray at some point in the future, and runs the risks of further constraining policy flexibility in the future.

We emphasize that our focus is on the effects of ongoing, sustained budget deficits. It is important to underscore that *temporary* budget deficits can be beneficial by providing short-term macroeconomic stimulus when the economy is weak and has considerable unused resources of capital and labor. When necessary to spur a weak economy, policy-makers could employ various fiscal policy programs, each with relative advantages and disadvantages in different contexts. Whatever decisions are made about short-run fiscal policy when the economy is weak, the objective should be budget balance over the business cycle.

The next section of this paper presents projections of federal government budget deficits over the next 10 years and thereafter, including baseline projections and sensitivity analysis. Section III presents the conventional view of the effects of federal budget deficits. Section IV discusses the potentially more important financial and economic effects not included in the conventional view. A final section provides some perspectives on approaches for restoring fiscal discipline.

## **II. Budget Projections Over the Next Decade and Thereafter**

### **A. 10-Year Baseline**

The most recent medium-term official projections from the Congressional Budget Office (CBO) cover fiscal years 2004 through 2013. A new set of projections will be released later in January. The following analysis is based primarily on the CBO update from August 2003.<sup>5</sup>

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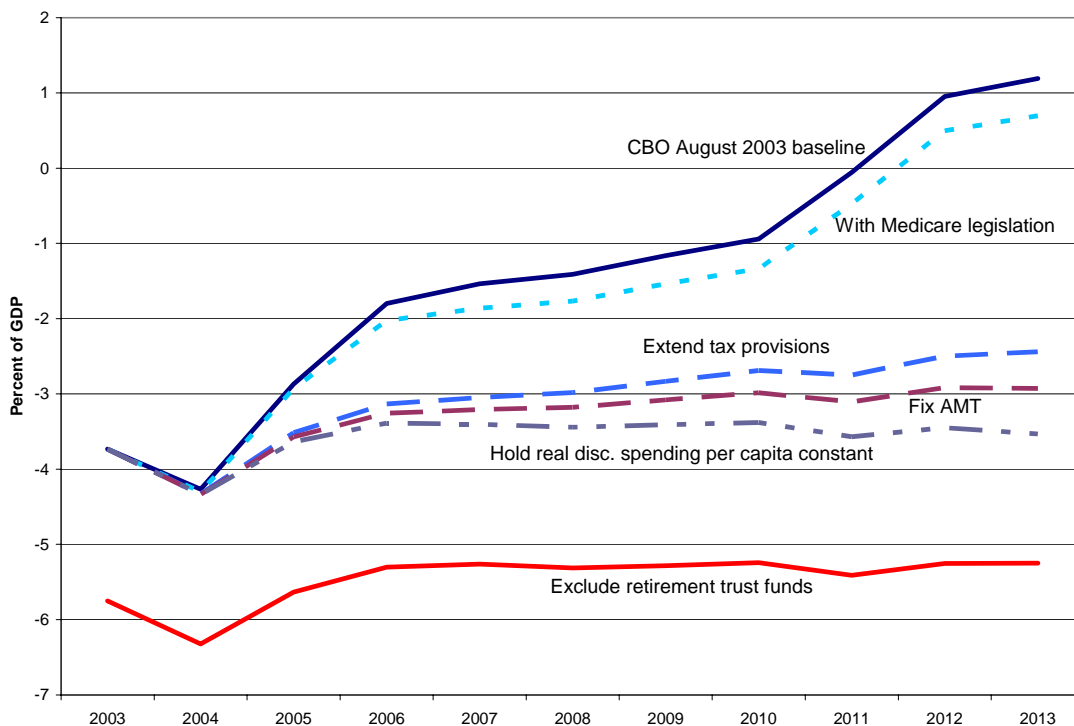
<sup>4</sup> As three leading Washington organizations from across the political spectrum emphasized in a rare joint statement in September 2003, “instead of expressing alarm, many in Washington now argue that escalating deficits do not really matter, that they are self-correcting, that they are unrelated to interest rates or future economic well-being, and that tax cuts will pay for themselves later by spurring economic growth. It would be wonderful if this were true. It is not.” Committee for Economic Development, Concord Coalition, and the Center on Budget and Policy Priorities (2003).

<sup>5</sup> See CBO (2003a). This section draws upon Gale and Orszag (2003b) and Gale and Orszag (2003c).

The official CBO August 2003 baseline suggests a 10-year unified deficit equivalent to about 1 percent of GDP, with the deficit reaching a maximum of 4.3 percent of GDP in 2004. Steady declines in the deficit are projected after 2004 and the official baseline, which is more akin to a planning scenario than a true forecast, even shows a surplus by the end of the decade (top line in Figure 1). This baseline would be heartening if it were predicated on credible assumptions about the current thrust of budget policy. Unfortunately, statutory and other restrictions prevent the CBO from adopting more reasonable assumptions in its baseline.<sup>6</sup>

In particular, the CBO baseline assumes that by 2013 discretionary spending has declined by 7 percent on a real per capita basis, that tens of millions of taxpayers will be paying the individual alternative minimum tax (AMT) by the end of the decade, and that sunsets on various tax provisions (including the 2001 and 2003 tax cuts) actually occur. Also, the August 2003 baseline projections were published before the Medicare prescription drug benefit had been enacted.

**Figure 1: Budget Projections, FY 2003-13, as a Share of GDP (Percent)**



Sources: CBO (2003a); Gale and Orszag (2003b) updated to include cost of Medicare drug benefit.

If one includes the cost of the recently enacted prescription drug benefit, assumes that discretionary spending keeps pace with inflation and population growth, that the growth in the fraction of taxpayers subject to the AMT is eliminated, and that all expiring tax provisions are made permanent, the federal government would face unified deficits averaging about 3.5 percent of GDP over the next 10 years (Figure 1).<sup>7</sup> The unified budget deficit for 2004 through 2013, on

<sup>6</sup> For a more extensive discussion, see Auerbach, Gale, Orszag, and Potter (2003).

<sup>7</sup> Since the AMT is not indexed for inflation and was not adjusted on a long-term basis when income taxes were reduced in 2001 and 2003, in the absence of any policy changes AMT participation would rise from about 3 million persons today to about 33 million in 2010. The adjusted budget figures in Figure 1 maintain roughly constant AMT participation over time by making all temporary AMT provisions permanent, raising the AMT exemption, indexing

this adjusted basis, would cumulate to about \$5 trillion. Those deficits, furthermore, include the temporary cash-flow surpluses in retirement trust funds. Excluding such retirement trust funds, the projected deficits would be even larger, shown by the bottom line in Figure 1.

These adjusted projections are similar in spirit and magnitude, though different in some details, to those made by the Committee for Economic Development, Concord Coalition, and Center on Budget and Policy Priorities; Decision Economics, Inc. (DE); and Goldman Sachs (see Table 1).

As Table 1 indicates, there is broad consensus by independent analysts that the CBO baseline projections over the next 10 years are too optimistic relative to any set of realistic policy assumptions and economic projections. A reasonable expectation for the cumulated unified budget deficit over the next decade would be about \$5 trillion. Under the Decision Economics \$5.4 trillion estimate, the deficits would raise the public debt-to-GDP ratio from at least 35 percent in 2003 to roughly 50 percent by 2013. The 2013 ratio would be the highest, with the possible exception of a few years in the early 1990's, since the mid-1950s, when the nation was still paying down the debt incurred during World War II.

**Table 1: Deficit Projections for FY 2004-2013**

<b>Organization</b>	<b>Adjustments to August 2003 CBO Projections</b>	<b>10-Year Unified Budget Deficit Projection, \$ Trillions</b>
Congressional Budget Office	None	1.4
CED/CBPP/Concord Coalition <sup>8</sup>	Sunsets; AMT; Medicare Rx; removes supplemental from baseline, but adds projected defense costs; domestic discretionary per capita	5.0
Gale-Orszag, updated to include Medicare legislation <sup>9</sup>	Sunsets; AMT; Medicare Rx; discretionary spending per capita	5.1
Decision Economics, Inc. (DE) <sup>10</sup>	Some sunsets; AMT; Medicare Rx; defense and nondefense discretionary adjustments; economic projections	5.4
Goldman Sachs <sup>11</sup>	Sunsets; AMT; Medicare Rx; defense and non-defense discretionary adjustments; economic assumptions	5.5

### ***Budget Projection Uncertainty***

Any single deficit projection, including those in Table 1, should be treated with some caution since substantial uncertainty surrounds such projections. The budget deficit is the difference between two large quantities, federal government taxes and spending. Small

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the tax for inflation, and allowing exemptions for dependents. Under these assumptions, about 2.7 million taxpayers would face the AMT in 2013 assuming that the other expiring tax provisions are extended. For more details on the adjustments, see Gale and Orszag (2003b).

<sup>8</sup> Committee for Economic Development, Concord Coalition, and the Center on Budget and Policy Priorities (2003).

<sup>9</sup> Gale and Orszag (2003b).

<sup>10</sup> Decision Economics, Inc. (DE); December 2003.

<sup>11</sup> Goldman Sachs (2003).

percentage errors in either can cause large percentage changes in the differences between them. For example, in FY 2003, outlays amounted to about \$2.2 trillion and revenues about \$1.8 trillion, leaving a deficit of slightly under \$400 billion. Under-estimating outlays by just 5 percent and over-estimating revenues by just 5 percent would have caused the deficit to increase by about 50 percent, to almost \$600 billion.<sup>12</sup> The effects on projected budget deficits from assumptions made about spending on defense, Iraq and terrorism outlays, the future of the AMT, the sunsets of certain tax policies, and underlying economic projections can be quite large.

Uncertainty is not by itself grounds for comfort, since the outcome may turn out to be either better *or* worse than the central estimate; in other words, there is no evidence that the projections are biased toward overestimating deficits.

One particular dimension of budget sensitivity that is frequently noted involves economic growth. The CBO projections assume that real GDP will grow at an annual rate of 3.4 percent in 2004, about 3.4 percent per year between 2005 and 2008, and about 2.7 percent (the growth rate estimated for potential output) between 2009 and 2013. Over the 10-year period between 2004 and 2013, real GDP growth is assumed to average near 3.0 percent per year. Would faster economic growth substantially change the budget outlook?

Table 2 shows how alternative rates of economic growth would affect the federal budget deficit, based on adjustments calculated by CBO for its own baseline projections. The Table shows that if growth is slower than CBO currently assumes, the deficits will be larger. Table 2 also shows that if the economy grew 0.5 percentage point faster than CBO projects, the adjusted budget would show a deficit averaging about 2.7 percent of GDP. Even if economic growth exceeded projections by a full percentage point (that is, the growth rate were about one-third higher than projected), the budget would likely remain in deficit over the decade.

In evaluating these alternative projections, three points are worth noting. First, the Administration, in its FY 2004 budget, assumed real growth that was 0.1 percentage point faster than CBO for calendar years 2005 through 2008.<sup>13</sup> Such a difference in assumed real growth rates would have only a modest effect on the budget totals, as suggested by Table 2. Second, real GDP growth in the boom years of the late 1990s averaged about 4 percent per year.<sup>14</sup> It seems quite unlikely that such rapid growth could be sustained over an entire decade, especially given projected declines in labor force growth rates.<sup>15</sup> Our conclusion is that more rapid economic growth can reduce projected deficits, but even relatively large shifts would leave the country with a sizeable fiscal imbalance over the next decade, and one that will become significantly worse after 2013.<sup>16</sup> Third, a key question is the type of policies that would spur faster growth in the long term; the calculations in Table 2 assume no change in policies, just in

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<sup>12</sup> The CBO is admirably candid in acknowledging the uncertainty surrounding budget projections. Recent CBO publications have included a “fan graph” based on past forecasts, to illustrate the likelihood of different budget outcomes. The graph shows a wide range of possible short- and medium-term outcomes.

<sup>13</sup> CBO (2003c), Table 12.

<sup>14</sup> Real GDP grew by an average annual rate of 4.1 percent between 1995 and 2000.

<sup>15</sup> CBO assumes that potential labor force growth will slow from 1.5 percent in 2003 to 0.6 percent in 2012. Authors’ calculations based on spreadsheet on “Key Assumptions in CBO’s Projection of Potential GDP” accompanying CBO (2003a).

<sup>16</sup> DE Baseline projections show \$5.4 trillion of cumulated deficits over 2004-2013, with real economic growth projected at 3.2 percent per year and potential real GDP growth at 3.1 percent per year, compared with the 3 percent per annum and 2.8 percent per annum projections, respectively, in the CBO baseline.

the underlying rate of growth. As we emphasize throughout this paper, though, the deficits themselves pose a risk to economic growth in the future.

**Table 2: Effects of Faster Economic Growth on Budget Deficits, 2004 to 2013**

<b>CBO baseline (average real growth of 3.0 percent per year) adjusted for growth:</b>	<b>Adjusted Unified Budget Deficit, \$ Trillions (Cumulative)</b>	<b>As Percent of GDP (%)</b>
1.0 percentage point <i>slower</i> per year	7.6	5.3
0.5 percentage point <i>slower</i> per year	6.3	4.4
<i>No adjustment (adjusted baseline)</i>	<i>5.1</i>	<i>3.5</i>
0.5 percentage point <i>faster</i> per year	3.8	2.7
1.0 percentage point <i>faster</i> per year	2.6	1.8

Source: Gale and Orszag (2003c), Table 4, updated to include cost of Medicare prescription drug benefit and effects of slower growth.

## **B. Long-Term Budget Prospects—Beyond the Next Decade**

CBO projections suggest that Social Security, Medicare, and Medicaid expenditures are expected to rise from about 9 percent of GDP in 2010 to 14 percent by 2030 and almost 18 percent by 2050.<sup>17</sup> In the absence of policy and program changes, these and other long-term societal needs would add to the already large, sustained fiscal deficits over time.

Various analysts have generated summary measures of the nation’s long-term fiscal imbalances. For example, Auerbach, Gale, and Orszag (2003) conclude that the “fiscal gap” over the long term amounts to between 4 and 8 percent of GDP.<sup>18</sup> Gokhale and Smetters (2003) similarly report a \$44 trillion fiscal imbalance under current policies, which is roughly comparable to the Auerbach, Gale, and Orszag results. To be sure, substantial uncertainty surrounds these long-term projections, as emphasized in a recent CBO analyses of long-term budget deficits (CBO 2003b). Variations in assumed health care cost inflation, in particular, can have a substantial effect on the precise projections. Nonetheless, almost all studies that have examined the issue suggest that even if major sources of uncertainty are accounted for, serious long-term fiscal imbalances will remain.<sup>19</sup>

The Administration’s budget also includes a vivid reminder of the nation’s long-term budget pressures. Figure 2 is Chart 3-4 from the *Analytical Perspectives*, one of the volumes in the official budget documents. It shows that under an extension of the Administration’s policies and according to the Administration’s own estimates, the federal budget deficit increases substantially outside the 10-year budget window—even if productivity growth turns out to be higher than currently expected.

In evaluating these long-term deficits, it is important to recognize that Social Security, Medicare, and Medicaid are not the only factors exerting a large negative effect on the long-term budget outlook. Indeed, the projected 75-year cost of the tax cuts endorsed by the Administration in its FY 2004 budget is more than three times the projected 75-year actuarial deficit in Social Security (see Appendix Table 1). The Administration’s tax cuts would cost

<sup>17</sup> Congressional Budget Office (2003b). These projections are for the “intermediate spending path” in the CBO analysis.

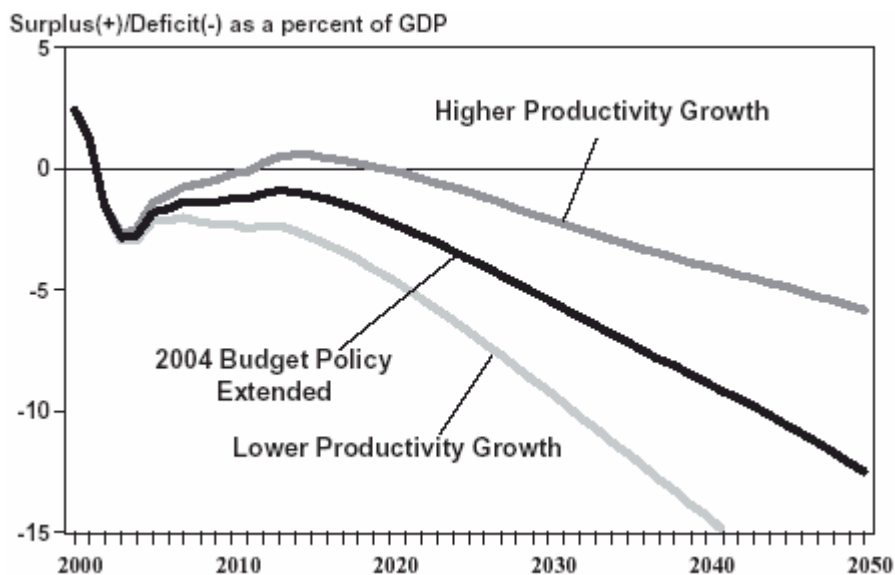
<sup>18</sup> The “fiscal gap” is the immediate increase in taxes or reductions in non-interest expenditures required to prevent the ratio of government debt to GDP from ultimately exploding.

<sup>19</sup> Lee and Edwards (2001) and Shoven (2002).



more than 2 percent of GDP over the next 75 years in present value; the Social Security actuarial deficit over the next 75 years amounts to 0.7 percent of GDP in present value.

**Figure 2: Deficits, as Percent of GDP, Under Administration Policy and Alternative Productivity Growth Paths**



Source: FY 2004 Budget, *Analytical Perspectives*, Chart 3-4.

### III. Economic Effects of Sustained Budget Deficits: The Conventional Perspective

The conventional view of sustained budget deficits focuses on their effects on national saving, interest rates, and the current account. We begin with this conventional view; in the next section, we turn to some critical factors that are typically not included in the conventional analysis.

The conventional analysis of ongoing budget deficits reflects basic macroeconomic building blocks.<sup>20</sup> National saving is the sum of private saving and public saving (positive when the public sector runs a budget surplus). National saving finances national investment, which is the sum of domestic investment and net foreign investment (the net accumulation by the U.S. of assets abroad).<sup>21</sup> National investment increases the accumulation of financial and real assets. The returns to the additional assets raise the income of Americans in the future.

<sup>20</sup> As noted in the introduction, we focus on the long-term effects of budget deficits. The conventional analysis emphasizes that in both the short- and the long-run, budget deficits increase aggregate demand. If the economy is operating well below full employment of labor and capital, the increase in aggregate demand associated with an actively stimulative deficit may be beneficial, since it can bolster consumer spending and increase use of existing stocks of labor and capital to give the economy a boost in the short term. In the long run, however, as full employment is approached, persistent under-use of existing labor and capital does not occur. Under those circumstances, the only way to raise economic growth is to expand the economy's capacity to produce and to generate more income at home and abroad. By reducing national saving and thereby impeding the accumulation of capital over time, deficits hinder that prospect. For further details, see Gale and Orszag (2003a).

<sup>21</sup> Net foreign investment is the difference between what the U.S. invests overseas and what foreigners invest in the United States. A decline in net foreign investment takes the form of reduced overseas investments by the U.S., increased borrowing from overseas by Americans, or increased investment in the U.S. by foreigners. Declines in net foreign investment also correspond to a decline in the current account, defined as net exports of goods and services plus net factor payments from abroad plus net unilateral transfers.

These building blocks highlight two key aspects of sustained federal budget deficits. First, an increase in the budget deficit (a decline in public saving) reduces national saving unless it is fully offset by an increase in private saving. Second, a reduction in national saving reduces future national income.<sup>22</sup>

Empirical estimates for the United States suggest that private saving offsets perhaps one-quarter of changes in the budget deficit.<sup>23</sup> Reasonable estimates also suggest that about one-third of the decline in national saving is offset by capital inflows from abroad; the rest is reflected in a reduction in domestic investment.<sup>24</sup> In other words, an increase in the budget deficit of \$100 reduces national saving by about \$75, and that \$75 reduction in national saving is reflected in a \$25 increase in borrowing from abroad and a \$50 reduction in domestic investment.

### *Deficits and the Current Account*

As noted, estimates for the United States suggest that perhaps one-third or so of a reduction in national saving is financed by increased borrowing from abroad. That introduces a direct connection between budget deficits and current account deficits—budget deficits reduce national saving, and part of the reduction in national saving manifests itself as increased borrowing from abroad through a larger current account deficit.

The current account deficit currently exceeds \$500 billion, or more than 5 percent of GDP, and reflects aggregate net foreign investment into the United States from all other countries. Without this access to international capital, the nation's low personal saving rate would even more severely constrain domestic investment. Having access to international capital is beneficial, but not so beneficial as financing the investment through U.S. domestic saving. Current account deficits essentially mean mortgaging the future returns from the domestic capital stock. Foreign creditors understandably demand some return on their capital, with the required return presumably increasing as the amount that they lend increases. The future returns to the domestic investments financed by such borrowing from abroad therefore accrue, at least in large part, to foreign creditors rather than domestic citizens.

### *Deficits, Expected Deficits, and Interest Rates*

The important empirical effect of budget deficits on domestic investment (with about half the increase in the budget deficit manifesting itself as a reduction in domestic investment) underscores the importance of increases in interest rates in response to increased budget deficits. The story is a familiar one: budget deficits tend to reduce national saving and therefore put

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<sup>22</sup> Because national saving is equal to the sum of domestic investment and net foreign investment, the only issues are how that identity comes back into alignment following a decline in national saving. The possibilities are limited: either domestic investment falls and/or net foreign investment falls. The changes in savings and investment quantities can occur with different combinations of the relevant prices, i.e., changes of interest rates, exchange rates, and price and wage inflation. In any case, however, the reduction in national saving triggers a decline in future national income, all else being equal.

<sup>23</sup> For example, the Congressional Budget Office (1998) concludes that private saving would rise by between 20 to 50 percent of an increase in the deficit. Elmendorf and Liebman (2000) conclude that private saving would offset 25 percent of an increase in the deficit. Gale and Potter (2002) estimate that private saving will offset 31 percent of the decline in public saving caused by the 2001 tax cut.

<sup>24</sup> Over the long term, estimates suggest that between 25 percent and 40 percent of changes in national saving tend to be offset by net international capital flows. See the CBO (1997), Dornbusch (1991), Feldstein and Bacchetta (1991), Feldstein and Horioka (1980), and Obstfeld and Rogoff (2000).

upward pressure on interest rates. The increase in interest rates facilitates the necessary reduction in domestic investment and increased borrowing from abroad.

The connection between deficits and interest rates has been questioned by some in recent years. Some of the observers who have concluded that deficits do not affect interest rates have reached that conclusion because they have simply examined the wrong question. Financial markets are forward-looking, so that long-term interest rates reflect expectations of *future* deficits. One would therefore not necessarily expect to find a relationship between long-term interest rates and *current* deficits, since the business cycle, the monetary loosening typical during economic downturns, and other factors may obscure the underlying relationship between fiscal policy and interest rates.

As Feldstein (1986) emphasized, it is essential to include *expected* future deficits in studies of the connection between deficits and interest rates.<sup>25</sup> Sinai-Rathjens (1983) provides one of the earliest demonstrations of empirical evidence for the effects of expected future budget deficits on current interest rates.<sup>26</sup> Gale and Orszag (2003a) conclude that studies incorporating expectations of future deficits tend to find economically and statistically significant connections between anticipated deficits and current interest rates.

A reasonable range for the increase in interest rates for each percent of GDP in projected deficits is 30 to 60 basis points.<sup>27</sup> Using that range, the implication is that the sustained adjusted projected deficits in Figure 1 (which average about 3.5 percent of GDP) raise long-term interest rates by about 100 to 200 basis points compared to a balanced budget. An increase in interest rates of 100 basis points on a 30-year, \$150,000 mortgage raises the annual mortgage payment by more than \$1,000.

Some skeptics of the linkage between future fiscal conditions and current long-term interest rates argue that the current macroeconomic context “proves” that there is no such connection, since nominal long-term interest rates have remained relatively low despite the recent dramatic deterioration in the long-term budget outlook. This argument is problematic for several reasons. First, it is possible during economic downturns that financial markets do not focus on long-term fiscal issues; if this is the case, the effect of the fiscal deterioration on long-term interest rates will manifest itself only as the economy recovers. Second, the overall level of *nominal* interest rates is affected by many factors, including inflationary expectations, fiscal policy, monetary policy, and other variables. The Federal Reserve, for example, has reduced the short-term Federal funds rate to historic lows to bolster aggregate demand. For purposes of assessing the effects of future budget surpluses or deficits, it may be more insightful to examine

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<sup>25</sup> As Feldstein (1986) has written, “it is wrong to relate the rate of interest to the concurrent budget deficit without taking into account the anticipated future deficits. It is significant that almost none of the past empirical analyses of the effect of deficits on interest rates makes any attempt to include a measure of expected future deficits.”

<sup>26</sup> Sinai-Rathjens (1983, p. 10) noted that “changes in future budget deficits, through legislation or expectations, have a significant impact now on the bond market,” and concluded from regression estimates that “expectations of large future budget deficits were shown to prop current long-term interest rates by at least two percentage points, supporting those here and abroad who argue that bringing down U.S. budget deficits is a key to sustained economic growth” (p. 15).

<sup>27</sup> The President’s Council of Economic Advisers has recently suggested that a sustained increase in the deficit equaling one percent of GDP would raise interest rates by 30 basis points (Wall Street Journal, 2003). The Gale-Orszag survey suggests that the effect could be 60 basis points or more, with results from some macro-econometric models, including the FRB/US model used at the Federal Reserve, showing an effect larger than 60 basis points in some simulations.

the *spread* between long-term and short-term interest rates. That spread is currently relatively high compared to its average level since 1960, and has increased substantially since the 2001 tax cut. To be sure, the interest rate spread typically widens during recessions and other periods of sluggish economic performance, and it is unclear to what extent the elevated spread reflects budget dynamics as opposed to other current and expected macroeconomic conditions. The point, however, is that it is not possible to dismiss the potential effect of deficits on interest rates merely by pointing to current market interest rates.

In summary, despite strong assertions by some of no evidence that deficits affect interest rates, empirical research tells a different story. It is essential to take expected future deficits into account in examining the linkages between deficits and interest rates. Studies that incorporate deficit expectations tend to find significant connections between deficits and interest rates.

### ***Fiscal Discipline and Short-Term Stimulus***

The forward-looking nature of financial markets means that credible *future* fiscal discipline can boost investment and interest-sensitive consumption before the fiscal policy changes actually take effect. In particular, credible reductions in future budget deficits can put downward pressure on long-term interest rates and raise the value of stock prices, thereby boosting investment, the interest-sensitive components of consumption, and consumption more broadly (because of increased household wealth) even before the deficit reduction itself has taken effect.<sup>28</sup>

The most attractive policy combination to spurring demand in a weak economy with excess capacity of capital and labor would thus combine long-term fiscal discipline with short-term fiscal stimulus. The short-term fiscal stimulus provides a direct spur to aggregate demand, while the long-term fiscal discipline provides an indirect one through forward-looking financial markets. The problem is how to combine the two in a credible manner—too much fiscal stimulus extended over too long a period raises questions about whether long-term fiscal discipline will occur, thereby undermining the efficacy of such a joint package.

## **IV. Beyond the Conventional Analysis: The Risks of Financial and Fiscal Disarray**

The conventional analysis of sustained budget deficits is important, but it also largely ignores the possibility of much more sudden and severe adverse consequences from permanent large budget deficits. This section moves beyond the conventional analysis, to consider the risks of financial and fiscal disarray that could result from ongoing fiscal imbalances.

We emphasize that many of these risks depend critically on expectations about fiscal conditions, and that shifts in expectations are both difficult to predict and can occur rapidly. It is not possible to know when the types of effects discussed here may manifest themselves, nor to quantify them. The economic and social costs involved are potentially so significant, however, that they provide perhaps the strongest motivation for dealing pre-emptively with large projected budget deficits.

To begin, note that the conventional analysis of budget deficits in advanced economies does not seriously entertain the possibility of fiscal or financial disarray. Government debt in the

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<sup>28</sup> See Blanchard (1984) for an early theoretical treatment. For a description of how this perspective affected policy-making during the 1990s, see Elmendorf, Liebman, and Wilcox (2002).

United States is still viewed as being the safest investment in the world, with virtually no possibility of explicit default or implicit default through high inflation.<sup>29</sup> Conventional analyses of budget deficits properly reflect that expectation. But if that expectation were to change and investors had difficulty seeing how the policy process could avoid extreme steps, the consequences could be much more severe than traditional estimates suggest.

As Ball and Mankiw (1995) argue, “If the debt-income ratio spins out of control, something must be done or default is unavoidable. And it might remain impossible politically to raise income taxes sufficiently.”<sup>30</sup> The role of financial market expectations in this type of scenario is central. In particular, one of the key triggers would occur if investors begin to doubt whether the strong historical commitment to avoiding substantial inflation in order to reduce the real value the public debt would be weakened.<sup>31</sup> If financial markets begin to doubt that commitment, investor confidence would be reduced and an additional premium would be added to the required return on federal government debt.

In evaluating such a potential shift in market sentiment, the expectations of foreign investors may be particularly important given the large current account deficit that the United States is now running. Foreigners own more than one-third of outstanding U.S. government public debt, and account for an even larger share of new purchases (OMB 2003). Such foreign investors may become concerned not only about the size of the federal deficit, but also about the size of the current account deficit. As Truman (2001) emphasizes, a substantial fiscal deterioration over the longer-term may cause “a loss of confidence in the orientation of U.S. economic policies...In my view, this is the principal international risk with respect to paying down Treasury debt: our failure to do so will undermine the strength of the U.S. economy and confidence in U.S. economic and financial policies.”

A loss in confidence among domestic and foreign investors would cause a shift of portfolios away from dollar-denominated assets and put downward pressure on the dollar and upward pressure on domestic interest rates. These same forces could lead investors and businesses to scale back use of the dollar as the leading world currency for international transactions. That, in turn, could limit the ability of the United States to finance U.S. current account deficits through dollar-denominated liabilities and thus increase the nation’s net exposure to substantial exchange rate changes.<sup>32</sup>

The increase in interest rates, depreciation of the dollar, and decline in investor confidence under this type of scenario would almost surely reduce stock prices and household wealth, and raise the costs of financing to business. These effects could then spread from financial markets to the real economy:

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<sup>29</sup> Unexpected and very high inflation would amount to implicit default, since it would substantially reduce the real value of government debt.

<sup>30</sup> Ball and Mankiw (1995), p. 114.

<sup>31</sup> We do not explore in detail whether financial markets in this type of environment would place larger weight on the probability of implicit default (through high inflation) or some form of fiscal impasse. The adverse consequences would be similar in many ways under either scenario.

<sup>32</sup> The costs of large current account deficits -- which are caused in part by large budget deficits -- may extend beyond narrow economic ones. Friedman (1988) notes that “World power and influence have historically accrued to creditor countries. It is not coincidental that America emerged as a world power simultaneously with our transition from a debtor nation...to a creditor supplying investment capital to the rest of the world.”

- The increase in interest rates would reduce investment and interest-sensitive consumption;
- The inability of the federal government to control the budget deficit could be interpreted as a broader failure of the nation to address its economic problems, and thus prompt a loss of business and consumer confidence, which would undermine capital spending and real economic activity.
- A potentially sharp downward movement in the exchange rate could cause unexpected shifts in input costs and export opportunities across different sectors, which could cause short-term economic dislocations.
- The disruptions to financial markets could impede the intermediation between lenders and borrowers; uncertainty about the possibility of substantial inflation could cause creditors to eschew the long end of the credit market except at extremely high real interest rates. The effect of the decline in asset prices on bank and other financial intermediaries' balance sheets could exacerbate the disintermediation.
- The drop in asset prices and increase in interest rates could also spark a wave of bankruptcies, which could further restrain real economic activity.
- These various effects can feed on each other to create a dangerous cycle; for example, increased interest rates and diminished economic activity may further worsen the fiscal imbalance, which can then cause a further loss of confidence and potentially spark another round of negative feedback effects.

As CBO (2003b) notes, these various effects of an unsustainable fiscal policy could become extremely costly:

“Taken to the extreme, such a path could result in an economic crisis. Foreign investors could stop investing in U.S. securities, the exchange value of the dollar could plunge, interest rates could climb, consumer prices could shoot up, or the economy could contract sharply. Amid the anticipation of declining profits and rising inflation and interest rates, stock markets could collapse and consumers might suddenly reduce their consumption. Moreover, economic problems in the United States could spill over to the rest of the world and seriously weaken the economies of U.S. trading partners.

A policy of higher inflation could reduce the real value of the government's debt, but inflation is not a feasible long-term strategy for dealing with persistent budget deficits....If the government continued to print money to finance the deficit, the situation would eventually lead to hyperinflation (as happened in Germany in the 1920s, Hungary in the 1940s, Argentina in the 1980s, and Yugoslavia in the 1990s)...Once a government has lost its credibility in financial markets, regaining it can be difficult.”<sup>33</sup>

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<sup>33</sup> CBO (2003b), p. 15.

It is important to emphasize again that it is impossible to know when such effects may occur; shifts in investor confidence and perceptions can occur suddenly. It is also difficult to imagine all the possible effects that could ensue. As Ball and Mankiw (1995) note, all the possibilities are “hard to think about because things can go wrong in such a rich variety of ways.”<sup>34</sup>

Despite the difficulties of predicting the precise effects or timing, the risks of financial and fiscal disarray associated with large budget deficits may be a much more important motivation for fiscal discipline than merely avoiding the costs of budget deficits suggested by conventional analysis. Our conclusion is thus similar to the one reached by Ball and Mankiw (1995):<sup>35</sup>

“We can only guess what level of debt will trigger a shift in investor confidence, and about the nature and severity of the effects. Despite the vagueness of fears about hard landings, these fears may be the most important reason for seeking to reduce budget deficits...as countries increase their debt, they wander into unfamiliar territory in which hard landings may lurk. If policymakers are prudent, they will not take the chance of learning what hard landings in G-7 countries are really like.”

### ***Uncertainty and Loss of Flexibility***

Another effect that is not adequately incorporated into conventional analysis of policies that increase budget deficits is the interaction between uncertainty and the political difficulty of enacting spending cuts or tax increases.

Uncertainty by itself can create a powerful incentive for avoiding long-term tax cuts or spending increases. Just as increased uncertainty increases the incentive for risk-averse families to save now in order to cushion the blow from possible adverse developments later, increased uncertainty surrounding the future of the federal budget can increase the incentive for more saving ahead of time—in other words, more fiscal discipline.<sup>36</sup>

Economists have also begun to apply the insights from “real options” approaches to fiscal policy when policy-makers face both uncertainty and constraints on changing fiscal policies frequently.<sup>37</sup> Academic studies, however, have not fully taken into account the important real-world asymmetries between the difficulty of enacting tax increases (or spending cuts) and the ease of enacting tax cuts (or spending increases). As a result of this asymmetry, enacting a large tax cut today is costly because it reduces the flexibility to adjust fiscal policy to future events. The result is that tax cuts today make it more likely that future policy-makers will either have to forgo responding to future needs as they arise or bear an increasing and potentially unsustainable

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<sup>34</sup> Ball and Mankiw (1995), p. 116.

<sup>35</sup> Ball and Mankiw (1995), p. 117.

<sup>36</sup> Auerbach and Hassett (2001).

<sup>37</sup> For an introduction to the “real options” literature, see Dixit and Pindyck (1994). Auerbach and Hassett (2003) study the role of uncertainty and constraints on policy changes on fiscal policy. They note that uncertainty can create an incentive to wait before acting, if some of the uncertainty will be resolved in the meanwhile and if there are constraints on acting. They confirm the intuition from the real options literature: uncertainty and some cost of acting creates a range of inaction in policy responses, but then larger policy changes when policy-makers do take action.

cost from higher budget deficits. As a recent example, had it not been for the budget surpluses of the late 1990s, responding to the September 11<sup>th</sup> terrorist attacks and the recent economic downturn would have been more difficult. Policy-makers should thus recognize an additional cost, in terms of reduced future flexibility, associated with policies that expand budget deficits.<sup>38</sup>

## V. Concluding Perspectives

Under current conditions and reasonable projections of the future, the nation faces a long period of sustained high budget deficits and a substantial fiscal gap. Failing to address the nation's long-term budget gap seems especially misguided since sustained and substantial budget deficits may induce fiscal and financial disarray, with potential costs far larger than those presented in conventional economic analyses, and since such deficits reduce flexibility to respond to unforeseen events in the future. Yet many policy-makers appear to be insensitive to the longer-run risks to U.S. economic performance from sustained, large budget deficits. Indeed, the "hole" of long-term deficits appears to be deepening.

Some have advanced the problematic notion that engineering a fiscal crisis will help to restrain discretionary spending and force long-term entitlement reform.<sup>39</sup> Provoking a fiscal crisis in the hope of restraining spending, however, seems dangerous and imprudent regardless of whether or not it is successful. Even if it were successful, the result would not necessarily represent a sound shift in fiscal policy, since the net effect could be that economically beneficial government programs would be unduly constrained by the lack of available revenue.

Even more troubling, though, is the very real possibility that such an approach will not work. A transparently self-imposed crisis does not generate the same reaction as a crisis that is perceived to be imposed by external forces. To the extent that the result from a partially self-imposed fiscal problem is not action but political impasse, the ultimate result could be the full-blown fiscal and financial disarray discussed in Section IV.

Despite assertions to the contrary, granting large tax cuts to some groups may thus make it *less* politically feasible to rein in the desires of other constituencies to obtain increases in spending programs.<sup>40</sup> The point is that restraints on both spending increases and tax cuts are necessary to create an atmosphere of fiscal discipline.<sup>41</sup> For example, the interest groups adversely affected by spending restraints may be less likely to accept such restraints in the face of large tax cuts. The result may be that abandoning fiscal discipline on one side of the budget induces a period of fiscal irresponsibility on both sides of the budget. It is thus not even clear whether tax cuts impose more or less restraint on spending increases, let alone sufficient restraint on spending to offset the cost of the tax cut itself.<sup>42</sup>

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<sup>38</sup> Summers (2000) notes that "Higher saving has the central virtue of providing us with options, not merely if our current economic strength continues as we hope, but also if it does not."

<sup>39</sup> David Stockman coined the term "starve the beast" for this effect. For recent discussions, see Bartlett (2003); Krugman (2003); and Hume (2003).

<sup>40</sup> See Kogan (2002) for a similar argument.

<sup>41</sup> Similarly, we remain skeptical that transparently creating a fiscal crisis will facilitate long-term entitlement reform. It seems too easy for some of the parties that would be adversely affected by reform to argue that reversing the recent tax cuts would obviate the need for many, if not all, of the painful reform measures. Without significant revenue changes, it thus seems difficult to see how 60 members of the Senate would agree to long-term reform to eliminate the projected deficits in Social Security or Medicare.

<sup>42</sup> In other words, by eliminating any semblance of fiscal discipline, the net effect of the large tax cuts over the past three years may have been to encourage rather than restrain additional spending. Indeed, the evidence to date does not appear to be supportive of the view that the 2001 and 2003 tax cuts have significantly restrained spending.



In our view, balancing the budget for the longer term will require a combination of expenditure restraint and revenue increases.<sup>43</sup> Some have argued that the entire adjustment can come through expenditure restraint. Although such restraint is critical, it is unrealistic at this point to expect the lion's share of the adjustment to come on the spending side.<sup>44</sup> On the revenue side, a key issue is the treatment of legislation that contains expiring tax provisions. Although expiring provisions used to be a relatively minor part of the tax code, they have exploded in magnitude in recent years, beginning with the 2001 tax reductions, then exacerbated by the 2002 and 2003 tax cuts. All of the newly enacted tax reductions expire by the beginning of 2011, with some provisions sunseting much earlier. In 2013 alone, extending the expiring provisions would reduce revenues by 2.5 percent of GDP (CBO, 2003a). About 90 percent of the resulting revenue loss would be related to extending the expiring provisions that have been newly enacted in the 2001, 2002, and 2003 tax legislation.

Perhaps the single most important act Congress and the Administration could take at this point to rein in the budget over the next decade would be to re-establish the budget rules that existed in the 1990s. These put caps on discretionary spending and required that reductions in taxes or increases in mandatory spending be paid for with other tax increases or spending cuts.<sup>45</sup>

In the end, though, budget rules are effective only if there is broad political support for reducing budget deficits and some consensus regarding how it should be done. It is our hope that such broad support will develop before it is too late.

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<sup>43</sup> Diamond and Orszag (2004) similarly argue that Social Security reform will require a combination of benefit reductions and revenue increases, and propose a progressive reform that restores solvency to Social Security through such a combination.

<sup>44</sup> Gale and Orszag (2003c) examine the magnitude of spending reductions that would be required in 2008 if budget balance were achieved solely through reductions in spending in that year. Balancing the adjusted unified budget by cutting only non-defense discretionary spending—such as homeland security, education, law enforcement, environmental protection, and scientific research—would require reductions of more than 90 percent, underscoring the implausibility of reaching balance solely this way.

<sup>45</sup> The Administration has advocated the re-establishment of the rules, but only in a selective manner; the rule adopted in the Congressional budget plan this year is similarly selective. This is not helpful, since the rules must apply on a broad basis or they will not be seen as being either fair or effective. It is also worth considering modifications to the budget rules to prevent abusive uses of sunsets in the future.

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**Table A.1**  
**Present Value Cost of Various Tax and Outlay Measures Over 75 Years**

	<b>Present Value Over the Next 75 Years, Percent of GDP</b>	<b>Present Value Over the Next 75 Years*, \$ Trillions</b>
2001 tax cut if made permanent	1.5 to 1.9	7.9 to 10.0
Dividend / capital gains tax cuts	0.3	1.6
Tax-free savings accounts	0.3	1.6
Other proposed tax cuts	0.2	1.1
Total, Administration tax cuts	2.3 to 2.7	12.1 to 14.2
Social Security actuarial deficit*	0.7	3.8
Medicare Hospital Insurance actuarial deficit*	1.1	6.2
Combined Social Security and Medicare HI deficit*	1.8	10.0

\*Assumes level of GDP and interest rates projected by the Social Security actuaries. For further details, see Orszag, Kogan, and Greenstein (2003).