
ECONOMIC AND BUDGET ANALYSES

2. ECONOMIC ASSUMPTIONS

This chapter presents the economic forecast on which the 2013 Budget projections are based.¹ When the President took office in January 2009, the economy was in the midst of an historic economic crisis. The first order of business for the new Administration was to arrest the rapid decline in economic activity that threatened to plunge the country into a second Great Depression. The President and Congress took unprecedented actions to restore demand, stabilize financial markets, and put people back to work. These steps included passage of the American Recovery and Reinvestment Act (ARRA), signed by the President just 28 days after taking office. They also included the Financial Stability Plan, announced in February 2009, which encompassed wide-ranging measures to strengthen the banking system, increase consumer and business lending, and stem foreclosures and support the housing market. These and a host of other actions walked the economy back from the brink.

Production bottomed out during the spring, and the recession officially ended in June 2009.² This marked the end of the decline in production, but businesses were still shedding jobs. The unemployment rate reached a peak of 10.0 percent in October 2009, and payroll employment continued to fall until February 2010. The two years that followed have seen the economy gradually begin to recover. Over the past 10 quarters, through the fourth quarter of 2011, real Gross Domestic Product (GDP) has grown at an average rate of 2.4 percent, and since February 2010, 3.2 million jobs have been added in the private sector. Meanwhile, the unemployment rate has fallen from its October 2009 peak of 10.0 percent to 8.5 percent (as of December 2011).

The recovery is projected to gain momentum in 2012-2013 and to strengthen further in 2014. Unfortunately, even with healthy economic growth, unemployment is expected to be higher than normal for several more years. The Administration is projecting a full recovery from the recession of 2008-2009, but one that is drawn out because of the lingering effects of the financial crisis. A similar pattern of delayed growth is expected by the Federal Reserve and the Congressional Budget Office (see the discussion below on forecast comparisons).

Recent Economic Performance

The accumulated stresses from a contracting housing market and the resulting strains on financial markets brought the 2001-2007 expansion to an end in December

2007. In its early stages, the 2008-2009 recession was relatively mild, but financial conditions worsened sharply in the fall of 2008, and from that point forward the recession became much more severe. Before it ended, real GDP had fallen further and the downturn had lasted longer than any previous post-World War II recession. Looking ahead, the likely strength of the recovery is one of the key issues for the forecast, and the aftermath of the housing and financial crises has an important bearing on the expected strength of the recovery.

Housing Markets.—The economy's contraction had its origin in the housing market. In hindsight, it is clear that in the early years of the previous decade housing prices became caught up in a speculative bubble that finally burst. In 2006-2007, housing prices peaked, and from 2007 through 2008, housing prices fell sharply according to most measures.³ Since 2009, housing prices measured in real terms relative to the Consumer Price Index (CPI) have not increased, which has limited the recovery in household wealth (see chart below). During the downturn, as prices fell, investment in housing plummeted, reducing the annualized rate of real GDP growth by an average of 1 percentage point per quarter. With the slower decline of house prices since 2009, housing investment has begun to stabilize, neither adding nor subtracting from real GDP growth on average since 2009:Q2. However, so far housing investment has not made a positive contribution to growth on a sustained basis as it has done in past expansions.

In April 2009, monthly housing starts fell to an annual rate of just 478,000 units, the lowest level ever recorded for this series, which dates from 1959. Housing starts have fluctuated since then, responding to new tax incentives for home purchase and their expiration. The monthly data show housing starts of 657,000 at an annual rate in December 2011. In normal times, at least 1.5 million starts a year are needed to accommodate the needs of an expanding population and to replace older units, indicating that there is potential for a substantial housing rebound. A large overhang of vacant homes must be reduced, however, before a robust housing recovery can become established. The foreclosure rate in the third quarter of 2011 was 1.1 percent, which is down 0.2 percentage points from its rate in 2010:Q3, but remains one of the highest on record. With new foreclosures continuing to add to the stock of vacant homes, housing prices and new investment have remained subdued. The Administration forecast assumes a gradual recovery in housing activity that adds moderately to real GDP growth.

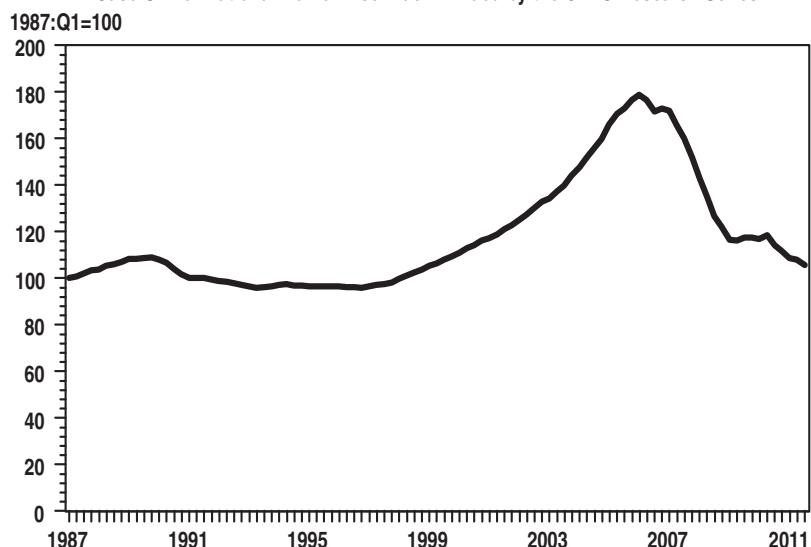
¹ In the Budget, economic performance is discussed in terms of calendar years. Budget figures are discussed in terms of fiscal years.

² The dating of U.S. business cycles is done by the National Bureau of Economic Research, a private institution that has supported economic research on business cycles and other topics for many decades.

³ There are several measures of national housing prices. Two respected measures that attempt to correct for variations in housing quality are the S&P/Case-Shiller Home Price Index and the Federal Housing Finance Agency (FHFA) Purchase-Only House Price Index. The Case-Shiller index peaked in 2006, while the FHFA index peaked in 2007.

Chart 2-1. Real House Prices Have Declined

Case-Shiller National Home Price Index Divided by the CPI-U Research Series

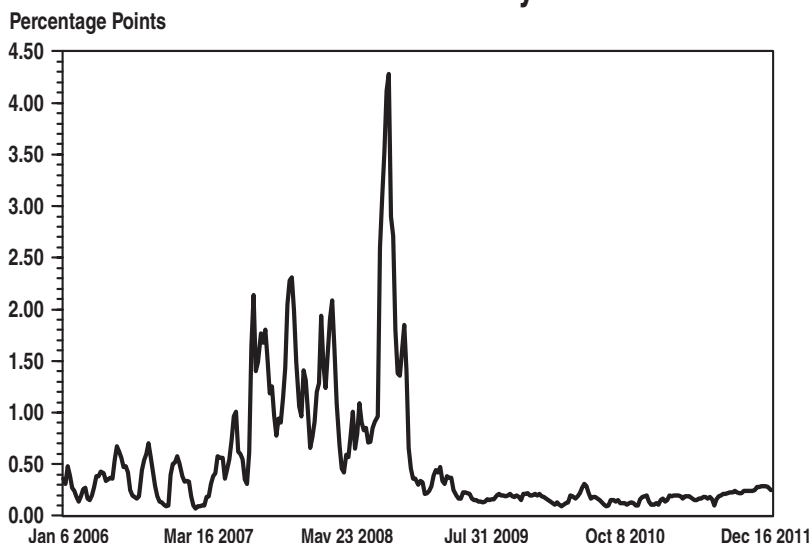


The Financial Crisis.—In August 2007, the United States subprime mortgage market became the focal point for a worldwide financial crisis. Subprime mortgages are provided to borrowers who do not meet the standard criteria for borrowing at the lowest prevailing interest rate, because of low income, a poor credit history, lack of a down payment, or other reasons. In the spring of 2007, there were over \$1 trillion outstanding in such mortgages, and because of falling house prices, many of these mortgages were on the brink of default. As banks and other investors lost confidence in the value of these high-risk mortgages and the mortgage-backed securities based on them, lending between banks froze. Non-bank lenders also became unwilling to lend. Financial market participants of all kinds were uncertain of the degree to which other participants' balance sheets had been contaminated. The heightened uncertainty was reflected

in unprecedented spreads between interest rates on Treasury securities and those on various types of financial market debt.

One especially telling differential was the spread between the yield on short-term U.S. Treasury securities, and the London interbank lending rate (LIBOR) which banks trading in the London money market charge one another for short-term lending in dollars. Historically, this differential has been 30 or 40 basis points. In August 2007, it shot up to over 200 basis points, and it spiked again, most dramatically, in September 2008 following the bankruptcy of Lehman Brothers (see chart). The policy response following the Lehman Brothers bankruptcy was crucial in restoring confidence and limiting the financial panic. Over the course of the following three months, the Federal Reserve lowered its short-term interest rate target to near zero, while creating new programs

Chart 2-2. The One-Month LIBOR Spread over the One-Month Treasury Yields



to provide credit to markets where financial institutions were no longer lending. The Troubled Asset Relief Program (TARP) provided the Treasury with the financial resources to bolster banks' capital position and to remove troubled assets from banks' balance sheets. In the spring of 2009, the Treasury and bank regulators conducted the Supervisory Capital Assessment Program, a stress test to determine the health of the 19 largest U.S. banks. The test provided more transparency for banks' financial positions, which reassured investors. Consequently, the banks have been able to raise private capital, providing further evidence that the credit crisis has eased. As these actions were taken, the LIBOR spread narrowed sharply, and other measures of credit risk also declined. During 2009, the spreads between Treasury yields and other interest rates generally regained pre-crisis levels, and they held these levels through 2011. This is the clearest evidence that the U.S. financial crisis has abated, although the access to credit for small businesses and homebuyers remains constrained.

While the U.S. crisis has eased, that is definitely not true worldwide. Europe continues to confront financial uncertainty stemming from the troubled financial condition of several countries in the Euro zone. After the Euro was established as the common currency for 17 European countries in 1999, interest rates in those countries moved close together as their inflation rates tended to converge. However, recent events have led markets to reassess the long-run solvency of some of the countries using the Euro, and the result has been a striking divergence in the interest rates charged to the various countries. High interest rates on their debt make it difficult for the most threatened of these countries to address the pressing fiscal issues that have put their long-run solvency in danger. The United States would certainly suffer if the crisis in the Euro zone were to intensify. U.S. banks and other financial institutions have investments in Europe that would be at risk. Uncertainty about these possibilities has troubled U.S. financial markets

along with other markets around the world throughout the past year. The atmosphere of financial uncertainty has contributed to the reluctance of many lenders to lend except for the safest of investments.

Negative Wealth Effects and Consumption.— Between the third quarter of 2007 and the first quarter of 2009, the real net worth of American households declined by 27 percent – the equivalent of more than one year's GDP. A precipitous decline in the stock market, along with falling house prices over this period, were the main reasons for the drop in household wealth. Since then, real wealth has risen, but the increase through the third quarter of 2011 was only 8 percent. House prices nationally are falling less rapidly, and the stock market has partially recovered, but real net worth remains 21 percent below its 2007 peak level.⁴

Americans have reacted to this massive loss of wealth by saving more. The personal saving rate had been declining since the 1980s, and it reached a low point of 1.3 percent in the third quarter of 2005. It remained low, averaging only 2.2 percent through the end of 2007, but since then, as wealth has declined, the saving rate has increased. It rose to a temporary high point of 6.2 percent in the second quarter of 2009, following a distribution of special \$250 payments to Social Security recipients and the implementation of other Recovery Act provisions. Since then, the saving rate has averaged 4.7 percent, although it dipped below 4.0 percent in the second half of 2011. In the long-run, increased saving is essential for future living standards to rise. However, a sudden increase in the desire to save implies a corresponding reduction in consumer demand, and a fall-off in consumption had a negative effect on the economy during the recession of 2008 and early 2009. During that period, real consumer spending fell at an annual rate of 2.3 percent. Since then, real consumer spending has recovered and now exceeds its

⁴ Real wealth is computed by deflating household net worth from the Flow-of-Funds Accounts by the Chain Price Index for Personal Consumption Expenditures. Data are available through 2011:Q3.

Chart 2-3. Personal Saving Rate

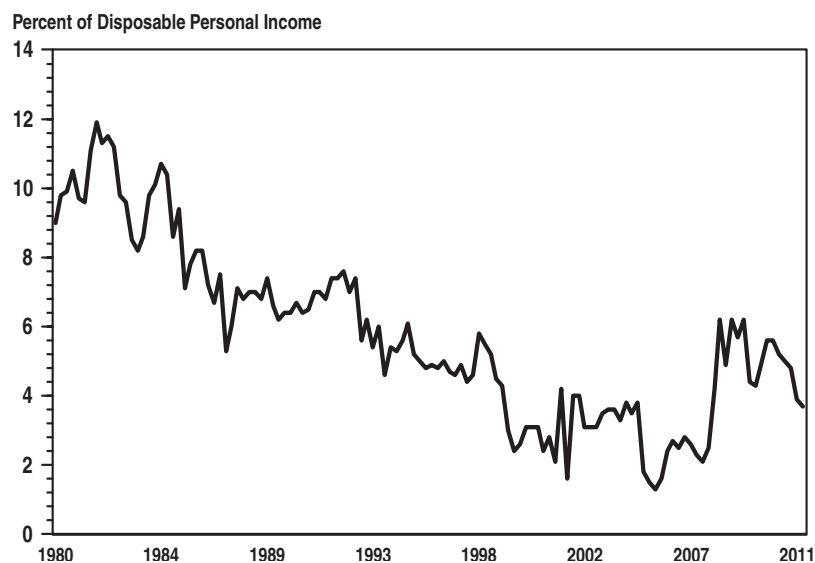
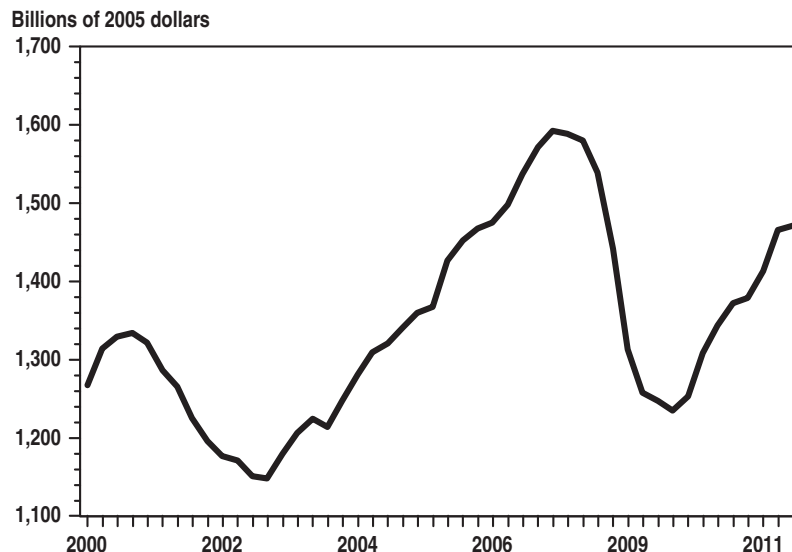


Chart 2-4. Real Business Fixed Investment



previous peak level. Continued growth in consumption is essential to a healthy recovery, and, if income also grows, increased consumption is compatible with a higher but stable saving rate.

Investment.—Business fixed investment fell sharply during the 2008-2009 contraction. It rose rapidly in 2010, and 2011, but even after the substantial increases in business spending for structures, equipment and software over the past 10 quarters, real investment remains well below its pre-recession levels implying room for further growth (see chart). The cost of capital is low and American corporations at the end of 2011 held substantial levels of cash reserves, which could provide funding for future investments as the economy continues to recover. The main constraint on business investment is poor sales expectations, which have been dampened by the slow pace of recovery. However, if consumption continues to expand, businesses are in a good position to expand investment. Strengthened by tax incentives, the outlook for investment is encouraging. Nevertheless, the pace of future growth could prove to be uneven, as investment tends to be volatile.

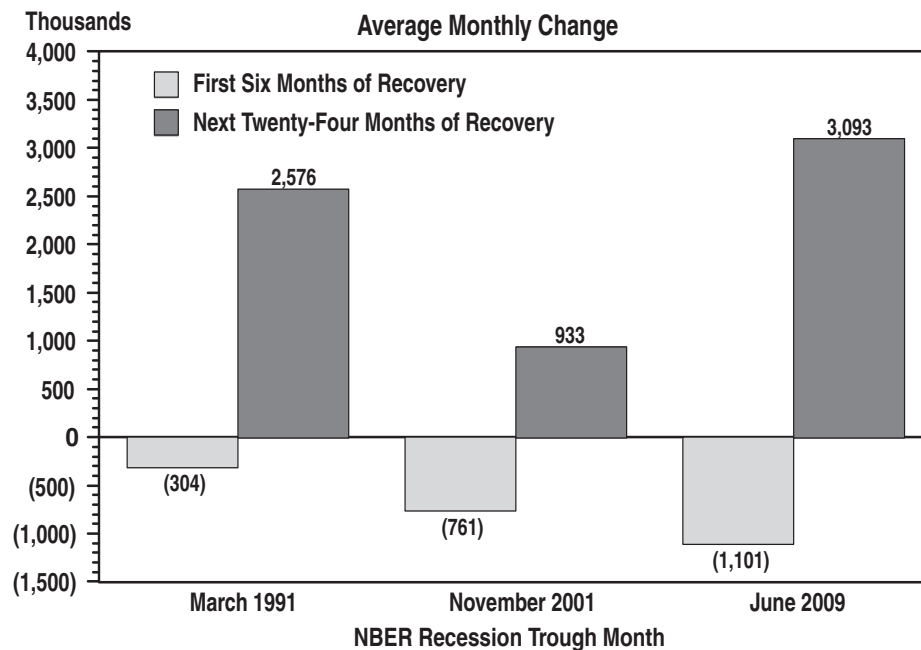
Net Exports.— Over the last two decades, the U.S. trade deficit expanded as foreign investors increased investment in the United States. The inflow of foreign capital helped fuel the housing bubble. The financial crisis and the resulting economic downturn sharply curtailed the flow of trade and foreign investment. In the third quarter of 2008, before the worst moment of the financial crisis, net exports measured at an annual rate, in the National Income Accounts, were -\$757 billion. Over the next three quarters, the deficit in net exports was more than cut in half, falling to -\$338 billion in the second quarter of 2009. Since then, as the U.S. economy has recovered, U.S. imports have grown at a faster pace than U.S. exports. Consequently, the net export balance has declined to -\$582 billion. It is unhealthy for the world economy to be too dependent on U.S. consumption spending, so further reductions in the U.S. trade deficit

would be desirable. The Administration's National Export Initiative is intended to increase U.S. exports to help reduce worldwide trade imbalances.

The Labor Market.—The unemployment rate peaked in 2009. It has declined since then, but it remains well above its historical average of under 6 percent, and the rate of long-term unemployment (those out of work for more than 6 months) is higher than at any other period since before World War II. The high rate of unemployment has had devastating effects on American families, and the recovery will not be real for most Americans until the job market also turns around. Historically, when the economy grows so does employment, and there are signs that this pattern is repeating itself in the current recovery, albeit slowly. Private employment has grown for 22 straight months, although at a relatively modest rate. The positive job growth has exceeded the job gains during similar periods in the two previous recoveries (see Chart 2-5).

The Recovery in 2011.— At the beginning of 2011, many private forecasters were expecting the recovery to pick up momentum over the course of the year. Instead, 2011 saw subpar growth due to unexpected headwinds. Global events weighed on the economy. Political uncertainty in the Middle East caused world oil markets to tighten, especially for the high-quality crude oil that is most useful in refining gasoline. The price of oil rose by 16 percent between September and December 2010 and then rose another 20 percent in March and April 2011. Consumers were pinched by the rising cost of fuel. Although the U.S. economy is less sensitive to oil price shocks than it was in the 1970s, higher fuel prices still exact a toll. On March 11, 2011, a severe earthquake followed by a devastating tsunami seriously damaged the coastal regions of northeastern Japan. These natural disasters had a worldwide impact as they curtailed production of parts needed for Japanese automobiles manufactured both in Japan and abroad. In the United States, for example, production of motor vehicles fell 6.3

Chart 2-5. Private Job Gains and Losses During Recent Recoveries



percent (0.5 million units at an annual rate) in the second quarter, with most of the decline at the American facilities of Japanese automakers. The combination of higher oil and gas prices along with the repercussions from the production cutbacks at motor vehicle assembly plants worked to offset the stimulative effects of lower payroll taxes and extended unemployment benefits enacted at the end of 2010. Fortunately, these particular headwinds are likely to be transitory. Oil prices have fluctuated over the last six months, but they were no higher in January 2012 than in May 2011. Meanwhile, Japanese manufacturing production has recovered from the effects of the earthquake allowing motor vehicle assemblies and sales in the United States to return to the levels reached before the disaster. As these shocks faded, economic growth picked up in the second half of 2011.

A more persistent source of sluggishness has been the sovereign debt crisis in Europe, which has repeatedly impinged on global equity markets and which threatens to place a new drag on consumer confidence and the global recovery going forward. In 2010, several European countries encountered difficulty in obtaining credit, and financial markets around the world responded negatively to these developments spreading the effects of the crisis to the United States and elsewhere. The European Union acted to confront these issues when they first emerged, and the affected governments have attempted to restrain their budget deficits. Even with these actions, however, the European recovery remains at risk because of increased uncertainty and because the measures taken to address the fiscal crisis have had the effect in some cases of limiting demand and hampering recovery. Concerns over sovereign debt returned in 2011 and spread to larger

countries in the European Union, creating renewed volatility in global financial markets.

Policy Background

Over the last 36 months, the Administration and the Federal Reserve have taken a series of fiscal and monetary policy actions to bring the recession to an end and expedite the recovery. On the fiscal policy side, the passage of ARRA was a crucial step early in the Administration, other important actions followed, and the 2013 Budget includes new proposals to promote growth and employment. Meanwhile, the Federal Reserve has kept its target interest rate near zero, and it has pursued other novel measures to unfreeze the Nation's credit markets and bolster economic growth. Several Administration policy initiatives have been pursued to stabilize the Nation's financial and housing markets.

Fiscal Policy.—The Federal budget affects the economy through many channels. For an economy coming out of a deep recession, the most important of these is the budget's effect on total demand. In a slumping economy, with substantial spare capacity, the level of demand is the main determinant of how much is produced and how many workers will be employed. Government spending on goods and services can substitute for missing private spending while changes in taxes and transfers can contribute to demand by enabling people to spend more than they otherwise could or would. ARRA bolstered aggregate demand in several ways helping to spark the recovery. It increased spending on goods and services at the Federal level; it provided assistance to State Governments; it included large tax reductions for middle-class families; and it also extended unemployment insurance and

COBRA benefits, which have allowed people to maintain spending at levels higher than would have been possible without it.

Job losses in 2009-2010 would have been much greater without ARRA as the steep slump was likely to have continued without intervention. In the first three months of 2009, private payroll employment was falling at an average rate of 783,000 jobs per month. By the last three months of 2009, the rate of job loss had declined to 129,000 per month. The private sector began to add jobs in March 2010, and has added jobs every month since then (through December 2011). In the last three months of 2011, the economy added an average of 155,000 private-sector jobs per month, and almost 2 million private sector jobs over the course of the year. It is not possible to judge the effectiveness of a macroeconomic policy without some idea of the alternative. Critics of Administration fiscal policy have argued that the poor job market is evidence of its ineffectiveness. However, the only way to know that is through a macroeconomic model that can be used to project the employment outcome under an alternative policy. In fact, results from a range of models imply that employment was significantly increased by ARRA. The Council of Economic Advisers' (CEA) latest assessment estimates that ARRA increased employment by between 2.2 million and 4.2 million jobs through the second quarter of 2011, an estimate that is in line with private forecasters.⁵

The Administration has continued to pursue policies to reduce unemployment and create jobs. In 2010, the President launched the National Export Initiative, to support new jobs in American export industries. In March 2010, the President signed the Hiring Incentives to Restore Employment (HIRE) Act, which provided subsidies for firms that hired unemployed workers and provided other incentives. In September 2010, the President signed the Small Business Jobs Act, which provided tax relief and better access to credit to small businesses. In December 2010, the President reached agreement with Congress to extend several expiring tax provisions and avoid a large tax increase in 2011: the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act. The agreement included expanded tax incentives for business investment, a temporary reduction in payroll taxes, and extended long-term unemployment insurance benefits. These measures helped support economic growth in 2011. Although growth was held back by higher energy prices, the Japanese earthquake and tsunami, and the renewed financial crisis in Europe; growth would likely have been even weaker without the policy changes agreed to at the end of 2010.

The President has continued to call for measures that would strengthen growth and employment in the near term while also proposing fiscally responsible measures to reduce the long-run budget deficit. In the fall of 2011, the Administration proposed the American Jobs Act (AJA),

which would have extended and expanded the payroll tax cut enacted in December 2010. The AJA would also have extended unemployment insurance benefits for those out of work more than 26 weeks. The bill proposed new incentives for hiring long-term unemployed workers; new protections for the jobs of teachers, fire fighters, and police; more investment in community colleges and public schools; and creation of a national infrastructure bank to foster needed investments in public infrastructure. At the end of 2011, Congress extended the existing payroll tax cut and long-term unemployment insurance benefits for two months. This extension protected the average American family from an immediate tax increase that would have amounted to \$1,000 over the entire year. However, Congress must still act to extend this tax holiday for the full year and enact other measures that the President has proposed. The 2013 Budget includes many of the initiatives in the AJA, with enactment assumed for many of them by March 2012.

Economic recovery efforts increase the Federal budget deficit. This was the appropriate response to the crisis the Administration inherited, and it is expected to be temporary. The 2013 Budget provides a path to lower deficits over time. Once the economy recovers, unsustainably large deficits are bad for the economy. When private demand strengthens, deficits can raise interest rates and decrease private investment, as the Federal Government competes with investors in the credit markets. Deficits also contribute to the amount that the United States borrows from abroad. Persistently large deficits reduce future standards of living in two ways: higher interest rates and lower investment reduce productivity and future income, and an increase in foreign borrowing acts like a mortgage entailing future payments to foreign creditors. Deficits also limit the Government's maneuvering room to handle future crises. For these reasons, it is important to control the budget deficit and maintain fiscal discipline in the long run. But when unemployment is as high as it is today, budget deficits are essential to support demand in the private economy, and higher deficits can be used to reduce unemployment and strengthen economic growth. The Administration's policy proposals would use Federal borrowing to support economic growth in the near term, while constraining borrowing over time.

Monetary Policy.—The Federal Reserve is responsible for monetary policy. Traditionally, it has relied on a relatively narrow range of instruments to achieve its policy goals, but in the recent crisis the Fed has been forced to consider a broader approach. The short-term interest rate, the traditional tool of monetary policy, has been close to zero since the end of 2008, and the Fed has announced it will hold it near that level into 2014. Further cuts in short-term nominal rates are not possible, yet with unemployment high the Federal Reserve has needed to act in novel ways to achieve its dual mandate of stable prices and healthy economic growth. Consequently, the Federal Reserve has created new facilities to provide credit directly to the financial markets and has also bought longer-term securities for its portfolio.

⁵ The CEA "multipliers" used for these estimates are similar to those used by the Congressional Budget Office (CBO) and private forecasters such as Macroeconomic Advisers LLC. See Council of Economic Advisers, "The Economic Impact of the American Recovery and Reinvestment Act of 2009: Eighth Quarterly Report," December 9, 2011.

The combination of aggressive monetary and fiscal policies helped reverse the economic downturn in 2009 and set the stage for an economic recovery in the summer of 2009. However, following an initial burst of growth in late 2009 and early 2010, the economy slowed. To help counter the slowdown, the Federal Reserve expanded its balance sheet even further in another round of purchases of long-term Treasury securities. In 2011, the Fed undertook to shift the composition of its portfolio in such a way as to reduce the yield on longer term Treasury securities. Because much of the increase in Federal Reserve liabilities has gone into idle reserves of banks, and because of the considerable slack in the economy, current inflation risks remain low despite these aggressive measures. The Federal Reserve is prepared to reduce the assets on its balance sheet promptly and take other actions to reduce the growth of the money supply when the recovery gains strength and the unemployment rate falls.

Financial Stabilization Policies.—Over the course of the last 36 months, the U.S. financial system has been pulled back from the brink of a catastrophic collapse. The very real danger that the system would disintegrate in a cascade of failing institutions and crashing asset prices has been averted. The Administration’s Financial Stability Plan played a key role in cleaning up and strengthening the Nation’s banking system. This plan began with a forward-looking capital assessment exercise for the 19 U.S. banking institutions with assets in excess of \$100 billion. This was the so-called “stress test” aimed at determining whether these institutions had sufficient capital to withstand stressful deterioration in economic conditions. The resulting transparency and resolution of uncertainty about banks’ potential losses boosted confidence and allowed banks to raise substantial funds in private markets and repay tens of billions of dollars in taxpayer investments.

The Financial Stability Plan also aimed to unfreeze secondary markets for loans to consumers and businesses. The Administration has undertaken the Making Home Affordable plan to help distressed homeowners avoid foreclosure and stabilize the housing market. More than 5.5 million modification arrangements were started between April 2009 and the end of November 2011 – including more than 1.7 million Home Affordable Modification Program (HAMP) trial modification starts, 1.1 million Federal Housing Administration (FHA) loss mitigation and early delinquency interventions, and more than 2.6 million proprietary modifications under the public-private HOPE Now program. Many of these modifications are a direct result of the standards and processes the Administration’s programs have established. While some homeowners may have received help from more than one program, the total number of agreements offered continues to be more than double the number of foreclosure completions for the same period.

Another crucial response to the financial crisis was the implementation of the Troubled Asset Relief Program (TARP), which was established in the fall of 2008. TARP provided the Treasury with the financial resources to bolster banks’ capital positions and to remove troubled

assets from banks’ balance sheets. Under the Obama Administration, the focus of TARP was shifted from large financial institutions to households, small banks, and small businesses. Since the Administration took office, the projected cost of TARP has decreased dramatically and programs are being successfully wound down. On October 3, 2010, authority to make new investments under TARP expired. Today, the Federal Government maintains TARP programs only where it has existing contracts and commitments. The net cost of TARP is now projected to be only a small fraction of its originally projected cost.

Economic Projections

The economic projections underlying the 2013 Budget estimates are summarized in Table 2–1. The assumptions are based on information available as of mid-November 2011. This section discusses the Administration’s projections and the next section compares these projections with those of the Federal Reserve’s Open Market Committee (FOMC), the Congressional Budget Office (CBO), and the Blue Chip Consensus of private forecasters.

Real GDP.—The Administration projects the economic recovery that began in 2009 will continue in 2012-2013 with real GDP growing at an annual rate of 3.0 percent (fourth quarter over fourth quarter). Although growth is projected to be stable, the key supports for growth are expected to shift over the two years. In 2012, the Administration’s budget proposals underpin growth, while in 2013 increased private demand is expected to play a larger role in supporting continued recovery. This economic forecast is based on the assumption that the Administration’s budget proposals are enacted in full. The Administration recognizes that not all forecasters share this assumption, and it is the main reason the Administration projections for real growth in 2012 are stronger than the consensus expectation. In 2014, growth is projected to increase to around 4 percent annually as the job market improves and residential investment recovers. Real GDP is projected to return to its long-run “potential” level by 2020, and to grow at a steady 2.5 percent rate for the remaining years of the forecast.

As shown in Chart 2-6, the Administration’s projections for real GDP growth over the first seven years of the expected recovery imply an average growth rate below the average for historical recoveries. Recent recoveries have been somewhat weaker than average, but the last two expansions were preceded by mild recessions with relatively little pent-up demand when conditions improved. Because of the depth of the recent recession, there is much more room for a rebound in spending and production than was true either in 1991 or 2001. On the other hand, lingering effects from the credit crisis and other special factors have limited the pace of the recovery until now. Thus, the Administration is forecasting a slower than normal recovery, but one that eventually restores GDP to near the level of potential that would have prevailed in the absence of a downturn. Some international economic organizations have argued that a financial recession permanently scars an economy, and this view is also shared by some American forecasters. On

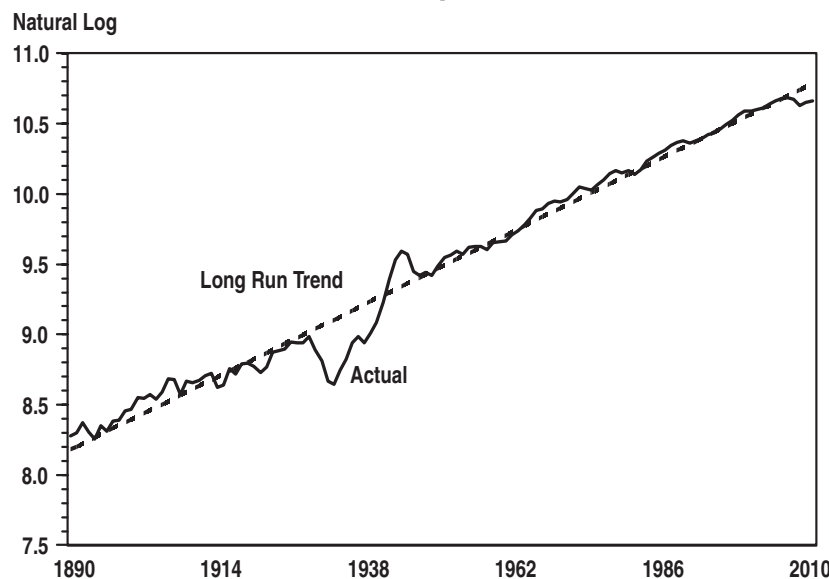
Chart 2-6. Real GDP Growth Following a Recession: Seven-Year Average



that view, there is no reason to expect a full recovery to the previous trend of real GDP. The statistical evidence for permanent scarring comes mostly from the experiences of developing countries and its relevance to the current situation in the United States is debatable. Historically, economic growth in the United States economy has shown considerable stability over time as displayed in Chart 2-7. Since the late 19th century, following every recession, the economy has returned to the long-term trend in per capita real GDP. This was true even following the only previous recession in which the United States experienced a disastrous financial crisis – 1929-1933 – although the recovery from the Great Depression was not complete until World War II restored demand.

The U.S. economy has enormous room for growth, although there are factors that could continue to limit that growth in the years ahead. On the positive side, the unemployment rate fell sharply at the end of 2011, and if the President’s budget proposals are adopted, 2012 should get off to a solid start. The Federal Reserve’s commitment to achieving its dual mandate means that monetary policy will continue to seek a robust recovery. However, financial markets here and in Europe have been troubled by concerns about weak economic growth and the sustainability of fiscal policy in some European countries. The drag from a European slowdown could hold back the U.S. economy.

Chart 2-7. Real Per Capita GDP 1890-2010



Sources: Angus Maddison, *The World Economy, Historical Statistics 1890-1929* and Bureau of Economic Analysis, *National Income and Product Accounts, 1929-2010*.

Table 2-1. ECONOMIC ASSUMPTIONS¹
(Calendar years; dollar amounts in billions)

	2010	Projections											
	Actual	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Gross Domestic Product (GDP):													
Levels, dollar amounts in billions:													
Current dollars	14,527	15,106	15,779	16,522	17,397	18,448	19,533	20,651	21,689	22,666	23,659	24,688	25,760
Real, chained (2005) dollars	13,088	13,323	13,687	14,097	14,606	15,211	15,821	16,431	16,952	17,403	17,844	18,290	18,748
Chained price index (2005 = 100)	111.0	113.4	115.3	117.2	119.1	121.3	123.5	125.7	127.9	130.2	132.6	135.0	137.4
Percent change, fourth quarter over fourth quarter:													
Current dollars	4.7	4.0	4.6	4.7	5.8	6.1	5.8	5.7	4.6	4.4	4.3	4.3	4.3
Real, chained (2005) dollars	3.1	1.7	3.0	3.0	4.0	4.2	3.9	3.8	2.8	2.6	2.5	2.5	2.5
Chained price index (2005 = 100)	1.6	2.2	1.6	1.6	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Percent change, year over year:													
Current dollars	4.2	4.0	4.5	4.7	5.3	6.0	5.9	5.7	5.0	4.5	4.4	4.3	4.3
Real, chained (2005) dollars	3.0	1.8	2.7	3.0	3.6	4.1	4.0	3.9	3.2	2.7	2.5	2.5	2.5
Chained price index (2005 = 100)	1.2	2.1	1.7	1.7	1.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Incomes, billions of current dollars:													
Domestic corporate profits	1,418	1,588	1,782	1,750	1,779	1,884	1,936	1,973	1,946	1,906	1,842	1,761	1,678
Employee compensation	7,971	8,278	8,595	8,955	9,433	9,992	10,622	11,297	11,953	12,586	13,230	13,885	14,587
Wages and salaries	6,408	6,668	7,025	7,253	7,601	8,063	8,578	9,150	9,696	10,219	10,749	11,277	11,850
Other taxable income ²	3,108	3,308	3,495	3,697	3,899	4,164	4,475	4,766	5,022	5,251	5,464	5,655	5,794
Consumer Price Index (all urban):³													
Level (1982-84 = 100), annual average	218.1	225.1	230.0	234.5	239.1	244.0	249.0	254.3	259.6	265.1	270.7	276.4	282.2
Percent change, fourth quarter over fourth quarter	1.2	3.6	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Percent change, year over year	1.6	3.2	2.2	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Unemployment rate, civilian, percent:													
Fourth quarter level	9.6	9.0	8.8	8.6	7.8	7.0	6.3	5.6	5.5	5.4	5.4	5.4	5.4
Annual average	9.6	9.0	8.9	8.6	8.1	7.3	6.5	5.8	5.5	5.4	5.4	5.4	5.4
Federal pay raises, January, percent:													
Military ⁴	3.4	1.4	1.6	1.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
Civilian ⁵	2.0	0.0	0.0	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Interest rates, percent:													
91-day Treasury bills ⁶	0.1	0.1	0.1	0.2	1.4	2.7	3.8	4.1	4.1	4.1	4.1	4.1	4.1
10-year Treasury notes	3.2	2.8	2.8	3.5	3.9	4.4	4.7	5.0	5.1	5.1	5.1	5.3	5.3

NA = Not Available

¹Based on information available as of mid-November 2011.

²Rent, interest, dividend, and proprietors' income components of personal income.

³Seasonally adjusted CPI for all urban consumers.

⁴Percentages apply to basic pay only; percentages to be proposed for years after 2013 have not yet been determined.

⁵Overall average increase, including locality pay adjustments. Percentages to be proposed for years after 2013 have not yet been determined.

⁶Average rate, secondary market (bank discount basis).

Long-Term Growth.—The Administration forecast does not attempt to project cyclical developments beyond the next few years. The long-run projection for real economic growth and unemployment assumes that they will maintain trend values in the years following the return to full employment. In the non-farm business sector, productivity is assumed to grow at 2.3 percent per year in the long run, while nonfarm labor supply grows at a rate of 0.7 percent per year, so nonfarm business output grows approximately 3.0 percent per year. Real

GDP growth, reflecting the slower measured growth in productivity outside the nonfarm business sector, proceeds at a rate of 2.5 percent. That is markedly slower than the average growth rate of real GDP since 1947 — 3.2 percent per year. In the 21st century, real GDP growth in the United States is likely to be permanently slower than it was in earlier eras because of a slowdown in labor force growth initially due to the retirement of the post-World War II “baby boom” generation, and later by a decline in the growth of the working-age population.

Unemployment.—In December 2011, the overall unemployment rate was 8.5 percent. It had shown little movement since early 2011, before beginning to decline in September. When the forecast for the unemployment rate for the Budget was finalized in mid-November 2011, the reported unemployment rate for the latest month available, October 2011, was 9.0 percent. The Administration's forecast seeks to be a balanced reflection of the most likely outcomes, and this is a cautious forecast reflecting information available at the time of the forecast and expected relationships among economic variables. Were it possible to update the forecast for the Budget, the unemployment rate in these projections would be lower, reflecting the sharp decline in the unemployment rate near the end of last the year.

Inflation.—Over the four quarters ending in 2011:Q4, the price index for Personal Consumption Expenditures rose 2.6 percent, significantly higher than the 1.3 percent increase over the previous four quarters. Meanwhile, the Consumer Price Index for all urban consumers (CPI-U) rose by 3.0 percent for the twelve months ending in December 2011. Over the previous 12 months it had risen by just 1.4 percent. The increase in inflation in 2011 was due almost entirely to sharp movements in food and energy prices. The “core” CPI, excluding both food and energy, was up only 2.2 percent through the 12 months ending in December and the GDP price index for consumption excluding food and energy was up only 1.7 percent over the most recent four quarters. There was some increase in the rate of core inflation, but mainly as a result of temporary factors such as higher rent increases and the pass-through of higher prices for food and energy goods into the prices of such goods and services as airline fares.

Weak demand continues to hold down prices for many goods and services, and continued high unemployment is expected to preserve a relatively low inflation rate. As the economy recovers and the unemployment rate declines, the rate of inflation should remain near the Federal Reserve's implicit target of around 2 percent per year. With the recovery path assumed in the Administration forecast, the risk of outright deflation appears minimal. The Administration assumes that the rate of change in the CPI will average 2.1 percent and that the GDP price index will increase at a 1.8 percent annual rate in the long run.

Interest Rates.—Interest rates on Treasury securities fell sharply in late 2008, as both short-term and long-term rates declined to their lowest levels in decades. Since then Treasury rates have fluctuated, but they have not returned to their levels before the financial crisis, and at the end of 2011 long-term rates were especially low. In the last week of December, the yield on 10-year Treasuries was just 1.9 percent. Investors have sought the security of Treasury debt during the heightened financial uncertainty of the last few years, which has kept yields low. At the short end of the yield curve, the Federal Reserve is holding short-term rates near zero as it seeks to foster economic growth and lower unemployment. The Federal Reserve's policy of purchasing long-term Treasury securities may

also be helping to hold down long-term rates. In the Administration projections, interest rates are expected to rise, but only gradually as financial concerns are alleviated and the economy recovers from recession. The 91-day Treasury bill rate is projected to remain near zero into 2013 consistent with the Fed's announced intentions, and then to rise to 4.1 percent by 2017. The 10-year rate begins to rise in 2013 and reaches 5.3 percent by 2017. These forecast rates are historically low, reflecting lower inflation in the forecast than for most of the post-World War II period. After adjusting for inflation, the projected real interest rates are close to their historical averages.

Income Shares.—The share of labor compensation in GDP was extremely low by historical standards in 2011. It is expected to remain low for the next few years falling to a low point of 54.2 percent of GDP in 2013-2015. As the economy grows faster in the middle years of the forecast period, compensation is projected to rise, reaching 56.6 percent of GDP in 2022. In the expansion that ended in 2007, labor compensation tended to lag behind the growth in productivity, and that has also been true for the recent surge in productivity growth in 2009-2010. The share of taxable wages, which is strongly affected by changes in health insurance costs, is expected to rise from 44.1 percent of GDP in 2010 to 46.0 percent in 2022. Health reform is expected to limit the rise in employer-sponsored health insurance costs and allow for an increase in take-home pay. The share of domestic corporate profits was 9.8 percent of GDP in 2010. Profits dropped sharply in 2008-2009, but have recovered in 2010 and 2011. In the forecast, the ratio of domestic corporate profits to GDP falls to about 6.5 percent by the end of the 10-year projection period as the share of employee compensation slowly recovers.

Comparison with Other Forecasts

Table 2–2 compares the economic assumptions for the 2013 Budget with projections by CBO, the Blue Chip Consensus — an average of about 50 private-sector economic forecasts — and, for some variables, the Federal Reserve Open Market Committee. These other forecasts differ from the Administration's projections, but the forecast differences are relatively small compared with the margin of error in all economic forecasts. Like the Administration, the other forecasts project that real GDP will continue to grow as the economy recovers. The forecasts also agree that inflation will be low while outright deflation is avoided, and that the unemployment rate will decline while interest rates eventually rise.

There are some conceptual differences between the Administration forecast and the other economic forecasts. The Administration forecast assumes that the President's Budget proposals will be enacted. The 50 or so private forecasters in the Blue Chip Consensus make differing policy assumptions, but none would necessarily assume that the Budget is adopted in full. CBO is required to assume that current law will continue in making its projections, although CBO has recently begun to report alternative economic assumptions assuming a more

Table 2-2. COMPARISON OF ECONOMIC ASSUMPTIONS
(Calendar years)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Nominal GDP:												
2013 Budget ¹	15,106	15,779	16,522	17,397	18,448	19,533	20,651	21,689	22,666	23,659	24,688	25,760
Blue Chip	15,108	15,727	16,435	17,273	18,136	19,043	19,957	20,895	21,877	22,906	23,982	25,109
CBO	15,093	15,633	16,015	16,817	17,899	18,962	19,949	20,897	21,859	22,853	23,870	24,921
Real GDP (year-over-year):												
2013 Budget ¹	1.8	2.7	3.0	3.6	4.1	4.0	3.9	3.2	2.7	2.5	2.5	2.5
Blue Chip Consensus	1.7	2.2	2.6	2.9	2.9	2.9	2.7	2.5	2.5	2.5	2.5	2.5
CBO	1.7	2.2	1.0	3.6	4.9	4.2	3.3	2.8	2.6	2.5	2.4	2.4
Real GDP (fourth-quarter-over-fourth-quarter):												
2013 Budget ¹	1.7	3.0	3.0	4.0	4.2	3.9	3.8	2.8	2.6	2.5	2.5	2.5
Blue Chip	1.6	2.3	2.8	–	–	–	–	–	–	–	–	–
Federal Reserve Central Tendency	1.6–1.7	2.2–2.7	2.8–3.2	3.3–4.0	–	–	–	–	–	–	–	–
CBO	1.6	2.0	1.1	4.6	4.9	3.8	3.0	2.6	2.6	2.5	2.4	2.4
GDP Price Index:²												
2013 Budget ¹	2.1	1.7	1.7	1.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Blue Chip	2.2	1.9	1.9	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1
CBO	2.1	1.3	1.4	1.4	1.5	1.7	1.9	1.9	2.0	2.0	2.0	2.0
Consumer Price Index (CPI-U):²												
2013 Budget ¹	3.2	2.2	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Blue Chip	3.2	2.1	2.1	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5
CBO	3.2	1.7	1.5	1.5	1.7	2.0	2.2	2.3	2.3	2.3	2.3	2.3
Unemployment Rate:³												
2013 Budget ¹	9.0	8.9	8.6	8.1	7.3	6.5	5.8	5.5	5.4	5.4	5.4	5.4
Blue Chip	9.0	8.7	8.3	7.7	7.1	6.6	6.2	6.0	6.0	6.0	6.0	6.0
Federal Reserve Central Tendency ⁴	8.7	8.2–8.5	7.4–8.1	6.7–7.6	–	–	–	–	–	–	–	–
CBO	9.0	8.8	9.1	8.7	7.4	6.3	5.7	5.5	5.5	5.4	5.4	5.3
Interest Rates:³												
91-Day Treasury Bills (discount basis):												
2013 Budget ¹	0.1	0.1	0.2	1.4	2.7	3.9	4.1	4.1	4.1	4.1	4.1	4.1
Blue Chip	0.1	0.1	0.4	1.9	3.0	3.4	3.7	3.7	3.7	3.7	3.7	3.7
CBO	0.1	0.1	0.1	0.4	1.6	2.6	3.2	3.6	3.8	3.8	3.8	3.8
10-Year Treasury Notes:												
2013 Budget ¹	2.8	2.8	3.5	3.9	4.4	4.7	5.0	5.1	5.1	5.1	5.3	5.3
Blue Chip	2.8	2.3	3.0	4.1	4.5	4.7	4.9	4.9	4.9	4.9	4.9	4.9
CBO	2.8	2.3	2.5	2.9	3.5	4.1	4.6	4.8	5.0	5.0	5.0	5.0

NA = Not Available

Sources: Administration; October 2011 and January 2012 *Blue Chip Economic Indicators*, Aspen Publishers, Inc.;

Federal Reserve Open Market Committee Press Release, January 25, 2012; and CBO, *The Budget and Economic Outlook*: January 2012.

¹ The 2013 Budget forecast was finalized in mid-November 2011.

² Year-over-year percent change.

³ Annual averages, percent.

⁴ Fourth quarter values.

plausible path for policy. The current law assumption implies, for example, that the 2001 and 2003 tax cuts expire at the end of 2012, which is why real GDP growth is so low and unemployment so high in the CBO projections for 2013.

In addition, the forecasts in the table were made at different times. The Administration projections were completed in mid-November. The three-month lag

between that date and the Budget release date occurs because the budget process requires a lengthy lead time to complete the estimates for agency programs that are incorporated in the Budget. Forecasts made at different dates will differ if there is economic news between the two dates that alters the economic outlook. The Blue Chip Consensus for 2012-2013 displayed in this table was the latest available, from early January; the Blue

Chip projections for 2014 to 2022, however, date to last October, as the Blue Chip extends its forecast beyond a two-year horizon only twice a year. The Federal Reserve forecast shown in Table 2-3 is from January 2012. The CBO forecast is from its January 2012 report.

Real GDP Growth.— In 2012, the Administration expects more growth than the other forecasters, mainly because the forecast assumes that all of the Budget proposals will be enacted. Other forecasters, make different assumptions. In 2013, the Administration holds growth steady while most other forecasters look for an increase. The Administration expects private demand to strengthen while fiscal policy shifts further toward constraint.

The most important difference among these forecasts is the expected rate of real GDP growth in the medium term. The Administration projects that real GDP will eventually recover most of the loss from the 2008-2009 recession. This implies a few years of higher than normal growth as real GDP makes up the lost ground. The Blue Chip average shows only a very limited recovery in this sense. In the Blue Chip projections, real GDP growth exceeds its long-run average only briefly throughout the 11-year forecast period, and much of the loss of real GDP experienced during the recession is permanent. Although somewhat higher than Blue Chip, CBO, anticipates only a partial recovery that would not return real GDP to the same level as in the Administration forecast.

In the long run, the real growth rates projected by the forecasters are similar. CBO projects a long-run growth rate of 2.4 percent per year, while the Blue Chip Consensus anticipates the same long-run growth rate as the Administration – 2.5 percent per year. Most of the difference between the Administration and CBO's long-run growth projection comes from a difference in the expected rate of growth of the labor force. Both forecasts assume that the labor force will grow more slowly than in the past because of population aging, but the Administration bases its population projections on the Census Bureau's projections, which tend to run about 0.1 percentage point higher than the CBO projections, which are based on population projections from the Social Security Administration.

All economic forecasts are subject to error, and the forecast errors are usually much larger than the forecast

differences discussed above. As discussed in chapter 3, past forecast errors among the Administration, CBO, and the Blue Chip have been roughly similar.

Unemployment, Inflation, and Interest Rates.— The Administration forecast of the unemployment rate was completed before the large drop in the unemployment rate in November-December 2011 and the downward revision to October's rate were known. The Blue Chip consensus forecast for 2012 has been lowered by 0.4 percentage points since mid-November when the Budget forecast was finalized. In the long-run perhaps reflecting slower average growth projections, the Blue Chip unemployment projection remains above the Administration's projections, but in 2012-2015 it is lower. The Federal Reserve forecast range for unemployment is also below the Administration's projections. These projections were made after observing the large decline in unemployment in late 2011. CBO's projections were completed after observing the decline in unemployment in late 2011. Nevertheless, the CBO projection of unemployment is only slightly below the Administration projection in 2012 and higher than the Administration in 2013-2015 reflecting the different policy assumptions underlying the two forecasts. Over time the Administration projects a return to the average unemployment rate that prevailed in the 1990s and 2000s.

The Administration, CBO, and the Blue Chip Consensus anticipate a subdued rate of inflation over the next two years. In the medium term, inflation is projected to return to a rate of around 2 percent per year, which is consistent with the Federal Reserve's long-run policy goal for inflation.

The forecasts are also similar in their projections for the path of interest rates. Short-term rates are expected to be near zero in 2011-2012, but then to increase beginning in 2013. The Administration projects a somewhat stronger rise in short-term rates than either the Blue Chip or CBO. The Administration projections are closer to market expectations as of late 2011. The interest rate on 10-year Treasury notes is projected to rise to 5.3 percent in the Administration projections. This is above the CBO and the Blue Chip projections.

Changes in Economic Assumptions

Some of the economic assumptions underlying this Budget have changed compared with those used for the

2012 Budget, but many of the forecast values are similar, especially in the long run (see Table 2–3). The previous Budget anticipated more rapid growth in 2011–2014 than the current Budget. The recovery began as anticipated in 2009, but the pace of growth through 2011 was somewhat slower than expected. The Administration continues to believe that the economy will regain most of the ground

lost in 2008–2009. This implies rapid growth in the future continuing for a few years. That growth will help return unemployment to its long-run average. As in last year's projections, inflation is also projected to return to its long-run averages, while interest rates, measured in real terms, also return to their historical averages.

Table 2–3. COMPARISON OF ECONOMIC ASSUMPTIONS IN THE 2012 AND 2013 BUDGETS

(Calendar years; dollar amounts in billions)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Nominal GDP:											
2012 Budget Assumptions ¹	15,037	15,819	16,780	17,803	18,799	19,770	20,706	21,619	22,562	23,542	24,565
2013 Budget Assumptions	15,106	15,779	16,522	17,397	18,448	19,533	20,651	21,689	22,666	23,659	24,688
Real GDP (2005 dollars):											
2012 Budget Assumptions ¹	13,380	13,868	14,475	15,104	15,676	16,201	16,663	17,092	17,519	17,957	18,406
2013 Budget Assumptions	13,323	13,687	14,097	14,606	15,211	15,821	16,431	16,952	17,403	17,844	18,290
Real GDP (percent change):²											
2012 Budget Assumptions	2.7	3.6	4.4	4.3	3.8	3.3	2.9	2.6	2.5	2.5	2.5
2013 Budget Assumptions	1.8	2.7	3.0	3.6	4.1	4.0	3.9	3.2	2.7	2.5	2.5
GDP Price Index (percent change):²											
2012 Budget Assumptions	1.3	1.5	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8
2013 Budget Assumptions	2.1	1.7	1.7	1.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Consumer Price Index (all-urban; percent change):²											
2012 Budget Assumptions	1.3	1.8	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1
2013 Budget Assumptions	3.2	2.2	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1
Civilian Unemployment Rate (percent):³											
2012 Budget Assumptions	9.3	8.6	7.5	6.6	5.9	5.5	5.3	5.3	5.3	5.3	5.3
2013 Budget Assumptions	9.0	8.9	8.6	8.1	7.3	6.5	5.8	5.5	5.4	5.4	5.4
91-day Treasury bill rate (percent):³											
2012 Budget Assumptions	0.2	1.0	2.6	3.7	4.0	4.1	4.1	4.1	4.1	4.1	4.1
2013 Budget Assumptions	0.1	0.1	0.2	1.4	2.7	3.9	4.1	4.1	4.1	4.1	4.1
10-year Treasury note rate (percent):³											
2012 Budget Assumptions	3.0	3.6	4.2	4.6	5.0	5.2	5.3	5.3	5.3	5.3	5.3
2013 Budget Assumptions	2.8	2.8	3.5	3.9	4.4	4.7	5.0	5.1	5.1	5.1	5.3

¹ Adjusted for July 2011 NIPA revisions.

² Calendar year over calendar year.

³ Calendar year average.

3. INTERACTIONS BETWEEN THE ECONOMY AND THE BUDGET

The economy and the budget are interrelated. Both budget outlays and the tax structure have substantial effects on national output, employment, and inflation; and economic conditions significantly affect the budget in various ways.

Because of the complex interrelationships between the budget and the economy, budget estimates depend to a very significant extent upon assumptions about the economy. This chapter attempts to quantify the relationship between macroeconomic outcomes and budget outcomes and to illustrate the challenges that uncertainty about the future path of the economy poses for making budget projections.¹

The first section of the chapter describes how changes in economic variables result in changes in receipts, outlays, and the deficit. The second section presents information on forecast errors for growth, inflation, and interest rates and how these forecast errors compare to those in forecasts made by the Congressional Budget Office (CBO) and the private-sector Blue Chip Consensus forecast. The third section presents specific alternatives to the current Administration forecast—both more optimistic and less optimistic with respect to real economic growth and unemployment—and describes the resulting effects on the deficit. The fourth section shows a probabilistic range of budget outcomes based on past errors in projecting the deficit. The last section discusses the relationship between structural and cyclical deficits, showing how much of the actual deficit is related to the economic cycle (e.g., the recent recession) and how much would persist even if the economy were at full employment.

Sensitivity of the Budget to Economic Assumptions

Both receipts and outlays are affected by changes in economic conditions. Budget receipts vary with individual and corporate incomes, which respond both to real economic growth and inflation. At the same time, outlays for many Federal programs are directly linked to developments in the economy. For example, most retirement and other social insurance benefit payments are tied by law to cost-of-living indices. Medicare and Medicaid outlays are

affected directly by the price of medical services. Interest on the debt is linked to market interest rates and the size of the budget surplus or deficit, both of which in turn are influenced by economic conditions. Outlays for certain benefits such as unemployment compensation and the Supplemental Nutrition Assistance Program vary with the unemployment rate.

This sensitivity complicates budget planning because differences in economic assumptions lead to changes in the budget projections. Economic forecasting inherently entails uncertainty. It is therefore useful to examine the implications of possible changes in economic assumptions. Many of the budgetary effects of such changes are fairly predictable, and a set of general principles or “rules of thumb” embodying these relationships can aid in estimating how changes in the economic assumptions would alter outlays, receipts, and the surplus or deficit. These rules of thumb should be understood as suggesting orders of magnitude; they do not account for potential secondary effects.

The rules of thumb show how the changes in economic variables affect Administration estimates for receipts and outlays, holding other factors constant. They are not a prediction of how receipts or outlays would actually turn out if the economic changes actually materialized. The rules of thumb are based on a fixed budget policy that is not always a good predictor of what might actually happen to the budget should the economic outlook change substantially. For example, unexpected downturns in real economic growth, and attendant job losses, usually give rise to legislative actions to stimulate the economy with additional countercyclical policies. Also, the rules of thumb do not reflect certain “technical” changes that often accompany the economic changes. For example, changes in capital gains realizations often accompany changes in the economic outlook. On the spending side of the budget, the rules of thumb do not capture changes in deposit insurance outlays, even though bank failures are generally associated with weak economic growth and rising unemployment.

Economic variables that affect the budget do not always change independently of one another. Output and employment tend to move together in the short run: a high rate of real GDP growth is generally associated with a declining rate of unemployment, while slow or negative growth is usually accompanied by rising unemployment, a relationship known as Okun’s Law. In the long run, however, changes in the average rate of growth of real GDP are mainly due to changes in the rates of growth of productivity and the labor force, and are not necessarily associated with changes in the average rate of unemployment. Expected inflation and interest rates are also closely interrelated: a higher expected rate of inflation increases nominal interest rates, while lower expected inflation reduces nominal interest rates.

¹ While this chapter highlights uncertainty with respect to budget projections in the aggregate, estimates for many programs capture uncertainty using stochastic modeling. Stochastic models measure program costs as the probability-weighted average of costs under different scenarios, with economic, financial, and other variables differing across scenarios. Stochastic modeling is essential to properly measure the cost of programs that respond asymmetrically to deviations of actual economic and other variables from forecast values. In such programs, the Federal Government is subject to “one-sided bets” where costs go up when variables move in one direction but do not go down when they move in the opposite direction. The cost estimates for the Pension Benefit Guarantee Corporation, student loan programs, the Troubled Asset Relief Program (TARP), and agriculture programs with price triggers all employ stochastic modeling.

Changes in real GDP growth or inflation have a much greater cumulative effect on the budget if they are sustained for several years than if they last for only one year. However, even temporary changes can have permanent effects if they permanently raise the level of the tax base or the level of Government spending. Moreover, temporary economic changes that affect the deficit or surplus change the level of the debt, affecting future interest payments on the debt. Highlights of the budgetary effects of these rules of thumb are shown in Table 3–1.

For real growth and employment:

- The first block shows the effect of a temporary reduction in real GDP growth by one percentage point sustained for one year, followed by a recovery of GDP to the base-case level (the Budget assumptions) over the ensuing two years. In this case, the unemployment rate is assumed to rise by one-half percentage point relative to the Budget assumptions by the end

Table 3–1. SENSITIVITY OF THE BUDGET TO ECONOMIC ASSUMPTIONS

(Fiscal years; in billions of dollars)

Budget effect	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total of Effects, 2012–2022
Real Growth and Employment												
Budgetary effects of 1 percent lower real GDP growth:												
(1) For calendar year 2012 only, with real GDP recovery in 2013–14: ¹												
Receipts	-14.1	-21.8	-10.2	-1.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-45.9
Outlays	3.6	8.4	4.9	2.0	2.4	2.7	2.8	2.8	2.9	3.0	3.2	38.8
Increase in deficit (+)	17.7	30.2	15.2	3.1	2.2	2.5	2.6	2.7	2.8	2.8	3.0	84.7
(2) For calendar year 2012 only, with no subsequent recovery: ¹												
Receipts	-14.1	-29.3	-33.9	-36.1	-38.5	-40.9	-43.2	-45.6	-48.1	-50.6	-53.2	-433.5
Outlays	3.6	10.2	12.4	16.1	21.5	26.5	31.2	35.2	39.4	43.9	48.7	288.6
Increase in deficit (+)	17.7	39.4	46.3	52.3	60.0	67.3	74.4	80.8	87.5	94.4	101.9	722.1
(3) Sustained during 2012 - 2022, with no change in unemployment:												
Receipts	-14.2	-45.3	-84.2	-127.8	-177.0	-231.5	-291.1	-355.2	-423.4	-496.2	-574.3	-2,820.5
Outlays	-0.4	-0.8	-0.1	3.2	10.3	18.9	29.3	41.4	56.3	74.0	95.6	327.7
Increase in deficit (+)	13.8	44.5	84.2	131.0	187.3	250.5	320.4	396.6	479.7	570.2	669.9	3,148.2
Inflation and Interest Rates												
Budgetary effects of 1 percentage point higher rate of:												
(4) Inflation and interest rates during calendar year 2012 only:												
Receipts	19.7	39.6	39.1	37.5	39.8	42.5	45.1	47.8	50.4	53.4	56.1	470.9
Outlays	30.0	52.3	42.1	40.3	39.1	38.5	36.0	36.0	34.4	35.3	35.7	419.6
Decrease in deficit (-)	10.3	12.7	2.9	2.8	-0.7	-4.0	-9.1	-11.8	-16.0	-18.1	-20.4	-51.3
(5) Inflation and interest rates, sustained during 2012 - 2022:												
Receipts	19.7	61.0	106.1	153.4	208.0	267.6	334.2	407.7	486.2	570.3	659.3	3,273.4
Outlays	26.4	78.0	120.2	161.8	205.0	247.3	288.2	334.5	381.0	430.3	484.9	2,757.4
Decrease in deficit (-)	6.7	17.0	14.1	8.4	-3.1	-20.3	-46.0	-73.2	-105.2	-140.1	-174.4	-516.0
(6) Interest rates only, sustained during 2012 - 2022:												
Receipts	5.5	16.1	23.5	28.6	34.0	38.5	43.3	50.2	56.1	59.8	62.6	418.1
Outlays	18.5	53.4	75.5	93.8	111.7	130.2	145.7	160.9	175.7	191.1	206.1	1,362.6
Increase in deficit (+)	13.0	37.3	51.9	65.1	77.7	91.7	102.5	110.7	119.6	131.3	143.5	944.5
(7) Inflation only, sustained during 2012 - 2022:												
Receipts	14.2	44.7	82.1	124.1	173.1	227.9	289.4	355.6	427.9	508.0	593.7	2,840.5
Outlays	7.9	24.8	45.2	69.1	95.3	120.3	147.2	180.3	214.7	251.6	294.8	1,451.3
Decrease in deficit (-)	-6.2	-19.8	-36.9	-54.9	-77.8	-107.5	-142.2	-175.3	-213.2	-256.4	-298.9	-1,389.2
Interest Cost of Higher Federal Borrowing												
(8) Outlay effect of \$100 billion increase in borrowing in 2012	0.1	0.4	1.2	2.5	3.9	4.6	4.9	5.2	5.4	5.7	5.9	40.0

* \$50 million or less.

¹ The unemployment rate is assumed to be 0.5 percentage point higher per 1.0 percent shortfall in the level of real GDP.

of the first year, then return to the base case rate over the ensuing two years. After real GDP and the unemployment rate have returned to their base case levels, most budget effects vanish except for persistent out-year interest costs associated with larger near-term deficits.

- The second block shows the effect of a reduction in real GDP growth by one percentage point sustained for one year, with no subsequent “catch up,” accompanying a permanent increase in the natural rate of unemployment (and of the actual unemployment rate) of one-half percentage point relative to the Budget assumptions. In this scenario, the level of GDP and taxable incomes are permanently lowered by the reduced growth rate in the first year. For that reason and because unemployment is permanently higher, the budget effects (including growing interest costs associated with larger deficits) continue to grow in each successive year.
- The budgetary effects are much larger if the growth rate of real GDP is permanently reduced by one percentage point even leaving the unemployment rate

unchanged, as might result from a shock to productivity growth. These effects are shown in the third block. In this example, the cumulative increase in the budget deficit is many times larger than the effects in the first and second blocks.

For inflation and interest rates:

- The fourth block shows the effect of a one percentage point higher rate of inflation and one percentage point higher nominal interest rates maintained for the first year only. In subsequent years, the price level and nominal GDP would both be one percentage point higher than in the base case, but interest rates and future inflation rates are assumed to return to their base case levels. Receipts increase by somewhat more than outlays. This is partly due to the fact that outlays for annually appropriated spending are assumed to remain constant when projected inflation changes. Despite the apparent implication of these estimates, inflation cannot be relied upon to lower the budget deficit, mainly because policy-makers have traditionally prevented inflation

Table 3-2. FORECAST ERRORS, JANUARY 1982-PRESENT

REAL GDP ERRORS			
2-Year Average Annual Real GDP Growth	Admin.	CBO	Blue Chip
Mean Error	0.0	-0.1	-0.2
Mean Absolute Error	1.2	1.1	1.1
Root Mean Square Error	1.6	1.5	1.5
6-Year Average Annual Real GDP Growth			
Mean Error	0.1	-0.2	-0.2
Mean Absolute Error	0.8	0.8	0.8
Root Mean Square Error	1.0	1.0	1.0
INFLATION ERRORS			
2-Year Average Annual Change in the GDP Price Index	Admin.	CBO	Blue Chip
Mean Error	0.3	0.3	0.5
Mean Absolute Error	0.7	0.8	0.8
Root Mean Square Error	0.9	0.9	1.0
6-Year Average Annual Change in the GDP Price Index			
Mean Error	0.4	0.6	0.8
Mean Absolute Error	0.7	0.9	1.1
Root Mean Square Error	0.9	1.0	1.3
INTEREST RATE ERRORS			
2-Year Average 91-Day Treasury Bill Rate	Admin.	CBO	Blue Chip
Mean Error	0.3	0.5	0.7
Mean Absolute Error	1.0	0.9	1.1
Root Mean Square Error	1.3	1.2	1.3
6-Year Average 91-Day Treasury Bill Rate			
Mean Error	0.4	0.9	1.1
Mean Absolute Error	0.9	1.2	1.2
Root Mean Square Error	1.1	1.3	1.4

from permanently eroding the real value of spending.

- In the fifth block, the rate of inflation and the level of nominal interest rates are higher by one percentage point in all years. As a result, the price level and nominal GDP rise by a cumulatively growing percentage above their base levels. In this case, again the effect on receipts is more than the effect on outlays. As in the previous case, these results assume that annually appropriated spending remains fixed under the discretionary spending limits. Over the time period covered by the budget, leaving the discretionary limits unchanged would significantly erode the real value of this category of spending.
- The effects of a one percentage point increase in interest rates alone are shown in the sixth block. The outlay effect mainly reflects higher interest costs for Federal debt. The receipts portion of this rule-of-thumb is due to the Federal Reserve's deposit of earnings on its securities portfolio and the effect of interest rate changes on both individuals' income (and taxes) and financial corporations' profits (and taxes).
- The seventh block shows that a sustained one percentage point increase in CPI and GDP price index inflation decreases cumulative deficits substantially, due in part to the assumed erosion in the real value of appropriated spending. Note that the separate

effects of higher inflation and higher interest rates shown in the sixth and seventh blocks do not sum to the effects for simultaneous changes in both shown in the fifth block. This is because the gains in budget receipts due to higher inflation result in higher debt service savings when interest rates are also assumed to be higher in the fifth block than when interest rates are assumed to be unchanged in the seventh block.

- The last entry in the table shows rules of thumb for the added interest cost associated with changes in the budget deficit, holding interest rates and other economic assumptions constant.

The effects of changes in economic assumptions in the opposite direction are approximately symmetric to those shown in the table. The impact of a one percentage point lower rate of inflation or higher real growth would have about the same magnitude as the effects shown in the table, but with the opposite sign.

Forecast Errors for Growth, Inflation, and Interest Rates

As can be seen in Table 3-1, the single most important variable that affects the accuracy of the budget projections is the forecast of the growth rate of real GDP. The rate of inflation and the level of interest rates also have substantial effects on the accuracy of projections. Table

Chart 3-1. Real GDP: Alternative Projections

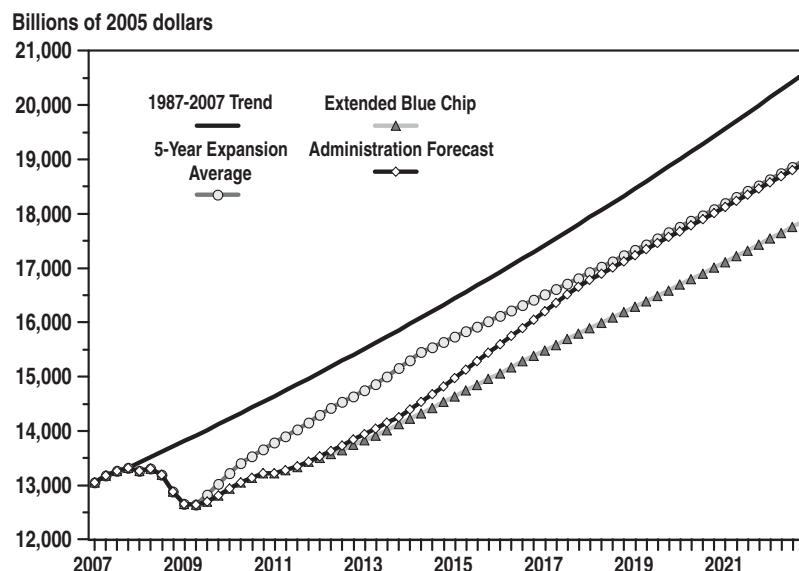


Table 3-3. BUDGET EFFECTS OF ALTERNATIVE SCENARIOS
(Fiscal years; dollar amounts in billions)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alternative Budget Deficit Projections:											
Administration Economic Assumptions	1,327	901	668	610	649	612	575	626	658	681	704
Percent of GDP	8.5%	5.5%	3.9%	3.4%	3.4%	3.0%	2.7%	2.8%	2.8%	2.8%	2.8%
Alternative Scenario 1	1,152	701	441	402	481	492	490	553	587	608	630
Percent of GDP	7.4%	4.3%	2.6%	2.2%	2.5%	2.4%	2.3%	2.5%	2.5%	2.5%	2.5%
Alternative Scenario 2	1,341	927	715	704	801	830	851	940	1002	1053	1106
Percent of GDP	8.6%	5.7%	4.2%	3.9%	4.2%	4.1%	4.0%	4.2%	4.3%	4.3%	4.3%

3-2 shows errors in short- and long-term projections for past Administrations, and compares these errors to those of CBO and the Blue Chip Consensus of private forecasters for real GDP, inflation and short-term interest rates.²

Over both a two-year and six-year horizon, the average annual real GDP growth rate was very slightly overestimated by the Administration and slightly underestimated by the CBO and Blue Chip in the forecasts made since 1982. Overall, the differences between the three forecasters were minor. The mean absolute error in the annual average growth rate was about 1.5 percent per year for all forecasters for two-year projections, and was about one-third smaller for all three for the six-year projections. The greater accuracy in the six-year projections could reflect a tendency of real GDP to revert at least partly to trend, though the overall evidence on whether GDP is mean reverting is mixed. Another way to interpret the result is that it is hard to predict GDP around turning points in the business cycle, but somewhat easier to project the six-year growth rate based on assumptions about the labor force, productivity, and other factors that affect GDP.

Inflation, as measured by the GDP price index, was overestimated by all forecasters for both the two-year and six-year projections, with larger errors for the six-year projections. This reflects the gradual disinflation over the 1980s and early 1990s, which was greater than most forecasters expected. Average errors for all three sets of forecasts since 1994 were close to zero (not shown).

The interest rate on the 91-day Treasury bill was also overestimated by all three forecasters, with errors larger for the 6-year time horizon. Again this reflects the secular decline in interest rates over the past 30 years, reflecting lower inflation for most of the period, as well as a decline in real interest rates since 2000 resulting from weakness in the economy and Federal Reserve policy. The errors were somewhat less for the Administration than for CBO and the Blue Chip forecasts.

² Two-year errors for real GDP and the GDP price index are the average annual errors in percentage points for year-over-year growth rates for the current year and budget year. For interest rates, the error is based on the average error for the level of the 91-day Treasury bill rate for the two-year and six-year period. Administration forecasts are from the budgets released starting in February 1982 (1983 Budget) and through February 2009 (2010 Budget), so that the last year included in the projections is 2010. The six-year forecasts are constructed similarly, but the last forecast used is from February 2005 (2006 Budget). CBO forecasts are from 'The Budget and Economic Outlook' publications in January each year, and the Blue Chip forecasts are from their January projections.

Alternative Scenarios

The rules of thumb described above can be used in combination to show the effect on the budget of alternative economic scenarios. Considering explicit alternative scenarios can also be useful in gauging some of the risks to the current budget projections. For example, the strength of the recovery over the next few years remains highly uncertain. Those possibilities are explored in the two alternative scenarios presented in this section and which are shown in Chart 3-1.

In the first alternative, the projected growth rate follows the average strength of the expansions that followed previous recessions in the period since World War II. Real growth beginning in the third quarter of 2009, the start of the current recovery, averages 5.9 percent over the next four quarters, followed by growth rates of 3.8 percent, 3.7 percent, 3.1 percent, and 3.8 percent, respectively, over succeeding four-quarter intervals. The unemployment rate is also adjusted for the difference in growth rates using Okun's Law. In this case, the level of real GDP is substantially higher at the beginning of the current forecast period than in the Administration's projections, because the current recovery got off to a relatively slow start in 2009-2010. However, real GDP growth in the Administration's projections is similar to this alternative in the out years, and the unemployment rates are also similar by the end of the period. The Administration is projecting an average postwar recovery, but one that takes longer to gain traction because of the depth of the recession and the lingering effects of the financial crisis.

The second alternative scenario assumes that real GDP growth and unemployment beginning in 2010:Q4 follow the projections in the January Blue Chip forecast through the end of 2013 and that growth in 2014-2022 follows the path laid out in the October 2011 extension of the Blue Chip forecast. In this case, after 2011, the level of GDP remains lower than the Administration's forecast throughout the projection period. This alternative does not include a real recovery from the loss of output during the 2008-2009 downturn. Growth returns to normal, but without a substantial catch-up to make up for previous output losses. In effect, this alternative assumes there was a permanent loss of output resulting from the shocks experienced during the downturn.

Table 3-3 shows the budget effects of these alternative scenarios compared with the Administration's

Table 3-4. THE STRUCTURAL BALANCE
(Fiscal years; in billions of dollars)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Unadjusted surplus (-) or deficit	160.7	458.6	1,412.7	1,293.5	1,299.6	1,326.9	901.4	667.8	609.7	648.8	612.4	575.5	625.7	657.9	680.7	704.3
Cyclical component	-106.3	-24.4	375.4	502.4	527.3	572.6	584.4	593.3	452.5	300.0	159.3	47.6	13.4	1.3	0.0	0.0
Structural surplus (-) or deficit	267.0	483.0	1,037.3	791.1	772.3	754.4	317.0	74.5	157.2	348.7	453.1	527.8	612.4	656.6	680.7	704.3

	(Fiscal years; percent of Gross Domestic Product)															
Unadjusted surplus (-) or deficit	1.2%	3.2%	10.1%	9.0%	8.7%	8.5%	5.5%	3.9%	3.4%	3.4%	3.0%	2.7%	2.8%	2.8%	2.8%	2.8%
Cyclical component	-0.8%	-0.2%	2.7%	3.5%	3.5%	3.7%	3.6%	3.5%	2.5%	1.6%	0.8%	0.2%	0.1%	0.0%	0.0%	0.0%
Structural surplus (-) or deficit	1.9%	3.4%	7.4%	5.5%	5.2%	4.8%	1.9%	0.4%	0.9%	1.8%	2.2%	2.5%	2.7%	2.8%	2.8%	2.8%

NOTE: The NAIRU is assumed to be 5.4%.

economic forecast. Under the first alternative, budget deficits are modestly lower in each year compared to the Administration’s forecast. In the second alternative, the deficit becomes progressively larger than the Administration’s projection.

Many other scenarios are possible, of course, but the point is that the most important influences on the budget projections beyond the next year or two are the rate at which output and employment recover from the recession and the extent to which potential GDP returns to its pre-recession trend.

Uncertainty and the Deficit Projections

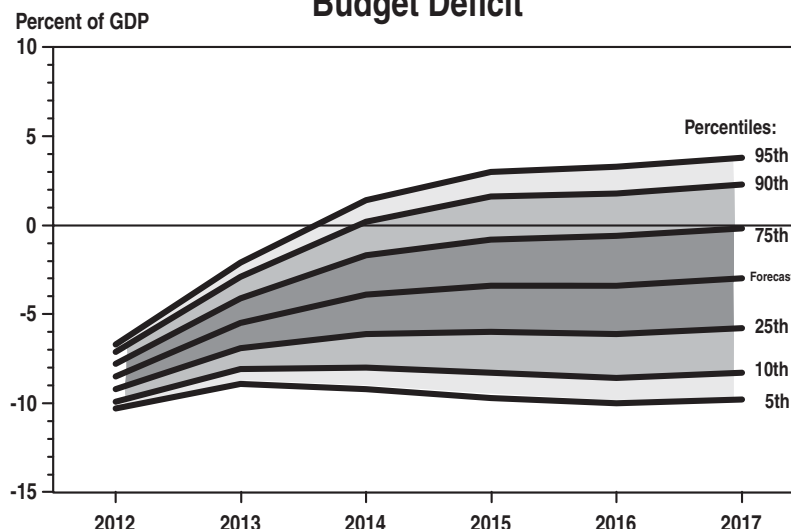
The accuracy of budget projections depends not only on the accuracy of economic projections, but also on technical factors and the differences between proposed policy and enacted legislation. Chapter 30 provides detailed information on these factors for the budget year projections (Table 30-6), and also shows how the deficit projections compared to actual outcomes, on average, over a five-year window using historical data from 1982 to 2011 (Table

30-7). The error measures can be used to show a probabilistic range of uncertainty of what the range of deficit outcomes may be over the next five years relative to the Administration’s deficit projection. Chart 3-2 shows this cone of uncertainty, which is constructed under the assumption that future forecast errors would be governed by the normal distribution with a mean of zero and standard error equal to the root mean squared error, as a percent of GDP, of past forecasts. The deficit is projected to be 3.0 percent of GDP in 2017, but has a 90 percent chance of being within a range of a surplus of 3.8 percent of GDP and a deficit of 9.8 percent of GDP.

Structural and Cyclical Deficits

As shown above, the budget deficit is highly sensitive to the business cycle. When the economy is operating below its potential and the unemployment rate exceeds the level consistent with price stability, receipts are lower, outlays are higher, and the deficit is larger than it would be otherwise. These features serve as “automatic stabilizers” for the economy by restraining output when the

Chart 3-2. Range of Uncertainty for the Budget Deficit



economy threatens to overheat and cushioning economic downturns. They also make it hard to judge the overall stance of fiscal policy simply by looking at the unadjusted budget deficit.

An alternative measure of the budget deficit is called the structural deficit. This measure provides a more useful perspective on the stance of fiscal policy than does the unadjusted unified budget deficit. The portion of the deficit traceable to the automatic effects of the business cycle is called the cyclical component. The remaining portion of the deficit is called the structural deficit. The structural deficit is a better gauge of the underlying stance of fiscal policy than the unadjusted unified deficit because it removes most of the effects of the business cycle. So, for example, the structural deficit would include fiscal policy changes such as the 2009 Recovery Act, but not the automatic changes in unemployment insurance or reduction in tax receipts that would have occurred without the Act.

Estimates of the structural deficit, shown in Table 3-4, are based on the historical relationship between changes in the unemployment rate and real GDP growth, as well as relationships of unemployment and real GDP growth with receipts and outlays. These estimated relationships take account of the major cyclical changes in the economy and their effects on the budget, but they do not reflect all the possible cyclical effects on the budget, because economists have not been able to identify the cyclical factor in some of these other effects. For example, the sharp decline in the stock market in 2008 pulled down capital gains-related receipts and increased the deficit in 2009 and beyond. Some of this decline is cyclical in nature, but economists have not pinned down the cyclical component of the stock market with any precision, and for that reason, all of the stock market's contribution to receipts is counted in the structural deficit.

Another factor that can affect the deficit and is related to the business cycle is labor force participation. Since the official unemployment rate does not include workers who have left the labor force, the conventional measures

of potential GDP, incomes, and Government receipts understate the extent to which potential work hours are under-utilized because of a decline in labor force participation. The key unresolved question here is to what extent changes in labor force participation are cyclical and to what extent they are structural. By convention, in estimating the structural budget deficit, all changes in labor force participation are treated as structural.

There are also lags in the collection of tax revenue that can delay the impact of cyclical effects beyond the year in which they occur. The result is that even after the unemployment rate has fallen, receipts may remain cyclically depressed for some time until these lagged effects have dissipated. The recent recession has added substantially to the estimated cyclical component of the deficit, but for all the reasons stated above, the cyclical component is probably an understatement. As the economy recovers, the cyclical deficit is projected to decline and after unemployment reaches 5.4 percent, the level assumed to be consistent with stable inflation, the estimated cyclical component vanishes, leaving only the structural deficit, although some lagged cyclical effects would arguably still be present.

Despite these limitations, the distinction between cyclical and structural deficits is helpful in understanding the path of fiscal policy. The large increase in the deficit in 2009 and 2010 is due to a combination of both components of the deficit. There is a large increase in the cyclical component because of the rise in unemployment. That is what would be expected considering the severity of the recent recession. Finally, there is a large increase in the structural deficit because of the policy measures taken to combat the recession. This reflects the Government's decision to make active use of fiscal policy to lessen the severity of the recession and to hasten economic recovery. In 2011–2017, the cyclical component of the deficit is projected to decline sharply as the economy recovers. The structural deficit shrinks during 2011–2013 as the temporary spending and tax measures in the Recovery Act end.

4. FINANCIAL STABILIZATION EFFORTS AND THEIR BUDGETARY EFFECTS

In response to the financial crisis of 2008, the U.S. Government took unprecedented and decisive action to mitigate damage to the U.S. economy and financial markets. The Department of the Treasury, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the National Credit Union Administration, the Securities and Exchange Commission, and the Commodity Futures Trading Commission worked cooperatively under the direction of the Administration to expand access to credit, strengthen financial institutions, restore confidence in U.S. financial markets, and stabilize the housing sector. In 2010, the President signed into law comprehensive Wall Street reform to ensure that the Government has the tools and authority to prevent another crisis of this magnitude, to resolve significant financial institution failures more effectively, and to protect consumers of financial products. In 2011, the Administration continued its work to operationalize these Wall Street reforms, including taking the necessary steps to ensure that the Consumer Financial Protection Bureau is able to exercise the full range of its statutory consumer protection authorities.

This chapter provides a summary of key Government programs supporting economic recovery and financial market reforms, followed by a report analyzing the cost and budgetary effects of the Treasury's Troubled Asset Relief Program (TARP), consistent with Sections 202 and 203 of the Emergency Economic Stabilization Act (EESA) of 2008 (P.L. 110-343), as amended. This report analyzes transactions as of November 30, 2011, and expected transactions as reflected in the Budget. The TARP costs discussed in the report and included in the Budget are the estimated present value of the TARP investments, reflecting the actual and expected dividends, interest, and principal redemptions the Government receives against its investments; this credit reform treatment of TARP transactions is authorized by Section 123 of EESA.

The Treasury's authority to make new TARP commitments expired on October 3, 2010. However, Treasury continues to manage the outstanding TARP investments, and is authorized to expend additional TARP funds pursuant to obligations entered into prior to October 3, 2010. In July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act reduced total TARP purchase authority to \$475 billion.

The Administration's current estimate of TARP's deficit cost for its cumulative \$470.7 billion in obligations is \$68 billion (see Tables 4-1 and 4-7). This estimated direct impact of TARP on the deficit has been reduced by \$273 billion from the highest cost estimate, published in the Mid-Session Review of the 2010 Budget (2010 MSR), due to improvements in the estimated returns on TARP investments and lower overall TARP obligations. The

Treasury has received higher-than-expected repayments and redemptions from TARP recipients. Notably, a total of \$245 billion was invested in banking institutions, and as of December 31, 2011, Treasury had recovered more than \$258 billion from these institutions through repayments, dividends, interest, and other income. The 2012 MSR estimated a \$47 billion deficit cost of purchases and guarantees associated with an estimated \$471 billion in obligations. Section 123 of EESA requires TARP costs to be estimated on a net present value basis adjusted to reflect a premium for market risk. As investments are liquidated, their actual costs (including any market risk effects) become known and are reflected in reestimates. It is likely that the total cost of TARP to taxpayers will eventually be lower than current estimates using the market-risk adjusted discount rate, but that cost will not be fully known until all TARP investments have been extinguished. (See Table 4-9 for an estimate of TARP subsidy costs stripped of the market-risk adjustment.)

Progress in Implementation of Wall Street Reforms

On July 21, 2010, just over a year after the Administration delivered its financial reform proposal to Congress, the President signed into law the Dodd-Frank Wall Street Reform and Consumer Protection Act¹ (the "Wall Street Reform Act" or the "Act"). The Act implements the Administration's critical objectives, which include: to help prevent future financial crises in part by filling gaps in the U.S. regulatory regime; to better protect consumers of financial products and services; to prevent unnecessary and harmful risk taking that threatens the economy; and to provide the Government with more effective tools to manage financial crises. Important milestones in the implementation of the Act include:

Orderly Liquidation Authority (OLA): The Act makes clear that no financial firm will be considered "too big to fail" in the future. Instead, the Federal Deposit Insurance Corporation (FDIC) now has the ability to unwind failing systemically-significant, nonbank financial institutions in an orderly manner to prevent widespread disruptions to U.S. financial stability. Through its new orderly liquidation authority under the Act, the FDIC serves as receiver of financial institutions whose failure is determined to pose a significant systemic risk to U.S. financial stability. On July 6, 2011, the FDIC, in consultation with the Financial Stability Oversight Council (FSOC), approved a final rule with respect to OLA which, among other things, clarified provisions governing clawback of executive compensation and identified the treatment of secured creditors and contingent claims. On September 13, 2011, the FDIC and the Federal Reserve Board (FRB) issued a joint final rule to implement resolution plan requirements or

¹ P.L. 111-203.

“living wills” for certain nonbank financial companies and bank holding companies, which in the case of default are essential to ensuring organized and least-costly resolutions for large and complex financial institutions. Moreover, as of preparation of this Budget, the FDIC, in consultation with the FSOC, had approved a Notice of Proposed Rulemaking (NPR) governing the calculation of the Maximum Obligation Limit, which would dictate the amount that the FDIC may borrow from Treasury in the event of an orderly liquidation. The Act requires that all net costs of liquidation be recovered by assessing fees after the fact on large financial institutions so that taxpayers incur no costs. According to Title II of the Act, FDIC costs associated with administering OLA are covered by the FSOC and are included in this Budget.

While the Budget includes an estimated cost to the Government that is based on the probability of default under this enhanced orderly liquidation authority, the total costs of any liquidation will be, by law, recovered in full, so there is no cost to the taxpayer. The displayed cost from this authority of \$19 billion over the budget period is due to the fact that cost recovery occurs only after liquidation expenses are incurred.

Monitoring Systemic Risk: The Act also established the Financial Stability Oversight Council (FSOC) to identify, monitor, and respond to emerging threats to U.S. financial stability. The FSOC is charged with coordinating the financial regulatory framework across the various Federal agencies by harmonizing prudential standards and addressing gaps in the U.S. regulatory regime. The FSOC in an independent council chaired by the Secretary of the Treasury, with the heads of the Federal financial regulators and an independent insurance expert serving as voting members. The FSOC has held 12 meetings, with the initial focus on fulfilling statutory requirements established by the Wall Street Reform Act. The FSOC has moved quickly, while emphasizing the importance of transparency and stakeholder collaboration throughout the process. As part of its macro-prudential mandate, the FSOC published an NPR in January 2011, establishing the criteria for which nonbank, systemically-significant financial institutions will be designated for heightened supervision by the Federal Reserve. This rule received a significant number of public comments and, therefore, the FSOC re-proposed this NPR in October 2011 in order to bring more clarity to the market and provide market participants additional time to comment on this substantial rulemaking. On July 18, 2011, the FSOC also finalized a rule regarding the criteria for designating financial market utilities (FMU), such as clearinghouses, as systemically important, thus requiring designated FMUs to meet certain risk management standards and undergo additional examinations. The FSOC has also conducted studies and made recommendations on a number of topics, notably the effective implementation of the Volcker Rule as established in the Wall Street Reform Act. The Volcker Rule was authorized to reduce risk-taking and increase stability in the banking sector by prohibiting Federally-insured banking institutions, subject to certain exceptions, from engaging in proprietary trading and investing

in hedge funds and private equity firms. Going forward, the FSOC will continue to monitor and track the prevalent risk in the financial system with a focus on housing, commodity market volatility, the European financial markets, and the U.S. fiscal position.

The Act established the Financial Research Fund (FRF) to fund the FSOC and the Office of Financial Research (OFR), which is a component of the FSOC created, to improve the quality of financial data available to policymakers and to facilitate more robust and sophisticated analysis of the financial system. The OFR is in the process of comprehensively cataloguing the data that are currently collected by U.S. financial regulators in order to identify deficiencies and redundancies in the existing regulatory framework, as well as enhancing the quality of the financial data infrastructure through the promotion of a global Legal Entity Identifier (LEI) for financial institutions. There is no net taxpayer cost for these activities. As specified in the Act, the Budget reflects funding for the FSOC and OFR through transfers from the Federal Reserve for 2011 and 2012; thereafter, both entities will be fee-funded.

Enhanced Consumer Protection: The Wall Street Reform Act created a single independent regulator – the Consumer Financial Protection Bureau (CFPB) – whose sole mission is to look out for consumers in the increasingly complex financial marketplace. The CFPB consolidates the regulation and enforcement of existing consumer financial products, services and laws, and issues and enforces new regulations on nonbank financial institutions (e.g., payday lenders and credit providers). On July 21, 2011, the Treasury Department transferred power to the CFPB, one year after the agency was created by the Wall Street Reform Act. On January 4, 2012, Richard Cordray was appointed Director of the Bureau, and with his appointment, the CFPB is now able to implement the full range of its authorities. The CFPB is authorized to enforce existing consumer financial protection regulations affecting banks and affiliates (those with over \$10 billion in assets), as transferred to the CFPB by the seven regulatory agencies whose regulatory authority was consolidated in the Bureau under the Act. Notable existing regulations include the Fair Credit Reporting Act, Truth in Lending Act, and the Real Estate Settlement Procedures Act. The CFPB is also authorized to issue and enforce new rulemakings pertaining to prohibiting unfair, deceptive, or abusive practices and ensuring that the features of a consumer financial product or service are fairly, accurately, and effectively disclosed. In addition, the CFPB is charged with supervising nonbank financial firms in specific markets regardless of size, such as mortgage lenders, consumer reporting agencies, debt collectors, private education lenders, and payday lenders. In July, the CFPB debuted its toll-free telephone number for consumers to file and track complaints, along with a Web-based system for consumers to file credit card complaints. The CFPB has also proposed new, simplified mortgage disclosure forms to aid consumers in comparing mortgage products, and unveiled its Know Before You Owe prototype credit card disclosure form. On January 5, 2012, the CFPB

launched the Nation's first nonbank supervision program. The Bureau's approach to nonbank examination will be the same as its approach for banks. In October 2011 and January 2012, respectively, the Bureau released a general CFPB Examination Manual to guide examination processes for banks and nonbanks, as well as the Mortgage Origination Examination Manual, which specifically outlines procedures for supervising mortgage originators in both the banking and non-banking sectors. The CFPB is funded through transfers from the Federal Reserve and has authority, in the event of a funding shortfall, to request that Congress appropriate additional discretionary funds from 2010 to 2014. No such request is expected over the Budget horizon. The Budget reflects funding for the CFPB through these authorized transfers from the Federal Reserve, estimated at \$448 million in 2013.

Deposit and Share Insurance and their Coverage: The Wall Street Reform Act permanently increased the standard maximum deposit and share insurance amounts from \$100,000 to \$250,000, which applies to both the FDIC and the National Credit Union Administration, and requires the FDIC to base deposit insurance premiums on an insured depository institution's total liabilities instead of total insured deposits. To improve the security of the FDIC fund backing this insurance, the Act requires the FDIC to increase the reserve ratio of the Deposit Insurance Fund (DIF) to at least 1.35 percent of total insured deposits by September 30, 2020, resulting in an increase in assessments on deposit institutions. These changes are reflected in the Budget and their effects are discussed in greater detail in the Credit and Insurance chapter in this volume.

Increased Transparency in Financial Markets: As the regulators of U.S. financial markets, the Securities and Exchange Commission (SEC) and Commodity Futures Trading Commission (CFTC) are key components of the Administration's efforts to reform dangerous Wall Street practices that threaten economic stability. Both agencies have worked tirelessly over the past three years to address many of the root causes of the crisis, to adapt their organizations to more effectively monitor regulated industries and activities, and to implement enforcement strategies designed to both punish noncompliant actors and deter noncompliance system-wide. In 2011, the SEC brought new sophistication to core agency functions, began implementing complex and comprehensive Wall Street Reform Act mandates, advanced an investor-focused agenda, and improved the productivity of its 3,800 member staff.

Over the past year, new specialized SEC Enforcement Division units continued to build expertise in complex, high-priority areas. Complementing this new organization was the increasing use of sophisticated analytic tools and data-based templates that identify suspicious trading patterns and activities, allowing Enforcement to more quickly identify and pursue unlawful conduct in the marketing, sale, and trading of securities products. In 2011, the SEC filed 735 enforcement actions—more than it ever filed in a single year. As a result of this aggressive enforcement agenda, the SEC obtained more than \$2.8 billion in ill-gotten gains and penalties in 2011. As part of

its enforcement efforts, the SEC has continued to bring actions against those suspected of misconduct related to the financial crisis of 2008. To date, the SEC has filed 36 separate actions in financial crisis-related cases against 81 defendants—nearly half of whom were CEOs, CFOs, and senior corporate executives of public companies—resulting in approximately \$1.97 billion in ill-gotten gains, penalties, and monetary relief obtained on behalf of the American people.

The Wall Street Reform Act tasked the SEC with writing a large number of new rules. In addition to managing the complexity and interrelatedness of the mandated rules, the SEC has worked to provide certainty to financial markets and participants by finalizing rules as quickly as possible without compromising the agency's ability to review, evaluate, and make changes to reflect the large number of public comments received on its proposed rulemakings. By December 31, 2011, the SEC had proposed or adopted more than three-fourths of the rules required by the Act. Among its accomplishments in reform rulemaking, the SEC has: proposed rules that will improve the integrity of the process that yielded so many flawed ratings of subprime mortgage products, by increasing transparency of the rating process and of the agencies that produce ratings, and by protecting against conflicts of interest when entities or individuals provide ratings for their clients; made available to regulators and the investing public information about the identities, size, and disciplinary history of hedge fund and other private fund advisers, enabling more efficient investing and more effective oversight of these previously unregulated entities; and worked with the CFTC to develop the regulatory blueprint and requirements for a transparent, efficient, and competitive marketplace for over-the-counter swaps and derivatives.

The SEC has also initiated a review of its offering rules to evaluate their impact on small business capital formation and to consider appropriate changes to boost participation and reduce barriers to entry. As part of this effort, the SEC created an Advisory Committee on Small and Emerging Companies.

In addition to its longstanding responsibility to ensure fair, open, and efficient future markets, the Wall Street Reform Act authorized the CFTC regulate the swaps marketplace through oversight of derivatives dealers and open trading and clearing of standardized derivatives on regulated platforms. To adapt its mission to include these new responsibilities, the CFTC is drafting numerous rules required to implement the Act. Through September 30, 2011, CFTC issued 52 proposed rules and 15 final rules; received, reviewed and analyzed approximately 28,000 comments; and held 14 technical conferences. The CFTC anticipates completion of the vast majority of the rules required by the Wall Street Reform Act by March 2012, and essentially all rules by July 2012—within 24 months of enactment of the Act.

While devoting significant resources to timely and thorough implementation of new Wall Street Reform Act authorities, the CFTC has continued its market surveillance and enforcement activities. The Commission under-

took 99 enforcement actions in 2011, the highest in the agency's history and a 74 percent increase over the prior fiscal year. The Commission also opened more than 450 investigations. More than 70 indictments and convictions were obtained in criminal cases related to CFTC enforcement actions. The most notable fraud case was *CFTC vs. Walsh, et al.*, where the Court ordered an initial distribution and return of approximately \$792 million to commodity pool investors.

The CFTC has actively consulted with other Federal financial regulators, as well as international counterparts, to ensure harmonization of new proposed rules. Additionally, the CFTC has demonstrated a commitment to public transparency in its adoption of Wall Street Reform Act implementing regulations, requesting and incorporating input from the public during the earliest stages of rule development, publishing a wide variety of materials and disclosures on its website, and conducting all Commission reviews of proposed rules in open forums.

The CFTC's review of Designated Contract Markets has been extremely limited due to funding constraints over the last year, which presents an oversight risk of exchanges that are responsible for the vast majority of U.S. futures trading volume. Annual reviews of major exchanges are important to provide assurance to the public and other regulators of the exchanges' ongoing core principle compliance. The Commission did review Self-Regulatory Organizations (SROs) to assess compliance with the CEA and Commission requirements and deficiencies noted were communicated to the SRO in draft form.

The next two years will be critical for the SEC and the CFTC as the agencies continue to identify and pursue unlawful activities stemming from the 2008 financial crisis and to operationalize the mandates of the Wall Street Reform Act.

On top of its traditional market oversight and investor protection responsibilities, the SEC will fully implement the following new authorities in 2012 and 2013: oversight and examination of new security-based swap clearing agencies, dealers, and data repositories; oversight and examination of private fund advisers managing thousands of pooled investment vehicles that will be newly registered with the SEC; reviewing disclosures of asset-backed securities issuers; registration of municipal advisers; and enhanced supervision of credit rating agencies. In addition, the SEC will continue the work of strengthening its core programs and operations, including detecting and pursuing securities fraudsters, reviewing public company disclosures and financial statements, inspecting the activities of investment advisers, investment companies, broker-dealers, and other registered entities, and maintaining fair and efficient markets. Building on a 2009 reorganization and recommendations from consultants and auditors, the SEC will focus its efforts on increasing coverage of registered investment advisory firms by adding new positions to the examination program; enhancing disclosure reviews of large or financially significant companies; and leveraging technology to streamline operations and bolster program effectiveness. All of these responsibilities are essential to restoring investor confi-

dence and trust in financial institutions and markets in the wake of the 2008 financial crisis. In support of the SEC's mission, the President's Budget provides \$1,566 million in new resources, an increase of \$242 million over the agency's 2012 appropriation. The Budget also projects that the SEC will obligate \$50 million from its mandatory Reserve Fund for investments in information technology systems and other necessary improvements.

The President's Budget provides significant increases for the CFTC in 2013 in support of base regulatory work as well as Wall Street Reform Act implementation. For CFTC, \$308 million is provided, an increase of \$103 million or 50 percent over 2012. Additionally, the Administration urges the Congress to enact legislation authorizing the CFTC to collect user fees to fund its activities. Such legislation would bring the CFTC into line with all other Federal financial regulators, which are funded in whole or in part through user fees. Upon enactment of legislation permitting the CFTC to collect user fees, the Administration will transmit a budget amendment to reflect the funding of CFTC's 2013 appropriation through offsetting collections.

Streamlined Insurance Sector Regulation. The Federal Insurance Office (FIO), housed within the Treasury, was established by the Wall Street Reform Act to "monitor all aspects of the insurance industry, including identifying issues or gaps in the regulation of insurers that could contribute to" systemic risk. The FIO was created, in part, to streamline what is currently a decentralized regulatory regime. On October 17, 2011, the FIO announced that it was seeking public comment for its first mandatory report under the Act on how to modernize and improve the country's insurance regulatory system. The FIO will also play a role in support of FSOC; it will advise the Secretary on international issues related to insurance investment risk and regulation, and it will assume responsibility for the Treasury's Terrorism Risk Insurance Program. In May 2011, Treasury announced the formation of a Federal Advisory Committee on Insurance to offer recommendations to the FIO on issues related to the FIO's responsibilities. The vision for the FIO is that it will also provide the Federal Government with the ability to immediately estimate exposures related to catastrophic events, such as the September 11th terrorist attacks or Hurricane Katrina. The FIO is funded with discretionary resources through the Treasury's Departmental Offices (DO) request, and the Budget includes funding for this office.

International Financial Reform. The financial crisis was an international event not limited to U.S. markets, corporations, and consumers. In addition to its demonstrated commitment to achieving meaningful financial reform at home, the Administration continues to ensure coordination of financial reform principles across the globe. At the G-20 Summit in Pittsburgh in September 2009, President Obama and other G-20 leaders established the G-20 as the premier forum for international economic cooperation. Over the course of Summits held in London (April 2009), Pittsburgh (September 2009), Toronto (June 2010), Seoul (November 2010), and Cannes (November 2011), the Administration and G-20 leaders have committed to an ambitious agenda for financial regulatory re-

form. Their reform commitments have extended the scope of regulation, will improve transparency and disclosure, and will strengthen banks through increased and higher quality capital and introduction of a leverage ratio that will limit the amount banks may lend relative to their capital reserves. Together, the U.S. and its global allies are building effective resolution regimes, including cross-border resolution frameworks, and are developing higher prudential standards for systemically important financial institutions to reflect the greater risk those institutions pose to financial system stability. Treasury Secretary Geithner and others in the Administration have ensured that these commitments are fully consistent with our domestic financial reform agenda.

The Administration continues to work cooperatively with its G-20 partners to close regulatory gaps. These efforts reflect the parties' recognition of the interconnectedness of financial markets and the need to preclude opportunities for regulatory arbitrage, in which firms seek jurisdictions and financial instruments that are less regulated and, in doing so, allow risk to build up covertly, posing a threat to financial stability. In developing regulatory reforms that strengthen the resilience of the financial system to withstand the level of stress seen in the crisis, the Administration and its G-20 partners have remained mindful of the need to undertake reform in ways consistent with cultivating vibrant, innovative, and healthy markets that can do what financial markets do best: allocate scarce resources efficiently.

Federal Reserve Programs

Beginning in August 2007, the Federal Reserve responded to the crisis by implementing a number of programs designed to support the liquidity positions of financial institutions and foster improved conditions in financial markets. The Federal Reserve actions can be divided into three groups. The first set of tools involved the provision of short-term liquidity to banks and other financial institutions through the traditional discount window to stem the precipitous decline in interbank lending. The Term Auction Facility (TAF), which was created in December 2007, allowed depository institutions to access Federal Reserve funds through an auction process, wherein depository institutions bid for TAF funds at an interest rate that was determined by the auction. The final TAF auction was held in March 2010 and, in total, the Federal Reserve disbursed over \$3.8 trillion in TAF loans. All TAF loans were repaid in full, with interest. The Federal Reserve also initiated the Term Securities Lending Facility (TSLF) and the Primary Dealer Credit Facility (PDCF), both of which provided additional liquidity to the system and helped stabilize the broader financial markets. The PDCF and TSLF expired on February 1, 2010, consistent with the Federal Reserve's June 2009 announcement.

The second set of tools involved the provision of liquidity directly to borrowers and investors in key credit markets. The Commercial Paper Funding Facility (CPFF), Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), Money Market Investor

Funding Facility (MMIFF), and the Term Asset-Backed Securities Loan Facility (TALF) fall into this category. As a third set of instruments, the Federal Reserve expanded its traditional tool of open market operations to support the functioning of credit markets through the purchase of longer-term secondary market securities for the Federal Reserve's System Open Market Account portfolio. In light of improved functioning of financial markets, many of the new programs have expired or been closed including the MMIFF (October 30, 2009), AMLF (February 1, 2010), and CPFF (February 1, 2010).

To address the frozen consumer and commercial credit markets, the Federal Reserve announced on November 25, 2008, that in conjunction with the Treasury Department it would lend up to \$200 billion to holders of newly issued AAA-rated asset-backed securities through the TALF. The program was expanded as part of the Administration's Financial Stability Plan and launched in March 2009. The program supported the issuance of asset-backed securities collateralized by student loans, auto loans, credit card loans, Small Business Administration guaranteed loans, commercial mortgage loans, and certain other loans. As part of the program, Treasury provided through TARP authorities protection to the Federal Reserve by originally covering the first \$20 billion in losses on all TALF loans. However, in July 2010, Treasury, in consultation with the Federal Reserve, reduced its loss-coverage to \$4.3 billion, which represented approximately 10 percent of the total \$43 billion outstanding in the facility when the program was closed to new lending on June 30, 2010.

To support mortgage lending and housing markets, the Federal Reserve began purchasing up to \$175 billion of Government-Sponsored Enterprise (GSE) debt and up to \$1.25 trillion of GSE mortgage-backed securities (MBS) beginning in December 2008. The Federal Reserve completed its purchase of \$1.25 trillion in GSE MBS in March 2010, and purchased \$172.1 billion of GSE debt as of December 2011. Purchasing GSE debt and MBS has provided liquidity to the mortgage market, which facilitated the issuance of new mortgage loans to homebuyers at affordable interest rates. The Federal Reserve also purchased \$300 billion in longer-term Treasury securities in 2009 to improve interest rate conditions in mortgage and other private credit markets.

To support a stronger paced economic recovery, in November 2010 the Federal Reserve announced plans to purchase up to \$600 billion of additional long-term Treasury securities as part of its "quantitative easing" program. The purchases were extended over an eight-month period; however, the Federal Open Market Committee stipulated that it would continually monitor economic conditions and alter the timing and amount of purchases of Treasury securities, as necessary, to maximize employment and maintain price stability, consistent with its statutory mandate.

Earnings resulting from the expansion of the Federal Reserve's balance sheet through the purchase of GSE debt, GSE MBS, and long-term Treasury securities have increased the profits the Federal Reserve remits to the Treasury, reducing the budget deficit. In 2011, Treasury

received \$82.6 billion from the Federal Reserve, which represents a 9 percent increase over 2010 deposits. The Budget projects Treasury will receive \$81.3 billion and \$80.5 billion from the Federal Reserve in 2012 and 2013, respectively.

Federal Deposit Insurance Corporation (FDIC) Programs

Using its existing authority, the FDIC created the Temporary Liquidity Guarantee Program (TLGP) in October 2008, to help restore confidence in the banking sector and prevent large scale deposit flight. There are two components to the TLGP: the Debt Guarantee Program and the Transaction Account Guarantee (TAG). For the first time ever, the Debt Guarantee Program (DGP) allowed participating institutions (banks and their holding companies and affiliates) to issue FDIC-guaranteed senior secured debt. Therefore, if a participating institution defaulted on its debt, the FDIC would make required principal and interest payments to unsecured senior debt holders. The FDIC charged additional fees and surcharges for any participating institutions that voluntarily opted into this program. Originally, the guarantee was limited to unsecured debt issued between October 14, 2008, and June 30, 2009, and the FDIC debt guarantee coverage extended through June 30, 2012. On March 17, 2009, the FDIC extended coverage to debt issued through October 31, 2009, and extended the guarantee through December 31, 2012. The FDIC also levied a surcharge on debt issued between April 1, 2009, and October 31, 2009, which was transferred to the Deposit Insurance Fund. On October 20, 2009, the FDIC adopted a final rule reaffirming that the FDIC will not guarantee any debt issued after October 31, 2009. The rule also established a limited, six-month emergency guarantee facility upon expiration of the program; however, this facility was never utilized. As of September 30, 2011, there was \$224.9 billion of debt outstanding in the senior unsecured debt guarantee program.

TAG, the second component of the TLGP, extended an unlimited FDIC guarantee to participating insured depository institutions on non-interest bearing transaction account deposits, which included low-interest negotiable order of withdrawal (NOW) accounts and Interest on Lawyers Trust Accounts (IOLTAs). The FDIC charged additional premiums for any banks that voluntarily opted into this program. This guarantee was designed to protect small business payrolls held at small and medium sized banks.

The Wall Street Reform Act modified authorities for these programs and authorized the FDIC to provide two years of unlimited insurance coverage, through the Deposit Insurance Fund, for non-interest bearing transaction account deposits starting on December 31, 2010 (excluding NOW accounts and IOLTAs). However, the Permanent Federal Deposit Insurance Coverage for Interest on Lawyers Trust Accounts Act (P.L. 111-343) enacted on December 29, 2010, extended the two years of unlimited coverage to IOLTAs as well, though not the NOW accounts. The coverage extended through the Act is provided to all insured institutions and there are no

separate fees associated with this coverage. Due to the passage of the Act, the FDIC Board adopted a final rule in October 2010, stating that the TAG would not be extended beyond its December 31, 2010, expiration date. The Budget reflects TAG account transactions for the first quarter of 2011, after which losses on non-interest bearing transaction accounts are reflected in the FDIC's Deposit Insurance Fund.

The FDIC has further collaborated with the Treasury Department and the Federal Reserve to provide exceptional assistance to institutions such as Citigroup. Alongside the Treasury and the Federal Reserve, the FDIC guaranteed up to \$10 billion of a \$301 billion portfolio of residential and commercial mortgage-backed securities at Citigroup. The guarantee was terminated in December 2009 as part of a larger Citigroup initiative to repay Federal support.

For a more detailed analysis of active FDIC programs, see the section titled, "Deposit Insurance" in the Credit and Insurance chapter in this volume.

National Credit Union Administration (NCUA) Programs

The NCUA has continued to take aggressive actions in response to dislocations in financial markets in order to maintain member and investor confidence, limit losses, and promote recovery in the credit union system. These actions have included raising the deposit insurance coverage to \$250,000 in 2009, providing liquidity loans to member credit unions totaling \$24 billion, and stabilizing five credit unions through conservatorship. NCUA has also executed multiple programs amidst the economic crises to ensure liquidity and ultimately the continued safety and soundness of the credit union system, including the Corporate System Resolution Program under the Temporary Corporate Credit Union Stabilization Fund.

For a more detailed analysis of active NCUA programs, see the section titled, "Deposit Insurance" in the Credit and Insurance chapter in this volume.

Housing Market Programs under the Housing and Economic Recovery Act

To avoid a possible collapse of the housing finance market and further risks to the broader financial market, the Federal Housing Finance Agency (FHFA) placed the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) into conservatorship on September 6, 2008. On the following day, the U.S. Treasury launched three new programs to provide temporary financial support to these housing Government-Sponsored Entities (GSEs) and to stabilize the housing market under the broad authority provided in the Housing and Economic Recovery Act (HERA) of 2008 (P.L. 110-289). First, the Treasury Department provided capital to the GSEs through Senior Preferred Stock Purchase Agreements (PSPAs) to ensure that the GSEs maintain a positive net position (i.e., assets are greater than or equal to liabilities). On December 24, 2009, Treasury announced that the funding commitments in the purchase agreements would be modified to

the greater of \$200 billion or \$200 billion plus cumulative net worth deficits experienced during calendar years 2010 through 2012, less any surplus remaining as of December 31, 2012. Second, the Treasury established a line of credit for Fannie Mae, Freddie Mac, and the Federal Home Loan Banks to ensure they have adequate funding on a short-term, as-needed basis. This line of credit was never used. The Treasury also initiated purchases of GSE guaranteed mortgage-backed securities (MBS) in the open market (separate from the Federal Reserve's MBS purchase program discussed above), with the goal of increasing liquidity in the secondary mortgage market. In December 2009, the Treasury initiated two additional purchase programs under HERA authority to support housing assistance provided through new and existing State and local Housing Financing Agencies (HFAs) revenue bonds. Treasury's authority to enter new obligations under the GSE PSPA agreement, MBS purchase, and HFA support programs expired on December 31, 2009. However, Treasury's existing commitments continue to support any needed capital infusions through PSPAs, and new and existing HFA housing bond issuances, and Treasury will continue to collect proceeds from the sale or repayment of the securities that it owns.

The Budget assumes that Treasury will make cumulative investments in Fannie Mae and Freddie Mac of \$221 billion from 2009 through 2013 and receive dividends of \$73 billion over the same period. Starting in 2013, the Budget forecasts that Fannie Mae and Freddie Mac will have sufficient earnings to pay part but not all of the scheduled dividend payments. The Budget assumes additional net dividend receipts of \$121 billion from 2014-2022. The cumulative cost of the PSPA agreements from the first PSPA purchase through 2022 is estimated to be \$28 billion. The Budget also includes new fees resulting from a provision in the Temporary Payroll Tax Cut Continuation Act of 2011 requiring the GSEs to increase their fees by an average of at least 0.10 percentage points above the average guarantee fee imposed in 2011. Revenues generated by these fee increases will be remitted directly to the Treasury for deficit reduction, and the Budget estimates resulting deficit reductions of \$37 billion from 2012 through 2022.

In addition, significant assistance has been provided to the mortgage market through the Federal Housing Administration (as described in the Credit and Insurance chapter), through Federal Reserve Bank purchases of GSE MBS (as described above), and through the Department of the Treasury (as described below).

A more detailed analysis of these housing assistance programs and the future of the GSEs is provided in the "Credit and Insurance" chapter of this volume.

Treasury Programs

Small Business Lending Programs. To increase the availability and affordability of credit to help small businesses drive economic recovery and create jobs, the Small Business Jobs Act of 2010 (P.L. 111-240) created two new programs proposed by the Administration that are being administered by the Department of the Treasury:

the State Small Business Credit Initiative (SSBCI), which provides capital through grants to State programs that support lending to small businesses, and the Small Business Lending Fund (SBLF), which was authorized to provide up to \$30 billion in capital to qualified community banks and other targeted lenders with assets of less than \$10 billion to encourage their lending to small businesses.

The SSBCI authorizes Treasury to disburse \$1.5 billion to new and existing State programs such as Capital Access Programs (CAPs) and Other Credit Support Programs (OCSPs) that will leverage private financing to spur up to \$15 billion in new lending to small businesses and small manufacturers. For every dollar of Federal funding, SSBCI requires at least \$10 in private lending. A total of 53 States and territories (out of a possible 56) applied to take part in the SSBCI. A total of 5 municipalities in the three States that did not apply (Wyoming, North Dakota, and Alaska) submitted their applications directly to SSBCI by the statutory deadline of September 27, 2011 for a total of 58 applications received by the program. As of January 1, 2012, SSBCI has approved funding for 47 States, 3 territories, and the District of Columbia for a total of \$1.4 billion, and approximately \$460 million has been disbursed. (Note: SSBCI funds States in three equal tranches. States, territories, and municipalities must prove that they have disbursed at least 80 percent of prior funds before receiving the remaining tranches.) Treasury expects to disburse nearly all of the \$1.5 billion funds. While it is still too early to measure the success of the SSBCI program, initial reports are promising, with 12 states reporting using SSBCI funds to support loans and investments. SSBCI will start receiving data-driven reports from recipient States, territories, and municipalities this year, which it will use to assess performance and provide tailored technical assistance, including assessment and communication across states of "best practices" to maximize the effectiveness of funding.

The SBLF authorized Treasury to lend up to \$30 billion of capital to eligible financial institutions (those having less than \$10 billion in assets) and participating institutions are required to pay dividends based on the volume growth of their small business lending portfolio. Providing this low-cost capital to lenders will increase their loans to small businesses many times over. The application period closed in June 2011 and all awards were made by September 27, 2011, the statutory end of the funding phase of the program. Treasury received 933 applications totaling \$11.8 billion. Of these, 332 institutions were approved for a total of \$4.03 billion, with some institutions screened out due in part to stringent credit requirements aimed at protecting taxpayer dollars and avoiding lending to institutions that were likely to default on their SBLF obligations. Banks ineligible for the program included: (1) institutions listed on the regulator's problem bank list with expected CAMELS score greater than 4; and (2) TARP Capital Purchase Program (CPP) refinancings with more than one missed CPP dividend payment. SBLF is expected to create a positive return for taxpayers given the prudent lending standards established by the program. For more information on SSBCI and SBLF,

please see the “Credit and Insurance” chapter, in this volume.

Troubled Asset Relief Program (TARP). EESA authorized the Treasury to purchase or guarantee troubled assets and other financial instruments to restore liquidity and stability to the financial system of the United States while protecting taxpayers. Treasury has used its authority under EESA to provide capital to and restore confidence in U.S. financial institutions, to restart markets critical to financing American households and businesses, and to address housing market problems and the foreclosure crisis. Under EESA, the Secretary’s authority was originally limited to \$700 billion in obligations at any one time, as measured by the total purchase price paid for assets and guaranteed amounts outstanding. The Helping Families Save Their Homes Act of 2009 (P.L. 111-22) reduced total TARP purchase authority by \$1.3 billion, and in July 2010, the Wall Street Reform Act further reduced total TARP purchase authority to a maximum of \$475 billion in cumulative obligations.

On December 9, 2009, and as authorized by EESA, the Secretary of the Treasury certified to Congress that an extension of TARP purchase authority until October 3, 2010, was necessary “to assist American families and stabilize financial markets because it will, among other things, enable us to continue to implement programs that address housing markets and needs of small businesses, and to maintain the capacity to respond to unforeseen threats.” On October 3, 2010, the Treasury’s authority to make new TARP commitments expired. The Treasury continues to manage existing investments and is authorized to expend previously committed TARP funds pursuant to obligations entered into prior to October 3, 2010.

In extending TARP authority through October 3, 2010, the Secretary outlined the Government’s four elements of its strategy to wind down TARP and related programs: First, the Treasury would wind down those programs that are no longer necessary, such as the Capital Purchase Program (CPP); funding for the CPP ended on December 31, 2009. Second, new planned programs in 2010 under the extension of the purchase authority would be limited to three areas: (1) continued foreclosure mitigation for responsible American homeowners and stabilization of the housing market; (2) initiatives to provide capital to small and community banks; and (3) potentially increased commitment to the Term Asset-Backed Securities Loan Facility (TALF) to improve securitization markets that facilitate consumer and small business loans, as well as commercial mortgage loans. Third, the Government would maintain the capacity to respond to unforeseen threats. The Government would not use remaining TARP funds unless necessary to respond to an immediate and substantial threat to the economy stemming from financial instability. Fourth, the Government would manage equity investments acquired through TARP while protecting taxpayer interests. It would continue to manage those investments in a commercial manner and seek to dispose of them as soon as practicable.

Section 202 of EESA requires the Office of Management and Budget (OMB) to semi-annually report the estimated

cost of TARP assets purchased and guarantees issued pursuant to EESA. The most recent report was issued November 8, 2011.² Consistent with the requirement to analyze transactions occurring no less than thirty days before publication, the 2013 Budget data presented in this report reflect revised subsidy costs for the TARP programs using actual performance and updated market information through November 30, 2011. For information on subsequent TARP program developments, please consult the Treasury Department’s Troubled Asset Relief Program Monthly 105(a) Reports.

Market Impact

Although challenges in the economy remain, TARP’s support to the banking sector through the Capital Purchase Program (CPP), Targeted Investment Program (TIP), Asset Guarantee Program, and the Community Development Capital Initiative (CDCI) has helped strengthen the financial position of the Nation’s banking institutions. Net income of insured financial institutions for the quarter ending September 30, 2011, was \$35.3 billion, which marked nine consecutive quarters of year-over-year net income gains.³ This growth in earnings has largely been fueled by financial institutions reducing the loan loss provisions on their balance sheets based on improved forecasts of their asset quality. Total provisions for loan losses for all insured depository institutions was reduced by nearly half to \$18.6 billion as of September 30, 2011, on a year-over-year basis. This reduction in loan loss reserves points to improving credit and market conditions.

The gradual healing of the banking sector, coupled with the TARP programs aimed at reviving the credit markets, have facilitated the improved flow of credit in both the commercial and consumer markets. Together, the Term Asset Backed Securities Loan Facility (TALF) and the Public Private Investment Program (PPIP) helped to improve the overall credit climate for businesses, as evidenced by the declining cost of long-term investment grade borrowing, which has fallen from a peak of roughly 570 basis points over benchmark Treasury securities at the height of the crisis to just 206 basis points over Treasuries as of December 31, 2011.⁴ However, additional progress is needed to increase businesses’ access to credit at reasonable rates, enabling the economy to achieve its full potential.

Emergency loans to General Motors and Chrysler via the TARP Automotive Industry Financing Program (AIFP) spurred the resurgence of the U.S. auto manufacturing industry. The Administration’s assistance to both GM and Chrysler was conditioned on the requirement that stakeholders make difficult, but necessary restructuring and reorganization decisions in order for these companies to

² See “OMB Report under the Economic Stabilization Act, Section 202,” November 8, 2011. <http://www.whitehouse.gov/sites/default/files/omb/reports/emergency-economic-stabilization-act-of-2008.pdf>

³ Federal Deposit Insurance Corporation, *Quarterly Banking Profile*, September 2011. <http://www2.fdic.gov/qbp/2011sep/qbp.pdf>

⁴ Spreads for the cost of long-term investment grade borrowing are based upon 10-year Treasury yield and FINRA/Bloomberg Investment Grade U.S. Corporate Bond Index yield.

emerge from bankruptcy and achieve long-term viability. Although AIFP is still estimated to result in a net cost to taxpayers, the Government has been able to recover much more from auto companies than originally estimated, and far sooner, while reinvigorating one of America's critical industries. New Chrysler has posted seven consecutive quarters of operating profit and has announced more than \$4.5 billion in investments in plants and technology since emerging from bankruptcy in 2009.⁵ The story has been similar for New GM — and the industry as a whole. For the first time since 2004, Ford, Chrysler, and GM all achieved positive quarterly net profits in the first quarter of 2011.⁶ In addition, the Big Three automakers increased their market share in 2010 for the first time since 1995.⁷ The auto industry is leading a resurgence in American manufacturing that translates to the creation of more American jobs, with nearly 160,000 jobs created in the American auto industry in 2010 and 2011.

Although the housing market is still recovering, the Administration's housing programs implemented through the TARP have helped stabilize the market and kept millions of borrowers in their homes. As of December 31, 2011, nearly 910,000 borrowers have received permanent modifications through the Home Affordable Modification Program (HAMP), which amounts to an estimated \$10 billion in realized aggregate savings for these

homeowners. In addition to helping these borrowers, the Administration's TARP housing programs have been a catalyst to private sector modifications, as they have paved the way for private lenders and investors to acknowledge that a borrower's debt-to-income ratio is a key determinant of mortgage affordability and therefore linked to credit performance. Since April 2009, HAMP, FHA, and the private sector HOPE Now alliance have initiated more than 5.5 million mortgage modifications, which is nearly double the number of foreclosure completions that were executed in the same period. The Administration has continued to respond to the evolving housing crisis by implementing programs that provide mortgage relief to unemployed homeowners and those with negative home equity. Furthermore, through the HFA Hardest Hit Fund, the Administration has allocated \$7.6 billion to eligible States to implement innovative housing programs to bring stability to local housing markets and meet the unique needs of their communities.

Deficit Impact

Nearly three years after the first TARP dollars were disbursed, the TARP has not only helped to stabilize financial markets and set the foundation for economic recovery, but it has done so at a much lower cost than originally estimated. As of December 31, 2011, total repayments and income on TARP investments were approximately \$318 billion, which is 77 percent of the \$414 billion in total disbursements to date. The projected total lifetime deficit impact of TARP programmatic costs, reflecting recent activity and revised subsidy estimates based on market data as of November 30, 2011, is now estimated at \$67.8 billion (see Table 4-1).

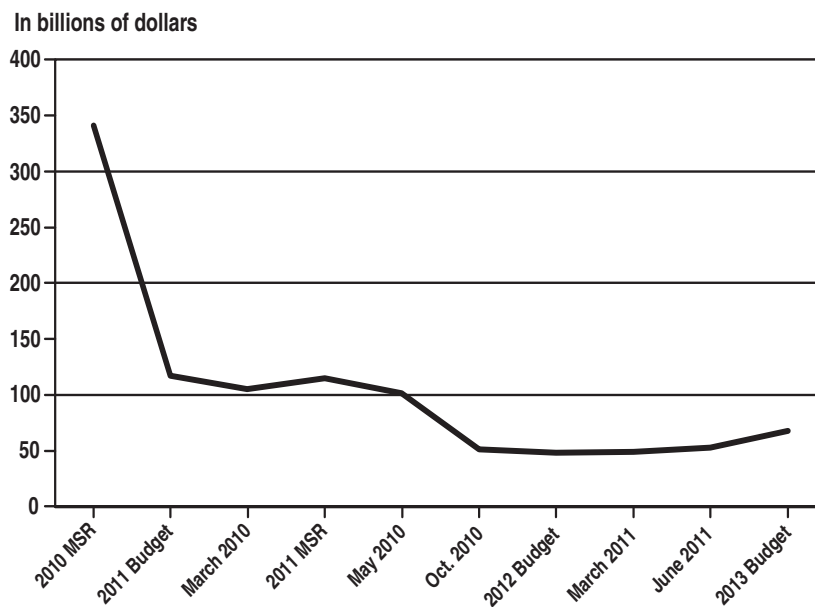
Compared to the 2012 MSR estimate of \$46.8 billion, the estimated deficit impact of TARP increased by \$21

⁵ Chrysler Corporation, *Third Quarter 2011 Financial Results Webcast*, October, 28, 2011 http://www.chryslergrouppllc.com/en-us/investor/presentations/QAWebcasts/ChryslerDocuments/Q3_2011_Presentation.pdf

⁶ Department of the Treasury, Secretary Timothy F. Geithner's Written Testimony before the Congressional Oversight Panel, <http://cybercemetery.unt.edu/archive/cop/201110402013407/http://cop.senate.gov/documents/testimony-121610-geithner.pdf>

⁷ White House Report, *The Resurgence of the American Automotive Industry*, June 2011.

Chart 4-1. Estimate of TARP's Deficit Impact



Source: OMB and Treasury.

billion. This increase was largely attributable to the lower valuation of the AIG and GM common stock held by Treasury. AIG's share price fell by \$6.01 (or 21 percent), while GM's share price fell by \$9.07 (or 30 percent), relative to the share prices used to formulate the June 30th Valuation.⁸ AIG and GM losses were partly offset by a higher valuation for the PPIP, as the value of commercial and mortgage-back securities held in the portfolios of Public-Private Investment Funds improved.

There has been a notable reduction in TARP's projected deficit impact from the \$341 billion estimate published in the 2010 MSR (see graph below). The Budget reflects a total TARP deficit impact of \$67.8 billion, a \$273 billion reduction from the 2010 MSR and a \$288 billion reduction from the Congressional Budget Office's March 2009 estimate of \$356 billion.

A description of the TARP programs, followed by a detailed analysis of the programmatic changes to the TARP and the cost estimates since the publication of the 2012 MSR, is provided below.

Description of Assets Purchased Through the TARP, by Program

Capital Purchase Program (CPP). Pursuant to EESA, the Treasury created the CPP in October 2008 to restore confidence throughout the financial system by ensuring that the Nation's banking institutions have a sufficient capital cushion against potential future losses and to support lending to creditworthy borrowers. All eligible CPP recipients completed funding by December 31, 2009, and Treasury purchased \$204.9 billion in preferred stock in 707 financial institutions under the CPP program. As of December 31, 2011, Treasury had received approximately \$185 billion in principal repayments (i.e., redemptions of common and preferred stock, CDCI conversions, and refinancings to SBLF) and nearly \$26 billion in revenues from dividends, interest, warrants, gains/other interest and fees. Total redemptions and income now exceed Treasury's initial investment.

Community Development Capital Initiative (CDCI). The CDCI program invests lower-cost capital in Community Development Financial Institutions (CDFIs), which operate in markets underserved by traditional financial institutions. In February 2010, Treasury released program terms for the CDCI program, under which participating institutions received capital investments of up to 5 percent of risk-weighted assets and pay dividends to Treasury of as low as 2 percent per annum. The dividend rate increases to 9 percent after eight years. CDFI credit unions were able to apply to TARP for subordinated debt at rates equivalent to those offered to CDFI banks and thrifts. These institutions could apply for capital investments of up to 3.5 percent of total assets – an amount approximately equivalent to the 5 percent of risk-weighted assets available under the CDCI program to banks and thrifts. TARP capital of \$570 million has been committed to this program.

Capital Assistance Program and Other Programs (CAP). The Treasury launched the CAP in March 2009 as the next phase of its effort to ensure that institutions have enough capital to lend, even under more distressed economic scenarios. The CAP was announced in conjunction with the commencement of a supervisory capital assessment process, commonly referred to as the "stress tests". The CAP was available to institutions that participated in the "stress tests" as well as others. Of the ten bank holding companies that were identified by the test as needing to raise more capital, nine have met or exceeded the capital raising requirements through private efforts. The Treasury provided an additional \$3.8 billion in capital to GMAC, now Ally Financial, under the Auto Industry Financing Program (described above) to assist its fundraising efforts to meet the requirements of the stress test results. Due to the success of the stress tests, efforts to raise private capital, and CPP, as well as other Government efforts, the Treasury did not receive any applications for the CAP, which terminated on November 9, 2009.

American International Group (AIG) Investments. The Federal Reserve Bank of New York (FRBNY) and the Treasury provided financial support to AIG in order to mitigate broader systemic risks that would have resulted from the disorderly failure of the company. To prevent the company from entering bankruptcy and to resolve the liquidity issues it faced, the FRBNY provided an \$85 billion line of credit to AIG in September 2008 and received preferred shares that entitled it to 79.8 percent of the voting rights of AIG's common stock. After TARP was enacted, the Treasury and FRBNY continued to work to facilitate AIG's execution of its plan to sell certain of its businesses in an orderly manner, promote market stability, and protect the interests of the U.S. Government and taxpayers. As of December 31, 2008, when purchases ended, the Treasury had purchased \$40 billion in preferred shares from AIG through TARP, which have subsequently been converted to common stock. In April 2009, Treasury also extended a \$29.8 billion line of credit, of which AIG drew down \$27.8 billion as of January 2011, in exchange for additional preferred stock. The remaining \$2 billion obligation was subsequently canceled.

AIG executed a recapitalization plan with FRBNY, Treasury, and the AIG Credit Facility Trust in mid-January 2011 that has allowed for the acceleration of the Government's exit from AIG. As a result of the restructuring and AIG's ensuing public offering, the Treasury now has a 77 percent ownership (or 1.45 billion shares) stake in AIG, which represents a 15 percentage point reduction from Treasury's 92 percent ownership stake in January 2011. Moreover, AIG has fully repaid the FRBNY. A summary of the deal terms and recent transactions is provided below:

- AIG fully repaid the remaining \$20 billion line of credit held by the FRBNY (including accrued interest and fees) using \$27.2 billion raised from the initial public offering of the AIA Group Limited (AIA) and the sale of its American Life Insurance Company (ALICO) to MetLife. The line of credit was subsequently canceled.

⁸ The 2013 Budget valuation used the November 30, 2011 share price of \$23.31 for Treasury's AIG common stock and \$21.29 for Treasury's GM common stock.

- AIG drew \$20.3 billion from the remaining \$22.3 billion TARP line of credit to buy-out the FRBNY's preferred interests in special purposes vehicles (SPV) holdings within AIA and ALICO. In exchange, Treasury received the preferred interests in the two SPV's, which are supported by interests in a number of AIG subsidiaries that were valued at \$24.5 billion as of September 30, 2011. In February 2011, AIG sold subsidiaries AIG Star Life and AIG Edison Life Insurance Companies and provided \$2.1 billion in proceeds to Treasury. On March 2, 2011, AIG sold common stock and equity shares in MetLife for \$9.6 billion in gross proceeds. AIG used \$6 billion of these proceeds to repay U.S. taxpayers, which represented Treasury's share of preferred interests in the ALICO SPV that was transferred from the FRBNY. As of November 30, 2011, Treasury held approximately \$8.2 billion of preferred equity interest of designated AIG assets held in the AIA SPV. The 2013 Budget cost estimates assume full repayment of the Treasury's preferred equity interest, as the estimated value of the underlying assets in the AIA SPV far exceed Treasury's \$8.2 billion holdings, based on November 30, 2011, market pricing.
- The January 2011 recapitalization agreement allowed AIG to draw down \$2.0 billion in previous obligations from the TARP credit line for general corporate purposes as necessary. However, these funds were not drawn down and in May 2011, AIG canceled the outstanding \$2 billion credit line with Treasury in conjunction with AIG's sale of 100 million primary shares of common stock.
- When the recapitalization closed in January 2011, Treasury exchanged its Series E and F preferred interest holdings acquired through the TARP for 1.09 billion shares in AIG common stock, which facilitates Treasury's ability to exit the program as common stock is more liquid than preferred interest holdings.
- As part of the initial aid package extended to AIG in 2008, the FRBNY received AIG Series C convertible preferred shares worth 79.8 percent of AIG common stock in January 2009, and transferred ownership to an independent Trust that names the U.S. Treasury as beneficiary. As part of the January recapitalization plan, the Series C preferred shares held by the Trust were exchanged for 562.9 million shares of AIG common stock. Immediately after the exchange, the Trust distributed all of its AIG common stock to the Treasury, and was subsequently dissolved. (Note: the transfer of AIG common stock from the Trust to the Treasury was not a TARP purchase, and thus the value of this stock received from the Federal Reserve is not included in the TARP cost estimates.)
- On May 24, 2011, Treasury sold 200 million shares of its common stock through a public offering at \$29.00 per share, netting \$5.8 billion in proceeds for taxpayers. Approximately two-thirds of the proceeds, or \$3.8 billion, represented sales of stock acquired

from TARP assistance to AIG and is included in TARP AIG net cost estimates, while the remaining one-third, or \$2 billion, represented the sale of AIG common stock that was transferred to the Treasury from the Federal Reserve.

- On August 18, 2011, Treasury received an additional payment of \$2.2 billion funded through proceeds from the sale of AIG's Nan Shan life insurance subsidiary. This was followed by an additional repayment of \$972 million on November 1, 2011, that was funded primarily through the scheduled release of escrowed proceeds from AIG's sale of ALICO, a subsidiary, to MetLife, Inc. Proceeds from both of these repayments were used to pay back the U.S. taxpayers' investments in AIG. After this repayment, Treasury's remaining outstanding investment in AIG, including common shares and preferred interests, was \$50 billion.

Targeted Investment Program (TIP). The goal of the TIP was to stabilize the financial system by making investments in institutions that are critical to the functioning of the financial system. Investments made through the TIP sought to avoid significant market disruptions resulting from the deterioration of one financial institution that could threaten other financial institutions and impair broader financial markets, and thereby pose a threat to the overall economy. Under the TIP, the Treasury purchased \$20 billion in preferred stock from Citigroup and \$20 billion in preferred stock from Bank of America. The Treasury also received stock warrants from each company. Both Citigroup and Bank of America repaid their TIP investments in full in December 2009, along with dividend payments of approximately \$3.0 billion. In March 2010, Treasury sold all of its Bank of America warrants for \$1.2 billion, and in January 2011, the Treasury sold Citigroup warrants acquired through the TIP for \$190.4 million. The TIP is closed and has no remaining assets; taxpayers received a positive return of 8.5 percent on these investments.

Asset Guarantee Program (AGP). The TARP created the AGP to provide Government assurances for assets held by financial institutions that were critical to the functioning of the nation's financial system. In January 2009, the Treasury, the Federal Reserve, and the FDIC negotiated a potential loss-sharing arrangement under the AGP on up to \$118 billion of financial instruments owned by Bank of America. In May 2009, Bank of America announced its intention to terminate negotiations with respect to the loss-sharing arrangement. In September 2009, the Treasury, the Federal Reserve, the FDIC, and Bank of America entered into a termination agreement pursuant to which Bank of America agreed to pay a termination fee of \$425 million to the Government parties. Of this amount, \$276 million was paid to the TARP in 2009 for the value Bank of America received from the announcement of the government's willingness to guarantee and share losses on the pool of assets.

The Treasury, the Federal Reserve and the FDIC entered into a final agreement for a loss-sharing arrange-

ment with Citigroup on January 15, 2009. Under the agreement, the Treasury guaranteed up to \$5 billion of potential losses incurred on a \$301 billion portfolio of financial assets held by Citigroup. The agreement was terminated, effective December 23, 2009. The U.S. Government parties did not pay any losses under the agreement, and retained \$5.2 billion of the \$7 billion in trust preferred securities that were part of the initial agreement with Citigroup.⁹ TARP retained \$2.2 billion of the trust preferred securities, as well as warrants for common stock shares that were issued by Citigroup as consideration for the guarantee. Treasury sold the trust preferred securities on September 30, 2010, and the warrants on January 25, 2011, liquidating its direct holdings in Citigroup. However, Treasury is entitled to receive up to \$800 million in additional Citigroup trust preferred securities held by the FDIC (net of any losses suffered by the FDIC) under Citigroup's use of the Temporary Liquidity Guarantee Program. The AGP program is now closed and will generate a positive return to the taxpayers from the preferred securities and other considerations.

Automotive Industry Financing Program (AIFP).

In December 2008, the Treasury established the AIFP to prevent a disruption of the domestic automotive industry, in order to mitigate a systemic threat to the Nation's economy and a potential loss of thousands of jobs. Through TARP, the Treasury originally committed \$84.8 billion through loans and equity investments to participating domestic automotive manufacturers, auto finance companies, and auto parts manufacturers and suppliers. As of December 31, 2011, Treasury had recouped nearly 50 percent of its investments in GM and had fully exited its Chrysler Group LLC investments. Below is a summary of the securities TARP received in exchange for the assistance provided to automotive manufacturers and recent transactions:

- Treasury received 60.8 percent of the common equity and \$2.1 billion in preferred stock in "New GM" when the sale of assets from the old GM to the new GM took place on July 10, 2009. In April 2010, GM fully repaid its \$7 billion loan, ahead of its publicly stated goal to repay the entire loan by June 2010. As part of New GM's initial public offering (IPO) in November 2010, Treasury sold nearly 359 million shares of New GM common stock at \$33.00 per share, and subsequently sold an additional 53.7 million shares in December 2010 at the same price. In total, TARP raised \$13.5 billion in net proceeds from the New GM IPO and reduced its ownership stake by nearly half, to approximately 32 percent. New GM also repurchased \$2.1 billion in preferred stock from TARP in December 2010. As of December 31, 2011, TARP had recouped \$24.1 billion of the \$51.03 billion in aid extended to GM.
- Treasury also received a \$7.1 billion debt security and a 9.9 percent share of the equity in the newly

formed, post-bankruptcy Chrysler Group LLC (New Chrysler). As part of the bankruptcy proceedings, New Chrysler also assumed \$500 million of debt from TARP's original \$4 billion loan to Chrysler Holding (Old Chrysler). Therefore, TARP held a \$3.5 billion loan with Old Chrysler in addition to investments in New Chrysler. In April 2010, TARP received a \$1.9 billion repayment of its investments in Old Chrysler. This repayment, while less than the amount Treasury invested, was significantly more than the Administration had previously estimated to recover. As part of the repayment agreement, Treasury agreed to write off the \$1.6 billion balance remaining under the \$3.5 billion TARP loan to Old Chrysler. On May 24, 2011, six years ahead of schedule, Chrysler Group LLC repaid the remaining \$5.1 billion in TARP loans and terminated the remaining \$2.1 billion TARP loan commitment. Finally, on June 2, 2011, Treasury reached an agreement to sell to Fiat Treasury's 6 percent fully diluted equity interest in New Chrysler and Treasury's interest in an agreement with the UAW retiree trust for \$560 million. The closing of this transaction in July 2011 marked Treasury's full exit from its TARP investments in Chrysler. In total, Chrysler repaid \$11.1 billion¹⁰ of the \$12.4 billion in aid provided by the U.S. Government, which far exceeded expectations when the program was first unveiled in December 2008.

- The Treasury has also purchased investments totaling \$16.3 billion in Ally Financial (formerly GMAC). On December 30, 2010, Treasury converted \$5.5 billion of its \$11.4 convertible preferred stock in Ally Financial into common stock. On March 2, 2011, Treasury sold all of its trust preferred securities for approximately \$2.7 billion. Ally Financial filed a registration statement with the Securities and Exchange Commission for a proposed initial public offering on March 31, 2011, proceeds of which are expected to facilitate Ally paying back TARP and ending governmental ownership shares. As of December 31, 2011, Treasury had recouped \$5.3 billion of its \$16.3 billion in Ally-related investments, including \$2.7 billion in dividends and interest.

Both the Auto Supplier Support Program (ASSP) and the Auto Warranty Commitment Program (AWCP) have closed and, in aggregate, these investments did not result in losses. The Government originally committed \$5 billion in loans to ASSP, ensuring the auto suppliers received compensation for products and services purchased by automakers. Through the AWCP, the Government extended support to protect consumer warranties on purchased GM and Chrysler vehicles while the companies worked through their restructuring plans. Treasury no longer holds warranties under the AWCP.

TARP Housing Programs. To mitigate foreclosures and preserve homeownership, in February 2009

⁹ Trust Preferred Securities (TruPS) are financial instruments that have the following features: they are taxed like debt; counted as equity by regulators; are generally longer term; have early redemption features; make quarterly fixed interest payments; and mature at face value.

¹⁰ Chrysler repayments of \$11.1 billion include \$560 million in proceeds from the sale of Treasury's 6 percent fully diluted equity interest in Chrysler to Fiat and Treasury's interest in an agreement with the UAW retiree trust that were executed on July 21, 2011.

the Administration announced a comprehensive housing program utilizing up to \$50 billion in funding through the TARP. The Government-Sponsored Entities (GSEs) Fannie Mae and Freddie Mac participated in the Administration's program both as the Treasury Department's financial agents for Treasury's contracts with servicers, and by implementing similar policies for their own mortgage portfolios.¹¹ These housing programs are focused on creating sustainably affordable mortgages for responsible homeowners who are making a good faith effort to make their mortgage payments, while mitigating the spillover effects of foreclosures on neighborhoods, communities, the financial system and the economy. Following the enactment of the Wall Street Reform Act, Treasury reduced its commitments to the TARP Housing programs to \$45.6 billion. These programs fall into three initiatives:

1. Making Home Affordable (MHA);
2. Housing Finance Agency (HFA) Hardest-Hit Fund (HHF); and
3. Federal Housing Administration (FHA) Refinance Program¹².

The MHA initiative includes among its components the Home Affordable Modification Program (HAMP), FHA-HAMP, the Second Lien Modification Program (2MP), and the second lien extinguishment portion of the FHA-Refinance Program, and Rural Development-HAMP.¹³ Under MHA programs, the Treasury contracts with servicers to modify loans in accordance with the program's guidelines, and to make incentive payments to the borrowers, servicers, and investors for those modification or other foreclosure alternatives. As of December 31, 2011, 143 non-GSE mortgage servicers had signed up to participate in the HAMP and over 1.75 million trial modification offers had been extended to borrowers. Nearly 910,000 permanent modifications were initiated as of the end of December 2011, which have saved homeowners nearly \$10 billion in reduced mortgage payments. Program implementation has continually improved since its inception in February 2009. As of December 2011, 83 percent of homeowners who started a trial modification after June 1, 2010, had converted to permanent modifications within an average of 3.5 months – a higher conversion rate and shorter time to convert than earlier in the program. In addition to providing responsible homeowners with sustainable mortgages, the MHA initiative has also, for the

first time, standardized the mortgage modification process across the servicing industry. In January 2012, the Administration extended MHA programs until December 31, 2013.

Treasury also offers other forms of incentives to encourage mortgage loan modifications, or prevent foreclosure under the HAMP, as part of its MHA program. For example, Treasury provides payments to servicers and investors to protect against declining home prices as part of encouraging mortgage modifications in communities that have experienced continued home price depreciation. When a mortgage modification is not possible, Treasury contracts with servicers to provide incentives that encourage borrower short sales (sales for less than the value of the mortgage in satisfaction of the mortgage) or deeds-in-lieu (when the homeowner voluntarily transfers ownership of the property to the servicer in full satisfaction of the total amount due on the mortgage) via the Home Affordable Foreclosure Alternatives Program (HAFA), in order to provide a means for borrowers to avoid foreclosure. Since the inception of the program, over 38,600 HAFA agreements have been initiated.

As part of its ongoing effort to continuously refine the targeting of mortgage assistance to address the sector's greatest needs, the Administration created several programs that will give a greater number of responsible borrowers an opportunity to remain in their homes and reduce costly foreclosures. Major programs announced since December 31, 2009, include:

Home Affordable Unemployment Program (part of HAMP): Unemployed borrowers that meet eligibility criteria will receive temporary mortgage payment assistance while they look for a new job. In an effort to keep more unemployed borrowers in their homes and allow them an opportunity to find new employment, Treasury extended the minimum period for which unemployed borrowers receive temporary payment assistance from 3 months to 12 months in July 2011. In response to the Administration's efforts, 12-month forbearance is becoming an industry standard, with Fannie Mae and Freddie Mac now applying it to mortgages they own and Wells Fargo and Bank of America now offering it as their default approach for unemployed borrowers.

Principal Reduction Alternative (PRA, part of HAMP): Servicers who have signed up for this program are required to consider an alternative mortgage modification that emphasizes principal relief for borrowers who owe more than their home is worth. Under the alternative approach, if the servicer reduces borrower loan principal using this program, investors will receive incentive payments based on a percentage of each dollar of loan principal written off. Borrowers and investors will receive principal reduction and the incentives, respectively, through a pay-for-success structure. There have been over 36,400 PRA trial modifications initiated as of December 31, 2011, with the median principal amount reduced for active permanent modifications of over \$66,300, representing a median reduction of over 31 percent from the original loan.

HFA Hardest-Hit Fund (HHF): The \$7.6 billion HHF provides the eligible entities of Housing Finance Agencies

¹¹ For additional information on MHA programs, visit: <http://www.makinghomeaffordable.gov/>.

¹² This program has also been referred to as the FHA Short Refinance Program or Option in other reporting. The FHA Refinance Program is not a Treasury program, but is supported through the TARP with nearly \$3.0 billion available to provide incentive payments to extinguish second lien mortgages to facilitate refinancing the first liens, and an additional \$8.1 billion is committed to cover a share of any losses on FHA Refinance loans.

¹³ For additional information on MHA programs, visit: <http://www.makinghomeaffordable.gov/>.

from 18 states and the District of Columbia with funding to design and implement innovative programs to prevent foreclosures and bring stability to local housing markets. The Administration targeted areas hardest hit by unemployment and home price declines through the program. Approximately 70 percent of the HHF funds are dedicated to programs that help unemployed borrowers stay in their homes, while the remaining 30 percent of HHF funds facilitate principal write-downs for borrowers who owe more than their home is worth. The flexibility of the HHF funds has allowed States to design and tailor innovative programs to meet the unique needs of their community. For example, Oregon has recently implemented a program through which the state's Housing Finance Agency will purchase mortgages of homeowners who have sustained a financial shock, rehabilitate the loan by reducing the borrowers' principal balance, and subsequently sell the loan after the borrowers' circumstances stabilize and a reliable payment history is established. The design of Oregon's model allows the Housing Finance Agency to generate enough cash flow to create a revolving loan fund that provides on-going support to responsible, but vulnerable homeowners.

FHA Refinance Program: This program, which is administered by the Federal Housing Administration and supported by TARP, was initiated in September 2010 and allows eligible borrowers who are current on their mortgage but owe more than their home is worth, to re-finance into an FHA-guaranteed loan if the lender writes off at least 10 percent of the existing loan. Nearly \$3.0 billion in TARP funds allocated under the MHA are available to provide incentive payments to extinguish second lien mortgages to facilitate refinancing the first liens under the MHA, and an additional \$8.1 billion is committed to cover a share of any losses on the loans and administrative expenses. In January 2012, the Administration extended the FHA Refinance Program until December 31, 2014.

Credit Market Programs. The Credit Market programs are designed to facilitate lending that supports consumers and small businesses, through the Term Asset-Backed Securities Loan Facility (TALF), the CDCI discussed previously, and the Small Business Administration's guaranteed loan program (SBA 7(a)).

TALF: The TALF is a joint initiative with the Federal Reserve that provides financing (TALF loans) to private investors to help facilitate the restoration of efficient and robust secondary markets for various types of credit. The Treasury provides protection to the Federal Reserve through a loan to the TALF's special purpose vehicle (SPV), which was originally available to purchase up to \$20 billion in assets that would be acquired in the event of default on Federal Reserve financing. The Treasury has disbursed \$0.1 billion of this amount to the TALF SPV to implement the program, representing a notional amount used to establish the SPV. The Treasury's total TALF purchases will depend on actual TALF loan defaults. In July 2010, Treasury, in consultation with the Federal Reserve, reduced the maximum amount of assets Treasury will ac-

quire to \$4.3 billion, or 10 percent of the total \$43 billion outstanding in the facility when the program was closed to new lending on June 30, 2010.

SBA 7(a): In March 2009, Treasury and the Small Business Administration announced a Treasury program to purchase SBA-guaranteed securities ("pooled certificates") to re-start the secondary market in these loans. Treasury subsequently developed a pilot program to purchase SBA-guaranteed securities, and purchased 31 securities with an aggregate face value of approximately \$368 million. Treasury reduced its commitment to the Small Business 7(a) program from \$1 billion to \$370 million, as demand for the program waned due to significantly improved secondary market conditions for these securities following the original announcement of the program. On June 2, 2011, Treasury began the disposition of its SBA 7(a) securities. As of December 31, 2011, 23 securities have been sold for approximately \$272 million representing an estimated \$4 million return relative to the initial purchase amount for these 23 securities.

Public Private Investment Program (PPIP). The Treasury, in conjunction with the Federal Deposit Insurance Corporation (FDIC) and the Federal Reserve, introduced the PPIP on March 23, 2009, to address the volatile market cycle affecting troubled legacy assets clogging the balance sheets of private-sector financial institutions. The PPIP is designed to improve the financial position of financial institutions by facilitating the removal of legacy assets from their balance sheets. Legacy assets include both real estate loans held on banks' balance sheets (legacy loans) as well as securities backed by residential and commercial real estate loans (legacy securities). The Treasury implemented the legacy securities PPIP and initially announced that it would provide up to \$100 billion. However, Treasury has subsequently reduced the PPIP commitment twice since the need for Government intervention in the legacy securities market has waned as market conditions have improved and investment of private capital have increased. PPIP closed for new funding on June 30, 2010. The Budget reflects \$21.9 billion in PPIP commitments.

Method for Estimating the Cost of TARP Transactions

Exercising its authority under EESA, the Treasury has purchased financial instruments with varying terms and conditions. Consistent with the provisions of Section 123 of EESA, the costs of equity purchases, loans, guarantees, and loss sharing under the FHA Refinance program through the TARP are reflected on a net present value basis, as determined under the Federal Credit Reform Act (FCRA) of 1990 (2 U.S.C. 661 et seq.), with an EESA-required adjustment to the discount rate for market risks. The budgetary cost of these transactions is reflected as the net present value of estimated cash flows to and from the Government, excluding administrative costs. Costs for the incentive payments under TARP Housing programs, other than loss sharing under the FHA Refinance pro-

gram, involve financial instruments without any provision for future returns, and are recorded on a cash basis.¹⁴

The costs of each transaction reflect the underlying structure of the instruments, which may include direct loans, structured loans, equity, loan guarantees, or direct incentive payments. For each of these instruments, cash flow models are used to estimate future cash flows to and from the Government over the life of a program or facility. Further, each cash flow model reflects the specific terms and conditions of the program, technical assumptions regarding the underlying assets, risk of default or other losses, actual transactions to date, and other factors as appropriate. Models generate cash flows for original subsidy rate estimates; calculate changes in cost due to changes in contract terms or other Government actions (modification cost estimates); and calculate changes in cost due to updated economic or performance assumptions, and actual cash flows to date. The risk adjustments to the discount rates for TARP equity, loan, and guarantee transactions were made using available data and methods to capture additional potential costs related to uncertainty around the expected cash flows to and from the public. The basic methods for each of these models are outlined below.

Direct Loans. Direct loan model cash flows include the scheduled principal, interest, and other payments to the Government, including estimated income from warrants or additional notes. These models include estimates of delinquencies, default and recoveries, based on loan-specific factors including the value of any collateral provided by the contract. The probability and timing of default and recoveries are estimated using applicable historical data and econometric projections where available, or publicly available proxy data including aggregated credit rating agency historical performance data.

Structured Loans. Structured loans such as the TALF are modeled according to the program structure, where an intermediary special purpose vehicle (SPV) is established to purchase or commit to purchase assets from beneficiaries. In general, TARP structured loans are a hybrid of guarantees and direct loans. The Treasury makes a direct loan to a SPV; the SPV in turn enters into a contract with a beneficiary that resembles a guaranteed loan. Estimated cash flow assumptions reflect the anticipated behavior of the beneficiaries and the cash flows to and from the SPV and the Treasury. The Treasury projects cash flows to and from the Government based on estimated SPV performance, the estimated mix of assets funded through the facility, the terms of the contracts, and other factors.

In the case of the TALF, the New York Federal Reserve created an SPV to purchase and manage assets received in connection with any TALF loans. The Federal Reserve

acquires assets either when a TALF participant defaults on the Federal Reserve financing or chooses to turn over the securing assets in lieu of the scheduled repayment at the end of the term. The SPV has committed, for a fee, to purchase all assets securing a TALF loan that are received by the New York Federal Reserve at a price equal to the TALF loan amount at the time of acquisition, plus accrued but unpaid interest. The Treasury made an initial allotment to the SPV of \$0.1 billion to fund the SPV, and the Treasury will purchase subordinated debt issued by the SPV to finance up to \$4.3 billion of asset purchases. The Treasury receives fees and interest income on the entire outstanding TALF facility, and amounts collected in the SPV.

Guarantees. Cost estimates for guarantees reflect the net present value of estimated claim payments by the Government, net of income from fees, recoveries on defaults, or other sources. Under EESA, asset guarantees provided through TARP must be structured such that fees and other income must completely offset estimated losses at the time of commitment. In TARP's Asset Guarantee Program, fees were paid in the form of preferred stock and termination fees. The value of preferred stock is modeled using the same methodology discussed for other equity purchase programs below. Claim payments were modeled consistent with the terms of the guarantee contract, and reflected historical performance data on similar assets and estimates of future economic conditions such as unemployment rates, gross domestic product, and home price appreciation. However, the AGP was terminated with no claim payments made by the Treasury. The budget reflects actual and estimated collections from preferred stock proceeds.

Equity Purchases. Preferred stock cash flow projections reflect the risk of losses associated with adverse events, likely failure of an institution, or increases in market interest rates. Estimated cash flows vary depending on: 1) current interest rates, which affect the institution's decision to repay the preferred stock; and 2) the strength of a financial institution's assets. The model also estimates the values and projects the cash flows of warrants using an option-pricing approach based on the current stock price and its volatility. Common equity is valued at market prices as of a fixed date, such as November 30, 2011, for the 2013 Budget. For the purposes of this calculation, common equity is assumed to be sold to the public as soon as is practicable and advisable.

FHA Refinance Program. Under this program, the cost estimates reflect the present value of estimated claim payments made from the letter of credit (LOC) provider to the lenders of FHA-guaranteed loans, adjusted for market risks. Treasury has signed a LOC with Citigroup, committing \$8.1 billion of TARP funds to cover a portion of default claims of FHA Refinance mortgages, plus administrative expenses. Through the LOC agreement, Treasury effectively makes claim payments to private lenders for defaulted debt obligations of non-Federal borrowers. Therefore, the program costs are estimated according to the principles of FCRA, with a risk adjustment to the discount rate as prescribed by EESA. The model

¹⁴ Section 123 of the EESA provides the Administration the authority to record TARP equity purchases pursuant to the FCRA, with required adjustments to the discount rate for market risks. The Making Home Affordable programs and HFA Hardest Hit Fund involve the purchase of financial instruments which have no provision for repayment or other return on investment, and do not constitute direct loans or guarantees under FCRA. Therefore these purchases are recorded on a cash basis. Administrative expenses are recorded for all of TARP under the Office of Financial Stability and the Special Inspector General for TARP on a cash basis, consistent with other Federal administrative costs.

Table 4–1. CHANGE IN PROGRAMMATIC COSTS OF TROUBLED ASSET RELIEF ACTIONS (EXCLUDING DEBT SERVICE)
(In billions of dollars)

TARP Actions	2012 MSR		2013 Budget		Change from 2012 MSR to 2013 Budget	
	TARP Obligations ¹	Estimated Cost (+) / Savings (-)	TARP Obligations ¹	Estimated Cost (+) / Savings (-)	TARP Obligations ¹	Estimated Cost (+) / Savings (-)
Equity purchases	337.1	5.2	337.1	17.2	.....	11.9
Structured & direct loans and asset-backed security purchases	83.0	15.7	83.0	19.1	.....	3.3
Guarantees of troubled asset purchases ²	5.0	-3.6	5.0	-3.6	.....	0.0
TARP housing programs	45.6	45.6	45.6	45.6	.....	0.0
Total programmatic costs³	470.7	62.9	470.7	78.2	.....	15.3
Memorandum:						
Deficit impact before administrative costs and interest effects		46.8		67.8		21.0

¹ TARP obligations are net of cancellations.

² The face value of assets supported by the Asset Guarantee Program was \$301 billion.

³ Total programmatic costs of the TARP exclude interest on reestimates of \$16.2 billion in "2012 MSR" and \$10.4 billion in "2013 Budget."

projects TARP claim payments based on projected FHA Refinance volumes and claim rates. The full \$8 billion commitment was obligated at the point the LOC contract was signed, and outlays of subsidy are recorded as the underlying FHA Refinance loans are made.

Other TARP Housing. Foreclosure mitigation incentive payments occur when the Government makes incentive payments to borrowers and servicers for certain actions such as: successful modifications of first and second liens, on-schedule borrower payments on those modified loans, protection against further declines in home prices, completing a short sale, or receiving a deed in lieu of foreclosure. The method for estimating these cash flows includes forecasting the total eligible loans, the timing of the loans entering into the program, loan characteristics, the overall participation rate in the program, the re-default rate, home price appreciation, and the size of the incentive payments. For the HFA Hardest-Hit Fund (HHF), the Government provides a cash infusion, similar to a grant, to the eligible entities of state Housing Financing Agencies (HFAs) to design and implement innovative programs to prevent foreclosures and bring stability to local housing markets. The estimated cash flows for the HHF are based on the plans submitted by the HFAs and approved by Treasury, which detail program design and anticipated activity.

TARP Program Costs and Current Value of Assets

This section provides the special analysis required under Sections 202 and 203 of EESA, including estimates of the cost to taxpayers and the budgetary effects of TARP transactions as reflected in the Budget.¹⁵ This section explains the changes in TARP costs, including whether such changes are due to actual performance, or changes in future expectations. The analysis also includes an estimate of what the budgetary effects would have been had

all TARP transactions been reflected on a cash basis, and also shows the estimated cost for transactions using the standard methodology required under the FCRA, without the adjustment to the discount rate for market risks prescribed by EESA. It also includes a comparison of the cost estimates with previous estimates provided by OMB and the Congressional Budget Office (CBO).

Table 4—1, below, summarizes the current and anticipated activity under TARP, and the estimated lifetime budgetary cost reflected in the Budget, compared to estimates from the 2012 MSR. The direct impact of TARP on the deficit, including interest on reestimates, and using the risk-adjustment to the discount rate required under EESA, is projected to be \$67.8 billion, up \$21.0 billion from \$46.8 billion as projected in the 2012 MSR. The subsidy cost represents the lifetime net present value cost of TARP obligations from the date the obligations originated. The subsidy cost for TARP excluding interest on reestimates is now estimated to be \$78.2 billion.¹⁶ The eventual subsidy cost of TARP is likely to be lower than the current subsidy cost because projected cashflows are discounted using a risk adjustment to the discount rate as required by EESA, which adds a premium to current estimates of TARP costs on top of market risks already reflected in cash flows with the public. If actual cash flows match projections, the risk premium added to TARP costs is essentially returned via downward subsidy reestimates over time. While TARP's overall cost to taxpayers will likely be lower than current estimates, the final cost will not be fully known until all TARP investments are extinguished.

Current Value of Assets. The current value of future cash flows related to TARP transactions can also be measured by the balances in the program's non-budgetary credit financing accounts. Under the FCRA budgetary accounting structure, the net debt or cash balances in non-budgetary credit financing accounts at the end of each fiscal year reflect the present value of anticipated

¹⁵ The analysis does not assume the effects on net TARP costs of a recoupment proposal authorized under Section 134 of EESA. Please see Chapter 2 for discussion of the Financial Crisis Responsibility Fee.

¹⁶ With the exception of the Making Home Affordable and HFA Hardest-Hit Fund programs, all the other TARP investments are reflected on a present value basis pursuant to the FCRA.

Table 4-2. TROUBLED ASSET RELIEF PROGRAM CURRENT VALUE ¹
(In billions of dollars)

	Actual			Estimate											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
Financing account balances:															
Troubled Asset Relief Program Equity Purchase Financing Account ..	105.4	76.9	74.9	48.2	33.2	18.2	13.6	12.5	8.9	7.1	5.8	2.4	2.1	1.9	
Troubled Asset Relief Program Direct Loan Financing Account	23.9	42.7	28.5	20.2	12.0	9.7	6.7	3.8	0.9	0.6	0.5	0.1	0.1	0.1	
Troubled Assets Insurance Financing Fund Guaranteed Loan Financing Account	0.6	2.4	0.8	0.8	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Troubled Assets Relief Program FHA Refinance Letter of Credit Financing Account			-*	-2.8	-5.1	-6.8	-6.3	-4.8	-3.3	-2.0	-0.9				
Total financing account balances	129.9	122.0	104.1	66.4	40.5	21.3	14.2	11.6	6.6	5.7	5.4	2.5	2.3	2.1	

* \$50 million or less.

¹ Current value as reflected in the 2013 Budget. Amounts exclude the Making Home Affordable and HFA Hardest Hit Fund, activities that are reflected on a cash basis.

cashflows to and from the public.¹⁷ So, the net debt or cash balances reflect the expected present value of the asset or liability. Future collections from the public – such as proceeds from stock sales, or payments of principal and interest – are financial assets, just as future payments to the public are financial liabilities. The current year reestimates effectively true-up the net debt or cash balance in the financing account, with updated estimates of the present value of these financial assets or liabilities. For example, if an asset is valued at \$100 million and the net debt in the financing account is \$90 million, there will be a downward reestimate, returning the \$10 million in excess subsidy to the General Fund. Accordingly, the net debt balance in the financing account after the reestimate will be \$100 million—equal to the reestimated value of the asset. The larger the subsidy cost for a given loan disbursed or equity purchased, the lower the estimated value of the cash flows from the public and asset value to the Government.¹⁸

Table 4-2 shows the actual balances of TARP financing accounts as of the end of 2011, and projected balances for each subsequent year through 2022.¹⁹ Actual net balances in financing accounts at the end of 2009 totaled \$129.9 billion. By the end of 2011, total financing account balances decreased to \$104.1 billion, as repayments, primarily from large banks, exceeded disbursements of TARP assistance committed in prior years. Estimates in 2012 and beyond reflect reestimated value for TARP investments outstanding as of September 30, 2011, and all other an-

ticipated transactions. The value of TARP assets is expected to fall by the end of 2012 to \$66.4 billion, based on risk adjusted discount rates. To view net TARP costs, the value of these outstanding assets could be compared against the costs TARP incurred to acquire the assets. The expected decrease during 2012 is primarily due to winding down TARP assets and an upward reestimate for outstanding investments to be executed in 2012. The upward reestimates are driven primarily by the lower value of AIG and AIFP investments, offset in part by downward reestimates associated with the Legacy Securities Public-Private Partnership Program. The overall balance of the financing accounts is estimated to continue to fall significantly as TARP investments wind down, to \$40.5 billion in 2013, and \$21.3 billion in 2014, and is expected to continue to decrease over time as the assets and loans acquired under the TARP program are repaid or sold, and liabilities funded.

The value of TARP equity purchases reached \$76.9 billion in 2010, and fell \$2 billion in 2011 reflecting the 2011 downward reestimate, final AIG funding, and repayments from large financial institutions. The value of the TARP equity portfolio is anticipated to continue declining as participants repurchase stock and assets are sold. The value of direct loans is expected to decrease to \$20.2 billion in 2012, gradually declining to \$0.1 billion by 2020 as loans are repaid and warrants and other assets are sold. The \$0.8 billion value under the Asset Guarantee Program (AGP) in 2012 reflects the estimated value of warrants held by the Treasury and the expected receipt of trust preferred shares from the FDIC following termination of the guarantee on Citigroup assets. The value of the AGP is expected to decline, as preferred stock and warrants are sold. The FHA Refinance program reflects net cash balances, showing the reserves set aside to cover TARP's share of default claims for FHA Refinance mortgages over the 10-year letter of credit facility. These cash balances fall as claims are paid, and reach zero by 2020 as the TARP coverage expires.

Where Table 4-2 displays the estimated value of TARP investments, guarantees, and loss share agreements over time, Table 4-3 shows the estimated face value of outstanding TARP investments at the end of each year

¹⁷ For example, to disburse a loan to a borrower, a direct loan financing account receives the subsidy cost from the program account. The financing account borrows the difference between the face value of the loan and the subsidy cost from the Treasury. As inflows from the public are received, the value is realized and these amounts are used to repay the financing account's debt to Treasury.

¹⁸ As an extreme example, a direct loan program with 100 percent subsidy cost would require budget authority for the full amount of the loan. The financing account would receive the entire amount of a loan disbursement from the budgetary program account, and would not have to borrow from the Treasury. In this case, the loan would be estimated to have a zero asset value.

¹⁹ Reestimates for TARP are calculated using actual data through September 30, 2011, and updated projections of future activity. Thus, the full impacts of TARP reestimates are reflected in the 2012 financing account balances.

Table 4-3. TROUBLED ASSET RELIEF PROGRAM FACE VALUE OF TARP OUTSTANDING¹
(In billions of dollars)

	Actual			Estimate	
	2009	2010	2011	2012	2013
Troubled Asset Relief Program Equity Purchases	229.6	119.0	88.2	72.3	54.4
Troubled Asset Relief Program Direct Loans	60.5	15.7	11.5	12.4	11.5
Troubled Assets Insurance Financing Fund Guaranteed Assets	251.4	.....	.....	.....	.....
FHA Refinance Letter of Credit .....	.....	.....	0.1	51.9	100.5
Total face value of TARP outstanding	541.5	134.7	99.8	136.6	166.4

¹ Table reflects face value of TARP outstanding direct loans, preferred stock equity purchases, guaranteed assets, and the face value of FHA Refinance mortgages supported by the TARP Letter of Credit. Financial instrument purchases under the Making Home Affordable Program and HFA Hardest Hit Fund are reflected in the budget on a cash basis, and are not included here.

through 2013. For equity investments, the par value of Treasury's remaining investment is reflected. The outstanding amount of equity investments overall decreased in 2011, as repurchases of equity investments exceeded AIG disbursements. Direct loans increase with planned disbursements under the PPIP program, and fall in 2013 as loans are repaid. Under FCRA, the total outstanding reflects the full face value of loans supported by a Federal guarantee, any portion of which may be guaranteed. TARP's liability under the Asset Guarantee Program was only a fraction of the face value of the underlying loans (see Table 4-6), and is currently zero, with the termination of the Citibank guarantee in 2009. Likewise, the full face value of FHA Refinance mortgages supported by the letter of credit facility far exceeds TARP's liability, which is capped at \$8.1 billion (including \$100 million set aside for administrative fees). The TARP coverage ratio or share of default losses was 8.85 percent in 2011 and is estimated to be 15.57 percent in 2012. The face value of FHA refi loans supported by the TARP LOC was less than \$0.1 billion in 2011, but is expected to increase to more than \$51.9 billion in 2012 and \$100.5 billion in 2013. The overall outstanding face value of TARP investments, loan guarantees, and mortgages supported by the FHA Refinance Letter of Credit is projected to reach \$166.4 billion in 2013.

Estimate of the Deficit, Debt Held by the Public, and Gross Federal Debt, Based on the EESA Methodology

The estimates of the deficit and debt in the Budget reflect the impact of TARP as estimated under FCRA and Section 123 of EESA. The deficit estimates include the budgetary costs for each program under TARP, administrative expenses, certain indirect interest effects of credit programs, and the debt service cost to finance the program. Direct activity under the TARP is expected to increase the 2012 deficit by \$34.7 billion, which is largely attributable to net upward reestimates of program costs totaling \$21.1 billion (including interest on reestimates) and outlays for TARP housing programs estimated to be \$13.6 billion. The total deficit effect including interest effects is estimated at \$31.0 billion for 2012. The estimates of U.S. Treasury debt attributable to TARP include both borrowing to finance the deficit impacts of TARP activity and the cash flows to and from the Government, reflected

as a means of financing in the TARP financing accounts. Estimated debt due to TARP at the end of 2012 is \$101.8 billion, and this figure declines to \$77.1 billion in 2014 as TARP loans are repaid and TARP equity purchases are sold or redeemed. Even as the TARP program is winding down, the debt due to TARP increases annually starting in 2015, with additional borrowing to finance the debt service on past TARP costs.

Debt held by the public net of financial assets reflects the cumulative amount of money the Federal Government has borrowed from the public for the program and not repaid, minus the current value of financial assets acquired with the proceeds of this debt, such as loan assets, or equity held by the Government. While debt held by the public is one useful measure for examining the impact of TARP, it provides incomplete information on the program's effect on the Government's financial condition. Debt held by the public net of financial assets provides a more complete picture of the U.S. Government's financial position because it reflects the net change in the government's balance sheet due to the program.

Debt net of financial assets due to the TARP program is estimated to be \$35.4 billion as of the end of 2012. This is \$21.1 billion higher than the projected 2012 debt held net of financial assets reflected in the 2012 MSR, primarily due to net increases in TARP subsidy costs reflected in the 2012 reestimates.

Under the FCRA, the financing account earns and pays interest on its Treasury borrowings at the same rate used to discount cash flows for the credit subsidy cost. Section 123 of EESA requires an adjustment to the discount rate used to value TARP subsidy costs, to account for market risks.

However, actual cash flows as of September 30, 2011, already reflect the effect of any incurred market risks to that point, and therefore actual financing account interest transactions reflect the FCRA Treasury interest rates present in these years, with no additional risk adjustment.²⁰ Future cash flows reflect a risk adjusted discount rate and the corresponding financing account interest

²⁰ As TARP transactions wind down, the final lifetime cost estimates under the requirements of Section 123 of EESA will reflect no adjustment to the discount rate for market risks, as these risks have already been realized in the actual cash flows. Therefore, the final subsidy cost for TARP transactions will equal the cost per FCRA, where the net present value costs are estimated by discounting cashflows using Treasury rates.

Table 4–4. TROUBLED ASSET RELIEF PROGRAM EFFECTS ON THE DEFICIT AND DEBT ¹
(Dollars in billions)

	Actual			Estimate										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Deficit effect:														
Programmatic and administrative expenses:														
Programmatic expenses:														
Equity purchases	115.3	8.4	19.1	0.2	*	.....	.....	.....	.....	.....	.....	.....	.....	.....
Direct loans and purchases of asset-backed securities ...	36.9	-0.9	-0.3	-0.3	-*	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guarantees of troubled asset purchases	-1.0	-1.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TARP housing programs	*	0.5	1.9	13.6	12.1	8.1	5.4	2.4	1.2	0.2	*	*	.....	.....
Reestimates of credit subsidy costs .....	.....	-116.5	-58.5	21.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Subtotal, programmatic expenses	151.2	-109.9	-37.7	34.7	12.1	8.1	5.4	2.4	1.2	0.2	*	*	.....	.....
Administrative expenses	0.1	0.2	0.4	0.5	0.3	0.2	0.2	0.2	0.1	0.1	*	*	*	*
Special Inspector General for TARP	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Subtotal, programmatic & administrative expenses	151.3	-109.6	-37.3	35.2	12.5	8.4	5.6	2.6	1.4	0.4	0.1	0.1	0.1	0.1
Interest effects:														
Interest transactions with credit financing accounts ²	-2.8	-4.7	-3.0	-7.5	-4.8	-3.0	-2.2	-1.8	-1.7	-1.4	-1.2	-1.0	-0.3	-0.2
Debt service ³	2.8	4.7	3.0	3.3	3.4	3.9	4.7	5.4	5.6	5.5	5.2	4.8	4.6	4.2
Subtotal, interest effects	*	*	*	-4.2	-1.4	0.9	2.5	3.6	3.9	4.1	4.0	3.9	4.4	3.9
Total deficit impact	151.3	-109.6	-37.3	31.0	11.1	9.3	8.1	6.1	5.3	4.4	4.1	3.9	4.5	4.0
Other TARP transactions affecting borrowing from the public — net disbursements of credit financing accounts:														
Troubled Asset Relief Program Equity Purchase Financing Account	105.4	-28.5	-2.0	-26.7	-14.9	-15.0	-4.5	-1.2	-3.6	-1.8	-1.2	-3.4	-0.2	-0.2
Troubled Asset Relief Program Direct Loan Financing Account	23.9	18.8	-14.2	-8.3	-8.2	-2.3	-3.0	-2.9	-2.8	-0.3	-0.2	-0.4	.....	.....
Troubled Assets Insurance Financing Fund Guaranteed Loan Financing Account	0.6	1.8	-1.6	*	-0.4	-0.2	-0.1	-*	-*	-*	-*	-*	-*	-*
Troubled Assets Relief Program FHA Refinance Letter of Credit Financing Account .....	.....	.....	-*	-2.8	-2.4	-1.7	0.5	1.5	1.5	1.3	1.1	0.9	.....	.....
Total, other transactions affecting borrowing from the public	129.9	-7.9	-17.8	-37.7	-25.9	-19.1	-7.1	-2.6	-5.0	-0.8	-0.3	-2.9	-0.3	-0.2
Change in debt held by the public	281.2	-117.5	-55.1	-6.7	-14.8	-9.8	1.0	3.5	0.3	3.6	3.8	1.0	4.2	3.8
Debt held by the public	281.2	163.6	108.5	101.8	87.0	77.1	78.2	81.7	81.9	85.5	89.3	90.4	93.6	97.4
As a percent of GDP	2.0%	1.1%	0.7%	0.7%	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Debt held by the public net of financial assets:														
Debt held by the public	281.2	163.6	108.5	101.8	87.0	77.1	78.2	81.7	81.9	85.5	89.3	90.4	93.6	97.4
Less financial assets net of liabilities — credit financing account balances:														
Troubled Assets Relief Program Equity Purchase Financing Account	105.4	76.9	74.9	48.2	33.2	18.2	13.6	12.5	8.9	7.1	5.8	2.4	2.1	1.9
Troubled Asset Relief Program Direct Loan Financing Account	23.9	42.7	28.5	20.2	12.0	9.7	6.7	3.8	0.9	0.6	0.5	0.1	0.1	0.1
Troubled Assets Insurance Financing Fund Guaranteed Loan Financing Account	0.6	2.4	0.8	0.8	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Troubled Assets Relief Program FHA Refinance Letter of Credit Financing Account .....	.....	.....	-*	-2.8	-5.1	-6.8	-6.3	-4.8	-3.3	-2.0	-0.9	.....	.....	.....
Total, financial assets net of liabilities	129.9	122.0	104.1	66.4	40.5	21.3	14.2	11.6	6.6	5.7	5.4	2.5	2.3	2.1
Debt held by the public net of financial assets	151.3	41.6	4.4	35.4	46.5	55.8	63.9	70.1	75.3	79.8	83.9	87.8	91.3	95.3
As a percent of GDP	1.1%	0.3%	0.0%	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%

* \$50 million or less.

¹ Table reflects the deficit effects of the TARP program, including administrative costs and interest effects.

² Projected Treasury interest transactions with credit financing accounts are based on the market-risk adjusted rates. Actual credit financing account interest transactions reflect the appropriate Treasury rates under the FCRA.

³ Includes estimated debt service effects of all TARP transactions that affect borrowing from the public.

rate, consistent with the EESA requirement. For on-going TARP credit programs, the risk adjusted discount rates on future cash flows result in subsidy costs that are higher than subsidy costs estimated under FCRA.

Estimates on a Cash Basis

The value to the Federal Government of the assets acquired through TARP is the same whether the costs of acquiring the assets are recorded in the budget on a cash basis, or a credit basis. As noted above, the budget records the cost of equity purchases, direct loans, and guarantees as the net present value cost to the Government, discounted at the rate required under the FCRA and adjusted for market risks as required under Section 123 of EESA. Therefore, the net present value cost of the assets is reflected on-budget, and the gross value of these assets is reflected in the financing accounts.²¹ If these pur-

²¹ For the Making Home Affordable programs and the HFA Hardest Hit Fund, Treasury's purchase of financial instruments does not result in the acquisition of an asset with potential for future cash flows, and therefore are recorded on a cash basis.

chases were instead presented in the Budget on a cash basis, the Budget would reflect outlays for each disbursement (whether a purchase, a loan disbursement, or a default claim payment), and offsetting collections as cash is received from the public, with no obvious indication of whether the outflows and inflows leave the Government in a better or worse financial position, or what the net value of the transaction is.

Revised Estimate of the Deficit, Debt Held by the Public, and Gross Federal Debt Based on the Cash-basis Valuation

Estimates of the deficit and debt under TARP transactions calculated on a cash basis are reflected in Table 4–5, for comparison to those estimates in Table 4–4 reported above in which TARP transactions are calculated consistently with FCRA and Section 123 of EESA.

If TARP transactions were reported on a cash basis, the annual budgetary effect would include the full amount of government disbursements for activities such as equity purchases and direct loans, offset by cash inflows from

Table 4–5. TROUBLED ASSET RELIEF PROGRAM EFFECTS ON THE DEFICIT AND DEBT CALCULATED ON A CASH BASIS¹
(Dollars in billions)

	Actual			Estimate											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
Deficit effect:															
Programmatic and administrative expenses:															
Programmatic expenses:															
Equity purchases	217.6	-121.9	-36.8	-16.8	-18.6	-17.4	-6.0	-2.2	-4.5	-2.5	-1.7	-3.8	-0.5	-0.4	
Direct loans and purchases of asset-backed securities ...	61.1	-1.0	-21.3	-4.6	-9.3	-2.7	-3.3	-3.1	-2.9	-0.3	-0.2	-0.4	.....	.....
Guarantees of troubled asset purchases	-0.5	-0.3	-2.3	*	-0.5	-0.2	-0.1	..*	..*	..*	..*	..*	..*	..*	
TARP housing programs	*	0.5	1.9	10.9	9.8	6.3	5.6	3.3	2.0	0.8	0.4	0.3	.....	.....
Subtotal, programmatic expenses	278.3	-122.6	-58.5	-10.5	-18.6	-14.0	-3.9	-2.1	-5.5	-2.0	-1.5	-3.9	-0.5	-0.4	
Administrative expenses	0.1	0.2	0.4	0.5	0.3	0.2	0.2	0.2	0.1	0.1	*	*	*	*	
Special Inspector General for TARP	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Subtotal, programmatic & administrative expenses	278.4	-122.3	-58.1	-10.0	-18.2	-13.7	-3.7	-1.9	-5.3	-1.9	-1.4	-3.8	-0.4	-0.4	
Debt service ²	2.8	4.7	3.0	3.3	3.4	3.9	4.7	5.4	5.6	5.5	5.2	4.8	4.6	4.2	
Total deficit impact	281.2	-117.5	-55.1	-6.7	-14.8	-9.8	1.0	3.5	0.3	3.6	3.8	1.0	4.2	3.8	
Change in debt held by the public	281.2	-117.5	-55.1	-6.7	-14.8	-9.8	1.0	3.5	0.3	3.6	3.8	1.0	4.2	3.8	
Debt held by the public	281.2	163.6	108.5	101.8	87.0	77.1	78.2	81.7	81.9	85.5	89.3	90.4	93.6	97.4	
As a percent of GDP	2.0%	1.1%	0.7%	0.7%	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	
Debt held by the public net of financial assets:															
Debt held by the public	281.2	163.6	108.5	101.8	87.0	77.1	78.2	81.7	81.9	85.5	89.3	90.4	93.6	97.4	
Less financial assets net of liabilities — credit financing account balances:															
Troubled Asset Relief Program Equity Purchase Financing Account	105.4	76.9	74.9	48.2	33.2	18.2	13.6	12.5	8.9	7.1	5.8	2.4	2.1	1.9	
Troubled Asset Relief Program Direct Loan Financing Account	23.9	42.7	28.5	20.2	12.0	9.7	6.7	3.8	0.9	0.6	0.5	0.1	0.1	0.1	
Troubled Assets Insurance Financing Fund Guaranteed Loan Financing Account	0.6	2.4	0.8	0.8	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
FHA Refinance Letter of Credit Financing Account .....	.....	.....	..*	-2.8	-5.1	-6.8	-6.3	-4.8	-3.3	-2.0	-0.9	.....	.....	.....
Total, financial assets net of liabilities	129.9	122.0	104.1	66.4	40.5	21.3	14.2	11.6	6.6	5.7	5.4	2.5	2.3	2.1	
Debt held by the public net of financial assets	151.3	41.6	4.4	35.4	46.5	55.8	63.9	70.1	75.3	79.8	83.9	87.8	91.3	95.3	
As a percent of GDP	1.1%	0.3%	0.0%	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	

* \$50 million or less.

¹ Table reflects deficit effect of budgetary costs, substituting estimates calculated on a cash basis for estimates calculated under FCRA and Sec. 123 of EESA.

² Includes estimated debt service effects of all TARP transactions affecting borrowing from the public.

dividend payments, redemptions, and loan repayments occurring in each year. For loan guarantees, the deficit would show fees, claim payouts, or other cash transactions associated with the guarantee as they occurred. Updates to estimates of future performance would impact the deficit in the year that they occur, and there would not be credit reestimates.

Under cash reporting, TARP would reduce the deficit in 2012 by an estimated \$6.7 billion, so the 2012 deficit would be \$37.7 billion lower if TARP were reflected on a cash basis than the estimate in the Budget. The deficit would be lower because repayments and proceeds of sales that are now included in non-budgetary financing accounts for TARP would be reflected as offsetting receipts when they occur. Under FCRA, the marginal change in the present value attributable to better-than-expected future inflows from the public would be recognized up front in a downward reestimate, in contrast with a cash-based treatment that would show the annual marginal changes in cash flows. However, the impact of TARP on the Federal debt, and on debt held net of financial assets, is the same on a cash basis as under FCRA.

Portion of the Deficit Attributable to TARP, and the Extent to Which the Deficit Impact is Due to a Reestimate

Table 4–4 shows the portion of the deficit attributable to TARP transactions. The largest changes in the overall TARP effects on the deficit are the result of reestimates of TARP activity outstanding as of September 30, 2011, and November 30, 2011. The specific effects are as follows:

- TARP reestimates and interest on reestimates will increase the deficit by \$21.1 billion in 2012, including \$15.2 billion in increased subsidy costs for TARP programs, and \$5.9 billion in interest on reestimates.
- Program costs for purchases of assets including costs associated with PPIP investments, MHA incentive payments, FHA Refinance program loss sharing, and modifications of existing TARP activity (excluding reestimates) are estimated to increase the deficit by \$13.6 billion in 2012, \$3.6 billion less than the estimated 2012 deficit effects reflected in the 2012 MSR. This decrease is primarily due to the extension of TARP housing programs.
- TARP equity purchase outlays in 2012 are estimated to increase the deficit by \$0.2 billion due to the drawing of additional capital by the PPIP fund managers. Subsidy costs associated with new disbursements of direct loans from previous TARP obligations are estimated to result in a \$0.3 billion reduction in net outlays in 2012, largely due to expected returns from PPIP debt purchases. These amounts have not changed since the 2012 MSR. Outlays for the TARP Housing Programs are estimated at \$13.6 billion in 2012, which includes payments under the MHA program, Hardest Hit Fund, and subsidy costs for the FHA Refinance program. Outlays for TARP Housing Program are estimated to increase through 2014, and then decline gradually through 2021.

- Administrative expenses for TARP are estimated at \$0.3 billion in 2013, and expected to decrease annually as TARP winds down through 2022. Costs for the Special Inspector General for TARP are estimated at less than \$0.1 billion in 2013, and are expected to remain relatively stable through 2022.
- Interest transactions with credit financing accounts include interest paid to Treasury on borrowing by the financing accounts, offset by interest paid by Treasury on the financing accounts' uninvested balances. Although the financing accounts are non-budgetary, Treasury payments to these accounts and receipt of interest from them are budgetary transactions and therefore affect net outlays and the deficit. For TARP financing accounts, projected interest transactions are based on the market risk adjusted rates used to discount the cash flows. The projected net financing account interest paid to Treasury at market risk adjusted rates is \$7.5 billion in 2012 and declines over time as the financing accounts repay borrowing from Treasury through investment sale proceeds and repayments on TARP equity purchases and direct loans.

The full impact of TARP on the deficit includes the estimated cost of Treasury borrowing from the public – debt service – for the outlays listed above. Debt service is estimated at \$3.3 billion for 2012 (as shown in Table 4–4), and then expected to increase to \$5.6 billion by 2017 due to TARP housing. Total debt service will continue over time after the TARP winds down, due to the financing of past TARP costs.

Analysis of TARP Reestimates. The costs of outstanding TARP assistance are reestimated annually by updating cash flows for actual experience and new assumptions, and adjusting for any changes by either recording additional subsidy costs (an upward technical and economic reestimate) or by reducing subsidy costs (a downward reestimate). The reestimated dollar amounts to be recorded in 2012 reflect TARP disbursements through September 30, 2011, while reestimated subsidy rates reflect the full lifetime costs, including anticipated future disbursements. As noted above, the total increase in the deficit attributable to TARP reestimates in 2012 is \$21.1 billion, reflecting a \$15.2 billion net upward reestimate of the subsidy cost, plus \$5.9 billion in interest on the reestimates. Detailed information on upward and downward reestimates to program is reflected in Table 4–6.

The current reestimate reflects an increase in estimated TARP costs from the 2012 Budget. Increased subsidy costs for AIG investments, AIFP, and the AGP program are due to weaker market conditions and performance expectations compared to 2012 Budget estimates, resulting in a lower estimated value of Treasury holdings. The subsidy cost for outstanding TARP equity is estimated to be substantially lower than originally estimated overall. The majority of reduced subsidy costs reflect significant repayments of CPP and TIP investments by financial institutions and higher-than-anticipated income from dividends and the sale of preferred, common stock or war-

Table 4-6. TROUBLED ASSET RELIEF PROGRAM REESTIMATES
(Dollars in billions)

TARP Program and Cohort Year	Original subsidy rate	Current reestimate rate	Current reestimate amount	Net lifetime reestimate amount, excluding interest	TARP disbursements as of 9/30/2011
Equity programs:					
Automotive Industry Financing Program (Equity)					
2009	54.52%	42.64%	3.6	-3.1	12.5
2010	30.25%	9.68%	0.2	-0.7	3.8
Capital Purchase Program					
2009	26.99%	-5.63%	-1.1	-63.1	204.6
2010	5.77%	18.17%	-0.0	0.0	0.3
AIG Investments					
2009	82.78%	32.85%	14.6	-32.0	67.8
Legacy Securities Public-Private Investment Program					
2009	34.62%	-20.80%	-0.0	-0.3	0.7
2010	22.97%	-45.90%	-2.4	-4.0	6.5
Targeted Investment Program					
2009	48.85%	-8.47%	0.0	-23.2	40.0
Community Development Capital Initiative					
2010	48.06%	27.19%	-0.1	-0.1	0.6
Subtotal equity program reestimates			14.9	-126.4	336.8
Structured and direct loan programs:					
Automotive Industry Financing Program (AIFP)					
2009	58.75%	28.34%	6.2	-17.70	63.4
Legacy Securities Public Private Investment Program					
2009	-2.52%	3.02%	-0.1	0.1	1.4
2010	-10.85%	2.18%	0.3	1.6	13.0
Small Business Lending Initiative 7(a) purchases					
2010	0.48%	-0.86%	-0.0	-0.0	0.4
Term-Asset Backed Securities Loan Facility ¹					
2009	-104.23%	-407.95%	-0.1	-0.3	0.1
Subtotal direct loan program reestimates			6.2	-16.3	78.2
Guarantee programs:					
Asset Guarantee Program ²					
2009	-0.25%	-1.10%	0.0	-1.18	301.0
Total TARP reestimates			21.1	-143.9	716.0

¹ The Term-Asset Backed Securities Loan Facility subsidy rate is calculated as a percent of estimated lifetime disbursements.

² Disbursement amount reflects the face value of assets supported by the guarantee. The TARP obligation for this program was \$5 billion, the maximum contingent liability while the guarantee was in force.

rants in prior years. The \$4.3 billion TALF facility reflects a downward reestimate and is estimated to generate a return of \$0.4 billion to the Treasury, primarily due to fees. The subsidy rate for TALF is based on disbursements, and the Treasury only expects to purchase a small amount of the total \$4.3 billion commitment but will collect fees on the full TALF facility.

Differences Between Current and Previous OMB Estimates

As shown in Table 4-7, the Budget reflects a total TARP deficit impact of \$67.8 billion. This is an increase of \$21.0 billion from the 2012 MSR projection of \$46.8 billion and \$14.6 billion from the June 30th valuation of \$53.2 mil-

lion. This increase is primarily due to increased estimates of the cost of TARP investments and guarantees. The reestimates performed for MSR do not include updates to estimated subsidy rates or market valuations, such as for common stock held by Treasury. Therefore, the June 30th valuation, being more comparable to the reestimates performed for the Budget because it includes adjustments to reflect recent market performance, is presented in Table 4-7 as a source of comparison.

The estimated TARP deficit impact differs from the subsidy cost of \$78.2 billion in the Budget because the deficit impact reflects a \$10.4 billion cumulative downward adjustment for interest on reestimates. These adjustments account for the time between when the subsidy

Table 4–7. DETAILED TARP PROGRAM LEVELS AND COSTS
(In billions of dollars)

Program	June 30th Valuation		2013 Budget	
	TARP Obligations	Subsidy Costs	TARP Obligations	Subsidy Costs
Equity programs:				
Capital Purchase Program	204.9	-7.2	204.9	-6.7
AIG Investments ¹	67.8	19.8	67.8	24.0
Targeted Investment Program	40.0	-3.6	40.0	-3.6
Automotive Industry Financing Program (AIFP)	16.3	3.2	16.3	5.5
Public-Private Investment Program - Equity	7.5	-1.9	7.5	-2.2
Community Development Capital Initiative	0.6	0.2	0.6	0.2
Subtotal equity programs	337.1	10.4	337.1	17.2
Direct loan programs:				
Automotive Industry Financing Program (AIFP) ²	63.4	16.5	63.4	19.3
Term Asset-Backed Securities Loan Facility (TALF)	4.3	-0.3	4.3	-0.4
Public-Private Investment Program - Debt	14.9	*	14.9	0.2
Small Business 7(a) Program	0.4	*	0.4	*
Subtotal direct loan programs	83.0	16.6	83.0	19.1
Guarantee programs under Section 102:				
Asset Guarantee Program	5.0	-3.7	5.0	-3.6
Non-Add Asset Guarantee Program Face Value	301.0		301.0	
Subtotal asset guarantees	5.0	-3.7	5.0	-3.6
TARP housing programs:				
Making Home Affordable (MHA) Programs	29.9	29.9	29.9	29.9
HFA Hardest Hit Fund	7.6	7.6	7.6	7.6
Subtotal non-credit programs	37.5	37.5	37.5	37.5
FHA Refinance Letter of Credit	8.1	8.1	8.1	8.1
Subtotal TARP housing programs	45.6	45.6	45.6	45.6
Totals	470.7	69.0	470.7	78.2
Memorandum:				
Interest on reestimates ³		-15.8		-10.4
Deficit impact before administrative costs and interest effects		53.2		67.8

* \$50 million or less.

¹ June 30th Valuation reflects the cancelation of AIG's outstanding \$2 billion credit facility with Treasury.

² June 30th Valuation reflects the Chrysler Group LLC termination of a remaining \$2.1 billion TARP loan commitment.

³ Interest on reestimates is an adjustment for interest effects of changes in TARP subsidy costs from original subsidy estimates; such amounts are a component of the deficit impacts of TARP programs but are not direct programmatic costs.

cost was originally estimated and the time when the reestimate is booked.

Differences Between OMB and CBO Estimates

Table 4–8 compares the subsidy cost for TARP reflected in MSR against the costs estimated by the Congressional Budget Office in its “Report on the Troubled Asset Relief Program – December 2011.” ²²

CBO estimates the total cost of TARP at \$34 billion, based on estimated lifetime TARP obligations of \$429 billion. The Budget reflects current estimates of roughly \$471 billion in program obligations, and \$78.2 billion in programmatic costs. Differences in the estimated cost of the TARP Housing programs, which stem from divergent demand and participation rate assumptions, are the main

difference between OMB and CBO cost estimates. The CBO projects \$13 billion in total TARP Housing expenditures, while the Budget reflects a \$46 billion estimate. CBO and OMB cost estimates for the Capital Purchase Program are \$10 billion apart because of different assumptions for the remaining institutions with investments in the program. Similarly, CBO and OMB cost estimates for the Automotive Industry Financing Program are \$5 billion apart due to different assumptions for the future performance of equity investments in the program.

Differences Between EESA and FCRA Cost Estimates

EESA directs that for asset purchases and guarantees under TARP, the cost shall be determined pursuant to the FCRA, except that the discount rate shall be adjusted for market risks. EESA's directive to adjust the FCRA discount rate for market risks effectively assumes higher losses on these transactions than those estimated under

²² United States. Congressional Budget Office. Report on the Troubled Asset Relief Program – December 2011. Washington: CBO, 2011. http://cbo.gov/ftpdocs/126xx/doc12611/12-16-TARP_report.pdf

Table 4–8. COMPARISON OF OMB AND CBO TARP COSTS
(In billions of dollars)

Program	Risk-Adjusted Subsidy Costs	
	CBO Subsidy Cost ¹	OMB Subsidy Cost ²
Capital Purchase Program	-17	-7
Targeted Investment Program	-8	-4
AIG Assistance	25	24
Automotive Industry Financing Program	20	25
Term Asset-Backed Securities Loan Facility	*	—*
Other Programs ³	*	-5
TARP Housing Programs	13	46
Total	34	78

* \$500 million or less.

¹ CBO estimates from December 2011, available online at: http://www.cbo.gov/ftpdocs/126xx/doc12611/12-16-TARP_report.pdf.

² Lifetime subsidy costs as reflected in the 2013 Budget, excluding interest on reestimates.

³ "Other Programs" reflects an aggregate cost for PPIP (debt and equity purchases), CDCI, AGP, and small business programs.

FCRA guidelines, which require that Treasury rates be used to discount expected cashflows. In implementing this requirement of EESA, the market risk adjustment is intended to capture the cost of the extra return on investment that a private investor would seek in compensation for uncertainty surrounding risks of default and other losses reflected in the cashflows.²³

Table 4–9 compares the subsidy costs and subsidy rates of TARP programs discounted at the Treasury rate adjusted for market risk (EESA), and discounted at the unadjusted Treasury rate (FCRA) using November 30th subsidy cost valuations. The largest differences between these two reflect the most uncertainty regarding the probability of losses. For example, there is greater uncertainty regarding the value of Treasury's mortgage-backed security investments in PPIP than there is compared to the valuation of Treasury's investments in CPP and TALF, and so the difference between the market-risk adjusted cost versus the non-adjusted cost (as a percent change in dollar costs) is greater for PPIP than for CPP and TALF. Removing the market risk adjustment from the discount rate for Treasury's investment in PPIP decreases its subsidy cost by 122 percent (\$2.4 billion), whereas it only decreases the CPP and TALF program by 61 percent (or \$3.0 billion) and 30 percent (or \$0.1 billion), respectively. There is a relatively small difference in the FCRA and market risk cost of AGP because there is only a negligible market risk adjustment for the outstanding \$800 million in additional Citigroup trust preferred securities that the Treasury is entitled to receive from the FDIC. For the TIP there is no difference because the TIP program has been fully repaid and its final value is known. Treasury holdings within the AIG and AIFP programs include sig-

²³ For example, if there were a 100 percent default expectation on a loan, and losses given default were projected at 100 percent, the market risk adjustment to the discount rate would be zero. This reflects the fact that there are no unexpected losses if losses are expected to be 100 percent of the face value of the loan.

nificant amounts of common stock, the value of which is based on the closing November 30, 2011, share price. The share price of common stock is inherently adjusted for market risk and, therefore, there is no additional market risk adjustment necessary for the EESA directive. As a result, there is no difference in the cost of AIG and AIFP between values calculated using the Treasury and risk adjusted rate. The FHA refinance program cost estimate is 53 percent (or \$4.3 billion) lower under FCRA than under EESA due to a relatively large estimated risk premium associated with risk of mortgage defaults (and TARP losses). The non-credit TARP Housing programs are reflected on a cash basis and, therefore, costs are not discounted, which is why there is no difference in the subsidy cost estimate. Using November 30, 2011, valuations, TARP investments discounted at a risk adjusted rate will cost an estimated \$78.2 billion, which suggests a net subsidy rate of 17 percent. TARP investments discounted under FCRA will cost an estimated \$67.3 billion, or a net subsidy rate of 14 percent.

TARP OVERSIGHT AND ACCOUNTABILITY

Ensuring effective internal controls and monitoring of TARP programs and funds to protect taxpayer investments remains a top priority of TARP staff and those offices charged with TARP oversight and accountability. The Treasury has implemented a comprehensive set of assessments geared toward identifying risks, evaluating their potential impact, and prioritizing resource assignments to manage risks based on a combined top-down and bottom-up assessment of risk. The Internal Control Review organization within the Office of Financial Stability (OFS) utilizes the assessments to ensure appropriate coverage of high-impact areas. A Senior Assessment Team and the Internal Control Program Office guide OFS efforts to meet all applicable requirements for a sound system of internal controls, and to review and respond to all recom-

Table 4–9. COMPARISON OF EESA AND FCRA TARP SUBSIDY COSTS USING 2013 BUDGET VALUATIONS

(In billions of dollars)

Program	TARP Obligations ¹	Subsidy Cost	
		EESA	FCRA
Equity, direct loan, and asset guarantee programs:			
Capital Purchase Program	204.9	-6.7	-10.7
Targeted Investment Program	40.0	-3.6	-3.6
Asset Guarantee Program	5.0	-3.6	-3.7
Community Development Capital Initiative	0.6	0.2	0.1
Term Asset-Backed Securities Loan Facility	4.3	-0.4	-0.5
Small Business 7(a) Program	0.4	*	*
Public Private Investment Program ²	22.4	-2.0	-4.4
AIG Investments	67.8	24.0	24.0
Automotive Industry Financing Program ²	79.7	24.8	24.8
Subtotal TARP equity, direct loans, and guarantee programs.....	425.1	32.6	26.0
TARP housing programs:			
Making Home Affordable Programs ³	29.9	29.9	29.9
HFA Hardest Hit Fund ³	7.6	7.6	7.6
Subtotal non-credit programs	37.5	37.5	37.5
FHA Refinance Letter of Credit	8.1	8.1	3.8
Subtotal TARP Housing	45.6	45.6	41.3
Total ⁴	470.7	78.2	67.3

* \$50 million or less.

¹ TARP obligations reflect the cancellation of AIG's outstanding \$2 billion credit facility with Treasury and the Chrysler Group LLC termination of a remaining \$2.1 billion TARP loan commitment.² Rates for PPIP and AIFP reflect weighted average subsidy costs across various instruments.³ TARP Making Home Affordable Programs and HFA Hardest Hit Fund involve financial instruments without any provision for income or other returns, and are recorded on a cash basis. The table reflects 100 percent subsidy cost for these programs.⁴ Total subsidy costs do not include interest effects or administrative costs.

recommendations made by the four TARP oversight bodies—the Special Inspector General for TARP (SIGTARP), the Government Accountability Office (GAO), the Financial Stability Oversight Board, and the Congressional Oversight Panel (terminated April 3, 2011). The soundness of Treasury's TARP compliance monitoring, internal control, and risk management policies and processes are reflected in the clean opinions issued by GAO after its audit of TARP financial statements for 2009, 2010 and 2011 and the associated internal control over financial reporting.

The Treasury has issued regulations governing executive compensation and conflicts of interest related to TARP program administration and participation. Compliance with these rules is monitored on an ongoing basis, and reviews of participant conduct and program administration are conducted as appropriate. In executing its responsibility for monitoring compliance with executive com-

pensation requirements, the Treasury has also created an Office of the Special Master for TARP to review TARP participant compliance with applicable legal and regulatory authority, and to recommend action to the Secretary when compensation is found to be awarded in a manner or amount deemed contrary to the public interest.

Special Inspector General for TARP (SIGTARP)

Section 121 of EESA created the Special Inspector General for the Troubled Asset Relief Program (SIGTARP) to prevent fraud, waste, and abuse in the administration of TARP programs through audits and investigations of the purchase, management, and sales of TARP assets. SIGTARP is required to submit quarterly reports to Congress, and as of its latest report released on October 27, 2011, it has initiated 28 audits, 2 evaluations, and over 150 investigations since its inception.

5. LONG TERM BUDGET OUTLOOK

The horizon for the detailed estimates of receipts and outlays in the President's Budget is 10 years. Accordingly, the account-level estimates in the 2013 Budget extend to 2022. This 10-year horizon reflects a balance between the importance of considering both the current and future implications of budget decisions made today and a practical limit on the construction of detailed budget projections for years in the future.

Decisions made today can have important repercussions beyond the 10-year horizon. It is important to anticipate future budgetary requirements beyond the 10-year horizon, and the effects of changes in policy on those requirements, despite the uncertainty surrounding the assumptions needed for such estimates. Long-run budget projections can be useful in drawing attention to potential problems that could become unmanageable if allowed to grow.

To this end, the budget projections in this chapter extend the 2013 Budget for 75 years through 2087. Because of the uncertainties involved in making long-run projections, results are presented for a base case and for several alternative scenarios.

The passage of the Affordable Care Act (ACA) in 2010 had a profound effect on these projections. The cost-reduction mechanisms in the ACA significantly reduce projected budget deficits in the long run. In 2011, following weeks of negotiation with the Administration, Congress passed the Budget Control Act of 2011 (BCA). The BCA reduces long-run budget deficits by constraining spending over the next 10 years, and the 2013 Budget includes other initiatives that would help control future deficits if enacted. Nonetheless, the Administration recognizes that there is considerable uncertainty in its long-term projections and that future challenges will require policy responses that have yet to be formulated. The projections in this chapter reflect the fact that, until these reforms are enacted, simply extending current laws and policies leaves the country with a large and growing publicly held debt. Reforms are needed to make sure that overall budgetary resources are sufficient to support future spending and that programs like Medicare Part A and Social Security, which are expected to be financed from dedicated revenue sources, remain self-sustaining. The Administration intends to work with the Congress to develop additional policies that will assure fiscal sustainability in the future.

When the current Administration took office, the budget deficit was rising sharply because of the declining economy and measures taken to revive it. Revenues had fallen, as a share of GDP, to their lowest level since 1950. Spending on programs like unemployment insurance had also risen sharply. The measures taken by the Administration to revive economic growth will also help

to increase revenues, and, over the next ten years, the revenue shortfall is projected to be made up. By 2022, revenues as a share of GDP are projected to be above their historical average over the last 40 years. Meanwhile, measures like the ACA and the BCA along with the proposals in this Budget will constrain future spending and help narrow the deficit. By the end of the period, the primary budget is balanced and the debt-to-GDP ratio will have been stabilized. Beyond the 10-year horizon, however, demographic pressures and continued high costs for health care are likely to begin gradually pushing up the deficit and the ratio of debt to GDP.

The key drivers of the long-range deficit are the Government's major health and retirement programs: Medicare, Medicaid and Social Security. Revenues rise somewhat relative to GDP, but not enough to keep pace with the increase in health and retirement program spending.

- Medicare finances health insurance for most of the Nation's seniors and many individuals with disabilities. Medicare's growth has generally exceeded that of other Federal spending for decades, tracking the rapid growth in overall health care costs. The ACA will curtail this cost growth, but Medicare spending is still projected to reach higher levels relative to the economy and the budget than those that prevail today.
- Medicaid provides medical assistance, including acute and long-term care, to low-income children and families, seniors, and people with disabilities. Medicaid's growth has also generally exceeded that of other Federal spending, and like Medicare it has generally tracked the growth in overall health costs. Medicaid assistance will expand further beginning in 2014 because of broadened coverage provided by the ACA. Medicaid's finances are also expected to benefit from the ACA's reforms.
- Social Security provides retirement benefits, disability benefits, and survivors' insurance for the Nation's workers. Outlays for Social Security benefits will begin to exceed the program's dedicated income in a little more than a decade putting pressure on the overall budget as trust fund balances are drawn down.

Long-range projections for Social Security and Medicare have been prepared for decades, and the actuaries at the Centers for Medicare and Medicaid Services have indicated that they intend to begin producing such projections for Medicaid. This is useful information, but it does not indicate the Government's overall budgetary po-

sition, which is the reason the projections in this chapter offer a useful complement to the long-run projections for the individual programs.

Future budget outcomes depend on a host of unknowns—changing economic conditions, unforeseen international developments, unexpected demographic shifts, the unpredictable forces of technological advance, and evolving political preferences to name a few. These uncertainties make even short-run budget forecasting quite difficult, and the uncertainties increase the further into the future projections are extended. While uncertainty makes forecast accuracy difficult to achieve, it does not detract from the importance of long-run budget projections, because future problems are often best addressed in the present. A full treatment of all the relevant risks is beyond the scope of this chapter, but the chapter does show how sensitive long-run budget projections are to changes in some of key economic and demographic assumptions.

The Long-Run Fiscal Challenge

The 2013 Budget includes \$3 trillion in net deficit reduction over the next 10 years. Combined with the approximately \$1 trillion in savings from the provisions in Title I of the BCA, this would generate more than \$4 trillion in deficit reduction over the next decade. These savings would bring the Nation to the point where current spending is no longer adding to debt and where debt is no longer increasing as a share of the economy—an important milestone on the way to restoring fiscal discipline and moving the budget toward balance. By the end of the 10-year budget window, the policies in this Budget stabilize the deficit at less than 3 percent of GDP. Beyond 2022, however, the fiscal position gradually deteriorates mainly because of the aging of the population and the high continuing cost of the Government's health programs. By 2030, the deficit is projected to be 4.5 percent of GDP, and by 2040 it is nearly 6 percent. The deficit continues to rise for the next 75 years, and the publicly-held debt is also projected to rise persistently relative to GDP (see Chart 5-1).

Health care costs have risen faster than inflation for decades. This rising cost trend has contributed to steady increases in the amounts spent on Medicare and Medicaid, while also making it more difficult for people to afford private health insurance. The ACA tackles both problems by extending health insurance coverage to millions of Americans who currently lack insurance, while making reforms that will slow future growth in medical costs. When the law is fully implemented, Medicare spending per beneficiary would rise at rates substantially below those at which spending has grown for four decades. Even with these changes, however, health care costs are likely to continue to rise faster than inflation as the population ages, posing a danger to long-run budget stability.

Population aging also poses a serious long-run budgetary challenge. Because of lower expected fertility and improved longevity, the Social Security actuaries project that under current law in which the normal retirement age rises to 67, the ratio of workers to Social Security beneficiaries will fall from around 2.9 currently to a little over 2 by the time most of the baby boomers have retired. From that point forward, the ratio of workers to beneficiaries is expected to continue to decline slowly. With fewer workers to pay the taxes needed to support the retired population, budgetary pressures will steadily mount and without reforms, trust fund exhaustion is projected by the Social Security Trustees to occur in 2036. The country also faces the challenge of reforming the tax code to make it fairer and simpler and to provide sufficient revenue to meet long-run commitments. Resolving the long-run fiscal challenge will require a comprehensive approach, one that restrains spending growth but also addresses the sufficiency of the tax code. The 2013 Budget includes several proposed changes to the tax code that would close loopholes and eliminate tax breaks for special interests. It also calls on Congress to undertake comprehensive tax reform to both lower tax rates and generate new revenues.

Long-Run Budget Projections.—In 2011, the three major entitlement programs — Medicare, Medicaid, and Social Security — accounted for 44 percent of non-interest

Chart 5-1. Publicly Held Debt Under 2013 Budget Policy Extended

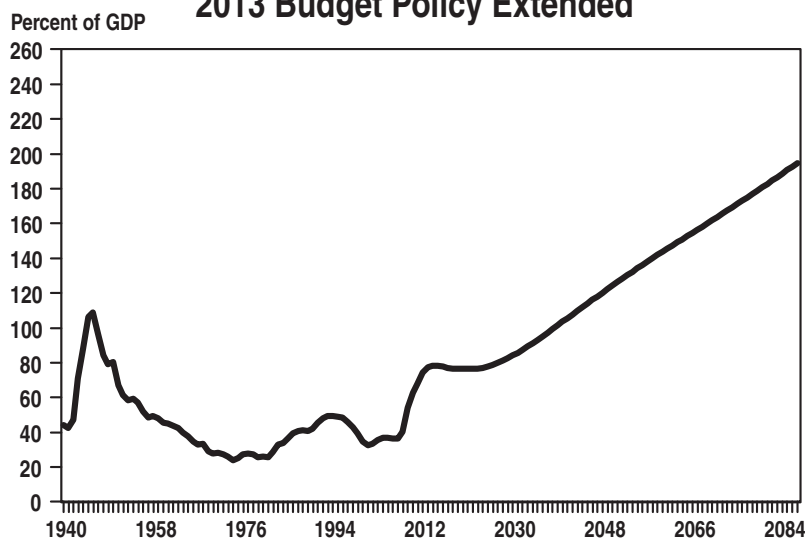


Table 5-1. LONG-RUN BUDGET PROJECTIONS
(Receipts, Outlays, Surplus or Deficit, and Debt as a Percent of GDP)

	1980	1990	2000	2010	2020	2030	2040	2050	2060	2070	2080	2085
Receipts	19.0	18.0	20.6	15.1	19.7	20.0	20.2	20.3	20.5	20.7	20.8	20.9
Outlays:												
Discretionary	10.1	8.7	6.3	9.1	5.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Mandatory:												
Social Security	4.3	4.3	4.1	4.9	5.2	5.8	5.8	5.7	5.6	5.7	5.8	5.8
Medicare	1.1	1.7	2.0	3.1	3.3	4.3	4.8	5.0	5.0	5.1	5.1	5.1
Medicaid	0.5	0.7	1.2	1.9	2.2	2.5	2.8	3.0	2.9	2.9	2.9	2.8
Other	3.7	3.2	2.4	3.7	3.4	3.1	2.9	2.8	2.7	2.6	2.6	2.6
Subtotal, mandatory	9.6	9.9	9.7	13.6	14.0	15.8	16.4	16.4	16.3	16.3	16.3	16.3
Net interest	1.9	3.2	2.3	1.4	3.2	3.8	4.6	5.6	6.5	7.3	8.1	8.6
Total outlays	21.7	21.9	18.2	24.1	22.5	24.5	26.0	27.0	27.7	28.6	29.4	29.9
Surplus or deficit (-)	-2.7	-3.9	2.4	-9.0	-2.8	-4.5	-5.8	-6.6	-7.2	-7.9	-8.6	-9.0
Primary surplus/deficit(-)	-0.8	-0.6	4.7	-7.6	0.4	-0.7	-1.2	-1.1	-0.7	-0.6	-0.5	-0.4
Federal debt held by the public, end of period	26.1	42.1	34.7	62.8	76.5	84.2	103.5	124.4	143.7	161.8	180.8	190.6

Note: The figures shown in this table beyond 2020 are the product of a long-range forecasting model maintained by the Office of Management and Budget. This model is separate from the models and capabilities that produce detailed programmatic estimates in the Budget. It was designed to produce long-range projections based on additional assumptions regarding growth in the economy, the long-range evolution of specific programs, and the demographic and economic forces affecting those programs. The model, its assumptions, and sensitivity testing of those assumptions are presented in this chapter.

Federal spending, up from 30 percent in 1980. By 2035, when the surviving baby boomers will all be 70 or older, these three programs could account for more than 60 percent of non-interest Federal spending. Through the end of the projection period, in 2087, this figure would continue to rise gradually. In other words without further reforms, more than three-fifths of the budget, aside from interest, would go to these three programs alone. That would severely reduce the flexibility of the budget, and the Government's ability to respond to new challenges.

Because of these pressures, further cost-reducing measures or additional revenues are needed to stabilize the budget outlook in the long run. The budget projections shown in Table 5-1 illustrate that point. The policies in the 2013 Budget, would stabilize the budget outlook over the next 10 years by generating \$3 trillion in additional deficit reduction. However, after stabilizing the debt-to-GDP ratio over that time period, the deficit and the debt-ratio begin to rise again in the period after 2022, with the debt-to-GDP ratio eventually far exceeding its previous peak level reached at the end of World War II. The policies in the 2013 Budget will allow more time to develop long-term policies to address the persistently-rising debt.

Medicare and Medicaid.— In the long-run projections in this chapter, different assumptions about the growth rate of health care costs are made. In the base case, a continuation of current policy assumes that the provisions of the ACA are fully implemented, limiting health care costs in the long run compared with prior law. The long-run Medicare assumptions for the years following the 10-year budget window are essentially the same as those in the latest Medicare Trustees' report (May 2011), which is consistent with how these long-term budget projections have generally been made in the past. The Trustees' projections imply that average long-range annual growth in Medicare spending per enrollee is 0.2 percentage points per year faster than the projected growth rate in GDP per capita. This growth rate for Medicare is significantly smaller than

previous projections prior to the passage of the ACA—a reduction the Trustees largely attribute to the ACA.

Along with the rules for Medicare, there are a number of reforms in the ACA that experts believe could produce significant savings relative to the historical trend and that would affect medical costs more broadly. One is an excise tax on the highest-cost insurance plans, which will encourage substitution of plans with lower costs, while raising take-home pay. There is also an array of delivery system reforms, including incentives for accountable care organizations and payment reform demonstrations that have the potential to re-orient the medical system toward providing higher quality care, not just more care, and thus reduce cost growth in the future.¹ Finally, the ACA established an independent payment advisory board that will be empowered to propose changes in Medicare should Medicare costs exceed the growth rate specified in law. The proposed changes in Medicare would take effect automatically, unless overridden by the Congress. Because of these broader reforms, Medicaid spending per beneficiary and private health spending per capita are also projected to slow, though not as much as Medicare.²

An alternative discussed below assumes that medical costs rise more rapidly than in the base case. This could happen, for example, if future Congresses and Administrations weaken the budgetary discipline embodied in current law. The alternative assumes that costs per beneficiary rise at two percentage points per year above GDP per capita which would continue the historical experience of the last 50 years.

¹ Groups of providers meeting certain criteria can be recognized as accountable care organizations (ACOs), which allow them to coordinate care and manage chronic disease more easily thereby improving the quality of care for patients. ACOs can then share in any cost savings they achieve for Medicare if they meet quality standards.

² The projections assume that growth in Medicaid spending per enrollee and private health spending per capita exceeds growth in GDP per capita by 0.6 percentage points.

Revenues.—Projected revenues in these long-run budget projections start with the estimated receipts under the Administration’s proposals in the 2013 Budget. There is some built-in momentum in the tax code that tends to push up average tax rates over time when real incomes are rising, as assumed in these projections. For example, the tax code is indexed for inflation, but not for increases in real income, so there is a tendency for individual income taxes to increase relative to incomes when real taxable incomes are rising, everything else equal. Historically, Congress has acted to forestall this tendency by periodically lowering tax rates. Beyond the 10-year budget window, the projections in this chapter assume that individual income tax rates will not rise automatically with real wage growth. The projections also assume that the Alternative Minimum Tax (AMT) will not be allowed to expand as it would under current law. In recent years, Congress and the Administration have always acted to curtail the spread of the AMT preventing the increase in revenues from that source implied by current law. While these assumptions tend to limit tax revenue, other assumptions work in the opposite direction. For example, the projections assume that the new revenue provisions in the ACA go into effect including the excise tax on high-premium health plans. On balance, the assumptions produce a gradual increase in the overall share of revenues relative to GDP rising to nearly 21 percent by the end of the long-run projection period. Despite the increase, projected revenues are insufficient to meet the Federal Government’s projected future commitments as shown by the growing deficits in Table 5-1.

Discretionary Outlays.—Because discretionary spending is determined annually through the legislative process, there is no straightforward assumption for projecting its future path. The budget displays a path for discretionary spending over the next 10 years; beyond that time frame, however, there are several different plausible assumptions for the future path. One is to assume that discretionary spending will be held constant in inflation-adjusted terms, which would allow discretionary programs to increase with prices, but would not allow the programs to expand with population or real growth in the economy. Extending this assumption over many decades is not realistic, when the population and economy are projected to grow, as assumed in these projections. Therefore, the base projection assumes that discretionary spending keeps pace with the growth in GDP in the long run. The chapter also uses alternative assumptions for discretionary spending to show other possible paths. It is important to note that these paths are merely illustrative; they are not intended to represent the policy preferences of this Administration or future Administrations.

Table 5-1 shows how the budget would evolve without further changes in policy under the base assumptions described above. The key assumptions are the full implementation of the ACA with its various provisions to control costs and alter incentives for medical practice, the BCA which limits discretionary spending over the next ten years, and the adoption of the proposals in this Budget to control the deficit and reform taxes. Under these as-

sumptions, the future growth of Medicare and Medicaid is projected to slow sharply relative to GDP, and future discretionary spending is much lower relative to GDP than has been true in recent decades. Social Security benefits rise relative to the economy over the next 20 years, but increase more slowly after that as the age composition of the population begins to stabilize. Other mandatory programs generally decline relative to the size of the economy. These include Federal pension benefits for Government workers. The shift in the 1980s from the Civil Service Retirement System (CSRS) to the Federal Employees Retirement System (FERS) is having a marked effect on Federal civilian pensions, which is expected to continue as FERS comes to dominate future pension projections. The defined benefit pension plan in FERS is much smaller than the traditional Federal pension benefit under CSRS. On the revenue side, once tax revenues recover from the economic downturn, revenues gradually grow but by less than future spending. With total outlays increasing more rapidly than taxes, the deficit rises, and publicly held debt exceeds historical levels.

The ACA addresses the single most important long-run challenge to the Nation’s fiscal future, which is rising health care costs. Even with this fundamental change, however, an aging population and a continued high level of health costs will pose serious long-term budget problems. Under current policies, Medicare, Medicaid, and Social Security are projected to absorb a much larger share of Federal resources than in the past, limiting what the Government can do in other areas. The ratio of debt to GDP, which is stabilized within the 10-year budget window, is projected to resume its growth in the long run without further policy changes.

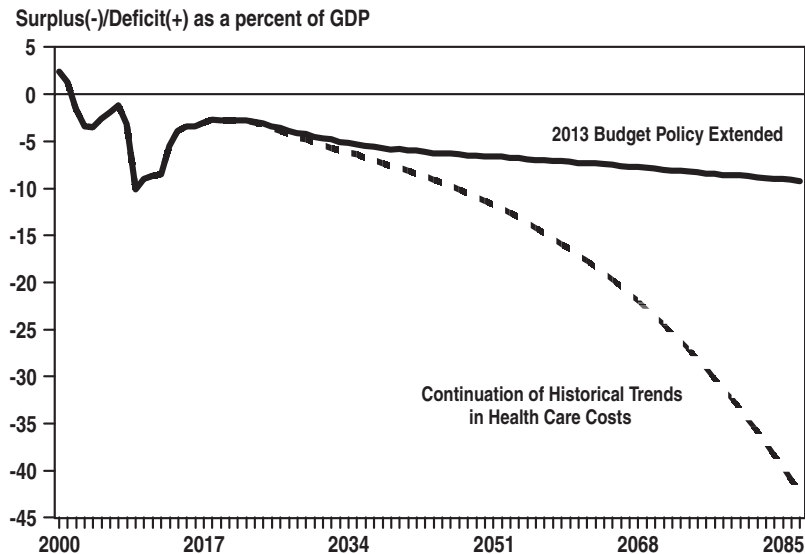
Alternative Policy, Economic, and Technical Assumptions

The quantitative results discussed above are sensitive to changes in underlying policy, economic, and technical assumptions. Some of the most important of these assumptions and their effects on the budget outlook are discussed below. For most plausible alternative projections of long-run trends, the deficit and debt rise even more than in the base projections discussed above.

Health Spending.—The base projections for Medicare and Medicaid over the next 75 years assume an extension of current law. Chart 5-2 shows budget outcomes under these base assumptions and an alternative scenario. The alternative assumes spending per beneficiary grows 2 percentage points faster than GDP per capita, similar to the historical growth rate of medical costs in the United States since 1960.

Discretionary Spending.—The current base projection for discretionary spending assumes that after 2022, discretionary spending keeps pace with the growth in GDP (see Chart 5-3). An alternative assumption would be to allow discretionary spending to increase for inflation and population growth only. In this case, discretionary spending would remain constant in inflation-adjusted per capita terms. Yet another possible assumption is to al-

Chart 5-2. Alternative Health Care Costs



low nondefense discretionary spending to grow with GDP while defense spending is adjusted only for inflation plus one percent real growth per year. This latter combination is somewhat closer to historical experience over the last 60 years.

Alternative Revenue Projections.—In the base projection, tax receipts rise gradually relative to GDP. Chart 5-4 shows alternative receipts assumptions. Allowing receipts to rise by an additional 2 percentage points of GDP relative to the base projections would stabilize the long-run budget deficit. Reducing taxes by 2 percentage points of GDP relative to the base projections would bring the projected rise in the deficit and the publicly-held debt forward in time.

Productivity.—The rate of future productivity growth has a major effect on the long-run budget outlook (see

Chart 5-5). It is also highly uncertain. Over the next few decades, an increase in productivity growth would reduce projected budget deficits. Higher productivity growth adds directly to the growth of the major tax bases, while it has a smaller immediate effect on outlay growth even assuming that discretionary spending rises with GDP. For much of the last century, output per hour in nonfarm business grew at an average rate of around 2.2 percent per year. Growth was not always steady. In the 25 years following 1948, labor productivity in the nonfarm business sector of the economy grew at an average rate of 2.7 percent per year, but this was followed by a period of much slower growth. From 1973 to 1995, output per hour in non-farm business grew at an average annual rate of just 1.5 percent per year. In the latter half of the 1990s, however, the rate of productivity growth increased again

Chart 5-3. Alternative Discretionary Projections

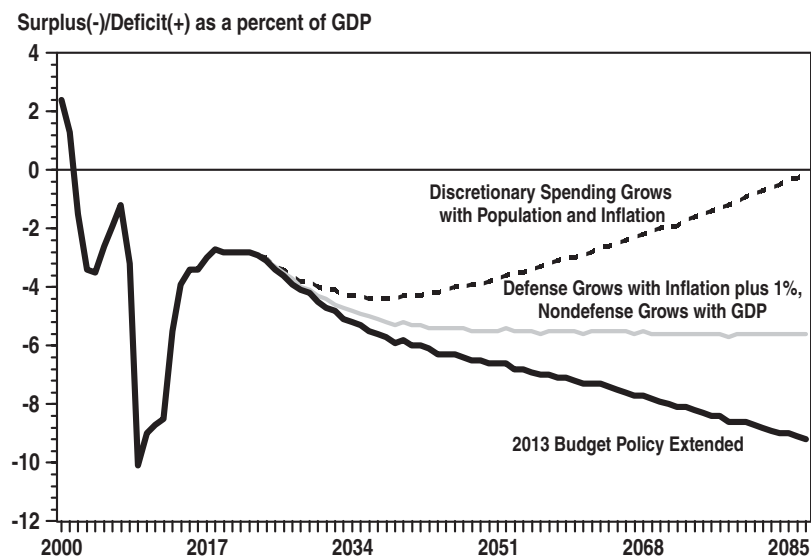
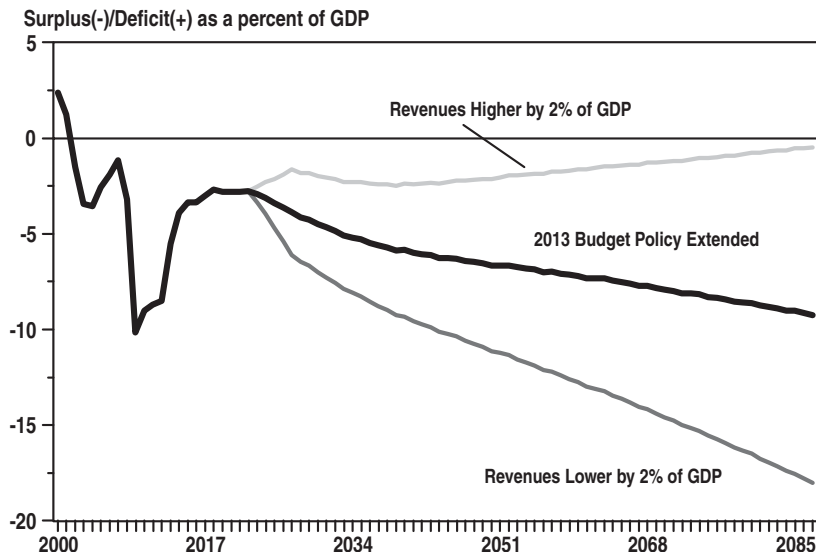


Chart 5-4. Alternative Revenue Projections



and it has remained higher albeit with some fluctuations since then. Indeed, the average growth rate of productivity in nonfarm business has averaged 2.5 percent per year since the fourth quarter of 1995.

The base projections assume that output per hour in nonfarm business will increase at an average annual rate of around 2.3 percent per year, close to its long-run average and slightly below its average growth rate since 1995. This implies that real GDP per hour worked will grow at an average annual rate of 1.9 percent per year. The difference is accounted for by the fact that the sectors of the economy that are counted in GDP outside of the nonfarm business sector tend to have lower productivity growth than nonfarm business does. The alternatives highlight the effect of raising and lowering the projected productivity growth rate by 1/4 percentage point.

Population.—The key assumptions for projecting long-run demographic developments are fertility, immigration, and mortality.

- The demographic projections assume that fertility will average about 2.0 total lifetime births per woman in the future, just slightly below the replacement rate needed to maintain a constant population in the absence of immigration—2.1 births per woman (see Chart 5-6). The alternatives are those in the latest Social Security trustees' report (1.7 and 2.3 births per woman).
- The rate of immigration is assumed to average around 1 million immigrants per year in the long run (see Chart 5-7). Higher immigration relieves some of the downward pressure on population growth from low fertility and allows total population to expand throughout the projection period, although at

Chart 5-5. Alternative Productivity Assumptions

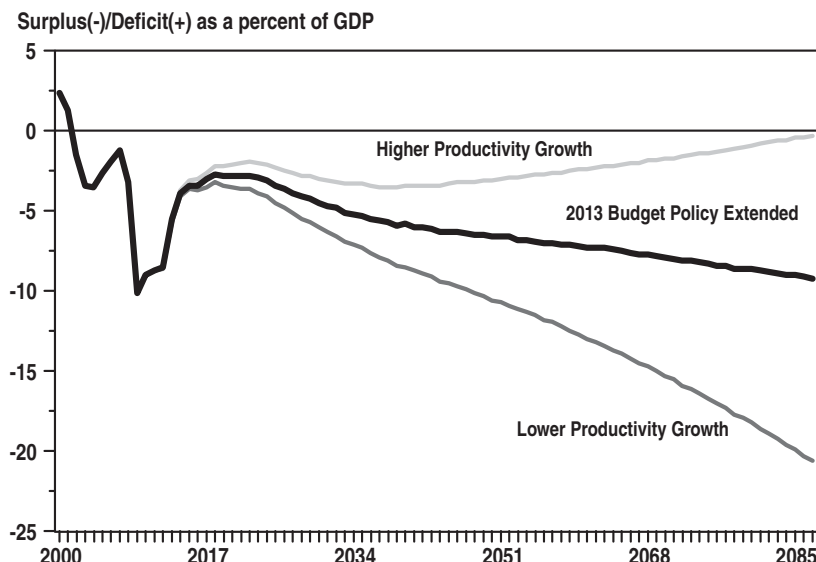
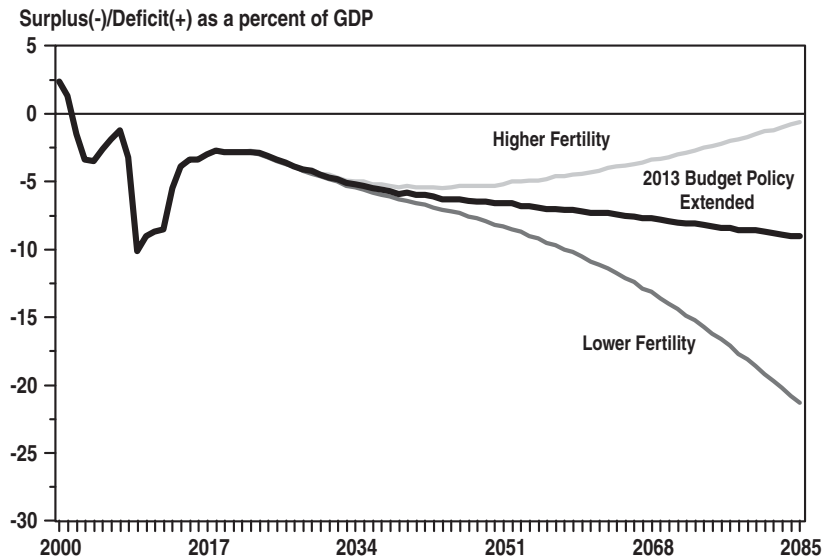


Chart 5-6. Alternative Fertility Assumptions



a much slower rate than has prevailed historically. The alternatives are taken from the Social Security Trustees' Report (1.3 million total immigrants per year in the high alternative and 0.8 million in the low alternative).

- Mortality is projected to decline as people live longer in the future (see Chart 5-8). These assumptions parallel those in the latest Social Security Trustees' Report. The average life expectancy at birth for women is projected to rise from 80.5 years in 2010 to 86.7 years in 2085, and the average for men is expected to increase from 75.8 years in 2010 to 83.3 years in 2085. A technical panel advising the Social Security trustees has reported that the improvement in longevity might be even greater than assumed here. The variations show the high and low alternatives from the latest Trustees' report (average female and

male life expectancy reaching 83.2 and 79.4 in the low cost alternative and 90.3 and 87.6 in the high cost alternative).

The long-run budget outlook is highly uncertain. With pessimistic assumptions, the fiscal picture deteriorates much more than in the base projection. More optimistic assumptions imply a smaller rise in the deficit and the debt. But despite the uncertainty, these projections show under a wide range of forecasting assumptions that overall budgetary resources will be strained in future decades. These projections highlight the need for policy action to address the main drivers of future budgetary costs.

The Fiscal Gap

The fiscal gap is one measure of the size of the adjustment needed to preserve fiscal sustainability in the long

Chart 5-7. Alternative Immigration Assumptions

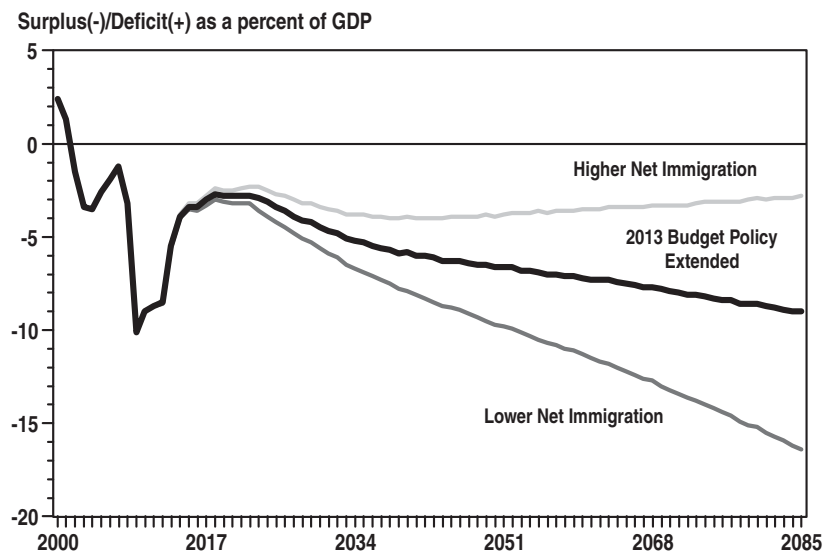
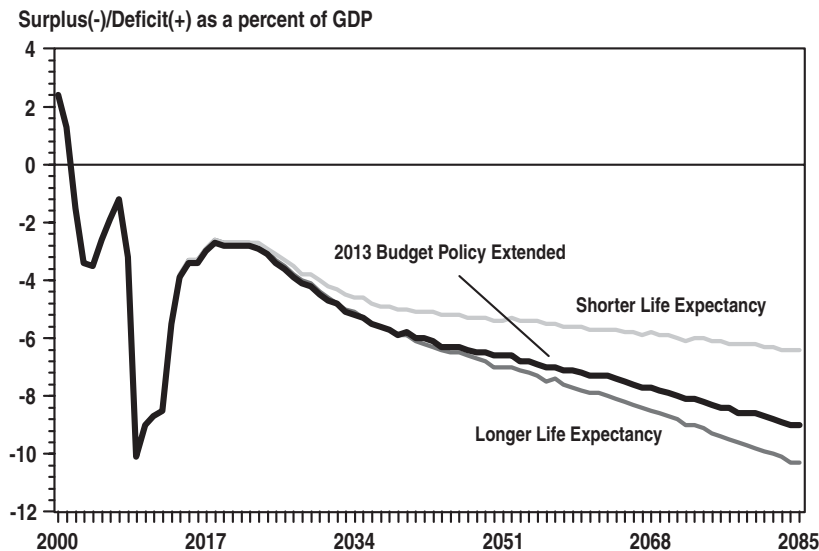


Chart 5-8. Alternative Mortality Assumptions



run.³ It is defined as the increase in taxes or reduction in non-interest expenditures required to keep the long-run ratio of Government debt-to-GDP at its current level if implemented immediately. The gap is usually measured as a percentage of GDP. The fiscal gap is calculated over a finite time period, and therefore it may understate the adjustment needed to achieve permanent sustainability.

Table 5-2 shows fiscal gap calculations for the base case calculated over a 75-year horizon and for the various

alternative scenarios described above. The fiscal gap in the base case is 1.3 percent of GDP, and it ranges in the alternative scenarios from -0.3 percent of GDP to 5.3 percent of GDP. This suggests that additional reforms are needed to be sure the budget is on a permanently sustainable course in the long run.

Actuarial Projections for Social Security and Medicare

The Trustees for the Medicare Federal Hospital Insurance (HI) and Social Security trust funds issue annual reports that include projections of income and outgo for these funds over a 75-year period. These projections are based on different methods and assumptions than the long-run budget projections presented above. Even with these differences, the message is similar: the ACA is projected to curtail the projected growth in per capita health care costs but even with this reform, the retirement of the baby-boom generation and continuing high medical costs will eventually exhaust the trust funds unless further action is taken.

The Trustees’ reports feature the actuarial balance of the trust funds as a summary measure of their financial status. For each trust fund, the balance is calculated as the change in receipts or program benefits (expressed as a percentage of taxable payroll) that would be needed to preserve a small positive balance in the trust fund at the end of a specified time period. The estimates cover periods ranging in length from 25 to 75 years. These balance calculations show what it would take to achieve a positive trust fund balance at the end of a specified period of time, not what it would take to maintain a positive balance indefinitely. To maintain a positive balance forever requires a larger adjustment than is needed to maintain a positive balance over 75 years when the annual balance in the program is negative at the end of the 75-year projection period, as it is expected to be for Social Security and Medicare without future reforms.

³ Alan J. Auerbach, “The U.S. Fiscal Problem: Where We Are, How We Got Here, and Where We’re Going,” NBER: Macroeconomics Annual 1994, pp 141 – 175.

Table 5-2. 75-YEAR FISCAL GAP UNDER ALTERNATIVE BUDGET SCENARIOS
(Percent of GDP)

Base Case	1.3
Health:	
Excess cost growth averages 2 percent.	5.3
Discretionary Outlays:	
Grow with inflation plus population	-0.1
Defense grows with inflation 1%; nondefense grows with GDP	0.8
Revenues:	
Revenues exceed base case by 2 percent of GDP	-0.3
Revenues fall short of base case by 2 percent of GDP	2.9
Productivity:	
Productivity grows by 0.5 percent per year faster than the base case	-0.2
Productivity grows by 0.5 percent per year slower than the base case	3.0
Population:	
Fertility:	
2.3 births per woman	-0.1
1.7 births per woman	2.8
Immigration:	
1.3 million immigrants per year	0.1
0.8 million immigrants per year	2.6
Mortality in 2085:	
Female life expectancy 83.2; male life expectancy 79.4	1.5
Female life expectancy 90.3; male life expectancy 87.6	1.9

Table 5-3. INTERMEDIATE ACTUARIAL PROJECTIONS FOR OASDI AND HI

	2010	2020	2030	2050	2080
	Percent of Payroll				
Medicare Hospital Insurance (HI)					
Income Rate					
2009 Trustees' Report	3.2	3.3	3.4	3.4	3.5
2010 Trustees' Report	3.2	3.4	3.6	3.9	4.3
2011 Trustees' Report	3.2	3.5	3.6	3.9	4.3
Cost Rate					
2009 Trustees' Report	3.6	4.4	6.0	8.7	11.8
2010 Trustees' Report	3.7	3.5	4.3	5.0	4.9
2011 Trustees' Report	3.8	3.6	4.4	5.1	5.0
Annual Balance					
2009 Trustees' Report	-0.4	-1.1	-2.6	-5.3	-8.3
2010 Trustees' Report	-0.5	-0.0	-0.7	-1.1	-0.7
2011 Trustees' Report	-0.6	-0.2	-0.8	-1.2	-0.7
Projection Interval:			25 years	50 years	75 years
Actuarial Balance: 2009 Trustees' Report			-1.4	-2.8	-3.9
Actuarial Balance: 2010 Trustees' Report			-0.3	-0.6	-0.7
Actuarial Balance: 2011 Trustees' Report			-0.5	-0.8	-0.8
	Percent of Payroll				
Old Age Survivors and Disability Insurance (OASDI)					
Income Rate					
2009 Trustees' Report	12.9	13.0	13.2	13.3	13.3
2010 Trustees' Report	12.3	13.1	13.2	13.2	13.3
2011 Trustees' Report	12.5	13.1	13.2	13.2	13.3
Cost Rate					
2009 Trustees' Report	12.5	14.5	16.8	16.6	17.5
2010 Trustees' Report	13.1	14.2	16.4	16.3	17.3
2011 Trustees' Report	13.4	14.2	16.7	16.7	17.4
Annual Balance					
2009 Trustees' Report	0.4	-1.5	-3.6	-3.4	-4.2
2010 Trustees' Report	-0.8	-1.1	-3.2	-3.1	-4.0
2011 Trustees' Report	-0.9	-1.1	-3.4	-3.4	-4.1
Projection Interval:			25 years	50 years	75 years
Actuarial Balance: 2009 Trustees' Report			-0.2	-1.5	-2.0
Actuarial Balance: 2010 Trustees' Report			-0.3	-1.5	-1.9
Actuarial Balance: 2011 Trustees' Report			-0.6	-1.8	-2.2

Table 5-3 shows the projected income rate, cost rate, and annual balance for the Medicare HI and combined OASDI Trust Funds at selected dates under the Trustees' intermediate assumptions. Data from the 2009 and the 2010 reports are shown along with the latest data from the 2011 reports. The large improvement in the HI Trust Fund balance between 2009 and 2010 can be seen in Table 5-3. This is the result of the passage of the ACA. Even with the ACA there is still a long-run deficit in the HI program, albeit one that is much smaller than projected in 2009 and earlier. These projections assume full implementation of the cost reductions under current law, over the entire long-run projection period. In the 2009 Trustees' report, Medicare HI trust fund costs as a percentage of Medicare covered payroll were projected to rise from 3.6 percent to 11.8 percent between 2010 and 2080

and the HI trust fund imbalance was projected to be -8.3 percent in 2080. In the 2010 report, costs rise from 3.7 percent of Medicare taxable payroll in 2010 to 4.9 percent in 2080 and the imbalance in the HI trust fund in 2080 is -0.7 percent. On average, the HI cost rate has increased slightly in the 2011 report compared with 2010, although the final value of the HI cost rate is slightly lower in the 2011 report than it was in 2010. The large improvement in the trust fund imbalance projected in 2010 is largely unchanged in 2011. Demographic trends and continued high per-person costs combine to explain the continued imbalance in the long-run projections.

Medicare Funding Warning. Under the Medicare Modernization Act (MMA) of 2003, the Medicare Trustees must issue a "warning" when in two consecutive Trustees' reports they project that the share of Medicare funded by

general revenues will exceed 45 percent in the current year or any of the subsequent six years. Such a warning was included in the 2011 Trustees Report. The MMA requires that the President submit legislation, within 15 days of submitting the Budget, which will reduce general revenue funding to 45 percent of overall Medicare outlays or lower in the immediate seven-fiscal-year window. In accordance with the Recommendations Clause of the Constitution, and as the Executive Branch has noted in prior years, the Executive Branch considers this requirement to be advisory and not binding. However, the proposals in this Budget would further strengthen Medicare's finances and extend its solvency.

As a result of reforms legislated in 1983, Social Security had been running a cash surplus with taxes exceeding costs up until 2009. This surplus in the Social Security trust fund helped to hold down the unified budget deficit. The cash surplus ended in 2009. The 2011 Social Security trustees report projects that on a cash-flow basis the trust fund will not return to surplus without further reforms. Consequently, Social Security will no longer act to hold down the unified budget deficit. Even so, the program will continue to experience a surplus for some years because of the Trust Funds' interest earnings. Eventually, however, Social Security will begin to draw on its trust

fund balances to cover current expenditures. Over time, as the ratio of workers to retirees falls, costs are projected to rise further from 13.4 percent of Social Security covered payroll in 2010 to 14.2 percent of payroll in 2020, 16.7 percent of payroll in 2030 and 17.4 percent of payroll in 2080. Revenues excluding interest are projected to rise only slightly from 12.5 percent of payroll today to 13.3 percent in 2080. Thus the annual balance is projected to decline from -0.9 percent of payroll in 2010 to -1.1 percent of payroll in 2020, -3.4 percent of payroll in 2030, and -4.1 percent of payroll in 2080. On a 75-year basis, the actuarial deficit is projected to be -2.2 percent of payroll. In the process, the Social Security trust fund, which was built up since 1983, would be drawn down and eventually be exhausted in 2036. These projections assume that benefits would continue to be paid in full despite the projected exhaustion of the trust fund to show the long-run implications of current benefit formulas. Under current law, not all scheduled benefits would be paid after the trust funds are exhausted. Some benefits, however, could still be partially funded from current revenues. The 2011 Trustees' report presents projections on this point. Beginning in 2036, 77 percent of projected Social Security scheduled benefits would be funded. This percentage would eventually decline to 74 percent by 2085.

TECHNICAL NOTE: SOURCES OF DATA AND METHODS OF ESTIMATING

The long-range budget projections are based on demographic and economic assumptions. A simplified model of the Federal budget, developed at OMB, is used to compute the budgetary implications of these assumptions.

Demographic and Economic Assumptions.—For the years 2012-2022, the assumptions are drawn from the Administration's economic projections used for the 2013 Budget. These budget assumptions reflect the President's policy proposals. The economic assumptions are extended beyond this interval by holding inflation, interest rates, and the unemployment rate constant at the levels assumed in the final year of the budget forecast. Population growth and labor force growth are extended using the intermediate assumptions from the 2011 Social Security Trustees' report. The projected rate of growth for real GDP is built up from the labor force assumptions and an assumed rate of productivity growth. Productivity growth, measured as real GDP per hour, is assumed to equal its average rate of growth in the Budget's economic assumptions—1.9 percent per year.

CPI inflation holds stable at 2.1 percent per year, the unemployment rate is constant at 5.4 percent, the yield on 10-year Treasury notes is steady at 5.3 percent, and the 91-day Treasury bill rate is 4.1 percent. Consistent with the demographic assumptions in the Trustees' reports, U.S. population growth slows from around 1 percent per year to about two-thirds that rate by 2030, and slower rates of growth beyond that point. By the end of the projection period total population growth is as low as 0.4 percent per year. Real GDP growth is projected to

be less than its historical average of around 3.2 percent per year because the slowdown in population growth and the increase in the population over age 65 reduce labor supply growth. In these projections, average real GDP growth averages between 2.3 percent and 2.4 percent per year for the period following the end of the 10-year budget window in 2022.

The economic and demographic projections described above are set by assumption and do not automatically change in response to changes in the budget outlook. This is unrealistic, but it simplifies comparisons of alternative policies.

Budget Projections.—For the period through 2022, receipts follow the 2013 Budget's policy projections. After 2022, total tax receipts rise gradually relative to GDP. Discretionary spending follows the path in the Budget over the next 10 years and grows at the rate of growth in nominal GDP afterwards. Other spending also aligns with the Budget through the budget horizon. Long-run Social Security spending is projected by the Social Security actuaries using this chapter's long-range economic and demographic assumptions. Medicare benefits are projected based on a projection of beneficiary growth and excess health care cost growth from the 2011 Medicare Trustees' report, and the general inflation assumptions described above. Medicaid outlays are based on the economic and demographic projections in the model. Other entitlement programs are projected based on rules of thumb linking program spending to elements of the economic and demographic projections such as the poverty rate.

6. FEDERAL BORROWING AND DEBT

Debt is the largest legally and contractually binding obligation of the Federal Government. At the end of 2011, the Government owed \$10,128 billion of principal to the individuals and institutions who had loaned it the money to fund past deficits. During that year, the Government paid the public approximately \$266 billion of interest on this debt. At the same time, the Government also held financial assets, net of other liabilities, of \$958 billion. Therefore, debt net of financial assets was \$9,170 billion, or 61.3 percent of GDP.

The \$10,128 billion debt held by the public at the end of 2011 represents an increase of \$1,109 billion, or 4.9 percent of GDP, over the level at the end of 2010. In 2011, the \$1,300 billion deficit, partially offset by \$190 billion of other financing transactions,¹ caused the Government to increase its borrowing from the public by \$1,109 billion. Debt held by the public increased from 62.8 percent of Gross Domestic Product (GDP) at the end of 2010 to 67.7 percent of GDP at the end of 2011. Meanwhile, assets net of liabilities fell by \$167 billion in 2011, as activities undertaken in previous years to help stabilize credit markets (particularly temporary increases to the Treasury operating cash balance) began to wind down. Debt held by the public net of financial assets increased from 55.0 percent of GDP at the end of 2010 to 61.3 percent of GDP at the end of 2011. The deficit is estimated to increase to \$1,327 billion in 2012, and then begin to fall. Declining deficits and continued GDP growth are estimated to significantly reduce growth in debt as a percentage of GDP; debt net of financial assets is projected to reach 67.1 percent of GDP at the end of 2012 and 69.5 percent at the end of 2013 and then to begin to decline very gradually after 2014.

Trends in Debt Since World War II

Table 6–1 depicts trends in Federal debt held by the public from World War II to the present and estimates from the present through 2017. (It is supplemented for earlier years by Tables 7.1–7.3 in *Historical Tables*, which is published as a separate volume of the Budget.) Federal debt peaked at 108.7 percent of GDP in 1946, just after the end of the war. From then until the 1970s, Federal debt as a percentage of GDP decreased almost every year because of relatively small deficits, an expanding economy, and inflation. With households borrowing large amounts to buy homes and consumer durables, and with businesses borrowing large amounts to buy plant and equipment, Federal debt also decreased almost every year as a percentage of total credit market debt outstanding. The cumulative effect was impressive. From 1950 to 1975, debt held by the public declined from 80.2 percent of GDP

to 25.3 percent, and from 53.3 percent of credit market debt to 18.4 percent. Despite rising interest rates, interest outlays became a smaller share of the budget and were roughly stable as a percentage of GDP.

Federal debt relative to GDP is a function of the Nation's fiscal policy as well as overall economic conditions. During the 1970s, large budget deficits emerged as spending grew faster than receipts and as the economy was disrupted by oil shocks and rising inflation. The nominal amount of Federal debt more than doubled, and Federal debt relative to GDP and credit market debt stopped declining after the middle of the decade. The growth of Federal debt accelerated at the beginning of the 1980s, due in large part to a deep recession, and the ratio of Federal debt to GDP grew sharply. It continued to grow throughout the 1980s as large tax cuts, enacted in 1981, and substantial increases in defense spending were only partially offset by reductions in domestic spending. The resulting deficits increased the debt to almost 50 percent of GDP by 1993. The ratio of Federal debt to credit market debt also rose, though to a lesser extent. Interest outlays on debt held by the public, calculated as a percentage of either total Federal outlays or GDP, increased as well.

The growth of Federal debt held by the public was slowing by the mid-1990s. In addition to a growing economy, three major budget agreements were enacted in the 1990s, implementing spending cuts and revenue increases and significantly reducing deficits. The debt declined markedly relative to both GDP and total credit market debt, from 1997 to 2001, as surpluses emerged. Debt fell from 49.3 percent of GDP in 1993 to 32.5 percent of GDP in 2001. Over that same period, debt fell from 26.6 percent of total credit market debt to 17.5 percent. Interest as a share of outlays peaked at 16.5 percent in 1989 and then fell to 8.9 percent by 2002; interest as a percentage of GDP fell by a similar proportion.

The impressive progress in reducing the debt burden stopped and then reversed course beginning in 2002. A decline in the stock market, a recession, and the initially slow recovery from that recession all reduced tax receipts. The tax cuts of 2001 and 2003 had a similarly large and longer-lasting effect, as did the growing costs of the wars in Iraq and Afghanistan. Deficits ensued and debt began to rise, both in nominal terms and as a percentage of GDP. There was a small temporary improvement in 2006 and 2007 as economic growth led to a short-lived revival of receipt growth.

As a result of the most recent recession, which began in December 2007, and the massive financial and economic challenges it imposed on the Nation, the deficit began increasing rapidly in 2008. The deficit increased more substantially in 2009 as the Government continued to take aggressive steps to restore the health of the

¹ For further discussion of these other financing transactions, see the discussion in the "Government Deficits or Surpluses and the Change in Debt" section of this chapter and the presentation in Table 6-2.

Table 6–1. TRENDS IN FEDERAL DEBT HELD BY THE PUBLIC
(Dollar amounts in billions)

Fiscal Year	Debt held by the public:		Debt held by the public as a percent of:		Interest on the debt held by the public as a percent of: ³	
	Current dollars	FY 2011 dollars ¹	GDP	Credit market debt ²	Total outlays	GDP
1946	241.9	2,324.7	108.7	N/A	7.4	1.8
1950	219.0	1,712.9	80.2	53.3	11.4	1.8
1955	226.6	1,557.3	57.2	43.2	7.6	1.3
1960	236.8	1,444.9	45.6	33.7	8.5	1.5
1965	260.8	1,487.7	37.9	26.9	8.1	1.4
1970	283.2	1,343.4	28.0	20.8	7.9	1.5
1975	394.7	1,377.8	25.3	18.4	7.5	1.6
1980	711.9	1,718.7	26.1	18.5	10.6	2.3
1985	1,507.3	2,773.7	36.4	22.3	16.2	3.7
1990	2,411.6	3,800.7	42.1	22.6	16.2	3.5
1995	3,604.4	5,004.6	49.1	26.7	15.8	3.3
2000	3,409.8	4,358.5	34.7	19.1	13.0	2.4
2001	3,319.6	4,145.5	32.5	17.5	11.6	2.1
2002	3,540.4	4,349.4	33.6	17.5	8.9	1.7
2003	3,913.4	4,711.4	35.6	17.8	7.5	1.5
2004	4,295.5	5,043.6	36.8	17.4	7.3	1.4
2005	4,592.2	5,222.2	36.9	17.1	7.7	1.5
2006	4,829.0	5,311.0	36.6	16.5	8.9	1.8
2007	5,035.1	5,378.6	36.3	15.8	9.2	1.8
2008	5,803.1	6,058.4	40.5	17.1	8.7	1.8
2009	7,544.7	7,764.6	54.1	21.3	5.7	1.4
2010	9,018.9	9,196.4	62.8	24.7	6.6	1.6
2011	10,128.2	10,128.2	67.7	26.8	7.4	1.8
2012 estimate	11,578.1	11,367.7	74.2	N/A	7.1	1.7
2013 estimate	12,636.7	12,204.7	77.4	N/A	7.9	1.8
2014 estimate	13,445.3	12,779.9	78.4	N/A	9.2	2.1
2015 estimate	14,197.6	13,257.5	78.1	N/A	10.9	2.4
2016 estimate	14,980.2	13,741.0	77.8	N/A	12.5	2.8
2017 estimate	15,713.5	14,158.8	77.1	N/A	13.8	3.1

N/A = Not available.

¹ Debt in current dollars deflated by the GDP chain-type price index with fiscal year 2011 equal to 100.

² Total credit market debt owed by domestic nonfinancial sectors. Financial sectors are omitted to avoid double counting, since financial intermediaries borrow in the credit market primarily in order to finance lending in the credit market. Source: Federal Reserve Board flow of funds accounts. Projections are not available.

³ Interest on debt held by the public is estimated as the interest on Treasury debt securities less the "interest received by trust funds" (subfunction 901 less subfunctions 902 and 903). The estimate of interest on debt held by the public does not include the comparatively small amount of interest paid on agency debt or the offsets for interest on Treasury debt received by other Government accounts (revolving funds and special funds).

Nation's economy and financial markets. The deficit fell somewhat in 2010 and increased only slightly in 2011. The deficit is projected to increase in 2012 but then to recede thereafter. Debt held by the public as a percent of GDP is estimated to grow to 74.2 percent at the end of 2012 and 77.4 percent at the end of 2013. Debt net of financial assets as a percent of GDP is estimated to grow to 67.1 percent at the end of 2012 and 69.5 percent at the end of 2013 and then to begin to decline slowly after

2014. To ensure continued reductions in the debt in relation to the economy, the Administration has proposed a budget enforcement mechanism that sets declining annual ceilings for debt net of financial assets as a percentage of GDP, beginning with 2014. Under the proposal, the ceilings would be enforced by automatic reductions in spending and tax expenditures. For further discussion of this "debt trigger" mechanism, see Chapter 14, "Budget Process," in this volume.

Debt Held by the Public and Gross Federal Debt

The Federal Government issues debt securities for two principal purposes. First, it borrows from the public to finance the Federal deficit.² Second, it issues debt to Federal Government accounts, primarily trust funds, which accumulate surpluses. By law, trust fund surpluses must generally be invested in Federal securities. The gross Federal debt is defined to consist of both the debt held by the public and the debt held by Government accounts. Nearly all the Federal debt has been issued by the Treasury and is sometimes called “public debt,” but a small portion has been issued by other Government agencies and is called “agency debt.”³

Borrowing from the public, whether by the Treasury or by some other Federal agency, is important because it represents the Federal demand on credit markets. Regardless of whether the proceeds are used for tangible or intangible investments or to finance current consumption, the Federal demand on credit markets has to be financed out of the saving of households and businesses, the State and local sector, or the rest of the world. Federal borrowing thereby competes with the borrowing of other sectors of the economy for financial resources in the credit market. Borrowing from the public thus affects the size and composition of assets held by the private sector and the amount of saving imported from abroad. It also increases the amount of future resources required to pay interest to the public on Federal debt. Borrowing from the public is therefore an important concern of Federal fiscal policy.⁴ Borrowing from the public, however, is an incomplete measure of the Federal impact on credit markets. Different types of Federal activities can affect the credit markets in different ways. For example, with the Federal Government’s recent extraordinary efforts to stabilize credit markets, the Government used the borrowed funds to acquire financial assets that would otherwise have required financing in the credit markets directly. (For more information on other ways in which Federal activities impact the credit market, see the discussion at the end of this chapter.)

Issuing debt securities to Government accounts performs an essential function in accounting for the operation of these funds. The balances of debt represent the cumulative surpluses of these funds due to the excess of

their tax receipts, interest receipts, and other collections over their spending. The interest on the debt that is credited to these funds accounts for the fact that some earmarked taxes and user charges will be spent at a later time than when the funds receive the monies. The debt securities are assets of those funds but are a liability of the general fund to the funds that hold the securities, and are a mechanism for crediting interest to those funds on their recorded balances. These balances generally provide the fund with authority to draw upon the U.S. Treasury in later years to make future payments on its behalf to the public. Public policy may result in the Government’s running surpluses and accumulating debt in trust funds and other Government accounts in anticipation of future spending.

However, issuing debt to Government accounts does not have any of the credit market effects of borrowing from the public. It is an internal transaction of the Government, made between two accounts that are both within the Government itself. Issuing debt to a Government account is not a current transaction of the Government with the public; it is not financed by private saving and does not compete with the private sector for available funds in the credit market. While such issuance provides the account with assets—a binding claim against the Treasury—those assets are fully offset by the increased liability of the Treasury to pay the claims, which will ultimately be covered by the collection of revenues or by borrowing. Similarly, the current interest earned by the Government account on its Treasury securities does not need to be financed by other resources.

Furthermore, the debt held by Government accounts does not represent the estimated amount of the account’s obligations or responsibilities to make future payments to the public. For example, if the account records the transactions of a social insurance program, the debt that it holds does not necessarily represent the actuarial present value of estimated future benefits (or future benefits less taxes) for the current participants in the program; nor does it necessarily represent the actuarial present value of estimated future benefits (or future benefits less taxes) for the current participants plus the estimated future participants over some stated time period. The future transactions of Federal social insurance and employee retirement programs, which own 93 percent of the debt held by Government accounts, are important in their own right and need to be analyzed separately. This can be done through information published in the actuarial and financial reports for these programs.⁵

This Budget uses a variety of information sources to analyze the condition of Social Security and Medicare, the Government’s two largest social insurance programs. Chapter 5, “Long-Term Budget Outlook,” projects Social Security and Medicare outlays to the year 2085 relative

² For the purposes of the Budget, “debt held by the public” is defined as debt held by investors outside of the Federal Government, both domestic and foreign, including U.S. State and local governments and foreign governments. It also includes debt held by the Federal Reserve.

³ The term “agency debt” is defined more narrowly in the budget than customarily in the securities market, where it includes not only the debt of the Federal agencies listed in Table 6–4, but also the debt of the Government-Sponsored Enterprises listed in Table 23–9 at the end of Chapter 23, “Credit and Insurance,” and certain Government-guaranteed securities.

⁴ The Federal subsector of the national income and product accounts provides a measure of “net government saving” (based on current expenditures and current receipts) that can be used to analyze the effect of Federal fiscal policy on national saving within the framework of an integrated set of measures of aggregate U.S. economic activity. The Federal subsector and its differences from the budget are discussed in Chapter 29, “National Income and Product Accounts.”

⁵ Extensive actuarial analyses of the Social Security and Medicare programs are published in the annual reports of the boards of trustees of these funds. The actuarial estimates for Social Security, Medicare, and the major Federal employee retirement programs are summarized in the *Financial Report of the United States Government*, prepared annually by the Treasury Department in coordination with the Office of Management and Budget.

Table 6-2. FEDERAL GOVERNMENT FINANCING AND DEBT
(In billions of dollars)

	Actual 2011	Estimate										
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Financing:												
Unified budget deficit	1,299.6	1,326.9	901.4	667.8	609.7	648.8	612.4	575.5	625.7	657.9	680.7	704.3
Other transactions affecting borrowing from the public:												
Changes in financial assets and liabilities: ¹												
Change in Treasury operating cash balance	-251.7	1.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Net disbursements of credit financing accounts:												
Direct loan accounts	49.5	138.5	162.1	156.6	148.6	135.5	125.7	116.8	109.6	108.0	106.5	110.8
Guaranteed loan accounts	10.3	9.6	11.5	0.6	-0.3	1.3	-0.2	1.3	0.8	-1.6	-5.1	-5.4
Troubled Asset Relief Program equity purchase accounts	-2.0	-26.7	-14.9	-15.0	-4.5	-1.2	-3.6	-1.8	-1.2	-3.4	-0.2	-0.2
Subtotal, net disbursements	57.9	121.4	158.6	142.2	143.8	135.6	122.0	116.3	109.1	103.0	101.1	105.1
Net purchases of non-Federal securities by the National Railroad Retirement Investment Trust ...	-1.3	-0.3	-1.4	-1.4	-1.2	-1.7	-1.1	-1.2	-1.3	-1.2	-1.2	-1.0
Net change in other financial assets and liabilities ² ...	4.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Subtotal, changes in financial assets and liabilities	-190.3	123.0	157.3	140.8	142.6	133.9	120.8	115.1	107.8	101.8	99.9	104.1
Seigniorage on coins .....	.....	-0.1	-*	-*	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Total, other transactions affecting borrowing from the public	-190.3	122.9	157.2	140.8	142.6	133.9	120.8	115.0	107.8	101.8	99.8	104.1
Total, requirement to borrow from the public (equals change in debt held by the public) ...	1,109.3	1,449.9	1,058.6	808.6	752.3	782.6	733.2	690.5	733.5	759.6	780.5	808.4
Changes in Debt Subject to Statutory Limitation:												
Change in debt held by the public	1,109.3	1,449.9	1,058.6	808.6	752.3	782.6	733.2	690.5	733.5	759.6	780.5	808.4
Change in debt held by Government accounts	126.1	136.8	138.4	143.4	174.4	182.3	201.4	228.4	173.5	164.8	150.9	123.8
Less: change in debt not subject to limit and other adjustments	0.3	0.7	1.1	0.8	0.8	1.8	1.1	1.0	1.2	1.2	1.9	1.8
Total, change in debt subject to statutory limitation	1,235.7	1,587.3	1,198.2	952.8	927.5	966.7	935.7	919.9	908.2	925.7	933.3	934.0
Debt Subject to Statutory Limitation, End of Year:												
Debt issued by Treasury	14,737.2	16,323.3	17,520.0	18,471.5	19,398.0	20,363.4	21,298.5	22,217.8	23,125.3	24,050.9	24,984.2	25,918.2
Less: Treasury debt not subject to limitation (-) ³	-9.4	-8.1	-6.7	-5.3	-4.3	-3.0	-2.3	-1.8	-1.1	-1.1	-1.1	-1.2
Agency debt subject to limitation	*	*	*	*	*	*	*	*	*	*	*	*
Adjustment for discount and premium ⁴	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7
Total, debt subject to statutory limitation ⁵	14,746.6	16,333.9	17,532.1	18,484.9	19,412.5	20,379.2	21,314.9	22,234.8	23,142.9	24,068.6	25,001.8	25,935.8
Debt Outstanding, End of Year:												
Gross Federal debt: ⁶												
Debt issued by Treasury	14,737.2	16,323.3	17,520.0	18,471.5	19,398.0	20,363.4	21,298.5	22,217.8	23,125.3	24,050.9	24,984.2	25,918.2
Debt issued by other agencies	27.0	27.6	27.9	28.5	28.7	28.2	27.8	27.4	26.9	25.6	23.7	21.9
Total, gross Federal debt	14,764.2	16,350.9	17,547.9	18,500.0	19,426.7	20,391.7	21,326.3	22,245.2	23,152.1	24,076.6	25,008.0	25,940.1
Held by:												
Debt held by Government accounts	4,636.0	4,772.8	4,911.2	5,054.7	5,229.1	5,411.4	5,612.8	5,841.3	6,014.7	6,179.5	6,330.4	6,454.2
Debt held by the public ⁷	10,128.2	11,578.1	12,636.7	13,445.3	14,197.6	14,980.2	15,713.5	16,403.9	17,137.4	17,897.1	18,677.6	19,485.9

*\$50 million or less.

¹ A decrease in the Treasury operating cash balance (which is an asset) is a means of financing a deficit and therefore has a negative sign. An increase in checks outstanding (which is a liability) is also a means of financing a deficit and therefore also has a negative sign.

² Includes checks outstanding, accrued interest payable on Treasury debt, uninvested deposit fund balances, allocations of special drawing rights, and other liability accounts; and, as an offset, cash and monetary assets (other than the Treasury operating cash balance), other asset accounts, and profit on sale of gold.

³ Consists primarily of debt issued by or held by the Federal Financing Bank.

⁴ Consists mainly of unamortized discount (less premium) on public issues of Treasury notes and bonds (other than zero-coupon bonds) and unrealized discount on Government account series securities.

⁵ The statutory debt limit is \$16,394 billion, as increased after January 27, 2012.

⁶ Treasury securities held by the public and zero-coupon bonds held by Government accounts are almost all measured at sales price plus amortized discount or less amortized premium. Agency debt securities are almost all measured at face value. Treasury securities in the Government account series are otherwise measured at face value less unrealized discount (if any).

⁷ At the end of 2011, the Federal Reserve Banks held \$1,664.7 billion of Federal securities and the rest of the public held \$8,463.5 billion. Debt held by the Federal Reserve Banks is not estimated for future years.

to GDP. The excess of future Social Security and Medicare benefits relative to their dedicated income is very different in concept and much larger in size than the amount of Treasury securities that these programs hold.

For all these reasons, debt held by the public and debt net of financial assets are both better gauges of the effect of the budget on the credit markets than gross Federal debt.

Government Deficits or Surpluses and the Change in Debt

Table 6–2 summarizes Federal borrowing and debt from 2011 through 2022.⁶ In 2011 the Government borrowed \$1,109 billion, increasing the debt held by the public from \$9,019 billion at the end of 2010 to \$10,128 billion at the end of 2011. The debt held by Government accounts increased \$126 billion, and gross Federal debt increased by \$1,235 billion to \$14,764 billion.

Debt held by the public.—The Federal Government primarily finances deficits by borrowing from the public, and it primarily uses surpluses to repay debt held by the public.⁷ Table 6–2 shows the relationship between the Federal deficit or surplus and the change in debt held by the public. The borrowing or debt repayment depends on the Federal Government’s expenditure programs and tax laws, on the economic conditions that influence tax receipts and outlays, and on debt management policy. The sensitivity of the budget to economic conditions is analyzed in Chapter 3, “Interactions Between the Economy and the Budget,” in this volume.

The total or unified budget surplus consists of two parts: the on-budget surplus or deficit; and the surplus of the off-budget Federal entities, which have been excluded from the budget by law. Under present law, the off-budget Federal entities are the Social Security trust funds (Old-Age and Survivors Insurance and Disability Insurance) and the Postal Service fund.⁸ The on-budget and off-budget surpluses or deficits are added together to determine the Government’s financing needs.

Over the long run, it is a good approximation to say that “the deficit is financed by borrowing from the public” or “the surplus is used to repay debt held by the public.” However, the Government’s need to borrow in any given year has always depended on several other factors besides the unified budget surplus or deficit, such as the change in the Treasury operating cash balance. These other factors—“other transactions affecting borrowing from the public”—can either increase or decrease the

Government’s need to borrow and can vary considerably in size from year to year. As a result of the Government’s recent extraordinary efforts to stabilize the Nation’s credit markets, these other factors have had significantly increased effects on borrowing from the public. The other transactions affecting borrowing from the public are presented in Table 6–2 (an increase in the need to borrow is represented by a positive sign, like the deficit).

In 2011 the deficit was \$1,300 billion while these other factors—primarily the change in the Treasury operating cash balance, partly offset by the net activity of credit financing accounts—reduced the need to borrow by \$190 billion. As a result, the Government borrowed \$1,109 billion from the public. The other factors are estimated to increase borrowing by \$123 billion in 2012 and \$157 billion in 2013. In 2014–2022, these other factors are expected to increase borrowing by annual amounts ranging from \$100 billion to \$143 billion.

Prior to 2008, the effect of these other transactions had been much smaller. In the 20 years between 1988 and 2007, the cumulative deficit was \$2,956 billion, the increase in debt held by the public was \$3,145 billion, and other factors added a total of \$190 billion of borrowing, 6 percent of total borrowing over this period. By contrast, the other factors resulted in more than 40 percent of the total increase in borrowing from the public for 2008, nearly 20 percent of the increase for 2009, and over 12 percent of the increase for 2010. In 2011, the other factors reduced borrowing by about 15 percent.

Three specific factors presented in Table 6–2 are especially important.

Change in Treasury operating cash balance.—In 2008–2011, changes in the cash balance were largely driven by fluctuations in the temporary Supplementary Financing Program (SFP). Under the SFP, Treasury issued short-term debt and deposited the cash proceeds with the Federal Reserve for use by the Federal Reserve in its actions to stabilize the financial markets. The cash balance increased by a record \$296 billion in 2008, primarily as a result of the creation of the SFP. In 2009, the cash balance decreased by \$96 billion, due to a \$135 billion reduction in the SFP balance offset by a \$38 billion increase in the non-SFP cash balance. In 2010, the cash balance increased by \$35 billion, to \$310 billion, due nearly entirely to an increase in the SFP balance. In 2011, the cash balance decreased by \$252 billion to \$58 billion, due largely to a \$200 billion decrease in the SFP balance. As the Federal Government neared the debt ceiling, the SFP balance was reduced down to zero. In the 10 years preceding 2008, changes in the cash balance had been much smaller, ranging from a decrease of \$26 billion in 2003 to an increase of \$23 billion in 2007. The operating cash balance is projected to increase by \$2 billion, to \$60 billion at the end of 2012. Changes in the operating cash balance, while occasionally large, are inherently limited over time. Decreases in cash—a means of financing the Government—are limited by the amount of past accumulations, which themselves required financing when they were built up. Increases are limited because it is generally more efficient to repay debt.

⁶ For projections of the debt beyond 2022, see Chapter 5, “Long-Term Budget Outlook.”

⁷ Treasury debt held by the public is measured as the sales price plus the amortized discount (or less the amortized premium). At the time of sale, the book value equals the sales price. Subsequently, it equals the sales price plus the amount of the discount that has been amortized up to that time. In equivalent terms, the book value of the debt equals the principal amount due at maturity (par or face value) less the unamortized discount. (For a security sold at a premium, the definition is symmetrical.) For inflation-indexed notes and bonds, the book value includes a periodic adjustment for inflation. Agency debt is generally recorded at par.

⁸ For further explanation of the off-budget Federal entities, see Chapter 13, “Coverage of the Budget.”

Net financing disbursements of the direct loan and guaranteed loan financing accounts.—Under the Federal Credit Reform Act of 1990 (FCRA), budget outlays for direct loans and loan guarantees consist of the estimated subsidy cost of the loans or guarantees at the time when the direct loans are disbursed or the guaranteed loans are made. The cash flows to and from the public resulting from these loans and guarantees—the disbursement and repayment of loans, the default payments on loan guarantees, the collections of interest and fees, and so forth—are not costs (or offsets to costs) to the Government except for their subsidy costs (the present value of the estimated net losses), which are already included in budget outlays. Therefore, although they affect Treasury’s net borrowing requirements, they are non-budgetary in nature and are recorded as transactions of the non-budgetary financing account for each credit program.⁹

The financing accounts also include several types of intragovernmental transactions. In particular, they receive payment from the credit program accounts for the costs of new direct loans and loan guarantees; they also receive payment for any upward reestimate of the costs of direct loans and loan guarantees outstanding. These collections are offset against the gross disbursements of the financing accounts in determining the accounts’ total net cash flows. The gross disbursements include outflows to the public—such as of loan funds or default payments—as well as the payment of any downward reestimate of costs to budgetary receipt accounts. The total net cash flows of the financing accounts, consisting of transactions with both the public and the budgetary accounts, are called “net financing disbursements.” They occur in the same way as the “outlays” of a budgetary account, even though they do not represent budgetary costs, and therefore affect the requirement for borrowing from the public in the same way as the deficit.

The intragovernmental transactions of the financing accounts do not affect Federal borrowing from the public. Although the deficit changes because of the budget’s outlay to, or receipt from, a financing account, the net financing disbursement changes in an equal amount with the opposite sign, so the effects are cancelled out. On the other hand, financing account disbursements to the public increase the requirement for borrowing from the public in the same way as an increase in budget outlays that are disbursed to the public in cash. Likewise, financing account receipts from the public can be used to finance the payment of the Government’s obligations, and therefore they reduce the requirement for Federal borrowing from the public in the same way as an increase in budget receipts.

In some years, large net upward or downward reestimates in the cost of outstanding direct and guaranteed loans may cause large swings in the net financing disbursements. In 2011, due primarily to the Troubled Asset Relief Program (TARP) and student loan programs, down-

ward reestimates were significantly larger than upward reestimates, resulting in a net downward reestimate of \$71 billion. In 2012, there is a net upward reestimate of \$14 billion, due largely to upward reestimates in the TARP and Federal Housing Administration Mutual Mortgage Insurance programs.

The impact of the net financing disbursements on borrowing increased significantly in 2009, largely as a result of Government actions to address the Nation’s financial and economic challenges including through TARP, purchases of mortgage-backed securities issued or guaranteed by the Government-Sponsored Enterprises (GSEs), and the Temporary Student Loan Purchase Program. Net financing disbursements increased from \$33 billion in 2008 to a record \$406 billion in 2009. In 2010, borrowing due to financing accounts fell by more than half, to \$153 billion, due in part to large repayments of TARP assistance. In 2011, borrowing due to financing accounts fell to \$58 billion, due largely to sales of GSE mortgage-backed securities. In 2012 credit financing accounts are projected to increase borrowing by \$121 billion. After 2012, the credit financing accounts are expected to increase borrowing by amounts ranging from \$101 billion to \$159 billion over the next 10 years.

Net purchases of non-Federal securities by the National Railroad Retirement Investment Trust (NRRIT).—This trust fund was established by the Railroad Retirement and Survivors’ Improvement Act of 2001. In 2003, most of the assets in the Railroad Retirement Board trust funds were transferred to the NRRIT trust fund, which invests its assets primarily in private stocks and bonds. The Act required special treatment of the purchase or sale of non-Federal assets by this trust fund, treating such purchases as a means of financing rather than outlays. Therefore, the increased need to borrow from the public to finance NRRIT’s purchases of non-Federal assets is part of the “other transactions affecting borrowing from the public” rather than included as an increase in the deficit. While net purchases and redemptions affect borrowing from the public, unrealized gains and losses on NRRIT’s portfolio are included in both the other factors and, with the opposite sign, in NRRIT’s net outlays in the deficit, for no net impact on borrowing from the public. The increased borrowing associated with the initial transfer expanded publicly held debt by \$20 billion in 2003. Net transactions in subsequent years have been much smaller. In 2011, net reductions, including redemptions and losses, were \$1 billion. Net redemptions of \$0.3 billion are projected for 2012 and net redemptions of roughly \$1 billion annually are projected for subsequent years.¹⁰

Debt held by Government accounts.—The amount of Federal debt issued to Government accounts depends largely on the surpluses of the trust funds, both on-budget and off-budget, which owned 92 percent of the total Federal debt held by Government accounts at the end of 2011. In 2011, the total trust fund surplus was \$97 billion, and trust funds invested \$99 billion in Federal securities. Investment may differ somewhat from the surplus due to

⁹ The Federal Credit Reform Act of 1990 (sec. 505(b)) requires that the financing accounts be non-budgetary. As explained in Chapter 13, “Coverage of the Budget,” they are non-budgetary in concept because they do not measure cost. For additional discussion of credit programs, see Chapter 23, “Credit and Insurance,” and Chapter 12, “Budget Concepts.”

¹⁰ The budget treatment of this fund is further discussed in Chapter 12, “Budget Concepts.”

changes in the amount of cash assets not currently invested. The remainder of debt issued to Government accounts is owned by a number of special funds and revolving funds. The debt held in major accounts and the annual investments are shown in Table 6–5.

Debt Held by the Public Net of Financial Assets and Liabilities

While debt held by the public is a key measure for examining the role and impact of the Federal Government in the U.S. and international credit markets and for other purposes, it provides incomplete information on the Government's financial condition. The U.S. Government holds significant financial assets, which must be offset against debt held by the public and other financial liabilities to achieve a more complete understanding of the Government's financial condition. The acquisition of those financial assets represents a transaction with the credit markets, broadening those markets in a way that is analogous to the demand on credit markets that borrowing entails. For this reason, debt held by the public is also an incomplete measure of the impact of the Federal Government in the U.S. and international credit markets.

One transaction that can increase both borrowing and assets is an increase to the Treasury operating cash balance. When the Government borrows to increase the Treasury operating cash balance, that cash balance also represents an asset that is available to the Federal Government. Looking at both sides of this transaction—the borrowing to obtain the cash and the asset of the cash holdings—provides much more complete information about the Government's financial condition than looking at only the borrowing from the public. Another example

of a transaction that simultaneously increases borrowing from the public and Federal assets is Government borrowing to issue direct loans to the public. When the direct loan is made, the Government is also acquiring an asset in the form of future payments of principal and interest, net of the Government's expected losses on the loans. Similarly, when the National Railroad Retirement Investment Trust increases its holdings of non-Federal securities, the borrowing to purchase those securities is offset by the value of the asset holdings.

The acquisition or disposition of Federal financial assets very largely explains the difference between the deficit for a particular year and that year's increase in debt held by the public. Debt net of financial assets is a measure that is conceptually closer to the measurement of Federal deficits or surpluses; cumulative deficits and surpluses over time more closely equal the debt net of financial assets than they do the debt held by the public.

The magnitude and the significance of the Government's financial assets increased greatly from the later part of 2008 through 2010, as a result of Government actions, such as implementation of TARP, to address the challenges facing the Nation's financial markets and economy.¹¹ In 2011, as some of these activities continued to wind down, the Government's net financial assets decreased from \$1,125 billion to \$958 billion.

Table 6–3 presents debt held by the public net of the Government's financial assets and liabilities, or “net debt.” Treasury debt is presented in the Budget at book value, with no adjustments for the change in economic

¹¹ For more information on these activities, see Chapter 4, “Financial Stabilization Efforts and Their Budgetary Effects.”

Table 6–3. DEBT HELD BY THE PUBLIC NET OF FINANCIAL ASSETS AND LIABILITIES

(Dollar amounts in billions)

	Actual	Estimate										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Debt Held by the Public:												
Debt held by the public	10,128.2	11,578.1	12,636.7	13,445.3	14,197.6	14,980.2	15,713.5	16,403.9	17,137.4	17,897.1	18,677.6	19,485.9
As a percent of GDP	67.7%	74.2%	77.4%	78.4%	78.1%	77.8%	77.1%	76.5%	76.4%	76.5%	76.5%	76.5%
Financial Assets Net of Liabilities:												
Treasury operating cash balance	58.1	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Credit financing account balances:												
Direct loan accounts	717.5	856.0	1,018.1	1,174.7	1,323.3	1,458.8	1,584.5	1,701.3	1,810.9	1,918.9	2,025.4	2,136.2
Guaranteed loan accounts	-22.1	-12.5	-1.0	-0.3	-0.6	0.7	0.5	1.8	2.6	1.0	-4.1	-9.5
TARP equity purchase accounts	74.9	48.2	33.2	18.2	13.6	12.5	8.9	7.1	5.8	2.4	2.1	1.9
Subtotal, credit financing account balances	770.3	891.7	1,050.3	1,192.5	1,336.3	1,472.0	1,593.9	1,710.2	1,819.3	1,922.3	2,023.5	2,128.6
Government-sponsored enterprise preferred stock	133.0	163.6	173.4	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5	176.5
Non-Federal securities held by NRRIT	21.4	21.1	19.8	18.4	17.2	15.5	14.4	13.2	11.9	10.7	9.5	8.5
Other assets net of liabilities	-25.1	-25.1	-25.1	-25.1	-25.1	-25.1	-25.1	-25.1	-25.1	-25.1	-25.1	-25.1
Total, financial assets net of liabilities	957.8	1,111.4	1,278.4	1,422.4	1,565.1	1,699.0	1,819.8	1,934.9	2,042.7	2,144.5	2,244.4	2,348.6
Debt Held by the Public Net of Financial Assets and Liabilities:												
Debt held by the public net of financial assets	9,170.4	10,466.7	11,358.3	12,022.9	12,632.5	13,281.2	13,893.6	14,469.0	15,094.7	15,752.5	16,433.1	17,137.3
As a percent of GDP	61.3%	67.1%	69.5%	70.1%	69.5%	69.0%	68.2%	67.5%	67.3%	67.3%	67.3%	67.2%

value that results from fluctuations in interest rates. The balances of credit financing accounts are based on projections of future cash flows. For direct loan financing accounts, the balance generally represents the net present value of anticipated future inflows such as principal and interest payments from borrowers. For guaranteed loan financing accounts, the balance generally represents the net present value of anticipated future outflows, such as default claim payments net of recoveries. NRRIT's holdings of non-Federal securities are marked to market on a monthly basis. GSE preferred stock is measured at market value.

At the end of 2011, debt held by the public was \$10,128 billion, or 67.7 percent of GDP. The Government held \$958 billion in net financial assets, including a cash balance of \$58 billion, net credit financing account balances of \$770 billion,¹² and other assets and liabilities that aggregated to a net asset of \$129 billion. Therefore, debt net of financial assets was \$9,170 billion, or 61.3 percent of GDP. As shown in Table 6-3, the value of the Government's net financial assets is projected to increase to \$1,111 billion in 2012, due largely to increases in the net balances of credit financing accounts. While debt held by the public is expected to increase from 67.7 percent to 74.2 percent of GDP during 2012, net debt is expected to increase from 61.3 percent to 67.1 percent of GDP.

Debt securities and other financial assets and liabilities do not encompass all the assets and liabilities of the Federal Government. For example, accounts payable occur in the normal course of buying goods and services; Social Security benefits are due and payable as of the end of the month but, according to statute, are paid during the next month; and Federal employee salaries are paid after they have been earned. Like debt securities sold in the credit market, these liabilities have their own distinctive effects on the economy. The Federal Government also has significant holdings of non-financial assets, such as land, mineral deposits, buildings, and equipment. A unique and important asset is the Government's sovereign power to tax. Federal assets and liabilities are analyzed within the broader conceptual framework of Federal resources and responsibilities in Chapter 31, "Budget and Financial Reporting," in this volume. The different types of assets and liabilities are reported annually in the financial statements of Federal agencies and in the *Financial Report of the United States Government*, prepared by the Treasury Department in coordination with the Office of Management and Budget (OMB).

Treasury Debt

Nearly all Federal debt is issued by the Department of the Treasury. Treasury meets most of the Federal

Government's financing needs by issuing marketable securities to the public. These financing needs include both the change in debt held by the public and the refinancing—or rollover—of any outstanding debt that matures during the year. Treasury marketable debt is sold at public auctions on a regular schedule and can be bought and sold on the secondary market. Treasury also sells to the public a relatively small amount of nonmarketable securities, such as savings bonds and State and Local Government Series securities (SLUGs).¹³ Treasury nonmarketable debt cannot be bought or sold on the secondary market.

Treasury issues marketable securities in a wide range of maturities, and issues both nominal (non-inflation-indexed) and inflation-indexed securities. Treasury's marketable securities include:

Treasury Bills—Treasury bills have maturities of one year or less from their issue date. In addition to the regular auction calendar of bill issuance, Treasury issues cash management bills on an as-needed basis for various reasons such as to offset the seasonal patterns of the Government's receipts and outlays.

Treasury Notes—Treasury notes have maturities of more than one year and up to 10 years.

Treasury Bonds—Treasury bonds have maturities of more than 10 years. The longest-maturity securities issued by Treasury are 30-year bonds.

Treasury Inflation-Protected Securities (TIPS)—Treasury inflation-protected—or inflation-indexed—securities are coupon issues for which the par value of the security rises with inflation. The principal value is adjusted every six months to reflect inflation as measured by changes in the CPI-U (with a two-month lag). Although the principal value may be adjusted downward if inflation is negative, the principal value will not be reduced below the original par value.

Historically, the average maturity of outstanding debt issued by Treasury has been about five years. The average maturity of outstanding debt was 63 months at the end of 2011.

In addition to quarterly announcements about the overall auction calendar, Treasury publicly announces in advance the auction of each security. Individuals can participate directly in Treasury auctions or can purchase securities through brokers, dealers, and other financial institutions. Treasury accepts two types of auction bids—competitive and noncompetitive. In a competitive bid, the bidder specifies the yield. A significant portion of competitive bids are submitted by primary dealers, which are banks and securities brokerages that have been designated to trade in Treasury securities with the Federal Reserve System. In a noncompetitive bid, the bidder agrees to accept the yield determined by the auction. At the close of the auction, Treasury accepts all eligible noncompetitive bids and then accepts competitive bids in ascending order beginning with the lowest yield bid until

¹² Consistent with the presentation in the *Monthly Treasury Statement of Receipts and Outlays of the United States Government (Monthly Treasury Statement)*, Table 6-3 presents the net financial assets associated with direct and guaranteed loans in the financing accounts created under the Federal Credit Reform Act of 1990. Therefore, the figures differ by relatively small amounts from the figures in Chapter 31, "Budget and Financial Reporting," which reflect all loans made or guaranteed by the Federal Government, including loans originated prior to implementation of the FCRA.

¹³ Under the State and Local Government Series program, the Treasury offers special low-yield securities to State and local governments and other entities for temporary investment of proceeds of tax-exempt bonds.

the offering amount is reached. All winning bidders receive the highest accepted yield bid.

Treasury marketable securities are highly liquid and actively traded on the secondary market. The liquidity of Treasury securities is reflected in the ratio of bids received to bids accepted in Treasury auctions; the demand for the securities is substantially greater than the level of issuance. Because they are backed by the full faith and credit of the United States Government, Treasury marketable securities are considered to be “risk-free.” Therefore, the Treasury yield curve is commonly used as a benchmark for a wide variety of purposes in the financial markets.

Whereas Treasury issuance of marketable debt is based on the Government’s financing needs, Treasury’s issuance of nonmarketable debt is based on the public’s demand for the specific types of investments. Increases in outstanding balances of nonmarketable debt reduce the need for marketable borrowing. In 2011, there was net disinvestment in nonmarketables, necessitating additional marketable borrowing to finance the redemption of nonmarketable debt.¹⁴

Agency Debt

A few Federal agencies, shown in Table 6–4, sell or have sold debt securities to the public and, at times, to other Government accounts. Currently, new debt is issued only by the Tennessee Valley Authority (TVA) and the Federal Housing Administration (FHA); the remaining agencies are repaying existing borrowing. Agency debt increased from \$26.1 billion at the end of 2010 to \$27.0 billion at the end of 2011, due to increases in debt issued by TVA,

slightly offset by decreases in debt issued by other agencies. Agency debt is less than one-third of one percent of Federal debt held by the public. As a result of new borrowing by TVA, agency debt is estimated to increase by \$0.6 billion in 2012 and by \$0.3 billion in 2013.

The predominant agency borrower is the TVA, which had borrowed \$26.7 billion from the public as of the end of 2011, or 99 percent of the total debt of all agencies. TVA sells debt primarily to finance capital expenditures.

The TVA has traditionally financed its capital construction by selling bonds and notes to the public. Since 2000, it has also employed two types of alternative financing methods, lease/leaseback obligations and prepayment obligations. Under the lease/leaseback obligations method, TVA signs contracts to lease some facilities and equipment to private investors and simultaneously leases them back. It receives a lump sum for leasing out its assets, and then leases them back at fixed annual payments for a set number of years. TVA retains substantially all of the economic benefits and risks related to ownership of the assets.¹⁵ Under the prepayment obligations method, TVA’s power distributors may prepay a portion of the price of the power they plan to purchase in the future. In return, they obtain a discount on a specific quantity of the future power they buy from TVA. The quantity varies, depending on TVA’s estimated cost of borrowing.

The Office of Management and Budget determined that each of these alternative financing methods is a means of financing the acquisition of assets owned and used by the Government, or of refinancing debt previously incurred

¹⁴ Detail on the marketable and nonmarketable securities issued by Treasury is found in the *Monthly Statement of the Public Debt*, published on a monthly basis by the Department of Treasury.

¹⁵ This arrangement is at least as governmental as a “lease-purchase without substantial private risk.” For further detail on the current budgetary treatment of lease-purchase without substantial private risk, see OMB Circular No. A–11, Appendix B.

Table 6–4. AGENCY DEBT

(In millions of dollars)

	2011 Actual		2012 Estimate		2013 Estimate	
	Borrowing/ Repayment(–)	Debt, End-of- Year	Borrowing/ Repayment(–)	Debt, End-of- Year	Borrowing/ Repayment(–)	Debt, End-of- Year
Borrowing from the public:						
Housing and Urban Development:						
Federal Housing Administration		28.8	*	29.0		29.0
Architect of the Capitol	–5.4	133.3	–5.3	128.0	–7.0	121.0
National Archives	–14.0	165.7	–15.2	150.5	–16.5	134.0
Tennessee Valley Authority:						
Bonds and notes	1,031.7	24,654.0	–2,651.3	22,002.6	513.4	22,516.0
Lease/leaseback obligations	–70.4	1,282.0	3,421.9	4,703.9	–78.9	4,625.0
Prepayment obligations	–105.3	716.8	–105.3	611.5	–101.2	510.3
Total, borrowing from the public	836.7	26,980.7	644.9	27,625.5	309.8	27,935.4
Borrowing from other funds:						
Tennessee Valley Authority ¹	1.6	5.9		5.9		5.9
Total, borrowing from other funds	1.6	5.9		5.9		5.9
Total, agency borrowing	838.4	26,986.6	644.9	27,631.5	309.8	27,941.3
Memorandum:						
Tennessee Valley Authority bonds and notes, total	1,033.3	24,659.9	–2,651.3	22,008.6	513.4	22,522.0

* \$500,000 or less.

¹ Represents open market purchases by the National Railroad Retirement Investment Trust.

Table 6-5. DEBT HELD BY GOVERNMENT ACCOUNTS¹
(In millions of dollars)

Description	Investment or Disinvestment (-)			Holdings, End of 2013 Estimate
	2011 Actual	2012 Estimate	2013 Estimate	
Investment in Treasury debt:				
Defense: Host nation support fund for relocation	-3	266	.....	1,106
Energy:				
Nuclear waste disposal fund ¹	2,095	1,755	1,258	29,180
Uranium enrichment decontamination fund	-389	-476	10	3,906
Health and Human Services:				
Federal hospital insurance trust fund	-33,535	-19,619	-24,346	201,974
Federal supplementary medical insurance trust fund	-536	-3,946	1,135	67,635
Vaccine injury compensation fund	169	344	357	3,809
Child enrollment contingency fund	-25	-92	-187	1,814
Homeland Security:				
Aquatic resources trust fund	-54	-88	-49	1,745
Oil spill liability trust fund	724	358	339	2,922
Housing and Urban Development:				
Federal Housing Administration mutual mortgage fund	-37	-4,157	7,529	7,529
Guarantees of mortgage-backed securities	-1,428	217	-197	2,154
Interior:				
Abandoned mine reclamation fund	84	29	-43	2,694
Bureau of Land Management permanent operating funds	-255	-209	-172	785
Environmental improvement and restoration fund	30	-19	1	1,212
Justice: Assets forfeiture fund	220	1,299	-1,414	2,290
Labor:				
Unemployment trust fund	-2,672	379	170	16,579
Pension Benefit Guaranty Corporation ¹	1,137	244	1,552	17,287
State: Foreign service retirement and disability trust fund	534	534	478	17,409
Transportation:				
Airport and airway trust fund	1,596	-230	-993	7,418
Transportation trust fund	-8,153	-7,633	16,803	25,472
Aviation insurance revolving fund	179	224	192	2,047
Treasury:				
Exchange stabilization fund	2,285	1,583	.....	24,304
Treasury forfeiture fund	202	-478	-375	732
Comptroller of the Currency assessment fund	146	-62	-115	994
Veterans Affairs:				
National service life insurance trust fund	-620	-688	-695	6,158
Veterans special life insurance fund	-15	-49	-53	1,879
Corps of Engineers: Harbor maintenance trust fund	781	568	548	7,319
Other Defense-Civil:				
Military retirement trust fund	44,034	97,465	57,315	480,820
Medicare-eligible retiree health care fund	19,452	12,486	7,336	181,563
Education benefits fund	-18	-149	-128	1,731
Environmental Protection Agency:				
Leaking underground storage tank trust fund	22	318	26	3,794
Hazardous substance trust fund	-141	177	103	3,789
International Assistance Programs: Overseas Private Investment Corporation	139	96	83	5,290
Office of Personnel Management:				
Civil service retirement and disability trust fund	23,448	8,666	9,896	822,375
Postal Service retiree health benefits fund	1,592	3,118	3,076	49,902
Employees life insurance fund	2,073	2,016	2,068	43,762
Employees health benefits fund	2,949	1,238	49	20,481
Social Security Administration:				
Federal old-age and survivors insurance trust fund ²	93,421	90,923	72,652	2,656,106

Table 6-5. DEBT HELD BY GOVERNMENT ACCOUNTS¹—Continued
(In millions of dollars)

Description	Investment or Disinvestment (-)			Holdings, End of 2013 Estimate
	2011 Actual	2012 Estimate	2013 Estimate	
Federal disability insurance trust fund ²	-25,256	-29,374	-33,487	99,104
District of Columbia: Federal pension fund	-7	21	9	3,689
Farm Credit System Insurance Corporation:				
Farm Credit System Insurance fund	126	211	147	3,570
Federal Communications Commission:				
Universal service fund	-266	92	43	5,950
Federal Deposit Insurance Corporation:				
Deposit insurance fund	-2,516	-19,008	17,058	32,976
Senior unsecured debt guarantee fund	1,143	-1,004	-1	6,296
FSLIC resolution fund	-13	53	73	3,500
National Credit Union Administration:				
Share insurance fund	1,454	-12	139	10,860
Central liquidity facility	125	105	110	2,311
Temporary corporate credit union stabilization fund	1,822	-635	55	1,606
Postal Service funds ²	424	*	.....	1,815
Railroad Retirement Board trust funds	-106	-265	-133	1,745
Securities Investor Protection Corporation ³	238	59	141	1,620
United States Enrichment Corporation fund	26	5	4	1,602
Other Federal funds	-626	26	-70	4,279
Other trust funds	2	105	148	3,367
Unrealized discount ¹	90	.....	.....	-1,015
Total, investment in Treasury debt¹	126,089	136,786	138,445	4,911,241
Investment in agency debt:				
Railroad Retirement Board:				
National Railroad Retirement Investment Trust	2	.....	.....	6
Total, investment in agency debt¹	2	.....	.....	6
Total, investment in Federal debt¹	126,090	136,786	138,445	4,911,247
Memorandum:				
Investment by Federal funds (on-budget)	26,787	-4,467	36,357	410,948
Investment by Federal funds (off-budget)	424	*	.....	1,815
Investment by trust funds (on-budget)	30,626	79,704	62,923	1,744,289
Investment by trust funds (off-budget)	68,164	61,548	39,165	2,755,210
Unrealized discount ¹	90	.....	.....	-1,015

* \$500 thousand or less.

¹ Debt held by Government accounts is measured at face value except for the Treasury zero-coupon bonds held by the Nuclear waste disposal fund and the Pension Benefit Guaranty Corporation (PBGC), which are recorded at market or redemption price; and the unrealized discount on Government account series, which is not distributed by account. Changes are not estimated in the unrealized discount. If recorded at face value, at the end of 2011 the debt figures would be \$22.4 billion higher for the Nuclear waste disposal fund and \$0.2 billion higher for PBGC than recorded in this table.

² Off-budget Federal entity.

³ Amounts on calendar-year basis.

to finance such assets. They are equivalent in concept to other forms of borrowing from the public, although under different terms and conditions. The budget therefore records the upfront cash proceeds from these methods as borrowing from the public, not offsetting collections.¹⁶

¹⁶ This budgetary treatment differs from the treatment in the *Monthly Treasury Statement* Table 6 Schedule C, and the *Combined Statement of Receipts, Outlays, and Balances of the United States Government* Schedule 3, both published by the Department of the Treasury. These two schedules, which present debt issued by agencies other than Treasury, exclude the TVA alternative financing arrangements. This difference in treatment is one factor causing minor differences between debt figures reported in the Budget and debt figures reported by Treasury.

The budget presentation is consistent with the reporting of these obligations as liabilities on TVA's balance sheet under generally accepted accounting principles. Table 6-4 presents these alternative financing methods separately from TVA bonds and notes to distinguish between the types of borrowing. Obligations for lease/leasebacks were \$1.3 billion at the end of 2011 and are estimated to increase to \$4.7 billion at the end of 2012. Obligations for prepayments were \$0.7 billion at the end of 2011 and

The other factors are adjustments for the timing of the reporting of Federal debt held by the National Railroad Retirement Investment Trust and treatment of the Federal debt held by the Securities Investor Protection Corporation.

are estimated to be \$0.6 billion at the end of 2012. After 2012, obligations for these two types of alternative financing are estimated to gradually decline as TVA fulfills the terms of the contracts.

Although the FHA generally makes direct disbursements to the public for default claims on FHA-insured mortgages, it may also pay claims by issuing debentures. Issuing debentures to pay the Government's bills is equivalent to selling securities to the public and then paying the bills by disbursing the cash borrowed, so the transaction is recorded as being simultaneously an outlay and borrowing. The debentures are therefore classified as agency debt.

A number of years ago, the Federal Government guaranteed the debt used to finance the construction of buildings for the National Archives and the Architect of the Capitol, and subsequently exercised full control over the design, construction, and operation of the buildings. These arrangements are equivalent to direct Federal construction financed by Federal borrowing. The construction expenditures and interest were therefore classified as Federal outlays, and the borrowing was classified as Federal agency borrowing from the public.

A number of Federal agencies borrow from the Bureau of the Public Debt (BPD) or the Federal Financing Bank (FFB), both within the Department of the Treasury. Agency borrowing from the FFB or the BPD is not included in gross Federal debt. It would be double counting to add together (a) the agency borrowing from the BPD or FFB and (b) the Treasury borrowing from the public that is needed to provide the BPD or FFB with the funds to lend to the agencies.

Debt Held by Government Accounts

Trust funds, and some special funds and public enterprise revolving funds, accumulate cash in excess of current needs in order to meet future obligations. These cash surpluses are generally invested in Treasury debt.

New investment by trust funds and other Government accounts was \$126 billion in 2011. Investment by Government accounts is estimated to be \$137 billion in 2012 and \$138 billion in 2013, as shown in Table 6–5. The holdings of Federal securities by Government accounts are estimated to increase to \$4,911 billion by the end of 2013, or 28 percent of the gross Federal debt. The percentage is estimated to decrease gradually over the next 10 years.

The Government account holdings of Federal securities are concentrated among a few funds: the Social Security Old-Age and Survivors Insurance (OASI) and Disability Insurance (DI) trust funds; the Medicare Hospital Insurance and Supplementary Medical Insurance trust funds; and four Federal employee retirement funds. These Federal employee retirement funds include the military retirement trust fund, the special fund for uniformed services Medicare-eligible retiree health care, the Civil Service Retirement and Disability Fund (CSRDF), and a separate special fund for Postal Service retiree health benefits. At the end of 2013, these Social Security, Medicare, and Federal employee retirement funds are estimated to own

93 percent of the total debt held by Government accounts. During 2011–2013, the Social Security OASI fund has a large surplus and is estimated to invest a total of \$257 billion, 64 percent of total net investment by Government accounts. Over this period, the military retirement trust fund is projected to invest \$199 billion, 50 percent of the total. Some Government accounts reduce their investments in Federal securities during 2011–2013. During these years, the Social Security DI fund disinvests \$88 billion, or 22 percent of the total net investment and the Medicare Hospital Insurance trust fund disinvests \$78 billion, or 19 percent of the total.

Technical note on measurement.—The Treasury securities held by Government accounts consist almost entirely of the Government account series. Most were issued at par value (face value), and the securities issued at a discount or premium were traditionally recorded at par in the OMB and Treasury reports on Federal debt. However, there are two kinds of exceptions.

First, Treasury issues zero-coupon bonds to a very few Government accounts. Because the purchase price is a small fraction of par value and the amounts are large, the holdings are recorded in Table 6–5 at par value less unamortized discount. The only two Government accounts that held zero-coupon bonds during the period of this table are the Nuclear Waste Disposal Fund in the Department of Energy and the Pension Benefit Guaranty Corporation (PBGC). The total unamortized discount on zero-coupon bonds was \$22.7 billion at the end of 2011.

Second, Treasury subtracts the unrealized discount on other Government account series securities in calculating “net Federal securities held as investments of Government accounts.” Unlike the discount recorded for zero-coupon bonds and debt held by the public, the unrealized discount is the discount at the time of issue and is not amortized over the term of the security. In Table 6–5 it is shown as a separate item at the end of the table and not distributed by account. The amount was \$1.0 billion at the end of 2011.

Limitations on Federal Debt

Definition of debt subject to limit.—Statutory limitations have usually been placed on Federal debt. Until World War I, the Congress ordinarily authorized a specific amount of debt for each separate issue. Beginning with the Second Liberty Bond Act of 1917, however, the nature of the limitation was modified in several steps until it developed into a ceiling on the total amount of most Federal debt outstanding. This last type of limitation has been in effect since 1941. The limit currently applies to most debt issued by the Treasury since September 1917, whether held by the public or by Government accounts; and other debt issued by Federal agencies that, according to explicit statute, is guaranteed as to principal and interest by the United States Government.

The third part of Table 6–2 compares total Treasury debt with the amount of Federal debt that is subject to the limit. Nearly all Treasury debt is subject to the debt limit.

A large portion of the Treasury debt not subject to the general statutory limit was issued by the Federal

Financing Bank. The FFB is authorized to have outstanding up to \$15 billion of publicly issued debt. It issued \$14 billion of securities to the Civil Service Retirement and Disability Fund on November 15, 2004, in exchange for an equal amount of regular Treasury securities. The FFB securities have the same interest rates and maturities as the regular Treasury securities for which they were exchanged. The securities mature on dates from June 30, 2009, through June 30, 2019. At the end of 2011, \$8 billion of these securities remained outstanding.

The Housing and Economic Recovery Act of 2008 created a new type of debt not subject to limit. This debt, termed “Hope Bonds,” is issued by Treasury to the Federal Financing Bank for the HOPE for homeowners program. The outstanding balance of Hope Bonds was \$0.5 billion at the end of 2011 and is projected to increase by small amounts annually in 2012 through 2022.

The other Treasury debt not subject to the general limit consists almost entirely of silver certificates and other currencies no longer being issued. It was \$487 million at the end of 2011 and is projected to gradually decline over time.

The sole agency debt currently subject to the general limit, \$10 million at the end of 2011, is certain debentures issued by the Federal Housing Administration.¹⁷

Some of the other agency debt, however, is subject to its own statutory limit. For example, the Tennessee Valley Authority is limited to \$30 billion of bonds and notes outstanding.

The comparison between Treasury debt and debt subject to limit also includes an adjustment for measurement differences in the treatment of discounts and premiums. As explained earlier in this chapter, debt securities may be sold at a discount or premium, and the measurement of debt may take this into account rather than recording the face value of the securities. However, the measurement differs between gross Federal debt (and its components) and the statutory definition of debt subject to limit. An adjustment is needed to derive debt subject to limit (as defined by law) from Treasury debt. The amount of the adjustment was \$18.7 billion at the end of 2011 compared with the total unamortized discount (less premium) of \$53.1 billion on all Treasury securities.

Changes in the debt limit.—The statutory debt limit has been changed many times. Since 1960, Congress has passed 79 separate acts to raise the limit, extend the duration of a temporary increase, or revise the definition.¹⁸

The Budget Control Act of 2011, enacted on August 2, 2011, created a new framework for increasing the debt limit, based on the President’s submission of a series of written certifications that such increases are necessary because the debt subject to limit is within \$100 billion of the current limit. The certification triggering the first two increases was submitted immediately following the Act’s enactment. Consequently, the debt limit was first in-

creased by \$400 billion, from \$14,294 billion to \$14,694 billion, effective as of August 2, 2011, and then by an additional \$500 billion, from \$14,694 billion to \$15,194 billion, effective after the close of business on September 21.

The Act also provided for a third increase of \$1,200 billion, to \$16,394 billion.¹⁹ Under the Act, the third part of the increase was scheduled to occur 15 calendar days after the President submitted certification to Congress that the debt subject to limit was within \$100 billion of the \$15,194 billion limit (unless Congress enacted a joint resolution of disapproval). The certification was submitted on January 12, 2012, and the increase took effect after the close of business on January 27.

Between July 2008 and February 2010, the debt limit was increased five times. On February 12, 2010, the debt limit was increased by \$1,900 billion to \$14,294 billion and on December 28, 2009, by \$290 billion to \$12,394 billion. The December 2009 increase, enacted shortly before the anticipated reaching of the previous limit, had been intended to cover only a short period. In the three instances between July 2008 and February 2009, the increase was included in a larger piece of legislation aimed at stabilizing the financial markets and restoring economic growth and provided room under the statutory debt ceiling for the activities authorized by each piece of legislation. On July 30, 2008, the debt limit was increased by \$800 billion, to \$10,615 billion, as part of the Housing and Economic Recovery Act of 2008. On October 3, 2008, the Emergency Economic Stabilization Act of 2008 increased the debt limit by \$700 billion, to \$11,315 billion. On February 17, 2009, the American Recovery and Reinvestment Act of 2009 increased the statutory limit by \$789 billion, to \$12,104 billion. At the dates of enactment, the debt subject to limit was at least a few hundred billion dollars below the previous ceiling.

At many times in the past several decades, including 2011, the Government has reached the statutory debt limit before an increase has been enacted. When this has occurred, it has been necessary for the Treasury Department to take administrative actions to meet the Government’s obligation to pay its bills and invest its trust funds while remaining below the statutory limit. One such measure is the partial or full disinvestment of the Government Securities Investment Fund (G-fund). This fund is one component of the Thrift Savings Plan (TSP), a defined contribution pension plan for Federal employees. The Secretary has statutory authority to suspend investment of the G-fund in Treasury securities as needed to prevent the debt from exceeding the debt limit. Treasury determines each day the amount of investments that would allow the fund to be invested as fully as possible without exceeding the debt limit. At the end of 2011, the TSP G-fund had an outstanding balance of \$139 billion. The Treasury Secretary is also authorized to declare

¹⁷ At the end of 2011, there were also \$18 million of FHA debentures not subject to limit.

¹⁸ The Acts and the statutory limits since 1940 are listed in *Historical Tables, Budget of the United States Government, Fiscal Year 2013*, Table 7.3.

¹⁹ Under the Act, if the constitutional amendment voted on pursuant to Title II of the Act (balanced budget amendment) had been submitted to the States for ratification, the increase would have been \$1,500 billion, or if a Joint Select Committee on Deficit Reduction bill had been enacted, pursuant to Title IV of the Act, that achieved an amount of deficit reduction greater than \$1,200 billion, the increase would have been equal to that amount, but not greater than \$1,500 billion.

a debt issuance suspension period, which allows him or her to redeem a limited amount of securities held by the Civil Service Retirement and Disability Fund and stop investing its receipts. The law requires that when any such actions are taken with the TSP G-fund or the CSRDF, the Secretary is required to make the fund whole after the debt limit has been raised by restoring the forgone interest and investing the fund fully. In 2011, Treasury determined that, because the special fund for Postal Service retiree health benefits was governed by the same laws as the CSRDF, administrative actions could also be taken with that fund.²⁰ Therefore, reinvestment of the Postal Service Retiree Health Benefits Fund's maturing balances and investment of new interest collections was briefly postponed. After the debt limit increase, the foregone interest was restored to the Postal Service Retiree Health Benefits Fund. Another measure for staying below the debt limit is disinvestment of the Exchange Stabilization Fund. The outstanding balance in the Exchange Stabilization Fund was \$23 billion at the end of 2011.

As the debt nears the limit, Treasury has also suspended acceptance of subscriptions to the State and Local Government Series to reduce unanticipated fluctuations in the level of the debt. In 2011, Treasury also allowed the cash balance in the temporary Supplementary Financing Program to decline from \$200 billion to zero by not rolling over the bills as they matured. Because Treasury does not currently have any plans to resume the SFP, this action

²⁰ Both the CSRDF and the Postal Service Retiree Health Benefits Fund are administered by the Office of Personnel Management.

is not anticipated to be an available administrative action in the future.

In addition to these steps, Treasury has previously replaced regular Treasury securities with borrowing by the FFB, which, as explained above, is not subject to the debt limit. This measure was most recently taken in November 2004, and the outstanding FFB securities began to mature in June 2009.

At the time of submission of the January 12, 2012, certification, the debt was already at the then-current limit of \$15,194 billion, which had been reached on January 4. Therefore, Treasury had begun to use some of its administrative actions, such as use of the Exchange Stabilization Fund and the TSP G-fund.

The debt limit has always been increased prior to the exhaustion of Treasury's limited available administrative actions to continue to finance Government operations when the statutory ceiling has been reached. Failure to enact a debt limit increase before these actions were exhausted would have significant and long-term negative consequences. Without an increase, Treasury would be unable to make timely interest payments or redeem maturing securities. Investors would cease to view U.S. Treasury securities as free of credit risk and Treasury's interest costs would increase. Because interest rates throughout the economy are benchmarked to the Treasury rates, interest rates for State and local governments, businesses, and individuals would also rise. Foreign investors would likely shift out of dollar-denominated assets, driving down the val-

Table 6-6. FEDERAL FUNDS FINANCING AND CHANGE IN DEBT SUBJECT TO STATUTORY LIMIT

(In billions of dollars)

Description	Actual 2011	Estimate										
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Change in Gross Federal Debt:												
Federal funds deficit (+)	1,396.6	1,426.2	1,010.1	777.2	745.3	783.9	762.9	745.3	734.9	764.8	791.9	788.6
Other transactions affecting borrowing from the public— Federal funds ¹	-188.9	123.2	158.6	142.2	143.8	135.6	121.9	116.3	109.0	103.0	101.1	105.1
Increase (+) or decrease (-) in Federal debt held by Federal funds	27.2	-4.5	36.4	34.1	38.9	47.1	50.9	58.6	64.3	57.9	39.6	39.5
Adjustments for trust fund surplus/deficit not invested/ disinvested in Federal securities ²	0.4	41.8	-8.0	-1.4	-1.2	-1.7	-1.1	-1.2	-1.3	-1.2	-1.2	-1.0
Change in unrealized discount on Federal debt held by Government accounts	0.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total financing requirements	1,235.4	1,586.7	1,197.1	952.0	926.7	964.9	934.6	918.9	906.9	924.4	931.4	932.2
Change in Debt Subject to Limit:												
Change in gross Federal debt	1,235.4	1,586.7	1,197.1	952.0	926.7	964.9	934.6	918.9	906.9	924.4	931.4	932.2
Less: increase (+) or decrease (-) in Federal debt not subject to limit	-1.0	-0.7	-1.1	-0.8	-0.8	-1.8	-1.1	-1.0	-1.2	-1.2	-1.9	-1.8
Less: change in adjustment for discount and premium ³ ...	0.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total, change in debt subject to limit	1,235.7	1,587.3	1,198.2	952.8	927.5	966.7	935.7	919.9	908.2	925.7	933.3	934.0
Memorandum:												
Debt subject to statutory limit ⁴	14,746.6	16,333.9	17,532.1	18,484.9	19,412.5	20,379.2	21,314.9	22,234.8	23,142.9	24,068.6	25,001.8	25,935.8

* \$50 million or less.

¹ Includes Federal fund transactions that correspond to those presented in Table 6-2, but that are for Federal funds alone with respect to the public and trust funds.

² Includes trust fund holdings in other cash assets and changes in the investments of the National Railroad Retirement Investment Trust in non-Federal securities.

³ Consists of unamortized discount (less premium) on public issues of Treasury notes and bonds (other than zero-coupon bonds).

⁴ The statutory debt limit is \$16,394 billion, as increased after January 27, 2012.

ue of the dollar and further increasing interest rates on non-Federal, as well as Treasury, debt. In addition, the Federal Government would be forced to delay or discontinue payments on its broad range of obligations, including Social Security and other payments to individuals, Medicaid and other grant payments to States, individual and corporate tax refunds, Federal employee salaries, payments to vendors and contractors, and other obligations.

The debt subject to limit is estimated to increase to \$16,334 billion by the end of 2012 and to \$17,532 billion by the end of 2013.

Federal funds financing and the change in debt subject to limit.—The change in debt held by the public, as shown in Table 6–2, and the change in debt net of financial assets are determined primarily by the total Government deficit or surplus. The debt subject to limit, however, includes not only debt held by the public but also debt held by Government accounts. The change in debt subject to limit is therefore determined both by the factors that determine the total Government deficit or surplus and by the factors that determine the change in debt held by Government accounts. The effect of debt held by Government accounts on the total debt subject to limit can be seen in the second part of Table 6–2. The change in debt held by Government accounts results in 16 percent of the estimated total increase in debt subject to limit from 2012 through 2022.

The budget is composed of two groups of funds, Federal funds and trust funds. The Federal funds, in the main, are derived from tax receipts and borrowing and are used for the general purposes of the Government. The trust funds, on the other hand, are financed by taxes or other receipts dedicated by law for specified purposes, such as for paying Social Security benefits or making grants to State governments for highway construction.²¹

A Federal funds deficit must generally be financed by borrowing, which can be done either by selling securities to the public or by issuing securities to Government accounts that are not within the Federal funds group. Federal funds borrowing consists almost entirely of Treasury securities that are subject to the statutory debt limit. Very little debt subject to statutory limit has been issued for reasons except to finance the Federal funds deficit. The change in debt subject to limit is therefore determined primarily by the Federal funds deficit, which is equal to the difference between the total Government deficit or surplus and the trust fund surplus. Trust fund surpluses are almost entirely invested in securities subject to the debt limit, and trust funds hold most of the debt held by Government accounts. The trust fund surplus reduces the total budget deficit or increases the total budget surplus, decreasing the need to borrow from the public or increasing the ability to repay borrowing from the public. When the trust fund surplus is invested in Federal securities, the debt held by Government accounts increases, offsetting the decrease in debt held by the public by an equal amount. Thus, there is no net effect on gross Federal debt.

Table 6–6 derives the change in debt subject to limit. In 2011 the Federal funds deficit was \$1,397 billion, and other factors decreased financing requirements by \$189 billion. The change in the Treasury operating cash balance reduced financing requirements by \$252 billion, while the net financing disbursements of credit financing accounts increased financing requirements by \$58 billion. Other factors increased financing requirements by \$5 billion. In addition, special funds and revolving funds, which are part of the Federal funds group, invested a net of \$27 billion in Treasury securities. An adjustment is also made for the difference between the trust fund surplus or deficit and the trust funds' investment or disinvestment in Federal securities (including the changes in the National Railroad Retirement Investment Trust's investments in non-Federal securities). As a net result of all these factors, \$1,235 billion in financing was required, increasing gross Federal debt by that amount. Since Federal debt not subject to limit decreased by \$1 billion and the adjustment for discount and premium changed by \$1 billion, the debt subject to limit increased by \$1,236 billion, while debt held by the public increased by \$1,109 billion.

Debt subject to limit is estimated to increase by \$1,587 billion in 2012 and by \$1,198 billion in 2013. The projected increases in the debt subject to limit are caused by the continued Federal funds deficit, supplemented by the other factors shown in Table 6–6. While debt held by the public increases by \$5,585 billion from the end of 2011 through 2017, debt subject to limit increases by \$6,568 billion.

Foreign Holdings of Federal Debt

During most of American history, the Federal debt was held almost entirely by individuals and institutions within the United States. In the late 1960s, foreign holdings were just over \$10 billion, less than 5 percent of the total Federal debt held by the public. Foreign holdings began to grow significantly starting in 1970 and now represent almost half of outstanding debt. This increase has been almost entirely due to decisions by foreign central banks, corporations, and individuals, rather than the direct marketing of these securities to foreign residents.

Foreign holdings of Federal debt are presented in Table 6–7. At the end of 2011, foreign holdings of Treasury debt were \$4,660 billion, which was 46 percent of the total debt held by the public.²² Foreign central banks and foreign official institutions owned 75 percent of the foreign holdings of Federal debt; private investors owned nearly all the rest. At the end of 2011, the nations holding the largest shares of U.S. Federal debt were China, which held 25 percent of all foreign holdings, Japan, which held 21 percent, and the United Kingdom, which held 9 percent. All of the foreign holdings of Federal debt are denominated in dollars.

Although the amount of foreign holdings of Federal debt has grown greatly over this period, the proportion that foreign entities and individuals own, after increasing abruptly in the very early 1970s, remained about 15–20

²¹ For further discussion of the trust funds and Federal funds groups, see Chapter 28, "Trust Funds and Federal Funds."

²² The debt calculated by the Bureau of Economic Analysis, Department of Commerce, is different, though similar in size, because of a different method of valuing securities.

percent until the mid-1990s. During 1995–97, however, growth in foreign holdings accelerated, reaching 33 percent by the end of 1997. Foreign holdings of Federal debt resumed growth in the following decade, increasing from 34 percent at the end of 2002 to 42 percent at the end of 2004 and to 48 percent at the end of 2008. Foreign holdings were 48 percent at the end of 2010 and fell to 46 percent at the end of 2011. The increase in foreign holdings was about 30 percent of total Federal borrowing from the public in 2011 and 50 percent over the last five years.

Foreign holdings of Federal debt are around 25 percent of the foreign-owned assets in the United States, depending on the method of measuring total assets. The foreign purchases of Federal debt securities do not measure the full impact of the capital inflow from abroad on the market for Federal debt securities. The capital inflow supplies additional funds to the credit market generally, and thus affects the market for Federal debt. For example, the capital inflow includes deposits in U.S. financial intermediaries that themselves buy Federal debt.

Federal, Federally Guaranteed, and Other Federally Assisted Borrowing

The Government's effects on the credit markets arise not only from its own borrowing but also from the di-

rect loans that it makes to the public and the provision of assistance to certain borrowing by the public. The Government guarantees various types of borrowing by individuals, businesses, and other non-Federal entities, thereby providing assistance to private credit markets. The Government is also assisting borrowing by States through the Build America Bonds program, which subsidizes the interest that States pay on such borrowing. In addition, the Government has established private corporations—Government-Sponsored Enterprises—to provide financial intermediation for specified public purposes; it exempts the interest on most State and local government debt from income tax; it permits mortgage interest to be deducted in calculating taxable income; and it insures the deposits of banks and thrift institutions, which themselves make loans.

Federal credit programs and other forms of assistance, including the substantial Government efforts to support the credit markets during the recent financial turmoil, are discussed in Chapter 23, "Credit and Insurance," in this volume. Detailed data are presented in tables at the end of that chapter.

Table 6-7. FOREIGN HOLDINGS OF FEDERAL DEBT

(Dollar amounts in billions)

Fiscal Year	Debt held by the public			Change in debt held by the public	
	Total	Foreign ¹	Percentage foreign	Total ²	Foreign ¹
1965	260.8	12.3	4.7	3.9	0.3
1970	283.2	14.0	5.0	5.1	3.8
1975	394.7	66.0	16.7	51.0	9.2
1980	711.9	121.7	17.1	71.6	1.4
1985	1,507.3	222.9	14.8	200.3	47.3
1990	2,411.6	463.8	19.2	220.8	72.0
1995	3,604.4	820.4	22.8	171.3	138.4
2000	3,409.8	1,038.8	30.5	-222.6	-242.6
2005	4,592.2	1,929.6	42.0	296.7	135.1
2006	4,829.0	2,025.3	41.9	236.8	95.7
2007	5,035.1	2,235.3	44.4	206.2	210.0
2008	5,803.1	2,802.4	48.3	767.9	567.1
2009	7,544.7	3,570.6	47.3	1,741.7	768.2
2010	9,018.9	4,324.2	47.9	1,474.2	753.6
2011	10,128.2	4,660.2	46.0	1,109.3	336.0

¹ Estimated by Treasury Department. These estimates exclude agency debt, the holdings of which are believed to be small. The data on foreign holdings are recorded by methods that are not fully comparable with the data on debt held by the public. Projections of foreign holdings are not available. The estimates include the effects of benchmark revisions in 1984, 1989, 1994, and 2000, and annual June benchmark revisions for 2002-2010.

² Change in debt held by the public is defined as equal to the change in debt held by the public from the beginning of the year to the end of the year.