ECONOMIC REPORT OF THE PRESIDENT

TRANSMITTED TO THE CONGRESS FEBRUARY 2010

TOGETHER WITH THE ANNUAL REPORT
OF THE COUNCIL OF ECONOMIC ADVISERS

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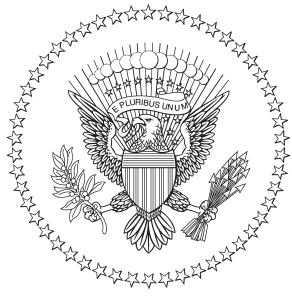

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CHAPTER 4

SAVING AND INVESTMENT

The United States appears poised to begin its recovery from the most severe recession since the Great Depression. But as discussed in Chapter 2, the recession has been unusually deep, and the crisis has caused declines in credit availability as well as weak consumer and business confidence. As a result, achieving the private spending necessary to support a robust and full recovery has been, and will continue to be, challenging.

Moreover, as the President has repeatedly emphasized, it is not enough simply to return to the path the economy was on before the slump. The growth that preceded the recession saw high consumption spending, low private saving, excessive housing construction, unsustainable run-ups in asset prices (especially for assets related directly or indirectly to housing), and high budget and trade deficits. That path was unstable—as we have learned at enormous cost—and undermined long-run prosperity. Thus, as the economy recovers, a rebalancing will be necessary. The composition of spending needs to be reoriented in a way that will put us on a path to sustained, stable prosperity.

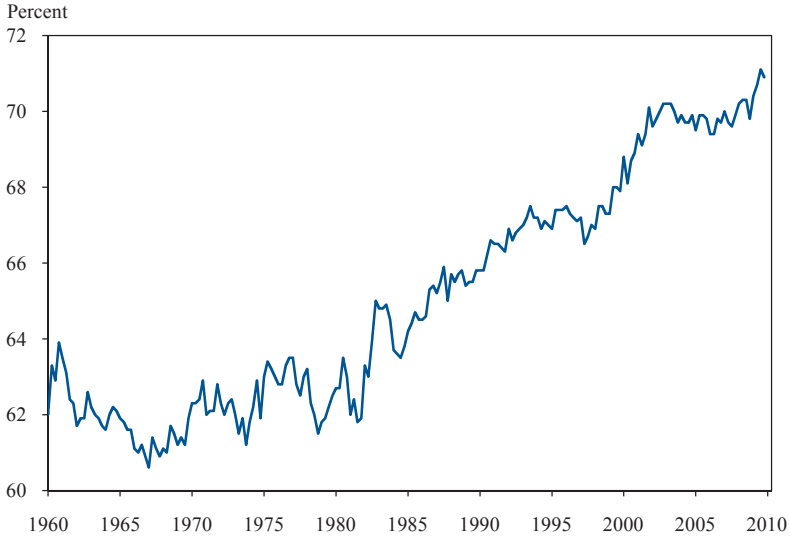
In thinking about the twin challenges of recovery and reorientation, it is useful to consider the division of demand into its components. Overall or aggregate demand can be classified into personal consumption expenditures, residential investment, business investment, net exports, and government purchases of goods and services. Government purchases, which consist of such items as Federal expenditures on national defense and state and local spending on education, are relatively stable. This is especially true when one recalls that government transfers, such as spending on Medicare or Social Security, are not part of government purchases but rather are elements of personal income. Thus, it is the behavior of the remaining components that will be central to addressing the challenges of generating enough demand for recovery and a better composition of demand for long-run growth and stability.

This chapter lays out a picture of how the components of private demand behaved during the downturn and how they are likely to evolve as the economy recovers and once it returns to full employment. The chapter describes the transition that has already occurred away from low personal saving and high residential investment, as well as the transition that needs to occur toward greater business investment and net exports. It also describes the President's initiatives for encouraging the transitions necessary for long-run prosperity and stability.

The Path of Consumption Spending

Figure 4-1 shows the share of gross domestic product (GDP) that takes the form of production of goods and services directly purchased by consumers. The figure has two key messages. First, consumption represents a substantial majority of output. As a result, movements in consumption play a central role in macroeconomic outcomes. Second, the fraction of output devoted to consumption has been rising over time, leaving less room for components that contribute to future standards of living. The behavior of consumption will therefore be central to addressing both the shorter-run challenge of generating a strong recovery and the longer-run challenge of rebalancing the economy.

Figure 4-1
Personal Consumption Expenditures as a Share of GDP

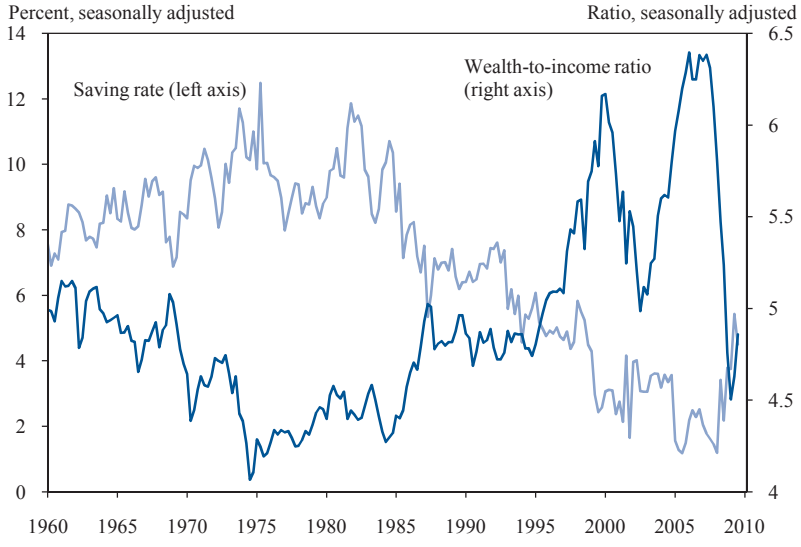


Source: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 1.1.10.

The Determinants of Saving

To understand the behavior of consumption, it is critical to consider how households divide their disposable income between consumption and saving. Figure 4-2 shows the personal saving rate (that is, the ratio of saving to disposable personal income) since 1960 (left axis), along with the ratio of household wealth to disposable personal income (right axis).

Figure 4-2
Personal Saving Rate Versus Wealth Ratio



Sources: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 2.1; Federal Reserve Board, Flow of Funds Table B.100.

The big swings in wealth reflect asset market booms and busts. Much of the drop in wealth in the early 1970s reflects the stock market decline associated with the first oil price shock. The stock market booms of the mid-1980s and the late 1990s are obvious, as is the decline in stock prices in the early 2000s. The wealth decline in 2008–09 was the largest such experience in the sample, reflecting large contributions from falling house prices as well as stock prices.

Paralleling the behavior of the consumption-output ratio, the saving rate showed no strong trend before roughly 1980. But it has shown a marked downward trend since then. Economic theory suggests a variety of factors that should influence saving, most notably changes in the demographic structure of the population, the growth rate of income, and the real after-tax interest rate. None of these three factors, however, provides a compelling explanation for the fluctuations in the saving rate evident in the figure.

Indeed, some of the factors should probably have pushed saving up in recent decades, not down. A 1991 study, for example, predicted that the saving rate would rise as the baby boom generation entered its high-saving preretirement years (Auerbach, Cai, and Kotlikoff 1991). Instead, the saving rate fell steadily as the boomers approached retirement (the first boomers claimed early Social Security benefits in 2008).

Figure 4-2 suggests to the eye, and statistical analysis confirms, a strong negative association between the saving rate and the wealth-to-income ratio. This relationship has been interpreted as reflecting the effect of wealth on spending: a run-up in wealth leads to less need for saving. Such an interpretation is unsatisfying, however, because it leaves a key question unanswered: If wealth movements cause saving rate movements, what causes wealth movements? More broadly, it leaves open the possibility that both saving choices and asset price movements are a consequence of some deeper underlying force. For example, an increase in optimism about future economic conditions might lead both to a spending boom and to a general bidding up of asset prices. In that case, the true moving force would not be wealth changes per se; instead, both asset prices and saving would be responding to the increase in optimism.

Survey data measuring "consumer sentiment" or "consumer confidence" do, in fact, have substantial forecasting power for near-term spending growth, and are also associated with contemporaneous movements in asset prices (Carroll, Fuhrer, and Wilcox 1994). Such surveys are therefore a useful part of a macroeconomist's forecasting tool kit. But such surveys have not proven useful in explaining long-term trends like the secular decline in the saving rate.

Emerging economic research suggests another underlying explanation that may be more potent: movements in the availability of credit. A substantial academic literature has documented the expansion of credit since the era of financial liberalization that began in the early 1980s (Dynan 2009). Many factors have contributed to this expansion; perhaps the most prominent explanation (aside from the liberalization itself) is the telecommunications and computer revolutions, which together have permitted the construction of ever-more-detailed databases on consumer credit histories, giving creditors a far more precise ability to tailor credit offers to the personal characteristics of individual borrowers (Jappelli and Pagano 1993). A beneficial effect of this information revolution has been that many people who had previously been unable to obtain credit have for the first time been able to borrow to buy a home, to start a business, or to undertake many other useful activities (Edelberg 2006; Getter 2006).

A reduction in saving, however, is almost the inevitable consequence of a general increase in the ability to borrow. If there is less need to save for a down payment for a home, for a child's education, for unforeseen emergencies, or for spending of any other kind, then the likelihood is that less saving will be done. Of course, eventually the saving rate should mostly recover from any dip caused by a one-time increase in the availability of credit, because whatever extra debt was incurred must be paid back over time (and paying back debt is another form of saving). This recovery in saving, however, may take a long time. If, in the meantime, credit availability increases again, the gradual small increase in saving that reflects debt repayment could easily be obscured by the new drop in saving occasioned by the continuing expansion in credit availability.

How much of the decline in the saving rate was due to a gradual, but cumulatively large, increase in credit availability is not easy to determine, partly because an aggregate measure of credit availability is difficult to construct. Recent research on commercial lending has argued that a good measure of the change in credit supply is provided by the Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices, in which managers at leading financial institutions are asked for their assessments of credit conditions for businesses (Lown and Morgan 2006). Building on that research, one study has proposed that a measure of the level of credit availability to consumers can be constructed simply by accumulating the sequence of readings from this survey's measure of credit availability to consumers (Muellbauer 2007).[1]

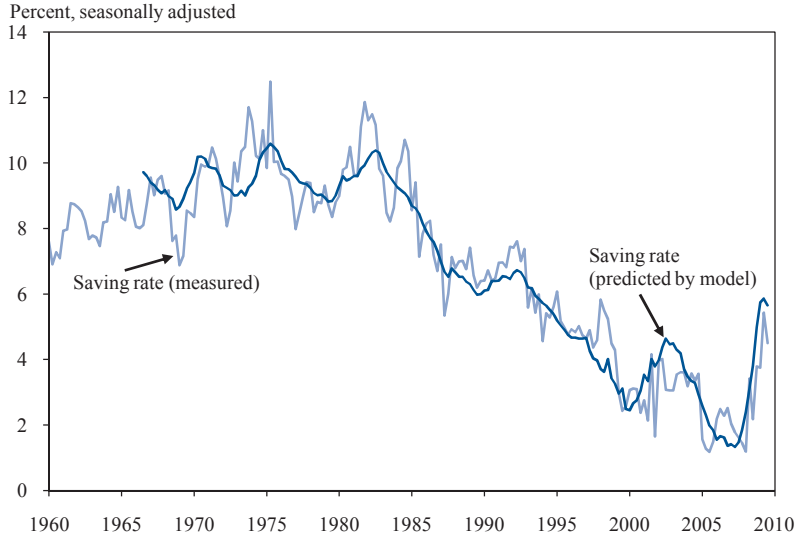
Economic theory suggests that one further element may be important in understanding spending and saving choices around times of recession: the intensity of consumers' precautionary motive for saving. Because the risk of becoming unemployed is perhaps the greatest threat to most people's future financial stability, the unemployment rate has sometimes been used as a proxy for the intensity of the precautionary saving motive.

Implications for Recent and Future Saving Behavior

Figure 4-3 shows the relationship between the measured saving rate and a simple statistical model that relates the saving rate to the wealth-to-income ratio, a slightly modified version of Muellbauer's credit availability index, and the unemployment rate. The statistical model is estimated over the sample period 1966:Q3 to 2009:Q3. All three variables have statistically important predictive power, with the two most important measures being the measure of credit conditions and the wealth-to-income ratio.

[1] Specifically, each quarter the survey asks about banks' willingness to make consumer installment loans now as opposed to three months ago.

Figure 4-3
Personal Saving Rate: Actual Versus Model

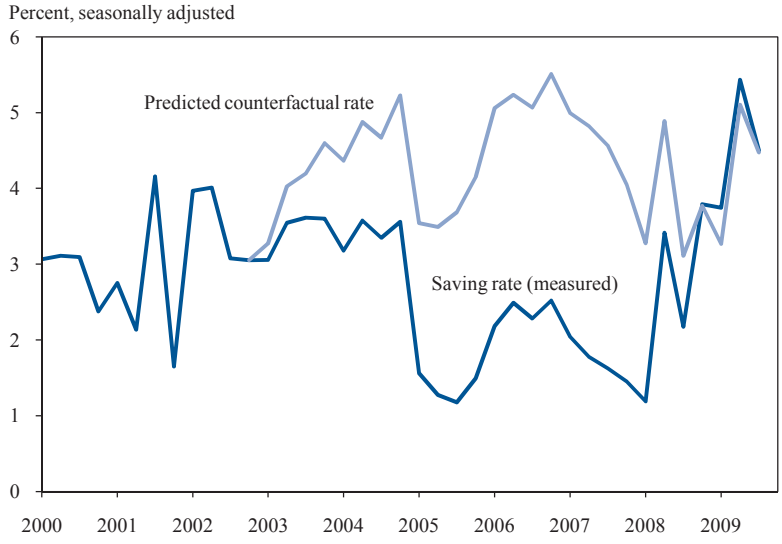


Sources: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 2.1; CEA calculations.

Figure 4-4 uses this simple framework to ask what the path of the saving rate might have looked like if the increase in credit availability and the housing price boom had not occurred. (To be exact, the figure shows what the model says the saving rate would have been if the wealth-to-income ratio had remained constant from the first quarter of 2003 to the fourth quarter of 2007, and if credit conditions had neither expanded nor contracted; the first quarter of 2003 is chosen as the starting point because in that quarter the wealth-to-income ratio was close to its average historical value.) In this counterfactual history, the personal saving rate would have been, on average, about 2 percentage points higher over the 2003–07 period.

Of course, a far more important consequence than the higher saving rate might have been the avoidance of the financial and real disturbances caused by the housing price boom and subsequent crash. But taking the crash as given, Figure 4-3 shows that the model does a reasonably good job in tracking the dynamics of the saving rate over the period since the business cycle peak. All three elements of the model contribute to the model's predicted rise in the personal saving rate over the past couple of years: the increase in the unemployment rate, the sharp drop in asset values evident in Figure 4-2, and the steep drop in credit availability as measured by the Senior Loan Officer Opinion Survey.

Figure 4-4
Actual Personal Saving Versus Counterfactual Personal Saving



Sources: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 2.1; CEA calculations.

The saving model also has implications for the future path of spending. Because of the important role it finds for credit availability, the model suggests that the speed of the recovery in spending is likely to be closely tied to the pace at which the financial sector returns to health. This point underscores a chief motivation for the Administration's efforts to repair the damage to the financial system: a full economic recovery is unlikely until and unless the financial system is repaired. The vital role that a healthy financial sector plays in the functioning of the economy explains the urgency with which the Administration has been pressing Congress to pass a comprehensive and effective reform of the financial regulatory system (see Chapter 6 for a detailed discussion of the Administration's proposals).

Over a longer time frame, a resumption seems unlikely of the past pattern in which credit growth persistently outpaces income growth. Instead, credit might reasonably be expected to expand, in the long run, at a pace that roughly matches the rate of income growth. Similarly, in keeping with the long-run stability of the wealth-to-income ratio evident in Figure 4-2, wealth plausibly might grow at roughly the same pace as income—or perhaps a bit faster if investment can sustain an increase in capital per worker. Finally, although unemployment is likely to remain above its normal rate for some time, it too can be expected to return to historically normal values in the medium run. Under these conditions, the model suggests that the personal

saving rate will eventually stabilize somewhere in the range of 4 to 7 percent, somewhat below its level in the 1960s and 1970s, but well above its level over the past decade.

The saving rate has already risen sharply over the past two years (which reflects an even steeper drop in consumption than in income). As credit conditions and the unemployment rate return to normal, it is plausible to expect a temporary partial reversal of the recent increase, even if asset values do not return to their pre-crisis levels. It would not be surprising, therefore, if the saving rate dipped a bit over the next year or two before heading toward a higher long-run equilibrium value. The prospect of temporary fallback in the saving rate is also plausible as a consequence of the expected withdrawal of some of the temporary income support policies that were part of the stimulus package. On balance, however, the United States seems now to be on a trajectory that will eventually result in a more "normal," and more sustainable, pattern of household saving and spending than the one that has prevailed in recent years.

While the underlying economic forces sketched here seem likely to lead eventually to a higher saving rate even in the absence of policy changes, the Administration has proposed a variety of saving-promoting policy changes to enhance that trend over the longer term. These include increasing the availability of 401(k)-type saving plans and encouraging employers to gradually increase default contribution rates (and to ensure that new employees' default saving choices reflect sound financial planning). Economic research suggests that people assume that if their employer offers a retirement saving plan, the default saving rate in that plan probably reflects a reasonably good choice for them, unless their circumstances are unusual (Benartzi and Thaler 2004).

The Future of the Housing Market and Construction

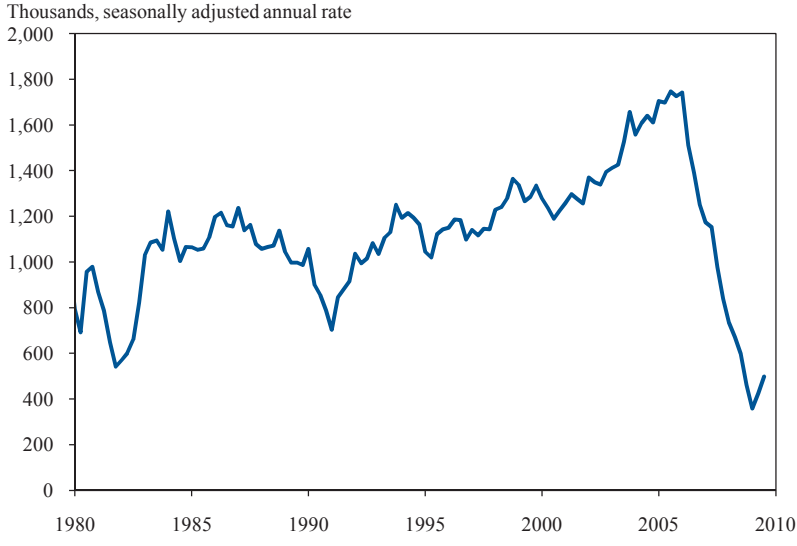
The boom in construction spending that characterized the middle years of the past decade made a substantial contribution to growth while it lasted. When the residential investment engine began to sputter around the middle of 2006, and then to stall, the ensuing correction in the sector was correspondingly steep. With the benefit of hindsight, it is now clear that much of the mid-decade's frenetic activity was based on unsound financial decisions rather than sustainable economic developments. As a consequence, construction has declined to below-normal levels as the excesses work off. For the future, construction activity is expected to pick up and

contribute to the economic recovery, although this activity is likely to be well below the very high levels it reached in the mid-2000s.

The Housing Market

The residential investment boom can be measured in several ways. As Figure 4-5 shows, new construction of single-family housing units soared in the first half of the 2000s. Builders were constructing 30 percent more single-family housing units a year in the expansion of the 2000s than in the 1990s boom. Housing investment as a share of GDP averaged more than 5.5 percent over the 2002–06 period, compared with an average of only 4.7 percent from 1950 to 2001. Figure 4-6 shows that from 1995 to 2005 the homeownership rate rose from 65 percent to 69 percent as mortgage underwriting standards loosened, especially in the later part of the period.

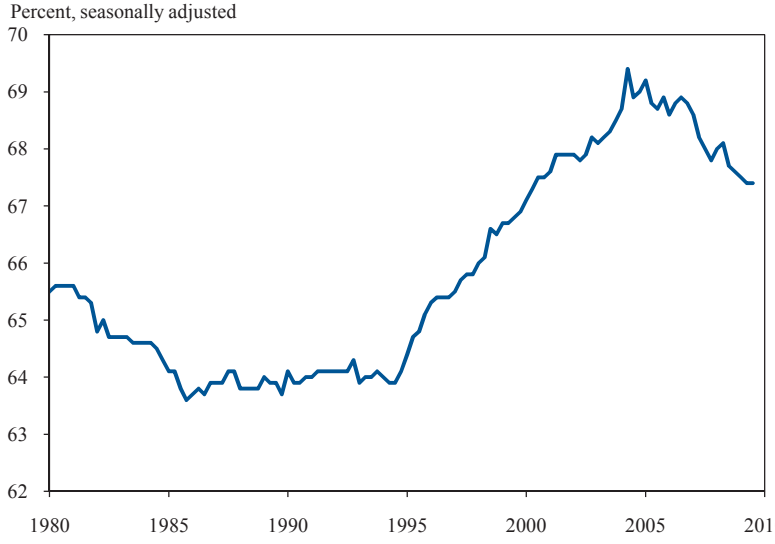
Figure 4-5
Single-Family Housing Starts



Source: Department of Commerce (Census Bureau), New Residential Construction Table 3.

It is now apparent that the mid-2000s level of new construction was unsustainable. Analysis by the Congressional Budget Office (2008) and Macroeconomic Advisers (2009) suggests the mid-2000s pace of starts was well in excess of the underlying pace of expansion in demand for new housing units based on household formation and other demographic drivers.

Figure 4-6
Homeownership Rate



Source: Department of Commerce (Census Bureau), Residential Vacancies and Homeownership Table 4.

The boom was followed by an equally dramatic bust. From their peak in the third quarter of 2005 to the first quarter of 2009, single-family housing starts fell by more than a factor of four. The homeownership rate reversed course, and by the second quarter of 2009 had returned to its 2000 level. The share of housing investment in GDP plummeted to 2.4 percent in the second quarter of 2009.

Just as the mid-decade's high levels of construction and housing market activity were not sustainable, the recent extremely low levels of construction will not persist indefinitely. In 2009, housing starts and the share of housing investment in GDP were well below their previous historical lows. In the long run, sounder underwriting standards will require more would-be homeowners to take time to save for a down payment before buying a home, suggesting that the homeownership rate will ultimately settle at a level lower than its recent peaks. Nonetheless, as the population grows and the housing stock depreciates, new residential construction will be required to meet demand. The analyses by the Congressional Budget Office (2008) and Macroeconomic Advisers (2009) suggest that the underlying demographic trend of household formation is consistent with growth in demand of between 1.1 million and 1.3 million new single-family housing units per year, more than double the pace of single-family housing starts in November 2009. Indeed, since the second quarter of 2009, housing construction has already rebounded a bit, making its first positive

contribution to GDP growth in the third quarter of 2009 since the end of 2005. But, as described in Chapter 2, the stocks of new homes and existing homes for sale, vacant homes that are not currently on the market, and homes that are in the process of foreclosure and that are likely to be put on the market at some point remain high. As a result, construction demand is likely to rise to its long-run level only gradually while some demand is met by the stock of existing units.

In short, as the housing market stabilizes and returns to a more normal condition, its role as a major drag on economic growth seems to be ending, and it is likely to contribute to the recovery. But residential construction cannot be expected to be the engine for GDP growth that it was during the housing boom of the mid-2000s.

Commercial Real Estate

The market for commercial real estate has also suffered in the recession. Commercial real estate encompasses a wide range of properties, from small businesses that occupy a single stand-alone structure to large shopping malls owned by a consortium of investors.

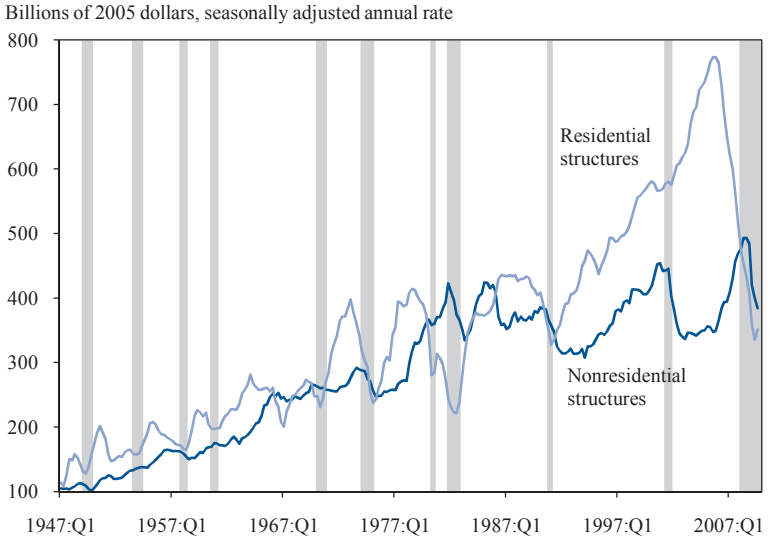
Problems in the commercial real estate sector are less obviously a result of overbuilding than those in the residential sector; instead, they reflect the sharp decline in demand for commercial space and the overall decline in the economy. The value of commercial real estate increased notably between 2005 to 2007, spurred by easy credit conditions, as measured for example in the Senior Loan Officer Opinion Survey. By the end of 2004, the net number of banks reporting they had eased lending standards for commercial real estate loans was persistently larger than at any point in the history of the series. Most banks did not begin tightening standards again until the end of 2006. The relative quantity of financing also increased over this period; the ratio of the change in the value of commercial real estate mortgages to new construction, which should increase when debt financing becomes relatively attractive, reached a 45-year high in 2003 and then continued to climb, peaking at the end of 2005 at more than three times the historical average.[2]

In the nonresidential sector, high prices did not translate into a dramatic increase in new construction (Figure 4-7). Rather, existing owners of nonresidential properties used the cheap financing and price increases to refinance or sell. Several factors appear to have played a role in limiting

[2] The numerator of the ratio is the seasonally adjusted change in commercial and multifamily residential mortgages (Federal Reserve, Flow of Funds Tables F219 and F220). The denominator is seasonally adjusted construction of commercial and health care structures, multifamily structures, and miscellaneous other nonresidential structures (Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Table 5.3.5). The median of the ratio from 1958 to 2000 is 0.46, while the 2005:Q4 value is 1.50.

new investment in this sector. First, a close look at Figure 4-7 shows that nonresidential construction has historically exhibited much less volatility than residential construction, a pattern that also held true during the recent boom. Second, developers seem to have been wary of overbuilding because of unhappy experiences in previous expansions. A final dampening factor has been that construction resources were tied up in the residential construction sector. Indeed, only when residential construction slowed in 2006 did nonresidential construction begin to show larger gains.

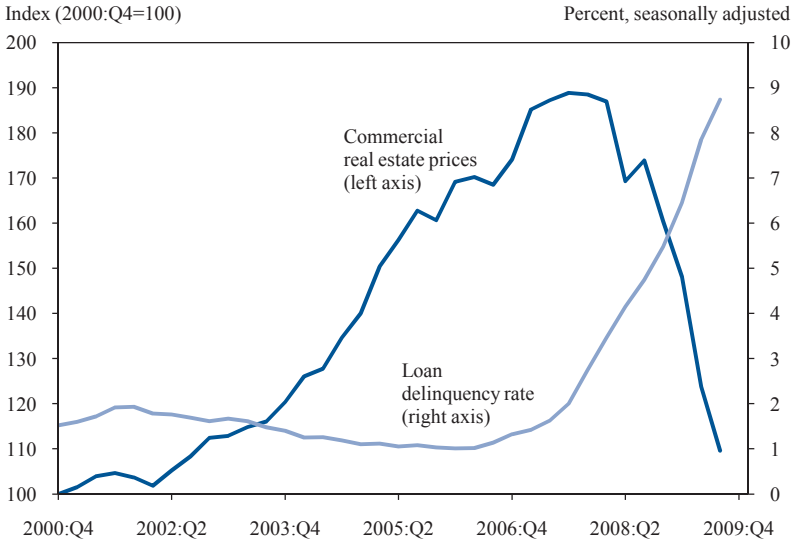
Figure 4-7
Fixed Investment in Structures by Type



Note: Grey shading indicates recessions.
Source: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 5.3.6.

Commercial real estate values have declined dramatically since 2007. As Figure 4-8 shows, according to the Moody's/REAL Commercial Property Index, which tracks same-property price changes for commercial office, apartment, industrial, and retail buildings, commercial real estate prices fell 43 percent from their peak in October 2007 to September 2009. A steep increase in vacancy rates, stemming from weakness in the overall economy, has been one important reason for these declines in value: the commercial real estate services firm CB Richard Ellis reports that vacancy rates for offices increased from 12.6 percent in mid-2007 to 17.2 percent in the third quarter of 2009. Before the recession, vacancy rates were generally declining.

Figure 4-8
Commercial Real Estate Prices and Loan Delinquencies



Sources: Moody's/Real Estate Analytics LLC, Commercial Property Index; Federal Reserve Board.

As commercial real estate values have declined, owners have found it difficult to refinance their debt because loan balances now appear large relative to the properties' value. Nearly half of the banks responding to the Senior Loan Officer Opinion Survey in the third quarter of 2009 reported that they continued to tighten standards on commercial real estate loans, whereas none of the respondents reported having eased standards. Since commercial real estate loans typically are relatively short term, an inability to refinance debt has led to a sharp rise in delinquencies and foreclosures. Figure 4-8 shows that the proportion of commercial real estate loans with payments at least 30 days past due rose from about 1 percent during most of the decade to almost 9 percent by the third quarter of 2009. Distress has made lenders reluctant to provide financing for new projects. Overall, the value of commercial and multifamily residential mortgages declined in each of the first three quarters of 2009 (Federal Reserve Flow of Funds Tables L.219 and L.220). Tight credit and the increase in sales of distressed properties have fed into further price declines, generating a negative feedback loop between property values and conditions in the sector.

As private sources of funding have dried up, the Federal Reserve has helped fill the gap through the Term Asset-Backed Securities Loan Facility (TALF). In June 2009, the TALF made lending available to private financial market participants against their holdings of existing commercial

mortgage-backed securities (CMBS), thereby increasing liquidity in the CMBS market. In November 2009, the TALF made its first loans against newly issued CMBS. The provision of TALF financing for these newly issued securities may prove particularly important in allowing borrowers to refinance.

The negative feedback loop between credit conditions, the sale of distressed commercial properties, and commercial property values may lead to further price declines. Eventually, however, a combination of economic recovery and an improvement in financing conditions should help prices stabilize. Still, as with the residential mortgage market, commercial real estate financing will likely not return any time soon to the easy terms that prevailed before the collapse. Experience in previous business cycles suggests that recovery of the sector will lag the economy as a whole.

Business Investment

If consumption and construction are not the drivers of growth going forward in the way they were in the early 2000s, two components of private demand are left to fill the gap: business investment excluding structures, and net exports.[3] Nonstructures investment could well become again (as it was in the 1990s) a driving force in the expansion of aggregate demand and economic production. And in the long run, its share in GDP could reach levels higher than those of the first part of the decade.

Investment in the Recovery

Investment spending (other than structures) plummeted in late 2008 and early 2009. This investment spending fell so low that, after accounting for depreciation, estimates of the absolute stock of capital showed stagnation in 2008 and even a decline in the first quarter of 2009. Falling spending in this category reflected falling business confidence, as indicated, for example, in the Federal Reserve Bank of Philadelphia's Business Outlook Diffusion Index; this index was negative every month from October 2008 to July 2009, signaling that more businesses thought conditions were deteriorating than thought they were improving. Similarly, the National Federation of Independent Business Index of Small Business Optimism hit its lowest point since 1980 in March 2009.

[3] In the National Income and Product Accounts, construction of commercial structures is classified as part of business investment. Given that the boom and bust were concentrated in residential and commercial construction, however, for discussing recent and prospective developments it is more useful to consider commercial construction investment together with residential investment, as was done in the previous section. Thus, the discussion that follows is largely concerned with nonstructures investment.

Investment of this kind firmed in the second half of 2009, coinciding with improvements in business confidence. Indeed, investment in equipment and software increased at a 13 percent annual rate in the fourth quarter. Nevertheless, the cumulative erosion has been so substantial that years of strong growth will be necessary to fully recover from the nadir. As a result, recovery of spending in this area is likely to make a substantial contribution to the recovery of the overall economy.

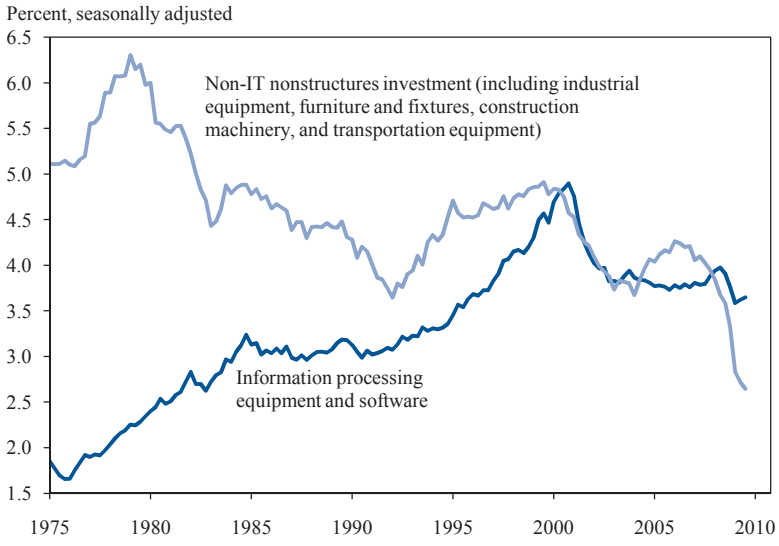
Investment in the Long Run

In the long run, the share of business investment is likely not just to return to its pre-recession levels, but to exceed them. During the boom of the 1990s, the share of business investment in equipment and software as a fraction of GDP rose from a post-Gulf-War recession low of 6.9 percent in 1991 to 9.6 percent in 2000. During that period, investment in information processing equipment and software made the largest contribution to the increase, as shown in Figure 4-9. Information technology (IT) investment grew an astounding 18 percent per year on average from 1991 to 2000. Other investment in equipment and software, which includes industrial, transportation, and construction equipment, accelerated as well, and grew as a share of GDP over this period. This high level of investment in the 1990s increased industrial capacity by an average of 4 percent per year.

As the figure shows, the boom came to an end at the beginning of the 2000s, when investment in every category of equipment and software fell sharply as a share of GDP. The recovery in business investment in equipment and software after the 2001 recession was weak. IT investment grew at a historically tepid pace of 6 percent per year from 2003 to 2007, far below pre-2000 growth rates. Non-IT investment growth was also muted, with spending on industrial equipment growing at an annual pace of only 3.7 percent from 2003 to 2007, down from an average of 5.4 percent in the 1990s. Investment in transportation equipment surpassed its 1999 peak only for one quarter in 2006. In the recovery following the 2001–02 recession, the peak value of non-IT equipment investment as a share of GDP was only 4.3 percent (in 2006), a level that does not even match the historical *average* value of that series in the period from 1980 to 2000. Production capacity in the sector grew an average of 0.6 percent per year from 2003 to 2007, substantially below the average pace of growth in the 1990s. Taken as a whole, these figures suggest that business investment may have been abnormally low over the course of the post-2001 expansion.

There are strong reasons to expect investment's role in the economy will be larger in the future. In the long run, the real interest rate will adjust to bring the demand for the economy's output in line with the economy's

Figure 4-9
Nonstructures Investment as a Share of Nominal GDP



Source: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 5.3.5.

capacity. The increase in private saving described in the first part of the chapter, together with the policies to tackle the long-run budget deficit that are the subject of the next chapter, should help maintain low real interest rates. By keeping the cost of investing low, these low real interest rates should help to encourage investment.

At the same time, other forces should help increase investment at a given cost of borrowing. A number of promising technological developments offer the prospect that businesses will be able to find many productive purposes for new investments, ranging from new uses of wireless electromagnetic spectrum, to new applications of medical and biological discoveries opened up by DNA sequencing technologies, to environmentally friendly technologies like new forms of production and distribution of clean energy (see Chapter 10 for more on these subjects).

Another form of investment is business spending on research and development (R&D). Such spending can be interpreted as investment in the accumulation of "knowledge capital." Ideally, private investments in R&D will dovetail with complementary public investments in knowledge capital through basic research and scientific and technological infrastructure. The Administration's commitment to fostering the connections between public and private investments in knowledge production has been strongly signaled in both the Recovery Act and the President's fiscal year 2010 budget (Office of Management and Budget 2009). The Recovery Act included $18.3 billion

of direct spending on research, one of the largest direct increases in such spending in the Nation's history. In addition, more than $80 billion of Recovery Act funds were targeted toward technology and science infrastructure. The Administration's first budget proposed to double the research spending by three key science agencies: the National Science Foundation, the Department of Energy's Office of Science, and the Department of Commerce's National Institute of Standards and Technology. And to foster private sector innovation, the budget also included the full $74 billion cost of making the research and experimentation tax credit permanent in order to give businesses the certainty they need to invest, innovate, and grow.

With reduced demand from consumption and housing tending to make the real interest rate lower than it otherwise would be, and increased investment demand from the many newly developing technologies and incentives for R&D, a larger portion of the economy's output is likely to be devoted to investment. And, because business investment contributes not only to aggregate demand but also to aggregate supply and productivity, a larger role for investment will create a stronger economy going forward.

The Current Account

The picture of future growth in the United States described in the previous sections depends less on borrowing and consumption than did growth in the past decade. This view has important implications for our interactions with other countries and the current account.

Determinants of the Current Account

The current account is the trade balance plus net income on overseas assets and unilateral transfers like foreign aid and remittances. The trade balance, or net exports, represents the bulk of the current account and is responsible for a large majority of short-run movements in it. To a first approximation, a current account deficit implies that the trade balance is negative or, equivalently, that our exports are less than our imports. At the same time, the current account deficit must also be matched by the net borrowing of the United States from the rest of the world. If we spend more than we earn, we must borrow the money to do so. In the national income accounting sense, the definition of the current account can be reduced to national saving minus investment (plus some measurement error).

This accounting definition provides a description but not an explanation of the drivers of the current account. One important driver is the business cycle. As Box 4-1 explains, over the last 30 years, the U.S. current account deficit tended to be larger when the economy was booming

and unemployment was low. In a boom, investment tends to rise and saving tends to fall, generating a current account deficit. When the economy struggles, investment often falls and saving often rises, generating a surplus (or a smaller deficit). In countries that rely more on exports to drive their growth, an acceleration in growth can be associated with a rising current account surplus (or smaller deficit).

Current accounts do not need to be balanced in every country in every year. At any point in time, countries may offer more investment opportunities than their desired level of saving at a given interest rate can fund, making them net borrowers, resulting in a current account deficit. Other countries may have an excess of saving over desired investment, making them net lenders (a current account surplus). However, in the

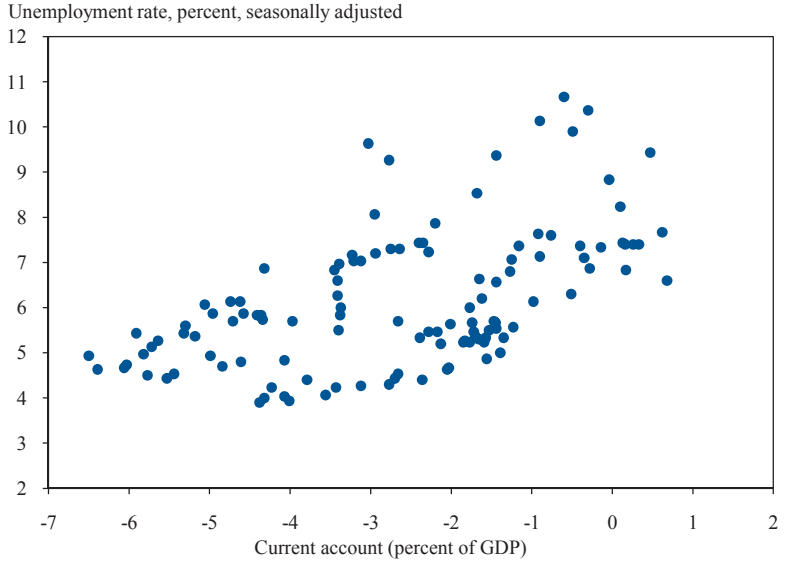
Box 4-1: Unemployment and the Current Account

The relationship between the level of unemployment and the current account balance is complicated. People frequently argue that imports—and specifically the current account deficit—displace U.S. workers and generate higher unemployment. However, the main determinant of unemployment in the short and medium runs is the state of the business cycle. The scatter plot of the current account and the unemployment rate since 1980, shown in the accompanying figure, displays a positive relationship. Historically, a smaller current account deficit has coincided with a *higher* unemployment rate. Both were being driven by cyclical economic factors: in a recession, the current account balance improved, and unemployment was high. In a boom, the current account balance deteriorated, and unemployment was low. This usual pattern has been at work in the current recession. The U.S. current account deficit narrowed from 6.4 percent of GDP in the third quarter of 2006 to 2.8 percent of GDP in the second quarter of 2009. At the same time, unemployment *rose* from 4.6 percent to 9.3 percent.

The relationship between unemployment and the current account balance can be different in countries that have relied more heavily on exports for growth. For example, in Germany, the unemployment rate fell from 11.7 percent in 2005 to 9.0 percent in 2007 while the current account surplus rose from 5.1 percent of GDP to 7.9 percent. Likewise, in Japan, unemployment fell from 2005 to 2007 as the current account surplus rose. Given the slack in the U.S. economy, a shift toward a current account surplus could increase aggregate demand and help lower the unemployment rate.

Continued on next page

Box 4-1, continued



Note: Each data point represents a calendar quarter.
Sources: Department of Labor (Bureau of Labor Statistics), Employment Situation Table A-1; Department of Commerce (Bureau of Economic Analysis), International Transactions Table 1.

long run, current accounts should tend toward balance, thereby allowing the net foreign investment position (total foreign assets minus total foreign liabilities) of borrowing nations to at least stabilize as a ratio to GDP and possibly to decline over time. Otherwise, creditor nations would be continually increasing the share of their wealth held as assets of debtor nations, and debtor nations would owe a larger and larger share of their production to foreign lenders and capital owners.

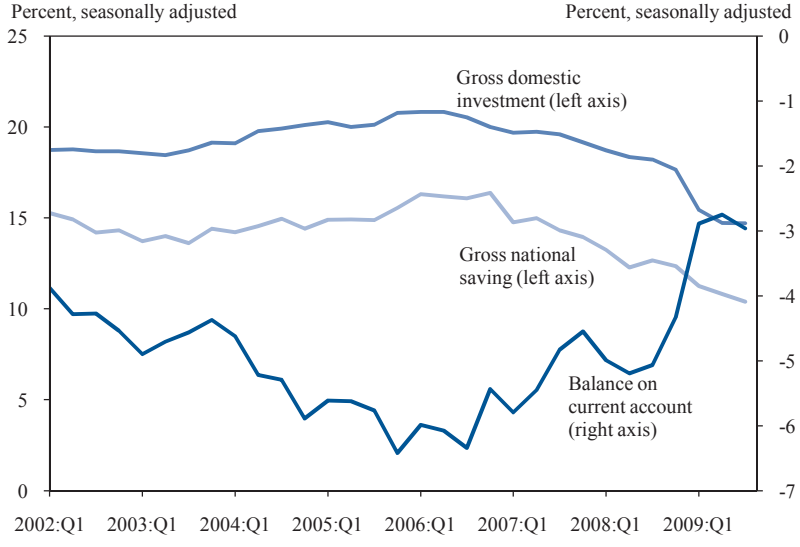
Thus, in the long run, one would expect the U.S. current account to move toward balance. As it does so, it will not cause the absolute level of our accumulated net foreign debt to decline unless the U.S. current account moves into surplus (which is of course possible). But, even if the long-run current account is merely in balance or a small deficit, the previous net foreign borrowing should still decline as a share of GDP as GDP rises. Further, so-called "valuation effects"—changes in asset values of foreign assets held by Americans or U.S. assets owned by foreign investors—also affect the ratio of foreign indebtedness to GDP.

The Current Account in the Recovery and in the Long Run

As the U.S. economy recovers from the current crisis, it is unlikely to return to current account deficits as large as those in the mid-2000s. Coming out of the 2001–02 recession, investment rose more quickly than saving, and the current account deficit widened to more than 6 percent of GDP (Figure 4-10). Investment had also declined slightly more than saving had before the current crisis hit, and the current account deficit moderated to less than 5 percent of GDP by the third quarter of 2007.[4] The gap narrowed rapidly as investment fell sharply during the crisis. The increase in the personal saving rate since the onset of the crisis has partly offset the large Federal budget deficit (which is negative government saving), so the current account deficit shrank to under 3 percent of GDP.

The specific path of the current account as the economy exits the crisis will depend on whether government and private saving rise ahead of, or along with, a rebound in private investment. But in the long run, the current account deficit is likely to be smaller than it was before the crisis. The likely rise in private and public saving relative to their pre-crisis levels

Figure 4-10
Saving, Investment, and the Current Account as a Percent of GDP



Source: Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 5.1.

[4] There is also a statistical discrepancy between the saving-minus-investment gap and the current account. While this discrepancy is generally close to zero, it moved from slightly negative to slightly positive in this period, so that the measured current account moved more than the measured gap between saving and investment did.

implies an increase in national saving. Thus, saving is likely to more closely balance domestic investment, suggesting a transition to a smaller current account deficit than in the 2000s. Given that the current account deficit has already narrowed to roughly 3 percent of GDP—less than half its peak—the crucial challenge will be to avoid a reversion to a high-spending, low-saving economy. A successful shift toward a more balanced world growth model generated by increased consumption in nations with current account surpluses could improve net exports even more. This could bring the current account deficit toward its mid-1990s level of roughly 1 to 2 percent of U.S. GDP.

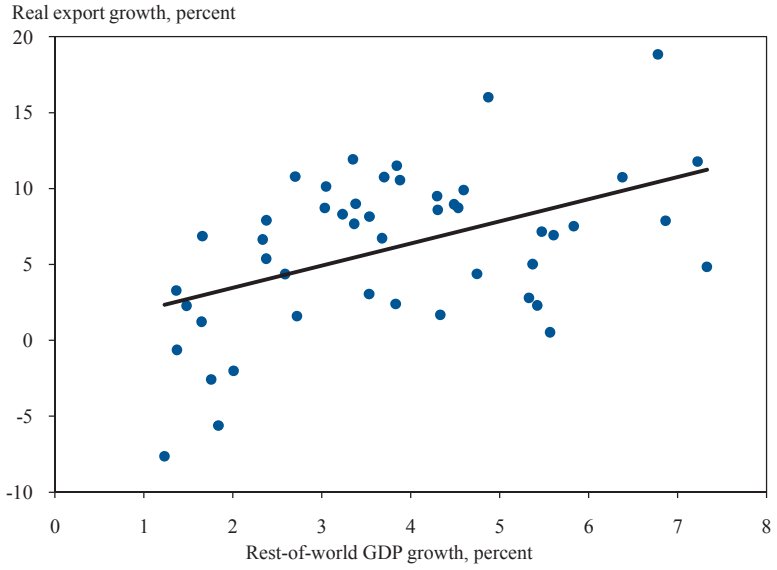
Exports can be expected to rise rapidly as the world economy recovers for a number of reasons. Just as trade typically falls faster than GDP in a recession (discussed in Chapter 3), it typically grows faster during a rebound. Trade-to-GDP ratios have fallen in the last year and can be expected to bounce back as the world economy recovers. This bounce-back alone will lead to rapid export growth. More generally, the crucial driver of exports is always the performance of the world economy. For U.S. goods and services to be bought abroad, demand in other countries must return robustly. This is one reason for the United States to strengthen its ties with fast-growing regions such as emerging East Asia. The faster our trade partners grow and the more we trade with fast-growing economies, the more demand for U.S. exports grows. Figure 4-11 shows the historical relationship between U.S. export growth and growth of non-U.S. world GDP.

The rebalancing of the U.S. economy is likely to be accompanied by a rebalancing of the world economy as well. It is reasonable to expect growth in East Asia to continue at a rapid rate but also to become more oriented toward domestic consumption and investment than it has been in the recent past. Some nations with large current account surpluses took steps to increase domestic demand during the crisis, and these efforts must be maintained and expanded if world growth is to rebalance. It is not a given that such a transition in world demand will take place. Concerted policy action will be needed, but if saving falls in countries with current account surpluses and spending rises, that should stimulate U.S. exports as well as take pressure off of the U.S. consumer as an engine of world growth.

Steps to Encourage Exports

The Administration is taking many concrete steps to encourage exports. The Trade Promotion Coordinating Committee brings government agencies together to help firms export. While the final decision of whether and how much to export is a market decision made by private businesses, the government can play a constructive role in many ways. The

Figure 4-11
Growth of U.S. Exports and Rest-of-World Income: 1960-2008



Notes: Rest-of-world GDP constructed as world GDP in constant dollars less U.S. GDP. Data are annual growth rates, 1960-2008. Best-fit linear regression equation is: export growth = 0.5 + 1.5 (GDP growth).
Sources: World Bank, World Development Indicators; Department of Commerce (Bureau of Economic Analysis), National Income and Product Accounts Table 1.1.6.

Export-Import Bank can help with financing; consular offices can provide contacts, information, and advocacy; Commerce Department officials can help firms negotiate hurdles; a combination of agencies can help small and mid-sized businesses explore overseas markets. Much of the academic literature in trade models a firm's decision to export as involving a substantial one-time fixed cost (Melitz 2003). The Administration is doing all that it can to lower that initial fixed cost to help expand exports.

In addition, the Administration is pursuing possible trade agreements and making the most of its current trade agreements to expand opportunities for American firms to export. Because U.S. trade barriers are relatively low, new trade agreements often lower barriers abroad more than in the United States, opening new paths for U.S. exports. As the Administration works to expand U.S. market access through a world trade agreement in the Doha round of multilateral trade talks, it continues to explore its options in bilateral free trade agreements and regional frameworks, such as the Trans-Pacific Partnership. The United States Trade Representative continues to work through previously negotiated trade agreements to lower non-tariff trade barriers and facilitate customs issues to make it easier for U.S. businesses to export.

Not all of these developments will necessarily increase net exports (or the current account) of the United States. Since the current account equals net lending to or borrowing from the world, moving the current account balance requires adjustments in saving and investment as well as more opportunities to export. In the long run, increases in demand for U.S. exports resulting from export promotion or reduced trade barriers will generate higher standards of living, but through improved terms of trade, not an increase in net exports. Further, the simple recovery of world trade volumes will increase exports and imports alike. As discussed in Chapter 10, this increase in trade can increase productivity and living standards, but it will not change the current account. However, rapid world growth and declining current account surpluses abroad should lead to an increase in U.S. exports. This can help increase U.S. net exports and hence contribute to the recovery.

As with higher investment, lower current account deficits have important long-run benefits. Lower foreign indebtedness than the country otherwise would have had means reduced interest payments to foreigners. Equivalently, it means that foreigners have on net smaller claims on the output produced in the United States. Thus, lower current account deficits will raise standards of living in the long run.

Conclusion

Economic policy should not aim to return the economy to the path of unstable, unsustainable, unhealthy growth it was on before the wrenching events of the past two years. We should—and can—achieve something better. Growth that is not fueled by unsustainable borrowing, and growth that is based on productive investments, is more stable than the growth of recent decades. And growth that is associated with higher saving will lead to greater accumulation of wealth, and so greater growth in our standards of living.

CHAPTER 5

ADDRESSING THE LONG-RUN FISCAL CHALLENGE

After several years of budget surpluses, the Federal Government began running consistent, substantial deficits in the 2002 fiscal year. Because the deficits absorbed a significant portion of private saving, they were one reason that the economic expansion of the 2000s was led by consumption and foreign borrowing rather than investment and net exports. More troubling than the deficits of the recent past, however, is the long-term fiscal outlook the Administration inherited. Even before the increased spending necessary to rescue and stabilize the economy, the policy choices of the previous eight years and projected increases in spending on health care and Social Security had already put the government on a path of rising deficits and debt. Thus, a key step in rebalancing the economy and restoring its long-run health must be putting fiscal policy on a sound, sustainable footing.

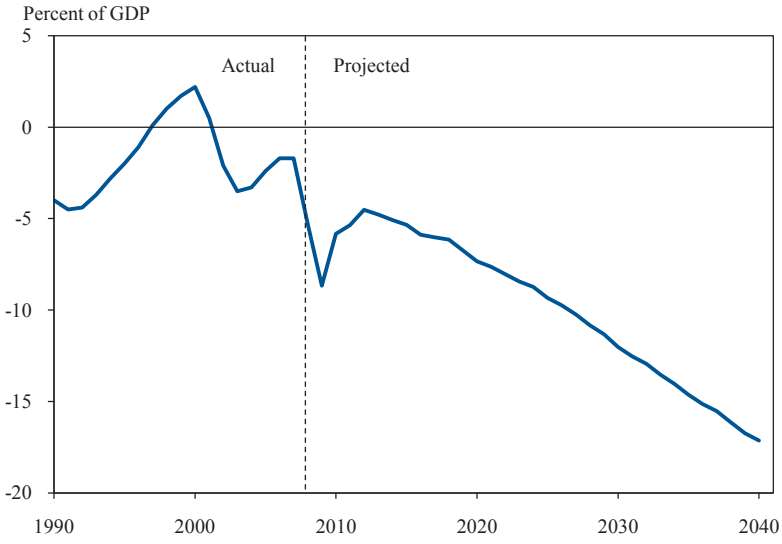
This chapter discusses the fiscal challenges the Administration inherited, the dangers posed by large and growing deficits, and the Administration's measures and plans for addressing these challenges. The Administration and Congress are already taking important steps, most notably through their efforts toward comprehensive health care reform. The legislation currently under consideration addresses rapidly rising health care costs, which are one of the central drivers of the long-run fiscal problem. The fiscal problem is multifaceted, however, and was decades in the making. As a result, no single step can fully address it. Much work remains, and bipartisan cooperation will be essential.

The Long-Run Fiscal Challenge

When President Obama took office in January 2009, fiscal policy was on a deteriorating course. Figure 5-1 shows the grim outlook for the budget projected by the Congressional Budget Office (CBO) under the assumption

that the policies then in effect would be continued.[1] As the figure makes clear, the budget was on an unsustainable trajectory.

Figure 5-1
Actual and Projected Budget Surpluses in January 2009 under Previous Policy



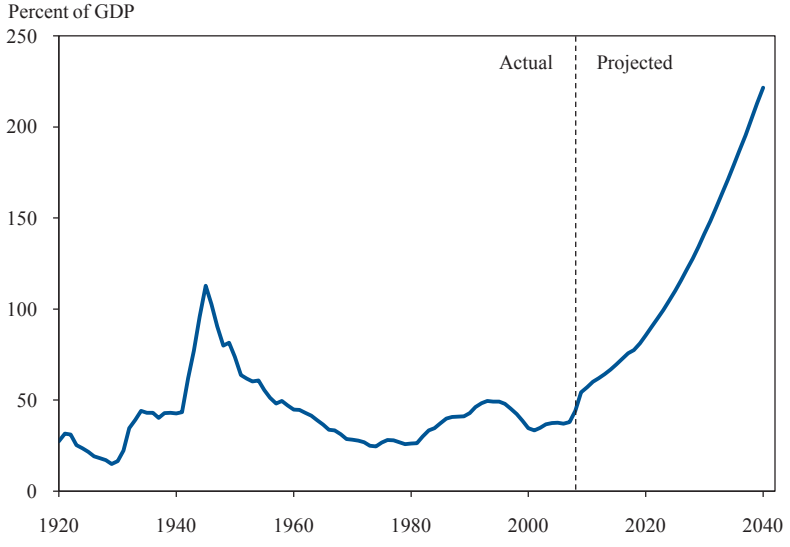
Note: CBO baseline surplus projection adjusted for CBO's estimates of costs of continued war spending, continuation of the 2001 and 2003 tax cuts, avoiding scheduled cuts in Medicare's physician payment rates, and holding other discretionary outlays constant as a share of GDP.
Sources: Congressional Budget Office (2009a, 2009f).

The figure shows that CBO projected that the deficit would be severely affected in the short run by the economic crisis. The decline in output was projected to send tax revenues plummeting and spending for unemployment insurance, nutritional assistance, and other safety net programs soaring. As a result, the deficit was projected to spike to 9 percent of gross domestic product (GDP) in 2009 before falling as the economy recovered. It is natural for revenues to decline and government spending to rise during a recession. Indeed, these movements both mitigate the recession and cushion its impact on ordinary Americans.

[1] This figure presents the CBO January 2009 baseline budget outlook through 2019, adjusted to reflect CBO's estimates of the cost of extending expiring tax provisions including the 2001 and 2003 tax cuts and indexing the Alternative Minimum Tax (AMT) for inflation, reducing the number of troops in Iraq and Afghanistan to 75,000 by 2013, modifying Medicare's "sustainable growth rate" formula to avoid scheduled cuts in physician payment rates, holding other discretionary outlays constant as a share of gross domestic product, and the added interest costs resulting from these adjustments (Congressional Budget Office 2009a). After 2019, the figure presents CBO's June 2009 *Long-Term Budget Outlook* alternative fiscal scenario, which also reflects the costs of continuing these policies (Congressional Budget Office 2009f).

The key message of the figure, however, concerns the path of the deficit after the economy's projected recovery from the recession. The deficit was projected to fall to close to 4 percent of GDP in 2012 as the economy recovers, but then to reverse course, rising steadily by about 1 percent of GDP every two years. Figure 5-2 shows that if that path were followed, the ratio of the government's debt to GDP would surpass its level at the end of World War II within 20 years, and would continue growing rapidly thereafter. At some point along such a path, investors would no longer be willing to hold the government's debt at any reasonable interest rate. Thus, such a path is not feasible indefinitely.

Figure 5-2
Actual and Projected Government Debt Held by the Public under Previous Policy



Note: CBO baseline projection adjusted for CBO's estimates of costs of continued war spending, continuation of the 2001 and 2003 tax cuts, avoiding scheduled cuts in Medicare's physician payment rates, and holding other discretionary outlays constant as a share of GDP.
Sources: Congressional Budget Office (2009a, 2009f).

Sources of the Long-Run Fiscal Challenge

The challenging long-run budget outlook the Administration inherited has two primary causes: the policy choices of the previous eight years and projected rising spending on Medicare, Medicaid, and Social Security. The policy choices under the previous administration contribute a substantial amount to the high projected deficits as a share of GDP, while rising spending for health care and Social Security is the main reason the

deficits are projected to balloon over time. Both make large contributions to the difficult fiscal outlook.

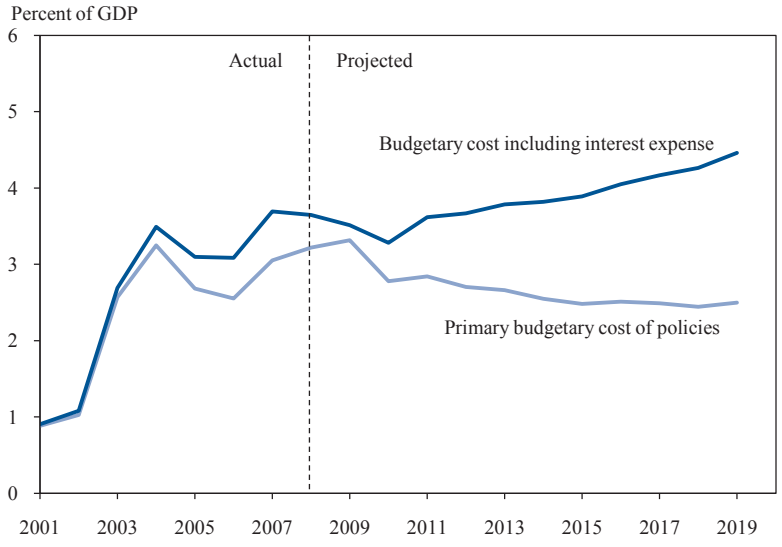
The previous policy choices involved both spending and revenues. On the spending side, two decisions were particularly important. One was the failure to pay for the addition of a prescription drug benefit to Medicare, which is estimated to increase annual deficits over the next decade by an average of one-third of a percent of GDP, excluding interest, and more than that in the years thereafter (Congressional Budget Office 2009g; Council of Economic Advisers estimates). The other was the decision to fight two wars without taking any steps to pay for the costs—costs that so far have come close to $1 trillion. On the revenue side, the most important decisions were those that lowered taxes without making offsetting spending cuts. In particular, the 2001 and 2003 tax cuts have helped push revenues to their lowest level as a fraction of GDP at any point since 1950 (Office of Management and Budget 2010).

Figure 5-3 shows the impact on the budget deficit of these three major policies of the previous eight years that were not paid for: the 2001 and 2003 tax cuts (including the increased cost of Alternative Minimum Tax relief as a result of those tax cuts), the prescription drug benefit, and the spending for the wars in Iraq and Afghanistan (which for this analysis are assumed to wind down by 2013), both with and without the interest expense of financing these policies.[2] At their peak in 2007 and 2008, these policies worsened the government's fiscal position by almost 4 percent of GDP, and their effect, including interest, rises above 4 percent of GDP into the indefinite future. The fiscal outlook would be far better if these policies had been paid for. Indeed, Auerbach and Gale (2009) conclude that roughly half of the long-run fiscal shortfall in the outlook described earlier results from policy decisions made from 2001 to 2008.

The other main source of the long-run fiscal challenge is rising spending on Medicare, Medicaid, and Social Security. These burdens stem primarily from the rapid escalation of health care costs, combined with the aging of the population. Annual age-adjusted health care costs per Medicare enrollee grew 2.3 percentage points faster than the increase in per capita GDP from 1975 to 2007. If this rate of increase were to continue, Federal spending on Medicare and Medicaid alone would approach 40 percent of the Nation's income in 2085, which is clearly not sustainable

[2] The figure shows the annual cost (as a percent of GDP) of supplemental military expenditures for operations in Iraq and Afghanistan through 2009 and CBO's estimate of the cost of reducing the number of troops in Iraq and Afghanistan to 75,000 by 2013 thereafter; the cost of the Medicare Part D program net of offsetting receipts and Medicaid savings; the cost of the 2001 and 2003 tax cuts plus the additional cost of AMT relief associated with those tax cuts, as estimated by CBO; and the interest expense of financing these policies.

Figure 5-3
Budgetary Cost of Previous Administration Policy



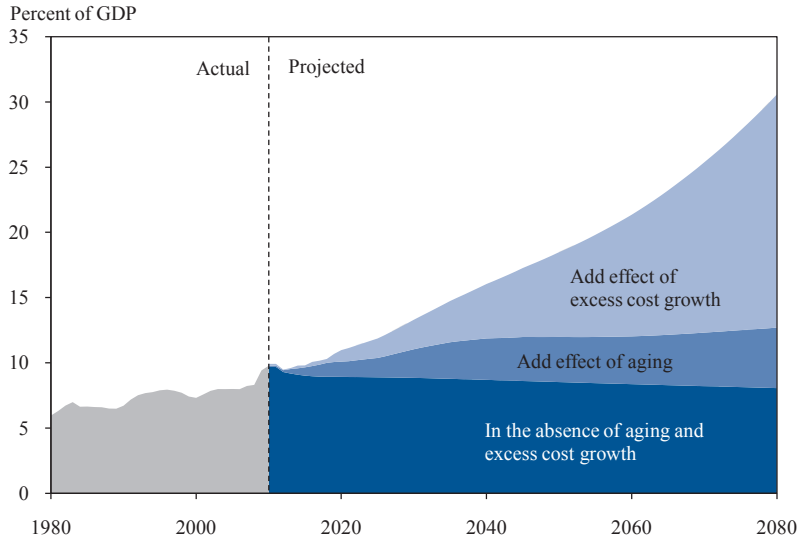
Note: Includes supplemental war spending, cost of 2001 and 2003 tax cuts, Medicare Part D net of offsetting receipts and Medicaid savings, and related interest expense.
Sources: Belasco (2009); Congressional Budget Office (2009a, 2009g); CEA estimates.

(Congressional Budget Office 2009f). In addition, as a result of decreases in fertility and increases in longevity, the ratio of Social Security and Medicare beneficiaries to workers is rising, straining the financing of these programs.

Figure 5-4 projects the growth in spending in Medicare, Medicaid, and Social Security. Spending on the programs is projected to double as a share of GDP by 2050. Over the next 20 years, demographics—the retirement of the baby boom generation—is the larger cause of rising spending. But throughout, rising health care costs contribute to rising spending, and over the long term, they are by far the larger contributor to the deficit.

Other important factors have also contributed to the increase in entitlement spending. For example, the fraction of non-elderly adults receiving Social Security Disability Insurance (SSDI) benefits has approximately doubled since the mid-1980s, and the fraction of Social Security spending accounted for by SSDI benefits has increased from 10 to 17 percent. Beneficiaries of SSDI are also eligible for health insurance through Medicare. Total cash benefits paid to SSDI recipients were $106 billion in 2008 and an additional $63 billion was spent on their health care through Medicare. One contributor to the increase in disability enrollment was a 1984 change in the program's medical eligibility criteria, which allowed more applicants to qualify for benefits in subsequent years (Autor and Duggan 2006).

Figure 5-4
Causes of Rising Spending on Medicare, Medicaid, and Social Security



Source: Office of Management and Budget (2010).

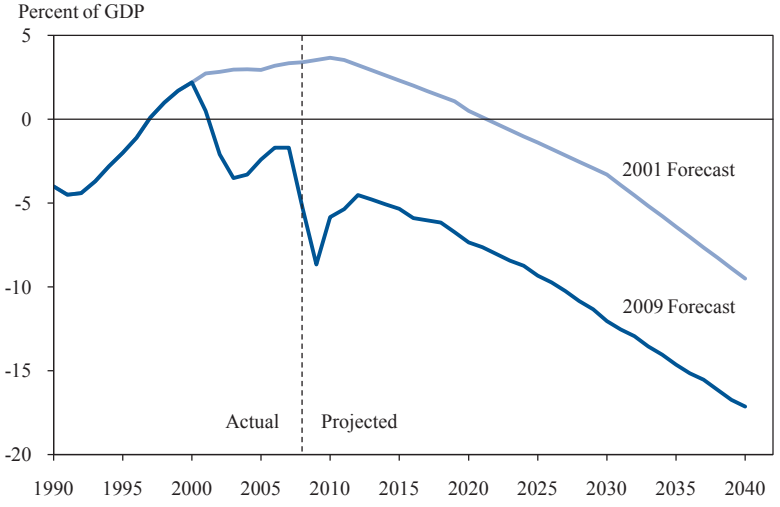
The potential challenges to the budget from these three entitlement programs have been clear for decades. Yet, policymakers in previous administrations did little to address them. For example, in October 2000, CBO warned that spending on Medicare, Medicaid, and Social Security would more than double, rising from 7.5 percent of GDP in 1999 to over 16.7 percent in 2040; nine years later, their forecast for spending on these programs remains virtually unchanged (Congressional Budget Office 2000, 2009f).

All told, the Obama Administration inherited a very different budget outlook from the one left to the previous administration. Figure 5-5 compares the budget forecast in January 2001 (Congressional Budget Office 2001) with the budget outlook in January 2009 described above.[3] In 2001, CBO forecast a relatively bright fiscal future. After a decade of strong growth and responsible fiscal policy, the budget was substantially in surplus, and CBO analysts projected rising surpluses over the next decade, even under their more pessimistic policy alternatives. Rising health care costs would squeeze the budget only over the long term, and the retirement of the baby boom generation was still more than a decade away. The intervening time could have been used to pay off the national debt and accumulate

[3] The 2001 forecast includes the January 2001 baseline forecast adjusted to reflect CBO's estimated cost of holding nondiscretionary outlays constant as a share of nominal GDP. Starting in 2012, the deficit evolves according to the intermediate projection in the October 2000 *Long-Term Budget Outlook* (Congressional Budget Office 2000).

substantial assets in preparation. But policymakers chose a different path. They enacted policies that added trillions to the national debt and doubled the size of the long-run problem. Combined with a deteriorating economic forecast and technical reestimates, the result was a much worse budget outlook in January 2009 than in January 2001.

Figure 5-5
Budget Comparison: January 2001 and January 2009



Note: CBO 2001 baseline projection adjusted for the cost of holding nondiscretionary outlays constant as a share of nominal GDP; CBO 2009 baseline projection adjusted for costs of continued war spending, continuation of 2001 and 2003 tax cuts, avoiding scheduled cuts in Medicare's physician payment rates, and holding nondiscretionary outlays constant as a share of nominal GDP.
Sources: Congressional Budget Office (2000, 2001, 2009a, 2009f).

The Role of the Recovery Act and Other Rescue Operations

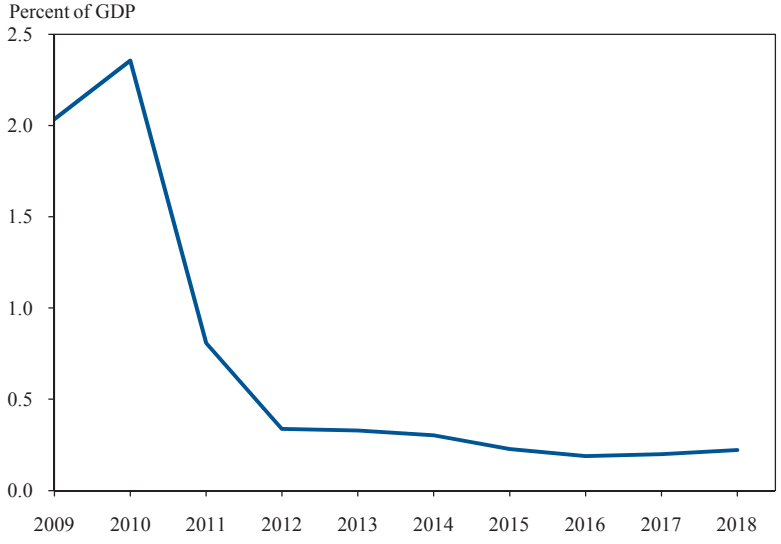
One development that has had an important effect on the short-term budget outlook since January 2009 is the aggressive action the Administration and Congress have taken to combat the recession. By far the most important component of the response in terms of the budget is the American Recovery and Reinvestment Act of 2009. The Recovery Act cuts taxes and increases spending by about 2 percent of GDP in calendar year 2009 and by 2¼ percent of GDP in 2010.

Crucially, however, the budgetary impact of the Recovery Act will fade rapidly. As a result, it is at most a very small part of the long-run fiscal shortfall. By 2012, the tax cuts and spending under the Recovery Act will be less than one-third of 1 percent of GDP. Other rescue measures, such as extensions of programs providing additional support to those most directly

affected by the recession, also contribute to the deficit in the short run. But these programs are much smaller than the Recovery Act. And like the Recovery Act, their budgetary impact will fade quickly.

Figure 5-6 shows the overall budgetary impact of the Recovery Act and other rescue measures, including interest on the additional debt from the higher short-run deficits resulting from the measures. The impact is substantial in 2009 and 2010 but then fades rapidly to about one-quarter of 1 percent of GDP. Moreover, because these estimates do not include the effects of the rescue measures in mitigating the downturn and speeding recovery—and thus raising incomes and tax revenues—they surely overstate the measures' impact on the budget outlook.

Figure 5-6
Effect of the Recovery Act on the Deficit



Source: Congressional Budget Office (2009b).

An Anchor for Fiscal Policy

The trajectory for fiscal policy that the Administration inherited, with budget deficits and government debt growing relative to the size of the economy, is clearly untenable. Change is essential. But there are many alternatives to the trajectory the Administration inherited. In thinking about what path fiscal policy should attempt to follow, it is therefore important to examine how deficits affect the economy and what policy paths are feasible.

The Effects of Budget Deficits

Two factors are critical in shaping the economic effects of budget deficits: the state of the economy, and the size and duration of the deficits. Consider first the state of the economy. A central lesson of macroeconomics is that in an economy operating below capacity, higher deficits raise output and employment. Transfer payments (such as unemployment benefits) and tax cuts encourage private consumption and investment spending. Government investments and other purchases contribute to higher output and employment directly and, by raising incomes, also encourage further private spending.

In the current situation, as discussed in Chapter 2, monetary policymakers are constrained because nominal interest rates cannot be lowered below zero, and so they are unlikely to raise interest rates quickly in response to fiscal expansion. As a result, the fiscal expansion attributable to the Recovery Act is likely to increase private investment as well as private consumption and government purchases. Finally, in a precarious environment like the one of the past year, expansionary fiscal policy may make the difference between an economy spiraling into depression and one embarking on a self-sustaining recovery, and so have a dramatic impact on outcomes. As described more fully in Chapter 2, these benefits of fiscal expansion were precisely the motivation for the Administration's pursuit of the Recovery Act and other stimulus policies over the past year.

When the economy is operating at normal capacity, the effects of higher budget deficits are very different. In such a setting, the stimulus from deficits leads not to higher output, but only (perhaps after a delay) to a change in the composition of output. To finance its deficits, the government must borrow money, competing against businesses and individuals seeking to finance new productive investments. As a result, deficits drive up interest rates, discouraging private investment. Hence, deficit spending diverts resources that would otherwise be invested in productive private capital—new business investments in plant, equipment, machinery, and software, or investments in human capital through education and training—into government purchases or private consumption. To the extent that the private investments nonetheless occur but are financed by borrowing from abroad, the country has the benefit of the capital, but at the cost of increased foreign indebtedness. The result is that Americans' claims on future output are lower.

In sum, in normal times, higher budget deficits impede the rebalancing of output toward investment and net exports described in Chapter 4; lower deficits contribute to that rebalancing. In addition, budget

deficits were one source of the "global imbalances" discussed in Chapter 3 that have been implicated by some analysts as part of the cause of the financial and economic crisis. Finally, higher budget deficits and the higher levels of debt they imply may reduce policymakers' ability to turn to expansionary fiscal policy in the event of a crisis.

Although determining the impact of large budget deficits on capital formation and interest rates is a difficult and contentious issue, the bulk of the evidence points to important effects. For example, several studies find that increases in projected deficits raise interest rates (Wachtel and Young 1987; Engen and Hubbard 2005; Laubach 2009). A careful review concludes that the weight of the evidence indicates that budget deficits raise interest rates moderately (Gale and Orszag 2003). Examining the international evidence, another study reaches a similar conclusion (Ardagna, Caselli, and Lane 2007).

The economic impact of budget deficits depends not only on the condition of the economy but also on their magnitude and persistence. A moderate period of large deficits in a weak economy will speed recovery in the short run and leave the government with only modestly higher debt in the long run. Even in an economy operating at capacity, a temporary period of high deficits is manageable, as the experience of World War II shows compellingly. Once full employment was reached, the high wartime spending surely crowded out investment and thus caused standards of living after the war to be lower than they otherwise would have been. But that cost aside, the enormous temporary deficits that reached 30 percent of GDP at the peak of the war created no long-run problems.

In contrast, the effects of large deficits and debt that grow indefinitely and without bound relative to the size of the economy are very different—and potentially very dangerous. If a government tried to follow such a path, eventually its debt would exceed the amount investors were willing to hold at a reasonable interest rate. At that point, the situation would spiral out of control. Rising interest costs would worsen the fiscal situation; this would further reduce investors' willingness to hold the government's debt, raising interest costs further; and so on. Eventually, investors would be unwilling to hold the debt at any interest rate.

Feasible Long-Run Fiscal Policies

Investors have no qualms about holding some government debt. Indeed, many desire the safety of such an investment. And crucially, in an economy in which private incomes and wealth, as well as the government's tax base, are growing, the amount of debt investors are willing to hold also

grows. Thus, the key to a sustainable deficit path is a fiscal policy that keeps the level of debt relative to the scale of the economy at levels where investors are willing to hold that debt at a reasonable interest rate. Most obviously, paths where the ratio of the deficit to GDP and the ratio of the debt to GDP grow without bound cannot be sustained. Equally, however, paths that would lead the debt-to-GDP ratio to stabilize, but at an extremely high level, are also not feasible.

Historical and international comparisons, as well as the very favorable terms on which investors are currently willing to lend to the United States, show that the Nation is not close to such problematic levels of indebtedness. In 2007, before the recession, the debt held by the public was 37 percent of nominal GDP. In 2015, because of the direct effects of the recession and, to a lesser extent, the fiscal stimulus, the President's budget projects the public debt (net of financial assets held by the government) will be 65 percent of GDP. By comparison, it was 113 percent of GDP at the end of World War II; in the United Kingdom, the ratio at the end of World War II was over 250 percent. Table 5-1 shows the projected 2010 government debt-to-GDP ratio (including state and local government debt) for a wide range of developed countries. Japan's debt-to-GDP ratio is 105 percent, Italy's is 101 percent, and Belgium's is 85 percent, and all of these are projected to rise. None of these countries enjoys the same depth and breadth of demand for its debt as the United States does, yet none has difficulty financing its debt. Thus, although it is hard to know the exact U.S. debt-to-GDP ratio that would begin to pose problems, it is clearly well above current levels.

Table 5-1
Government Debt-to-GDP Ratio in Selected OECD Countries (percent)

	2010
Belgium	85.4
Canada	32.6
France	60.7
Germany	54.7
Italy	100.8
Japan	104.6
Spain	41.6
Sweden	-13.1
United Kingdom	59.0
United States	65.2
Euro-area average	57.9
OECD average	57.6

Note: Numbers include state and local as well as Federal net government debt.
Source: Organisation for Economic Co-operation and Development (2009).

The Choice of a Fiscal Anchor

It is essential that the United States follow a fiscal policy that stabilizes the debt-to-GDP ratio at a feasible level. In thinking about the specific level of that ratio that policymakers should aim for, it is useful to think about the implications that different levels of the budget deficit have for the level of government debt in the long run. In particular, consider paths where the deficit as a percent of GDP stabilizes at some level. If the deficit-to-GDP ratio and the growth rate of nominal GDP are both steady, the debt-to-GDP ratio will settle down to the ratio of the deficit-to-GDP ratio to the growth rate of nominal GDP.[4] For example, if the deficit is 1 percent of GDP and nominal GDP is growing at 5 percent per year, the debt-to-GDP ratio will stabilize at 20 percent. Similarly, if the deficit-to-GDP ratio and the growth rate of nominal GDP are both 4 percent, the debt-to-GDP ratio will stabilize at 100 percent. Instead of thinking about various possible long-run targets for the debt-to-GDP ratio, policymakers can consider possible targets for the deficit-to-GDP ratio and their accompanying implications for the long-run debt-to-GDP ratio.

The choice among different deficit-to-GDP ratios involves tradeoffs. Lower deficits, and thus lower debt in the long run, have obvious advantages: a higher capital stock, lower foreign indebtedness, smaller global imbalances, and more fiscal room to maneuver. But lower deficits have disadvantages as well. They require smaller government programs, higher taxes, or both. Because Medicare, Medicaid, and Social Security will grow faster than GDP in coming decades even after the best efforts to make those programs as efficient as possible, significant cuts in government spending would impose substantial costs. And higher taxes can reduce incentives to work, save, and invest.

Based on these considerations, the Administration believes that an appropriate medium-run goal is to balance the primary budget—the budget excluding interest payments on the debt. Including interest payments, this target will result in total deficits of approximately 3 percent of GDP. With real GDP growth of about 2.5 percent per year and inflation of about

[4] To see this, consider the case where the deficit-to-GDP ratio equals the growth rate of GDP. Then the dollar amount of debt issued in a year (that is, the deficit) equals the dollar increase in GDP. If the debt-to-GDP ratio is 100 percent—the amount of debt outstanding equals GDP—then the percent increase in debt exactly equals the percent increase in GDP, and the debt-to-GDP ratio holds steady at 100 percent. If, however, the amount of debt outstanding is less than nominal GDP, then adding a dollar to the debt results in a larger percentage increase in the debt than does a dollar added to GDP. Hence, the debt-to-GDP ratio will rise. If the amount of debt outstanding is more than nominal GDP, then the percent increase in debt is smaller than the percent increase in GDP and the debt-to-GDP ratio falls. Thus, the debt-to-GDP ratio converges to the ratio of the deficit-to-GDP ratio to the growth rate of GDP, which in this case is 100 percent.

2 percent per year, nominal GDP growth will be about 4.5 percent per year in the long run. Thus a target for the total deficit-to-GDP ratio of 3 percent implies that the debt-to-GDP ratio will stabilize at less than 70 percent. Because the debt-to-GDP ratio is projected to rise to about 65 percent in a few years, such a target implies that the debt-to-GDP ratio will change little once the economy has recovered from the current recession. A debt-to-GDP ratio of around two-thirds is comfortably within the range of historical and international experience. It represents substantial fiscal discipline relative to the trajectory the Administration inherited. Stabilizing the ratio rather than continuing on a path where it is continually growing is imperative, and stabilizing it at around its post-crisis level has considerable benefits and is a natural focal point.

Reaching the Fiscal Target

Bringing the primary budget into balance and keeping it there will not be easy. Noninterest spending outstrips tax revenues by a large margin in the budget inherited by the Administration. More importantly, the trajectory of policy implied that spending would continue to exceed revenues even after the economy had recovered and that the deficit would rise steadily for decades to come. The economic developments and policy decisions that put fiscal policy on that course took place over many years. Thus, moving policy back onto a sound path will not happen all at once.

General Principles

In broad terms, the right way to tackle the long-run fiscal problem is not through a sharp, immediate fiscal contraction, but through policies that steadily address the underlying drivers of deficits over time. Large spending cuts or tax increases are exactly the wrong medicine for an economy with high unemployment and considerable unused capacity: just as fiscal stimulus raises income and employment in such an environment, mistimed attempts at fiscal discipline have the opposite effects. Any short-run fiscal contraction can best be tolerated at a time when the Federal Reserve is no longer constrained by the zero bound on nominal interest rates, and so has the tools to counteract any contractionary macroeconomic impacts.

The dangers of a large immediate contraction are powerfully illustrated by America's experience in the Great Depression. In 1937, after four years of very rapid growth but with the economy still far from fully recovered, both fiscal and monetary policy turned sharply contractionary: the veterans' bonus program of the previous year was discontinued, Social Security taxes were collected for the first time, and the Federal Reserve doubled reserve

requirements. The consequences of this premature policy tightening were devastating: real GDP fell by 3 percent in 1938, unemployment spiked from 14 percent to 19 percent, and the strong recovery was cut short.

The impact of actions taken today to gradually bring the long-run sources of the deficit problem under control would be very different. Such policies do not involve a sharp short-run contraction that could derail a nascent recovery. Because the effects cumulate over time, however, they can have a large effect on the long-term fiscal outlook.

Policies that provide gradual but permanent and growing deficit reduction have another potential advantage. By improving the outlook for the long-term performance of the economy, they can improve business and consumer confidence today. As a result, deficit-improving policies whose effects are felt mainly in the future can actually boost the economy in the short run. There is considerable evidence that such "expansionary fiscal contractions" are not just a theoretical possibility (see, for example, Giavazzi and Pagano 1990; Alesina and Perotti 1997; Romer and Romer forthcoming).

In keeping with these general considerations, the Administration is taking actions in three important areas that will have a material impact on the deficit in the medium and long terms.

Comprehensive Health Care Reform

The first and single most important step toward improving the country's long-run fiscal prospects is the enactment of comprehensive health care reform that will slow the growth rate of costs. Beyond the obvious importance for Americans' well-being and economic security, the health reform legislation being considered by Congress would save money. The rapid growth of health care costs is a central source of the country's fiscal difficulties. CBO has estimated that both the bill passed by the House in November 2009 and the bill passed by the Senate in December 2009 would significantly reduce the deficit over the next decade (Congressional Budget Office 2009e, 2009d). But the more important factor for the long-run fiscal situation is that, as discussed in more detail in Chapter 7, the bills contain crucial measures that experts believe will lead to lower growth in costs while expanding access to coverage, increasing affordability, and improving quality. Given the central role of rising health costs in the long-run deficit projections, these measures would therefore lead to substantial improvements in the budget situation over time.

In November 2009, CBO's analysis of the Senate health care bill found that "Medicare spending under the bill would increase at an average annual

rate of roughly 6 percent during the next two decades—well below the roughly 8 percent annual growth rate of the past two decades" (Congressional Budget Office 2009c). In December, the Council of Economic Advisers estimated that the fundamental health care reform in the Senate bill would reduce the annual growth rate of Medicare and Medicaid costs by a full percentage point below what it would otherwise be in the coming decade, and by even more in the following decade (Council of Economic Advisers 2009b). These reductions reflect specific measures directed at identifiable sources of wasteful spending and fraud combined with institutional reforms that will help counter the forces leading to excessive cost growth.

Such a reduction in the growth rate of health care costs would have a more profound effect on the long-run fiscal situation of the country than virtually any other fiscal decision being contemplated today. Even if the slowdown in cost growth held steady at 1 percentage point annually rather than rising in the second decade, it would reduce the budget deficit in 2030 by about 2 percent of GDP relative to what it otherwise would be. In today's terms, this is equivalent to almost $300 billion per year. Most of these savings reflect the direct impact of lower health care costs on Federal spending. To the extent that health care reform also slows the growth of private sector health insurance costs, which are tax preferred, employees in the private sector will benefit from higher wages and the Treasury from increased revenues; this becomes a second source of budget savings. And these direct savings are magnified by lower interest costs resulting from the reduced debt accumulation in the years preceding 2030 (Council of Economic Advisers 2009a). The need to expand coverage would reduce the overall impact of health care reform on the budget deficit somewhat. However, these costs of expansion would be more than offset even within the coming decade. Thereafter, reform will lower the deficit by increasing amounts over time.

Restoring Balance to the Tax Code

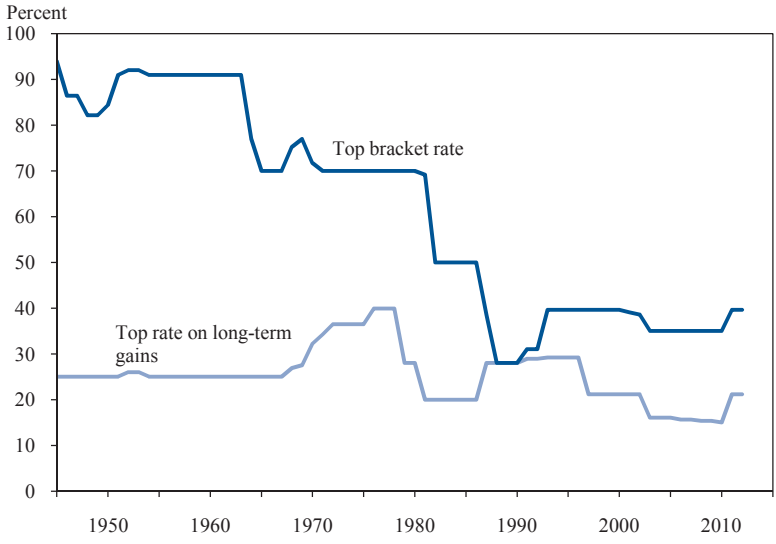
The second major step the Administration is taking to address the long-run fiscal challenge is restoring balance to the tax code that has been lost since 2001. The 2001 and 2003 tax cuts disproportionately favored wealthy taxpayers. According to estimates from the Urban-Brookings Tax Policy Center (2010), in 2010 the 2001 and 2003 tax cuts will increase the after-tax income of the poorest 20 percent of the population by 0.5 percent (about $51), the middle 20 percent by 2.6 percent ($1,023), and the top 1 percent by 6.7 percent ($72,910). About 67 percent of the tax cuts went to the top 20 percent of taxpayers, and 26 percent to the top 1 percent.

These tax cuts for the wealthiest Americans took place when the incomes of ordinary Americans were stagnating and inequality was reaching almost unprecedented levels. In other words, the tax cuts exacerbated the broader trend rather than mitigated it.

The President has consistently maintained that the tax cuts went too far in cutting taxes for people making more than $250,000 per year and that the country could not afford the tax breaks given to that group over the past eight years. That is why one important plank of his fiscal responsibility framework is to rebalance the tax code, so that it is similar to what existed in the late 1990s for those making more than $250,000 per year. Specifically, the Administration has proposed letting the marginal tax rates on ordinary income and capital gains for people making more than $250,000 per year return to the levels they were in 2000. It has also proposed setting the tax rate on dividends for high-income taxpayers to the same 20 percent rate that would apply to capital gains—which is lower than the rate in the 1990s—and letting all other features of the 2001 and 2003 tax cuts expire for these taxpayers. In addition, it has proposed limiting the rate of deductions for high-income taxpayers to 28 percent, so that the wealthy do not obtain proportionately larger benefits from their deductions than other Americans do. None of these changes would take effect until 2011, so they would not affect disposable incomes as the economy recovers in 2010. Nonetheless, they would raise nearly $1 trillion over the next 10 years and even more over the longer run. Equivalently, they would reduce the budget deficit by more than 0.5 percent of GDP in the medium run and somewhat more over time.

As just discussed, most of these changes would merely bring the tax rates on high-income taxpayers back to their levels in the 1990s. To the extent that some go further, on balance they are more than offset by the fact that some common types of income—dividends, for example—will have rates significantly lower than in the 1990s. Looking at tax policy over U.S. postwar history more broadly shows even more clearly how moderate the proposed changes are. Figure 5-7 shows the top marginal tax rates on ordinary income and capital gains over time and their levels under the Administration's proposals. For ordinary income, a top rate of 39.6 percent, while higher than in the past eight years, is not high compared with the rates that prevailed during most of the past several decades and even during most of the Reagan administration. For capital gains, the 20 percent rate is lower than in many previous periods and is certainly not unusual. And for dividends, the 20 percent rate proposed by the Administration would be lower than under any other modern president save the last.

Figure 5-7
Top Statutory Tax Rates

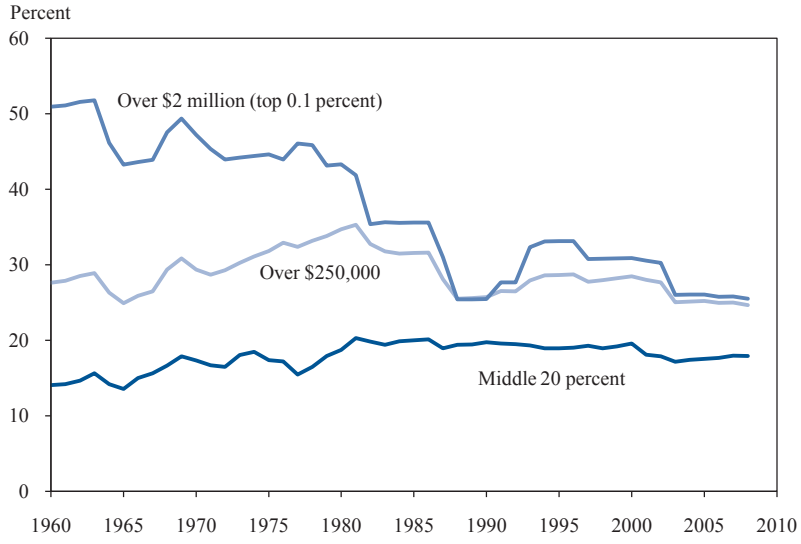


Note: The top rate on qualified dividends is equal to the top bracket rate until 2003; thereafter, it is equal to the top rate on long-term capital gains.
Source: Department of the Treasury, Internal Revenue Service (2009); Department of the Treasury, Office of Tax Analysis (2010).

Statutory marginal tax rates, however, provide only a partial picture of how the progressivity of the tax system has changed over time. The number of tax brackets has declined and the thresholds at which statutory bracket rates apply have changed; different sources of income, such as capital gains and dividends, are now treated differently in the tax code and taxed at lower rates; and exemption amounts and standard deductions have been adjusted. Moreover, the distribution of income across taxpayers and the composition of taxpayers' sources of income have changed significantly over time, making it difficult to disentangle the effects of statutory changes in the tax system from economic changes. To illustrate the impact of historical statutory tax changes in isolation, Figure 5-8 applies the tax rates for each year from 1960 to 2008 to a sample of taxpayers who filed returns in 2005, after adjusting for average wage growth.[5] The purpose is to show both how current taxpayers

[5] Average tax rates are calculated for nondependent, nonseparated filers with positive adjusted gross income in tax year 2005. Dollar figures are adjusted to the appropriate tax year using the Social Security Administration national average wage index (Social Security Administration 2009), and the tax due is estimated using the National Bureau of Economic Research's TAXSIM tax model. This tax model incorporates the major tax provisions affecting the vast majority of taxpayers and taxable income, and provides estimates of tax liabilities that closely match the historical distribution of taxes actually paid. However, the tax calculation ignores certain small tax provisions and certain accounting changes that broadened the definition of taxable income over time.

Figure 5-8
Evolution of Average Tax Rates



Notes: Average tax rates calculated each year for a sample of 2005 taxpayers after adjusting for average wage growth. Dollar figures in 2009 dollars.
Sources: Department of the Treasury, Internal Revenue Service, Statistics of Income Public Use File 2005; National Bureau of Economic Research TAXSIM (Feenburg and Coutts 1993); CEA calculations.

would have fared under the tax rates that applied historically and how the tax rates that applied to different income groups have changed over time.

This analysis suggests that the effective tax rates that applied to high-income taxpayers reached their lowest levels in at least half a century in 2008. Under the tax laws that applied from 1960 to the mid-1980s, today's taxpayers earning more than $250,000 would have paid an average of around 30 percent of their income in Federal income and payroll taxes, with modest variations from year to year. Moreover, while the tax rates that applied to these "ordinary" rich have fallen considerably, tax rates for the very rich have declined much more. Figure 5-8 shows that taxpayers whose real incomes put them in the top 0.1 percent of taxpayers today—the one-in-a-thousand taxpayers with incomes above about $2 million in 2009 dollars—would have paid more than 50 percent of their incomes in taxes in the early 1960s.

Average tax rates on high-income groups fell precipitously in the mid-1980s, with the sharp decline in statutory marginal rates. At the same time, the tax rates that would have applied to today's middle-income taxpayers (the middle 20 percent of taxpayers in 2005, those making between about $29,500 and $49,500 per year) increased, on balance, over the last half century. The result is a compression in the tax burdens applied to taxpayers

with different incomes—the difference between the average tax rates on high-income groups and those on middle-class households is narrower than at any other time in modern history. All told, because of legislative changes in the tax code, the after-tax income of the very-high-income group—their disposable income and purchasing power—is more than 50 percent higher than it would have been under historical tax rates and brackets, while that of the middle class is slightly lower.

Under the Administration's proposals, tax rates on taxpayers earning more than $250,000 would be very close to the levels that prevailed in the 1990s, leaving statutory tax rates on higher-income taxpayers far below the levels that prevailed until the mid-1980s. The rebalancing of the tax code would not affect middle-class taxpayers—except, of course, to the extent that a better fiscal picture enhances medium- and long-term prospects for economic growth.

The need to restore balance is also evident in our corporate tax system, which encourages businesses to move jobs overseas and to transfer profits to tax havens abroad in order to avoid taxes at home. The Administration's plan to reform international tax laws would reduce these incentives.

Balance also requires that the largest and most highly levered financial firms reimburse taxpayers for the extraordinary assistance provided to them through the Troubled Asset Relief Program. The President has proposed a modest Financial Crisis Responsibility Fee to ensure that the cost of the financial rescue is not borne by taxpayers. Moreover, the fee would provide a deterrent against the excessive leverage that helped contribute to the crisis.

Eliminating Wasteful Spending

The third step the Administration is taking to confront the long-term deficit is cutting unnecessary spending. The President pledged to eliminate programs that are not working. Last year, the Administration either proposed or enacted cuts to 121 specific programs; these proposed cuts totaled $17 billion in the first year and hundreds of billions of dollars over the 10-year budget window. They include billions of dollars in terminations of defense programs such as the F-22 fighter aircraft and the new Presidential helicopter, cuts in subsidies for large, high-income agribusinesses, and more than $40 billion in savings over the next 10 years from eliminating unnecessary subsidies to financial institutions in the private student loan market.

In its fiscal 2011 budget, the Administration is proposing another important measure for spending restraint: a three-year freeze in all nonsecurity discretionary spending starting in 2011. The freeze would be a tough

measure of shared sacrifice. By 2013, it would reduce overall nonsecurity funding by $30 billion per year relative to current inflation-adjusted funding levels.

The President also strongly supports restoring the pay-as-you-go requirement (PAYGO) that was in place in the 1990s. This law, which requires that lawmakers make the tough choices needed to offset the costs of new nonemergency spending or tax changes, helped move the government budget from deficit to surplus a decade ago. PAYGO is an important tool to force the government to live within its means and move the budget toward fiscal sustainability.

These measures mean that once the temporary rise in government spending necessitated by the economic crisis has ended, spending will be on a lower path than it otherwise would have been. Moreover, both the multi-year freeze and steps to identify additional unnecessary spending each year make the reduction gradual rather than sudden. As a result, the cumulative reduction is substantial, yet there is never a sudden, potentially disruptive drop in spending.

Conclusion: The Distance Still to Go

The actions the Administration has taken and is proposing would reduce deficits by more than $1 trillion over the next 10 years and by even more after that. These actions are significantly bolder steps toward deficit reduction than any taken in decades, and they will face serious opposition by those with vested interests. Even with these actions, however, the primary budget is forecast to remain in deficit in 2015. And the longer-run fiscal problem facing the country still centers on the growth of health care costs and the aging of the population. Thus, barring a substantial and sustained quickening of economic growth above its usual trend rate, further steps will be needed to get the deficit down to the target in the medium and long run.

Regardless of the form they take, these additional steps to reduce the deficit will involve sacrifices by a broad range of groups and significant compromise. Thus, a bipartisan effort will be essential. That is why the President is issuing an executive order creating a bipartisan fiscal commission to report back with a package of measures for additional deficit reduction. The charge to the commission is to propose both medium-term actions to close the gap between noninterest expenditures and tax revenues and additional steps to address the longer-term issues associated with rising health care costs, the aging of the population, and the persistent deficit. The commission's recommendations will form an important foundation on which to base policy decisions moving forward.

The Administration understands that addressing the long-run fiscal challenge will be a long and difficult task requiring commitment and shared sacrifice. But the President also believes that Americans deserve for and expect policymakers to deal with the ever-rising deficit. The changes eventually enacted will be central to the long-run preservation of both America's financial strength and the standards of living of ordinary Americans.