
ECONOMIC AND BUDGET ANALYSES

2. ECONOMIC ASSUMPTIONS

This chapter presents the economic forecast on which the 2012 Budget projections are based. Because of the long lead times required to produce the Budget estimates, the forecast was completed in mid-November. Usually, the economic outlook does not change significantly between the time the forecast is developed and the release of the Budget, but there are times when important developments occur after the forecast is completed but before the Budget is released. This year is one of those times. In December, the President reached an agreement with the Congress lowering taxes and extending unemployment insurance benefits that improved the outlook for 2011.¹ The incoming data since November have also been stronger than anticipated. Together these factors have caused most private forecasters to increase their near-term projections for real economic growth substantially and to reduce their unemployment projections compared with their expectations in November. The Administration would probably make similar changes were it possible to reopen the forecast. Nevertheless, the impact on the 10-year projections discussed in detail below would not be great, and would mainly affect the speed with which the economy is expected to return to its long-run potential. The estimates for receipts and outlays would not be greatly affected beyond the current year.

When the President took office in January 2009, the economy was in the midst of an economic crisis. The first order of business for the new Administration was to arrest the rapid decline in economic activity. 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 of 2009, and the National Bureau of Economic Research has dated the end of the recession as June 2009. American businesses were still shedding jobs, however, through the end of 2009. The unemployment rate reached 10.1 percent in October 2009, and payroll employment continued to fall until December. The year just past has seen the economy gradually begin to recover. Over the past six quarters, through the fourth quarter of 2010, real Gross Domestic Product (GDP) has grown at an average rate of 3.0 percent. Employment also began to increase in 2010, but slowly.

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

Since December 2009, 1.3 million payroll jobs have been added in the private sector, and the unemployment rate has fallen to 9.4 percent (as of December 2010).

The recovery that began in 2009 and continued in 2010 is projected to gain momentum in 2011 and to strengthen further in 2012. Unfortunately, even with healthy economic growth, unemployment is expected to be higher than normal for several more years. The Administration is projecting a normal recovery from the recession of 2008-2009, but one that is somewhat drawn out because of the lingering effects of the financial crisis. A similar pattern of robust growth is expected by the Federal Reserve (see the discussion below on forecast comparisons).

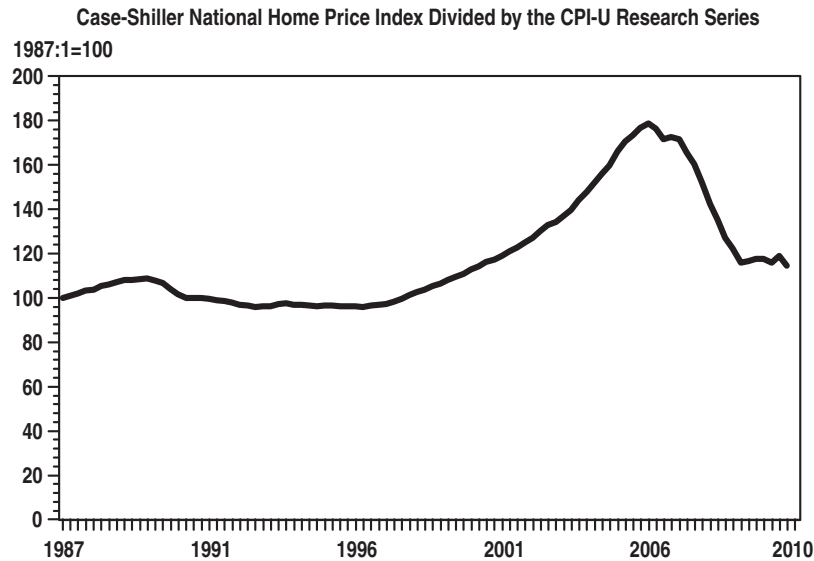
Recent Economic Performance

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 during 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 by the early years of the previous decade housing prices had become 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.² Since 2009 the housing market has shown signs of stabilizing. The relative price of housing has been relatively flat since early 2009 (see chart below), as house prices have kept up with the slow rise in consumer prices nationally, but so far relative housing prices have not increased, which has limited the recovery in household wealth. During the downturn, as prices fell, investment in housing plummeted, reducing the rate of real GDP growth by an average of 1 percentage point per quarter. With the stabilization of house prices in 2009, housing investment has also begun to stabilize, neither adding nor subtracting from real GDP growth on average since 2009:Q2. However, housing investment has

² 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. Relative House Prices



not yet begun to make a positive contribution to growth on a sustained basis as it has done in past expansions.

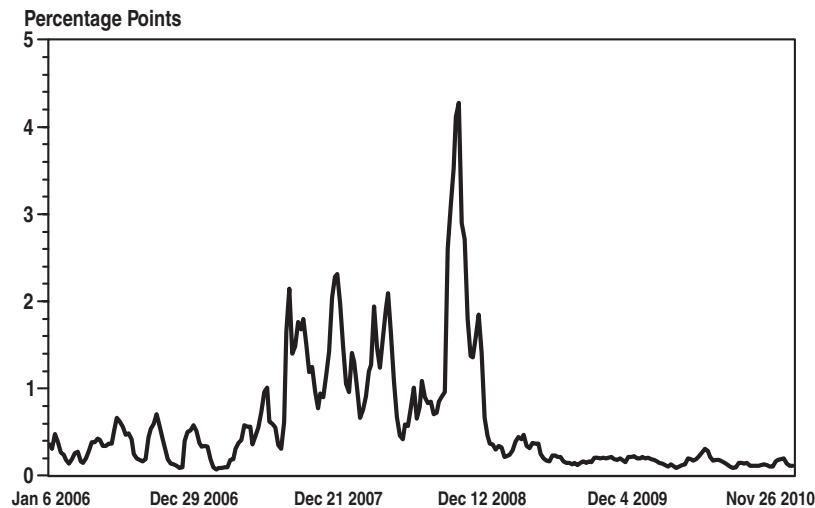
In April 2009, monthly housing starts fell to an annual rate of just 477,000 units, the lowest level ever recorded for this series, which dates from 1959. Housing starts have fluctuated since then, responding to new tax incentives for home purchase and their expiration. The monthly data show housing starts of 529,000 in December 2010. 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 before a robust housing recovery can become established. The foreclosure rate in the third quarter of 2010 was 1.3 percent, which is one of the highest since records have been kept. With new foreclosures continuing to add to the stock of vacant homes, housing prices and new investment are likely to remain subdued for some time. The Administration forecast assumes a gradual recovery in housing activity that adds moderately to real GDP growth beginning this year.

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 is 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 to provide credit to markets where banks 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 nineteen 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 2010. This is the clearest evidence that the financial crisis has abated. Although

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



financial institutions have easier access to funds, many still remain reluctant to lend.

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 28 percent – the equivalent of 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 2010 was only 9 percent. House prices nationally have shown signs of stabilizing, and the stock market has partially recovered, but real net worth remains 21 percent below its 2007 peak level.³

³ Real wealth is computed by deflating household net worth from the Flow-of-Funds Accounts by the CPI-U. Data are available through

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 1.2 percent in the second quarter of 2005. It remained low, averaging only 2 percent through the end of 2007, but since then, as wealth has declined, the saving rate has increased sharply. It rose to a temporary high point of 7.2 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 5.7 percent. In the long-run, increased saving is essential for raising future living standards. However, a sudden increase in the desire to save implies a corresponding reduction in consumer demand, and that fall-off in consumption had

2010:Q3.

Chart 2-3. Personal Saving Rate

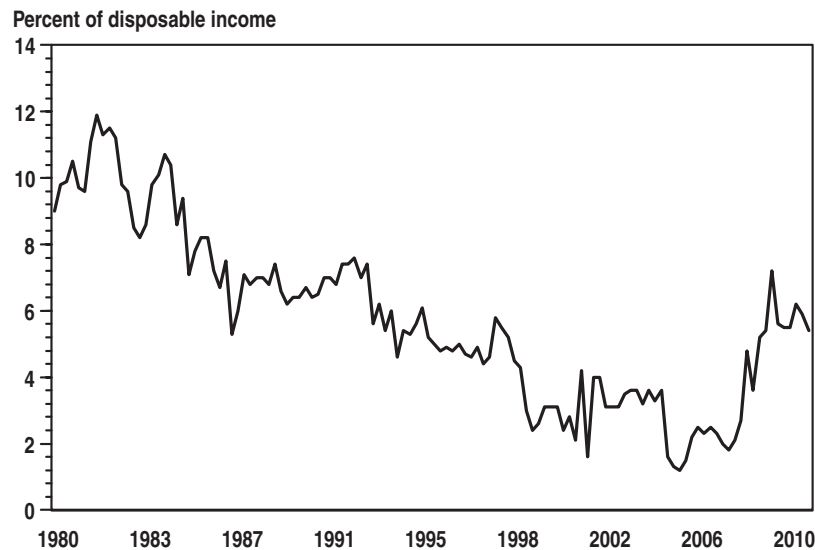
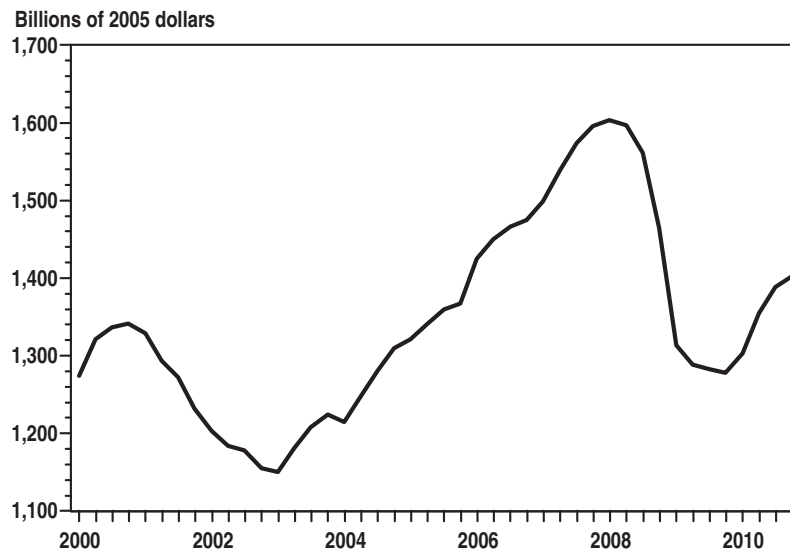


Chart 2-4. Real Business Fixed Investment



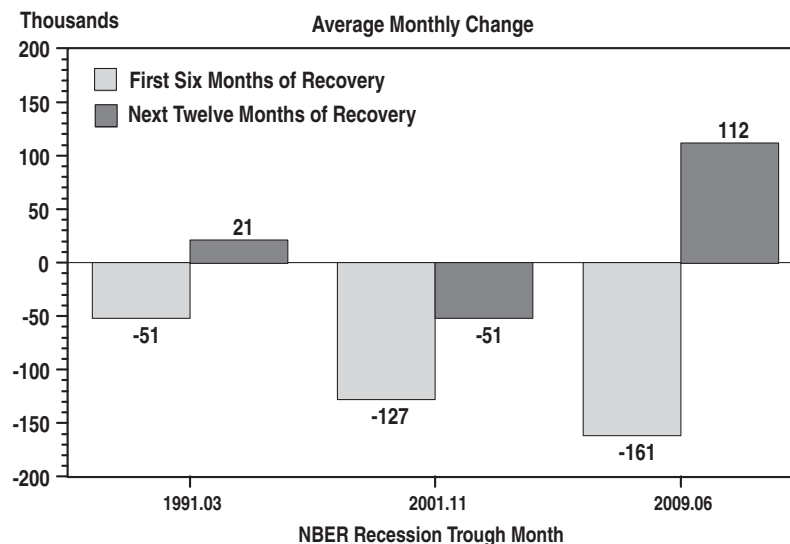
a negative effect on the economy in the second half of 2008 and early 2009. During that period, real consumer spending fell at an annual rate of 1.6 percent, but since then, real consumer spending has recovered, exceeding its peak level at the end of 2007 by the last quarter of 2010. Continued growth in consumption is essential to a healthy recovery, and, if income 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, but even after the substantial increases in business equipment spending over the past three quarters, real investment remains well below its pre-recession levels implying room for further growth (see chart above). The cost of capital is low and American corporations at the

end of 2010 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, as it did last year, businesses are in a good position to expand investment. Strengthened by recently enacted 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 decade, 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

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



resulting economic downturn sharply curtailed the flow of trade and foreign investment. In the third quarter of 2008, before the worst of the financial crisis, net exports, as measured in the National Income Accounts, were -\$764 billion, measured at an annual rate. Over the next three quarters, the deficit in net exports was more than cut in half, falling to -\$335 billion in the second quarter of 2009. Since then, as the U.S. economy has recovered, U.S. imports have grown and at a faster pace than U.S. exports. Consequently, the net export balance has declined to -\$492 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 sufficiently to reduce worldwide trade imbalances.

The Labor Market.—The unemployment rate peaked in the second half of 2009, and has declined only slightly in 2010. 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. In the last 20 years, there have been three recessions in the United States. The most recent was the deepest and longest, but the other two also produced weak labor markets, where labor market weakness continued for several months after the economy began to grow. Many have feared that the current recovery would repeat that pattern, and in the first six months following the end of the recession in June 2009, it appeared to be doing so. But 2010 has shown a different pattern. Private employment has grown for 12 straight months, albeit at a relatively modest rate. The positive job growth has exceeded the job gains following the previous two recessions.

Policy Background

Over the last 24 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. 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 policy actions have been taken to help 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, 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 would. ARRA bolstered

aggregate demand in several ways which helped 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 extended unemployment insurance and other benefits which have allowed people to maintain spending at levels higher than would otherwise have been possible.

ARRA was intended to provide a significant boost to demand in both 2009 and 2010. So far the stimulus has proceeded as intended. Job losses would have been much greater without ARRA. In the first three months of 2009, private payroll employment was falling at an average rate of 752,000 jobs per month. By the last three months, the rate of job loss had declined to 90,000 per month. The private sector added jobs every month of 2010, and by the fourth quarter the economy was adding an average of 128,000 jobs per month. It is not possible to judge the effectiveness of a macroeconomic policy without some idea of the alternative. Critics of ARRA have tended to argue 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 increased by ARRA. The Council of Economic Advisers' (CEA) latest assessment estimates that ARRA increased employment by between 2.7 million and 3.7 million jobs through the third quarter of 2010, an estimate that is in line with private forecasters.⁴

In 2010, the Administration continued to pursue policies to reduce unemployment and create jobs. 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, the President signed the Small Business Jobs Act, which provided tax relief and better access to credit to small businesses. In December, the President reached agreement with Congress to extend several expiring tax provisions and avoid a large tax increase in 2011. The agreement also included expanded tax incentives for business investment, a temporary reduction in payroll taxes, and extended long-term unemployment insurance benefits. These measures will help support an increase in economic growth over the course of 2011.

The economic recovery efforts have increased the Federal budget deficit. The increase in the deficit was the necessary response to the crisis the Administration inherited, and it is expected to be temporary. The 2012 Budget provides a path to lower medium-term deficits. Over the long term, deficits tend to have some combination of two macroeconomic effects. First, they

⁴ 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: Fifth Quarterly Report," November 2010.

can raise interest rates and decrease investment, as the Federal Government competes with private investors for limited capital in the credit markets. Second, deficits can increase the amount that the United States borrows from abroad, as foreigners step in to finance U.S. consumption. Either way, persistently large deficits reduce future standards of living. Rising interest rates and falling investment result in less productive American workers and reduced incomes. If the United States borrows more from abroad as a result of budget deficits, more of future incomes will be mortgaged to pay back foreign creditors. Persistent large deficits would 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.

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. Further cuts in short-term rates are not possible, yet with unemployment high and inflation trending down 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. The Federal Reserve's actions helped ease the credit crisis as evidenced by a decline in the interest rate spread between U.S. Treasuries and other securities (see Chart 2-2).

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, the economy slowed down somewhat in 2010. To help counter the slowdown, the Federal Reserve has

announced its plans to expand its balance sheet even further in another round of purchases of long-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. However, the Federal Reserve is prepared to reduce the assets on its balance sheet promptly when the recovery gains strength and the unemployment rate falls as expected in these projections.

Financial Stabilization Policies.—Over the course of the last twenty-four 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 collapsing 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 second component of the Financial Stability Plan was aimed at establishing a market for the troubled real-estate assets that were at the center of the crisis. The plan included provisions for the Federal Government to join private investors in buying mortgage-backed securities. Removing these assets from the banks' balance sheets is a key step to restoring the financial system to normal functioning.

The Financial Stability Plan also aimed to unfreeze secondary markets for loans to consumers and businesses. The Administration has undertaken the Making Home

**Chart 2-6. Real GDP Growth Following a Recession:
Five-Year Averages**

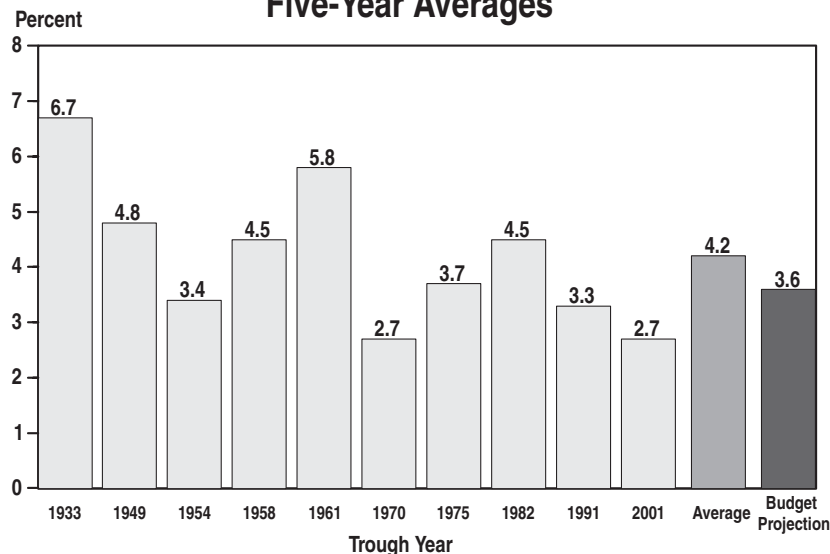


Table 2-1. ECONOMIC ASSUMPTIONS¹
(Calendar years; dollar amounts in billions)

	2009 Actual	Projections											
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Gross Domestic Product (GDP):													
Levels, dollar amounts in billions:													
Current dollars	14,119	14,651	15,240	16,032	17,006	18,043	19,052	20,037	20,986	21,910	22,866	23,860	24,896
Real, chained (2005) dollars	12,881	13,234	13,595	14,090	14,707	15,346	15,927	16,461	16,930	17,366	17,800	18,245	18,701
Chained price index (2005 = 100), annual average	109.6	110.7	112.1	113.8	115.6	117.6	119.6	121.7	123.9	126.1	128.4	130.8	133.1
Percent change, fourth quarter over fourth quarter:													
Current dollars	0.6	4.0	4.3	5.7	6.2	6.0	5.4	5.1	4.5	4.3	4.4	4.3	4.3
Real, chained (2005) dollars	0.2	2.5	3.1	4.0	4.5	4.2	3.6	3.2	2.7	2.5	2.5	2.5	2.5
Chained price index (2005 = 100)	0.5	1.5	1.2	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8
Percent change, year over year:													
Current dollars	-1.7	3.8	4.0	5.2	6.1	6.1	5.6	5.2	4.7	4.4	4.4	4.3	4.3
Real, chained (2005) dollars	-2.6	2.7	2.7	3.6	4.4	4.3	3.8	3.3	2.9	2.6	2.5	2.5	2.5
Chained price index (2005 = 100)	0.9	1.0	1.3	1.5	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8
Incomes, billions of current dollars:													
Domestic Corporate Profits	906	1,249	1,355	1,396	1,477	1,532	1,558	1,565	1,535	1,424	1,365	1,370	1,393
Employee Compensation	7,812	7,950	8,275	8,743	9,290	9,886	10,489	11,095	11,687	12,278	12,896	13,477	14,063
Wages and salaries	6,274	6,366	6,630	7,014	7,474	7,965	8,457	8,955	9,456	9,948	10,459	10,932	11,400
Other taxable income ²	3,206	3,263	3,370	3,519	3,699	3,911	4,110	4,326	4,535	4,714	4,924	5,161	5,392
Consumer Price Index (all urban):³													
Level (1982-84 = 100), annual average	214.5	218.0	220.8	224.8	229.1	233.6	238.4	243.3	248.5	253.7	259.0	264.5	270.0
Percent change, fourth quarter over fourth quarter	1.5	1.0	1.4	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1
Percent change, year over year	-0.3	1.6	1.3	1.8	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1
Unemployment rate, civilian, percent:													
Fourth quarter level	10.0	9.6	9.1	8.2	7.2	6.3	5.7	5.4	5.3	5.3	5.3	5.3	5.3
Annual average	9.3	9.6	9.3	8.6	7.5	6.6	5.9	5.5	5.3	5.3	5.3	5.3	5.3
Federal pay raises, January, percent:													
Military ⁴	3.9	3.4	1.4	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Civilian ⁵	3.9	2.0	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA
Interest rates, percent:													
91-day Treasury bills ⁶	0.2	0.1	0.2	1.0	2.6	3.7	4.0	4.1	4.1	4.1	4.1	4.1	4.1
10-year Treasury notes	3.3	3.2	3.0	3.6	4.2	4.6	5.0	5.2	5.3	5.3	5.3	5.3	5.3

NA = Not Available

¹ Based on information available as of mid-November 2010.

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

³ Seasonally adjusted CPI for all urban consumers.

⁴ Percentages apply to basic pay only; percentages to be proposed for years after 2012 have not yet been determined.

⁵ Overall average increase, including locality pay adjustments. Percentages to be proposed for years after 2012 have not yet been determined.

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

Affordable plan to help distressed homeowners avoid foreclosure and stabilize the housing market. Today, thanks in large part to this and related programs, more than seven million homeowners have refinanced their mortgages to more affordable levels, and more than one million homeowners have participated in the Administration's mortgage modification program.

Another crucial response to the financial crisis was the implementation of the Troubled Assets 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. TARP is now projected to be only a fraction of its original projected cost. In the summer of 2009 it was estimated to cost \$341 billion. Last summer, in the Mid-

Session Review of the 2011 Budget, TARP was projected to cost \$114 billion. Now, the cost of the program is estimated to be only \$48 billion.

Economic Projections

The economic projections underlying the 2012 Budget estimates are summarized in Table 2-1. The assumptions are based on information available as of mid-November 2010. This section discusses the Administration's projections and the next section compares these projections with those of the Congressional Budget Office (CBO) and the Blue Chip Consensus of outside forecasters.

Real GDP.—The Administration projects the economic recovery will continue in 2011 with real GDP growing at an annual rate of 3.1 percent (fourth quarter over fourth quarter). In 2012-2014, growth is projected to increase to around 4-¼ percent annually as the job market improves and residential investment recovers. Real GDP is projected to return to its long-run "potential" level by the end of 2017, 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 five years of the expected recovery imply an average growth rate below the historical average. Recent recoveries have been somewhat weaker, 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 may limit the pace of the recovery. Thus, the Administration is forecasting a recovery that is slightly below the historical average. Some international economic organizations have argued that a financial recession permanently scars an economy, and this view is also shared by some American forecasters. 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. So far in this recovery, the forecasts based on this view have proven to be too pessimistic.

The U.S. economy has enormous room for growth in 2011, although there are factors that could limit that growth. On the positive side, real GDP grew 3.2 percent in the fourth quarter, and 2011 should get off to a solid start. Net exports subtracted from growth in 2010, but they are expected to contribute to growth in 2011. The emerging world and many key trading partners are growing at a solid rate, though much of the advanced world is growing more slowly, and Europe has been troubled by concerns about the sustainability of fiscal policy in some countries. The Federal Reserve's \$600 billion program for purchasing Treasury notes announced in November is likely to have a favorable impact on GDP growth this year. Stock-market wealth, which slowed growth in mid-2010, moved to at least neutral in the fall. The budget agreement struck in December 2010 prevented a potentially damaging tax increase while creating new incentives for business

investment. It also included a temporary reduction in payroll taxes and an extension of long-term unemployment insurance benefits, which should help foster growth in 2011. These positive factors should counterbalance the phasing out of the Recovery Act.

Longer-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 nonfarm 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 activity 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 the slowdown in labor force growth that has begun with the retirement of the post-World War II "baby boom" generation.

Unemployment.—In December 2010, the overall unemployment rate was 9.4 percent. It has shown little movement since the middle of 2010. The broadest measure of underutilized labor published by the Bureau of Labor Statistics is the U-6 measure, which includes discouraged workers and those working part-time for economic reasons. It was 16.7 percent in December 2010, down only slightly from its peak of 17.4 percent in October 2009. The overall unemployment rate is projected to decline over the course of 2011-2014, as the growth rate accelerates, but unemployment is not projected to drop below 6 percent until 2015.

Inflation.—Over the four quarters ending in 2010:4, the price index for Gross Domestic Product rose only 1.3 percent, significantly higher than the 0.5 percent increase over the previous four quarters, but well below the 2.5 percent average inflation rate over the preceding decade. The Consumer Price Index for all urban consumers (CPI-U) has been more volatile. For the twelve months ending in December 2010, the overall CPI-U rose by 1.4 percent. Over the previous twelve months it had risen by 2.8 percent, but over the 12 months before that, it was unchanged. The exaggerated movements in the CPI have been mainly due to sharp movements in food and energy prices. The so-called "core" CPI, excluding both food and energy, was up only 0.6 percent through the twelve months ending in December compared with 1.8 percent during the previous twelve months.

Weak demand has held down prices for many goods and services. Continued high unemployment is expected to preserve a low inflation rate. As the economy recovers and the unemployment rate declines, the rate of inflation should return to 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. Investors sought the security of Treasury debt during the heightened financial uncertainty of the last few years, which has reduced yields. Treasury interest rates remained low in 2010. 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 reach 4.1 percent and the 10-year rate 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 2010. It is expected to rise over the forecast period from 54.3 percent in 2010 to 56.5 percent in 2020. 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. The share of taxable wages is also expected to rise from 43.4 percent of GDP in 2010 to 45.8 percent in 2020. Health reform should eventually 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 10.1 percent of GDP in 2006, which was near an all-time high. Profits dropped sharply in 2008-2009, but have recovered somewhat in 2010 reflecting the success of Administration efforts to spark a recovery. In the forecast, the ratio of domestic corporate profits to GDP falls to about 6 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 2012 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 when 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 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 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. This implies, for example, that for CBO's current forecast, the 2001 and 2003 tax cuts are assumed to expire at the end of 2012, reflecting current law.

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, as has occurred this year. The CBO forecast is more up to date since it was published in January 2011. The Blue Chip consensus for 2011-2012 displayed in this table was the latest available at the time the Budget went to print—and was completed in early January, about six weeks after the Administration forecast was finalized; the Blue Chip projections for 2013 extends its forecast beyond a two-year horizon only twice a year. The Federal Reserve forecast shown in Table 2-3 is from early November 2010.

Real GDP Growth.— For 2011, the Administration's real GDP projections are lower than those of the Blue Chip consensus but identical with CBO's current forecast. The Administration forecast for 2011 is at the lower end of the range of growth rates reflecting the central tendency of the Federal Reserve forecast.

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 recover much 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 greater than Blue Chip, CBO, anticipates only a partial recovery that would not return real GDP to the same level as in the Administration forecast. The Federal Reserve projections for real GDP growth bracket the Administration forecast, while exceeding the Blue Chip and CBO averages in 2012-2013.

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

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

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Nominal GDP:												
2012 Budget	14,651	15,240	16,032	17,006	18,043	19,052	20,037	20,986	21,910	22,866	23,860	24,896
CBO	14,649	15,184	15,858	16,609	17,483	18,441	19,362	20,258	21,162	22,093	23,062	24,064
Blue Chip	14,669	15,353	16,108	16,909	17,747	18,628	19,533	20,462	21,435	22,454	23,522	24,652
Real GDP (year-over-year):												
2012 Budget	2.7	2.7	3.6	4.4	4.3	3.8	3.3	2.9	2.6	2.5	2.5	2.5
CBO	2.8	2.7	3.1	3.1	3.5	3.8	3.0	2.5	2.4	2.4	2.4	2.3
Blue Chip	2.9	3.1	3.3	3.0	2.8	2.7	2.6	2.5	2.5	2.5	2.5	2.4
Real GDP (fourth-quarter-over-fourth-quarter):												
2012 Budget	2.5	3.1	4.0	4.5	4.2	3.6	3.2	2.7	2.5	2.5	2.5	2.5
CBO	2.5	3.1	2.8	3.5	NA	NA	NA	NA	NA	NA	NA	NA
Blue Chip	2.8	3.3	3.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Federal Reserve Central Tendency	2.4 - 2.5	3.0 - 3.6	3.6 - 4.5	3.5 - 4.6	NA	NA	NA	NA	NA	NA	NA	NA
GDP Price Index:¹												
2012 Budget	1.0	1.3	1.5	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8
CBO	0.9	0.9	1.3	1.6	1.7	1.7	1.9	2.1	2.0	2.0	2.0	2
Blue Chip	1.0	1.5	1.6	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Consumer Price Index (CPI-U):¹												
2012 Budget	1.6	1.3	1.8	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1
CBO	1.7	1.6	1.3	1.6	1.8	2.0	2.2	2.4	2.3	2.3	2.3	2.3
Blue Chip	1.6	1.7	1.9	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3
Unemployment Rate:²												
2012 Budget	9.6	9.3	8.6	7.5	6.6	5.9	5.5	5.3	5.3	5.3	5.3	5.3
CBO	9.6	9.4	8.4	7.6	6.8	5.9	5.3	5.3	5.2	5.2	5.2	5.2
Blue Chip	9.6	9.4	8.4	7.7	7.1	6.6	6.2		-- average 5.9 --			
Federal Reserve Central Tendency ³	9.6 - 9.7	9.2 - 9.4	8.3 - 8.7	7.3 - 7.8	NA	NA	NA	NA	NA	NA	NA	NA
Interest Rates:²												
91-Day Treasury Bills (discount basis):												
2012 Budget	0.1	0.2	1.0	2.6	3.7	4.0	4.1	4.1	4.1	4.1	4.1	4.1
CBO	0.1	0.3	1.1	2.5	3.5	4.0	4.3	4.4	4.4	4.4	4.4	4.4
Blue Chip	0.1	0.3	1.2	3.2	3.6	3.7	3.8	3.9	3.9	3.9	3.9	3.9
10-Year Treasury Notes:												
2012 Budget	3.2	3.0	3.6	4.2	4.6	5.0	5.2	5.3	5.3	5.3	5.3	5.3
CBO	3.2	3.4	3.8	4.2	4.6	5.0	5.3	5.4	5.4	5.4	5.4	5.4
Blue Chip	3.1	3.5	4.2	4.7	4.9	5.0	5.1	5.2	5.2	5.2	5.2	5.2

Sources: Administration; CBO, The Budget and Economic Outlook: January 2011; October 2010 and January 2011 Blue Chip Economic Indicators, Aspen Publishers, Inc; Federal Reserve Open Market Committee Minutes, November 2-3, 2010.

¹ Year-over-year percent change.

² Annual averages, percent.

³ Average of 4th quarter values.

bases its population projections on the Census Bureau's projections, which tend to run about 0.1 percentage point higher than the CBO projections.

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 forecasts an unemployment rate of 9.3 percent in 2011 and 8.6 percent in 2012. The Blue

Chip consensus and CBO projections are close to the Administration forecast in both years. The Federal Reserve forecast range for unemployment brackets the Administration, CBO, and Blue Chip projections in 2011-2013. In the long run, perhaps reflecting the slower average growth projections, the Blue Chip unemployment projection remains above the Administration and CBO projections. The Administration projects a return over time to the average unemployment rate that prevailed in the 1990s and 2000s.

Table 2-3. COMPARISON OF ECONOMIC ASSUMPTIONS IN THE 2011 AND 2012 BUDGETS

(Calendar years; dollar amounts in billions)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Nominal GDP:											
2011 Budget Assumptions ¹	14,605	15,343	16,262	17,241	18,243	19,219	20,183	21,137	22,083	23,055	24,055
2012 Budget Assumptions	14,651	15,240	16,032	17,006	18,043	19,052	20,037	20,986	21,910	22,866	23,860
Real GDP (2005 dollars):											
2011 Budget Assumptions ¹	13,188	13,689	14,275	14,881	15,481	16,036	16,551	17,023	17,472	17,915	18,363
2012 Budget Assumptions	13,234	13,595	14,090	14,707	15,346	15,927	16,461	16,930	17,366	17,800	18,245
Real GDP (percent change):²											
2011 Budget Assumptions ¹	2.5	3.8	4.3	4.2	4.0	3.6	3.2	2.8	2.6	2.5	2.5
2012 Budget Assumptions	2.7	2.7	3.6	4.4	4.3	3.8	3.3	2.9	2.6	2.5	2.5
GDP Price Index (percent change):²											
2011 Budget Assumptions ¹	0.9	1.2	1.6	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8
2012 Budget Assumptions	1.0	1.3	1.5	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.8
Consumer Price Index (all-urban; percent change):²											
2011 Budget Assumptions ¹	1.9	1.5	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
2012 Budget Assumptions	1.6	1.3	1.8	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1
Civilian Unemployment Rate (percent):³											
2011 Budget Assumptions ¹	10.0	9.2	8.2	7.3	6.5	5.9	5.5	5.3	5.2	5.2	5.2
2012 Budget Assumptions	9.6	9.3	8.6	7.5	6.6	5.9	5.5	5.3	5.3	5.3	5.3
91-day Treasury bill rate (percent):³											
2011 Budget Assumptions ¹	0.4	1.6	3.0	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1
2012 Budget Assumptions	0.1	0.2	1.0	2.6	3.7	4.0	4.1	4.1	4.1	4.1	4.1
10-year Treasury note rate (percent):³											
2011 Budget Assumptions ¹	3.9	4.5	5.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
2012 Budget Assumptions	3.2	3.0	3.6	4.2	4.6	5.0	5.2	5.3	5.3	5.3	5.3

¹ Adjusted for July 2010 NIPA revisions.² Year-over-year.³ Calendar year average.

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, but then to increase in 2012 and 2013. The Administration projects a somewhat slower rise in short-term rates than the Blue Chip or CBO. The Administration projections are closer to market expectations as of late 2010. The interest rate on 10-year Treasury notes is projected to rise to 5.3 percent in the Administration projections. This is close to the CBO and Blue Chip projections.

Changes in Economic Assumptions

Some of the economic assumptions underlying this Budget have changed compared with those used for the 2011 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 2011-2012 than the current Budget. The recovery began as anticipated in 2009, but the pace of growth through mid-2010 was somewhat slower than expected. The Administration continues to believe that the economy will regain most of the ground lost in 2008-2009 and that this will imply rapid growth beginning in 2011 and continuing for the next 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.

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 provides rules of thumb that describe how changes in economic variables result in changes in receipts, outlays, and the deficit. The second section presents information on gross domestic product (GDP) forecast errors in past budgets and how these forecast errors compare to those in forecasts made by the Congressional Budget Office (CBO) and the Blue Chip consensus. The third section provides specific alternatives to the current Administration forecast—both more optimistic and less optimistic—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 out-

lays 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 food stamps vary with the unemployment rate and are thereby linked to the state of the economy.

This sensitivity complicates budget planning because errors in economic assumptions lead to errors in the budget projections. 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 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 ignore a long list of secondary effects that are not captured in the estimates.

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, for two reasons, a prediction of how receipts or outlays would actually turn out if the economic changes actually came to pass. First, 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 expand unemployment benefits, stimulate the economy with additional Federal investment spending, and the like. Second, economic rules of thumb do not capture certain “technical” changes that may in fact relate to economic changes, but do not have a clear relationship to specific economic variables. For example, the rules of thumb for receipts changes reflect how Treasury’s receipts estimates would shift with certain economic changes, but they do not capture the effect of large changes in taxes on capital gains realizations that often occur when the economic outlook changes. 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 turmoil in the economy.

Economic variables that affect the budget do not usually 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

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 benefit from stochastic modeling.

productivity and the labor force, and are not necessarily associated with changes in the average rate of unemployment. 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.

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 one-time 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 can 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 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 Congress is not likely to allow inflation to erode the real value of spending permanently.

- 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.
- 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. 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.

GDP Forecast Errors

As can be seen in Table 3-1, one of the most important variables that affects the accuracy of the budget projections is the forecast of the growth rate of real GDP through-

Table 3-1. SENSITIVITY OF THE BUDGET TO ECONOMIC ASSUMPTIONS
(Fiscal years; in billions of dollars)

Budget effect	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total of Effects, 2011-2021
Real Growth and Employment												
Budgetary effects of 1 percent lower real GDP growth:												
(1) For calendar year 2011 only, with real GDP recovery in 2012-13: ¹												
Receipts	-14.9	-24.0	-10.1	-1.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-48.6
Outlays	3.7	8.7	5.9	3.0	2.9	3.1	3.3	3.4	3.5	3.7	3.8	44.9
Increase in deficit (+)	18.5	32.8	16.0	4.1	2.6	2.9	3.1	3.2	3.3	3.4	3.6	93.5
(2) For calendar year 2011 only, with no subsequent recovery: ¹												
Receipts	-14.9	-32.2	-33.6	-37.4	-40.1	-42.2	-44.2	-46.2	-48.5	-50.9	-53.6	-443.8
Outlays	3.7	10.5	14.0	19.3	24.0	28.9	33.3	37.5	42.0	46.8	51.8	311.7
Increase in deficit (+)	18.5	42.7	47.6	56.6	64.1	71.1	77.5	83.8	90.5	97.7	105.3	755.5
(3) Sustained during 2011 - 2021, with no change in unemployment:												
Receipts	-15.0	-49.5	-83.2	-131.9	-184.1	-239.4	-298.0	-360.9	-428.6	-500.8	-578.9	-2,870.3
Outlays	-0.5	-0.9	1.0	5.9	12.8	21.2	31.2	43.7	59.3	77.2	97.9	348.9
Increase in deficit (+)	14.5	48.6	84.1	137.8	197.0	260.6	329.2	404.6	487.9	578.0	676.7	3,219.1
Inflation and Interest Rates												
Budgetary effects of 1 percentage point higher rate of:												
(4) Inflation and interest rates during calendar year 2011 only:												
Receipts	20.5	42.3	37.0	36.8	39.9	42.5	44.6	46.9	49.3	51.7	54.2	465.6
Outlays	25.6	42.3	32.2	32.5	32.8	32.4	30.6	30.3	29.1	29.9	30.1	347.7
Decrease in deficit (-)	5.1	-*	-4.8	-4.3	-7.1	-10.0	-14.1	-16.7	-20.2	-21.7	-24.1	-117.9
(5) Inflation and interest rates, sustained during 2011 - 2021:												
Receipts	20.6	66.2	103.5	154.0	209.1	266.5	327.3	392.7	464.0	541.8	626.3	3,172.0
Outlays	23.4	71.4	111.9	153.6	194.0	234.7	274.8	315.9	361.3	410.4	461.8	2,613.2
Decrease in deficit (-)	2.9	5.1	8.4	-0.4	-15.1	-31.8	-52.5	-76.9	-102.7	-131.4	-164.5	-558.8
(6) Interest rates only, sustained during 2011 - 2021:												
Receipts	5.6	17.1	22.6	26.4	30.8	33.7	36.2	38.4	40.7	43.5	45.7	340.6
Outlays	16.1	48.2	70.2	90.2	108.4	124.9	140.9	156.2	170.4	186.5	202.4	1,314.4
Increase in deficit (+)	10.6	31.1	47.6	63.8	77.6	91.2	104.7	117.8	129.7	143.0	156.7	973.8
(7) Inflation only, sustained during 2011 - 2021:												
Receipts	15.0	49.1	80.7	127.2	177.8	232.1	290.2	353.3	422.1	496.8	579.0	2,823.3
Outlays	7.3	23.4	42.3	64.7	87.9	113.3	139.0	167.0	200.9	237.0	276.3	1,359.0
Decrease in deficit (-)	-7.6	-25.7	-38.4	-62.5	-90.0	-118.9	-151.2	-186.3	-221.2	-259.9	-302.7	-1,464.2
Interest Cost of Higher Federal Borrowing												
(8) Outlay effect of \$100 billion increase in borrowing in 2011	0.1	0.5	2.1	3.7	4.4	4.8	5.1	5.4	5.6	5.9	6.1	43.8

* \$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.

out the projection period. Table 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.² Over both a two-year and six-year horizon, the average annual GDP growth rate was very slightly underestimated by all three fore-

² Two-year errors are the average error in percentage points for year-over-year growth rates for the current year and budget year. Administration forecasts are from the budgets released starting in February 1982 (1983 Budget) and through February 2008 (2009 Budget), so that the last year included in the projections is 2009. The six-year forecasts are constructed similarly, but the last forecast used is from February 2004 (2005 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.

casters in the annual forecasts made since 1982. The differences between the three forecasters were minor. The mean absolute error in the growth rate was 1.1 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 long-term growth rate based on assumptions about the labor force, productivity, and other factors that affect GDP.

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

	Admin.	CBO	Blue Chip
2-Year Real GDP			
Mean Error	-0.0	-0.2	-0.3
Mean Absolute Error	1.1	1.1	1.1
Root Mean Square Error	1.5	1.4	1.4
6-Year Real GDP			
Mean Error	-0.0	-0.3	-0.3
Mean Absolute Error	0.8	0.7	0.7
Root Mean Square Error	0.9	0.9	0.9

Alternative Scenarios

The rules-of-thumb described above can be used in combination to show the approximate effect on the budget of alternative economic scenarios. Modeling explicit alternative scenarios can also be useful in gauging some of the risks to the current budget projections. For example, the severity of the recent recession along with the associated financial crisis makes the strength of the recovery over the next few years highly uncertain. Those possibilities are explored in the two alternative scenarios presented in this section.

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. In this case, the level of real GDP is substantially higher, especially in the near term, 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. The Administration is projecting an average postwar re-

covery, but one that takes longer to gain traction because of the depth of the recession and its unique nature due to the financial crisis.

The second alternative scenario assumes that real GDP growth beginning in 2010:Q4 follows the projections in the January Blue Chip forecast through the end of 2011 and that growth in 2012-2021 follows the path laid out in the October 2010 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. This alternative does not allow for a real recovery from the loss of output during the 2008-2009 downturn. Growth returns to normal, but without a catchup to make up for previous 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 to the Administration’s 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 through 2018.

Many other scenarios are possible, of course, but the point is that the most important influences on the budget

Chart 3-1. Forecast Alternatives: Real GDP

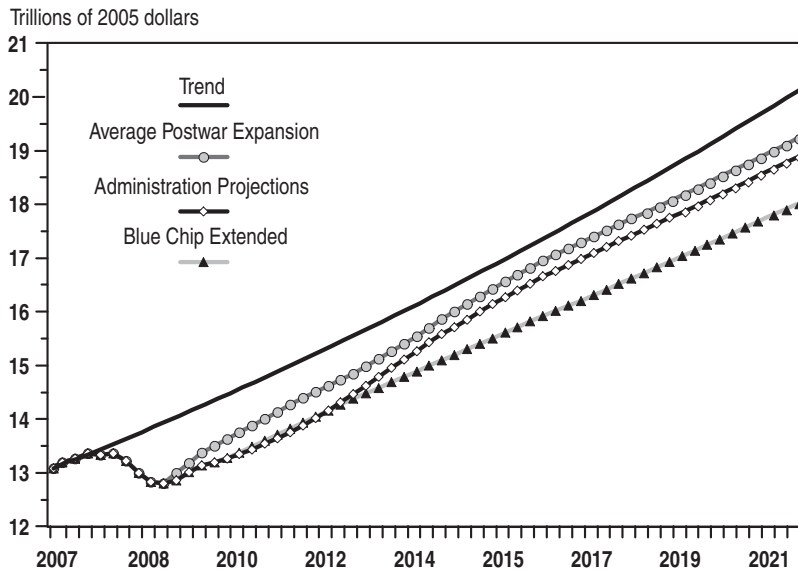


Table 3-3. BUDGET EFFECTS OF ALTERNATIVE SCENARIOS

(Fiscal years; in billions of dollars)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Alternative Budget Deficit Projections:											
Administration Economic Assumptions	1,645	1,101	768	645	607	649	627	619	681	735	774
percent of GDP	10.9%	7.0%	4.6%	3.6%	3.2%	3.3%	3.0%	2.9%	3.0%	3.1%	3.1%
Alternative Scenario 1	1,478	922	625	512	468	491	448	419	457	486	497
percent of GDP	9.4%	5.6%	3.6%	2.8%	2.4%	2.4%	2.1%	1.9%	2.0%	2.0%	2.0%
Alternative Scenario 2	1,634	1,107	827	763	776	855	854	858	920	974	1,022
percent of GDP	10.8%	7.0%	5.0%	4.4%	4.2%	4.4%	4.2%	4.0%	4.1%	4.2%	4.2%

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 2010 (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 3.3 percent of GDP in 2016, but has a 90 percent chance of being within a range of a surplus of 3.2 percent of GDP and a deficit of 9.8 percent of GDP.

Structural and Cyclical Deficits

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 for programs such as unemployment compensation 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 economy threatens to overheat and cushioning economic downturns. They also make it hard to judge the overall stance of fiscal policy from 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

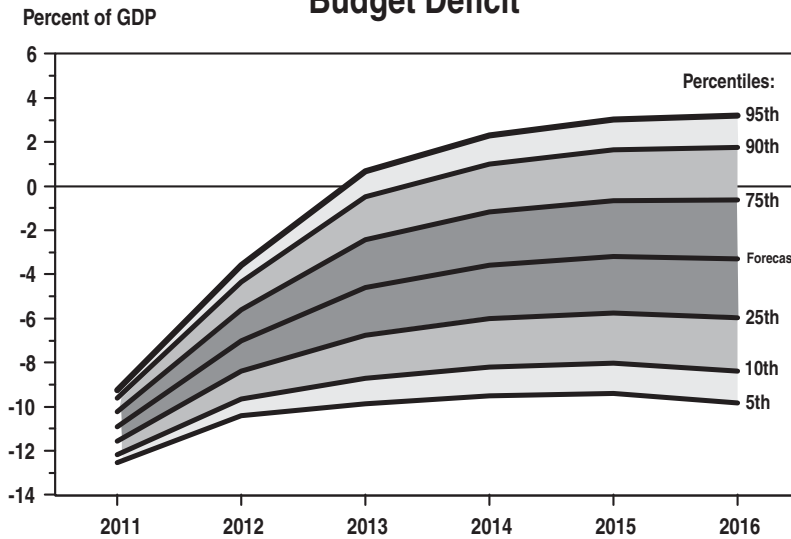
the deficit is called the structural deficit. The structural deficit is a better gauge of the underlying stance of fiscal policy than the unadjusted unified deficit because it removes most of the effects of the business cycle.

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, known as Okun's Law, 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 recent decline in the stock market pulled down capital gains-related receipts and increased the deficit. Some of this decline is cyclical in nature, but economists have not pinned down the cyclical component of the stock market with any exactitude, 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 5.3 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.

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



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 an active use of fiscal policy to lessen the severity of the recession and to hasten economic recovery. In 2011–2017, the cyclical component declines sharply as the economy recovers. The structural deficit shrinks during 2011–2013 as the temporary spending and tax measures in the Recovery Act end.

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
Unadjusted surplus (-) or deficit	160.7	458.6	1,412.7	1,293.5	1,645.1	1,101.2	767.5	644.6	606.7	648.7	626.7	618.9	681.5
Cyclical component	-94.3	-12.9	353.6	477.0	505.7	527.2	422.6	280.3	153.3	64.5	15.6	0.4	0.0
Structural surplus (-) or deficit	255.0	471.4	1,059.1	816.5	1,139.4	574.0	345.0	364.2	453.5	584.2	611.2	618.5	681.5
	(Fiscal years; percent of Gross Domestic Product)												
Unadjusted surplus (-) or deficit	1.2%	3.2%	10.0%	8.9%	10.9%	7.0%	4.6%	3.6%	3.2%	3.3%	3.0%	2.9%	3.0%
Cyclical component	-0.7%	-0.1%	2.5%	3.3%	3.4%	3.3%	2.5%	1.6%	0.8%	0.3%	0.1%	0.0%	0.0%
Structural surplus (-) or deficit	1.8%	3.3%	7.5%	5.6%	7.6%	3.6%	2.1%	2.0%	2.4%	3.0%	2.9%	2.9%	3.0%

NOTE: The NAIRU is assumed to be 5.3%.

4. FINANCIAL STABILIZATION EFFORTS AND THEIR BUDGETARY EFFECTS

Over the past three years, the U.S. Government has taken unprecedented action to mitigate the damage to the U.S. economy from the largest financial crisis in a generation. The Department of the Treasury, the Board of Governors of the Federal Reserve System (Federal Reserve), the Federal Deposit Insurance Corporation, the National Credit Union Administration, the Securities and Exchange Commission, and the Commodity Futures Trading Commission have acted independently and in concert to scale up existing programs and make them more effective, and to launch new programs that are designed to: expand access to credit; strengthen financial institutions; restore confidence in the financial market; and stabilize the housing sector. In 2010, the Administration also achieved the objective of enacting comprehensive reform of U.S. financial regulation to ensure that the Government has the tools and authority to prevent another crisis of this magnitude before it hits and to resolve significant financial failures more effectively.

This chapter provides a summary of key Government programs, 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, 2010, unless otherwise noted, 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, netting and discounting the 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 existing 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 \$474.8 billion in obligations is \$48.3 billion (see Tables 4-1 and 4-7). This estimated direct impact of TARP on the deficit has been cut by 58 percent (or over \$66 billion) from the Mid-Session Review of the 2011 Budget (2011 MSR), due to lower overall TARP obligations and higher returns on TARP investments. The Treasury has received higher-than-expected repayments and redemptions from TARP recipients. As of December 31, 2010, the Treasury had received actual repayments of \$235 billion. One hundred banks alone returned over \$208 billion in

TARP investments over 2009 and 2010. The 2011 MSR estimated a \$114.5 billion deficit cost of purchases and guarantees associated with an estimated \$494.4 billion in obligations. Section 123 of EESA requires TARP cost 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 at 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.)

Enactment of Comprehensive Financial Reform Legislation

On July 21, 2010, thirteen months 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 "Dodd-Frank Act" or the "Act"). The Act met the critical objectives of the Administration's proposal: to help prevent future financial crises in part by filling gaps in the U.S. regulatory regime; to better protect consumers; to prevent financial firms from taking risks that threaten the economy; and to provide the Government more effective tools to manage financial crises. The Dodd-Frank Act changes to the U.S. financial regulatory regime are numerous and comprehensive, including:

Ends "Too-Big-to-Fail" : The Dodd-Frank 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 non-bank financial institutions in an orderly manner to prevent widespread disruptions to U.S. financial stability. The Budget includes a probabilistically estimated cost to the Government of this enhanced orderly liquidation authority of \$19.5 billion over 2011-2021. While total costs of any liquidation are, by law, to be recovered in full, there is a net cost from this authority over the budget period due to the fact that cost recovery occurs in the years following liquidation. The Act also helps monitor and constrain risks in the financial system by creating a new Financial Services Oversight Council (FSOC) chaired by the Secretary of the Treasury that brings together the expertise of the Federal financial regulators, an insurance expert appointed by the President, and state regulators. The Act authorizes the FSOC to designate non-bank financial firms for heightened supervision if material financial distress at such a firm, or the nature, scope, size, scale, concentration, interconnectedness,

¹ P.L. 111-203.

or mix of the activities of the firm, could pose a threat to the financial stability of the United States. The FSOC is supported by a new Office of Financial Research (OFR) within the Treasury Department established to improve the quality of financial data available to policymakers and to facilitate more robust and sophisticated analysis of the financial system. 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; there will be no net taxpayer cost for these activities.

Enhances Consumer Protection: The Act creates 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. Consolidation of authorities in an agency with a mission focused on consumer protection will increase accountability for providing and consistently enforcing clear rules of the road for firms offering consumer financial services. The Act provides for a transition period during which the Treasury Department is responsible for standing up the new CFPB. The Secretary of the Treasury designated July 21, 2011 as the date upon which the consumer financial protection functions of certain existing Federal regulators will transfer to the CFPB and the stand-up period ends. The Budget reflects funding for the CFPB through authorized transfers from the Federal Reserve, estimated at \$329 million in 2012.

Permanently Increases Deposit and Share Insurance and their Protection: The Act permanently increases 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.

Increases Transparency in Financial Markets: The Act creates for the first time comprehensive oversight of swaps markets. It requires central clearing and transparent trading of standardized swaps and reporting of all derivatives transactions, as well as capital, margin, and business conduct requirements for swaps dealers and major swaps participants. The Act also expands the authority of the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC) to register and regulate hedge funds and private equity funds. These changes are critical to ensuring that investors and regulators can more accurately assess the financial strength and risks of market participants.

The Budget reflects changes made by the Act to the SEC's fee structure. Beginning in 2012, a portion of the fees the SEC currently collects will be classified as man-

datory offsetting receipts and deposited directly into the General Fund of the Treasury; the remainder of the fees will continue to be classified as discretionary offsetting collections and available to offset the cost of SEC operations once the annual limit on these costs has been set through appropriations acts. Additionally, the Act has created a Reserve Fund into which the SEC may deposit up to the first \$50 million in mandatory fee collections per year, to be kept in reserve if needed for agency operations.

The Dodd-Frank Act includes numerous other reform measures, including strengthening important payment, clearing, and settlement systems, enhancing disclosure and accountability of credit rating agencies, increasing investor rights and protections, and creating a new office in the Treasury Department to monitor the insurance industry.

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), and Seoul (November 2010), the Administration and G-20 leaders have committed to an ambitious agenda for financial regulatory reform. 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 worked actively to make sure that these commitments are fully consistent with our domestic financial reform agenda.

The Administration has worked 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 is 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 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 has purchased \$172 billion of GSE debt as of December 2010. 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 will extend over an eight-month period; however, the Federal Open Market Committee stipulated that it will 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 2010, Treasury received \$75.8 billion from the Federal Reserve, which represents a 120 percent increase over 2009 deposits. The Budget projects Treasury will receive \$79.5 billion and \$65.8 billion from the Federal Reserve in 2011 and 2012, 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. 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 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, 2010, there was \$268.8 billion of debt outstanding in the senior unsecured debt guarantee program.

The Transaction Account Guarantee (TAG), the second component of the TLGP, extended an unlimited FDIC guarantee to participating insured depository institutions for 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 Dodd-Frank 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 Dodd-Frank Act is provided to all insured institutions and there are no separate fees associated with this coverage. Due to the passage of the Dodd-Frank 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 fiscal year 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

an additional three corporate credit unions (for a total of five) 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 Temporary Corporate Credit Union Stabilization Fund, the Credit Union Homeowners Affordability Relief Program, and the System Investment Program.

On October 16, 2008, the NCUA announced the Temporary Corporate Credit Union Liquidity Guarantee Program. Under this program, the NCUA guaranteed certain unsecured debt of participating corporate credit unions issued from October 16, 2008, through June 30, 2009. In May 2009, NCUA revised and extended the program to cover certain newly-issued unsecured debt obligations issued through June 30, 2010. In September 2010, the program was revised and extended again, to apply to certain newly-issued unsecured debt issued through September 30, 2011. The program ensured parity with deposit institutions covered by a similar FDIC guarantee program, and maintained market confidence in corporate credit union unsecured debt offerings.

The NCUA has utilized the authorities of its Central Liquidity Facility (CLF) to provide liquidity to the credit union system. In 2009 and 2010, the CLF granted liquidity advances of \$20 billion, including \$10 billion originating in March 2009 to the National Credit Union Share Insurance Fund, in order to provide funding stabilization to the first two corporate credit unions placed in conservatorship. All of the advances were repaid by December 31, 2010. Late in 2008, the CLF also established the Credit Union Homeowners Affordability Relief Program (HARP) and the System Investment Program (SIP) to add liquidity to the credit union system; a total of \$8.4 billion was advanced with these two programs. The HARP program provided incentives for credit unions to assist member homeowners in danger of defaulting on their mortgages. The CLF made one-year secured credit advances to qualifying credit unions that in turn were required to invest in a special corporate credit union note used by the corporate credit union to pay down external secured borrowings. The qualifying credit union can earn an extra coupon payment on the HARP note for demonstrated mortgage relief to eligible members. Total HARP advances of \$164 million were made and the program was terminated when the last outstanding advance was repaid on December 31, 2010.

Under the SIP, the CLF made one-year secured credit advances to credit unions, that in turn were required to invest those funds in guaranteed corporate credit union notes, to provide a stable and affordable source of liquidity for corporate credit unions. Total SIP advances of \$8.2 billion were made and the program was terminated when the last outstanding advance was fully repaid on March 2010.

NCUA's systemic support via guarantees of unsecured debt and share deposits and liquidity advances has stabilized the corporate credit union system, which is vital for the day-to-day operations and function of the approximately 7,400 credit unions nationwide. In addition to sta-

bilizing liquidity and confidence in the system, NCUA adopted a stronger regulatory and supervisory framework to govern credit unions, address identified weaknesses, and ensure such distress is not repeated in the future. NCUA also comprehensively revised Part 704 of its Rules and Regulations to enhance capital standards, investment authorities and limitations, and corporate governance.

The Helping Families Save Their Home Act of 2009 (P.L. 111-22) created the Temporary Corporate Credit Union Stabilization Fund (TCCUSF) to cover expenses associated with stabilizing the corporate credit union system. The TCCUSF accrues the losses of the corporate credit union system and issues assessments on all corporate credit unions to recover the losses. With the Share Insurance Fund, the TCCUSF has \$6 billion in borrowing authority. In September 2010, the TCCUSF was extended until June 30, 2021, coinciding with NCUA's adoption of the Corporate Resolution Plan aimed at removing long-term threats to the corporate system. Through 2010, TCCUSF has borrowed \$1.8 billion, including \$810 million for liquidity loans into the corporate credit union system that have been fully repaid. Additionally, TCCUSF assessed credit unions \$1.3 billion since inception and has used these funds to repay all outstanding borrowings required to fund resolutions.

Securities and Exchange Commission (SEC) and Commodity Futures Trading Commission (CFTC) Programs

To advance the Administration's efforts to prevent future financial crises, the SEC and CFTC worked throughout 2010 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 non-compliant actors and deter noncompliance system-wide. Following a review of its enforcement protocol in 2009, the SEC has restructured its Division of Enforcement and has reorganized its inspection unit. These changes will allow the SEC to more aggressively root out securities law violations, and to more effectively prosecute those who commit them. In 2010, the SEC returned approximately \$2.2 billion to harmed investors as a result of its enforcement efforts in the field of mortgage-backed securities and related financial products, and larger such returns are expected over the coming year.

The SEC began implementation of a long-term information technology improvement plan in 2010. The first effort under that plan was design and delivery of a system capable of tracking, compiling, and comparing tips, complaints, and referrals received by the agency. Offices throughout the SEC now have access to this centralized repository, which will increase the agency's ability to match, route, and track tips, complaints, and referrals about a single market participant that might not have been flagged or traced by earlier systems.

The CFTC experienced a significant expansion of its regulatory authorities in 2010 with enactment of the Dodd-Frank Act. In addition to its longstanding responsibility to ensure fair, open, and efficient future markets,

the CFTC is now authorized to 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 established 30 teams in 2010 to formulate and draft the numerous rules required to implement the Dodd-Frank Act. The CFTC has actively consulted with other Federal financial regulators, as well as international counterparts, to ensure harmonization of proposed rules. Additionally, the CFTC has demonstrated a commitment to public transparency in its adoption of Dodd-Frank 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.

While devoting significant resources to timely and thorough implementation of new Dodd-Frank Act authorities, the CFTC has continued its market surveillance and enforcement activities. In 2010, the CFTC filed 57 enforcement actions, 7 more than in 2009. Additionally, the number of enforcement investigations opened by the CFTC increased dramatically in 2010 to 419, up from 251 in 2009. One-hundred percent of enforcement actions closed in 2010 resulted in monetary penalties, up from 98 percent in 2009. This translates to collections of \$174 thousand in restitution and disgorgement penalties (i.e., collections of ill-gotten gains), and \$75 million in civil money penalties in 2010, up from \$154 thousand and \$18 million respectively in 2009.

The President's Budget provides significant increases for the SEC and CFTC in 2012 in support of base regulatory work as well as Dodd-Frank Act implementation. For SEC, a program level of \$1,427 million is proposed, an increase of \$316 million or 28 percent over 2010. For CFTC, \$308 million is provided, an increase of \$139 million or 82 percent over 2010. The rapid expansion in CFTC's authorities and oversight has required unprecedented growth in the agency's resources. In order to ensure that the agency can effectively absorb the increased resources necessary to fund operations at post-Dodd-Frank Act levels, the Budget proposes phasing in total resource growth over 2012 and 2013, with funding in 2012 available for a period of two years. Additionally, the Budget proposes funding CFTC's non-enforcement activities through fees assessed on the regulated community, consistent with every other Federal financial regulator. In 2012, the Budget estimates CFTC user fee collections at \$117 million.

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 Authority (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 2010-2012, 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, new and existing HFA housing bond issuances, and Treasury will continue to collect principal and interest payments on the securities that it owns.

The Budget assumes that Treasury will make cumulative investments in Fannie Mae and Freddie Mac of \$224 billion from 2009 through 2012, and receive dividends of \$55 billion over the same period. These estimates are consistent with the “baseline” case in the range of potential draws announced by FHFA in October 2010. 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 \$97 billion from 2013-2021, for total net PSPA outlays of \$73 billion from 2009 through 2021.

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 is provided the Credit and Insurance chapter in 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 can 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 offers States (and in certain circumstances, municipalities) the opportunity to apply for Federal funds for programs that partner with private lenders to extend credit to small businesses to create jobs. All 50 States, the District of Columbia, and the five U.S. Territories are eligible to participate in the SSBCI. The Jobs Act provides \$1.5 billion for SSBCI, including administrative expenses, which is estimated to create at least \$15 billion in new lending to small businesses based on statutory requirements for State participants to demonstrate leveraging capacity. These funds must be obligated within two years and are allocated to States based on a statutory formula that takes into account each jurisdiction’s unemployment rate and decline in employment relative to other jurisdictions.

Because institutions leverage their capital, the SBLF could help increase lending to small businesses in an amount significantly greater than the total capital provided to participating banks. In addition to expanding the lending capacity of banks, the SBLF creates a strong incentive for lenders to increase small business loans by tying the cost of SBLF funding to the volume growth of each lender’s portfolio of small business loans.

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 the strength of 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 Dodd-Frank 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.

As a result of improved overall financial conditions and careful stewardship of the program, the 2012 Budget reflects an impact of TARP on the deficit that is approximately \$66 billion less than previously estimated in the Mid-Session Review of the 2011 Budget. Furthermore, the Budget estimates total purchases under TARP authority to be approximately \$475 billion, which is consistent with the statutory requirement prescribed in the Dodd-Frank Act. A more detailed analysis of specific TARP programs is provided below.

Description of Assets Purchased Through the Troubled Asset Relief Program (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 the program will not make new investments. The Budget reflects total TARP purchases of \$204.9 billion in preferred stock under the program. As of December 31, 2010, Treasury received approximately \$168 billion in redemptions of preferred stock (i.e., principal repayments) and over \$25 billion in revenues from dividends, interest, warrants, and fees.

In December 2010, the Treasury Department sold its remaining shares of Citigroup common stock acquired as part of Citigroup’s participation in the CPP. In aggregate, Treasury received approximately \$32 billion from the sale of 7.7 billion shares of Citigroup common stock, which represents a positive return of nearly \$7 billion on the Citigroup CPP investment. As a result of the Citigroup sale, and higher-than-expected repayments, the CPP investment is estimated to yield a net positive return of \$5.9 billion to taxpayers, before administrative costs.

American International Group (AIG) Investments. The Federal Reserve Bank of New York (FRBNY) and the Treasury provided financial support to the American International Group 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 credit facility to AIG in September 2008 and received preferred shares that entitled it to 79.9% 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, the Treasury had purchased \$40 billion in preferred shares from AIG. In April 2009, Treasury also extended a \$29.8 billion capital facility, of which AIG has drawn \$27.8 billion as of January 2011, in exchange for additional preferred stock.

After consulting with the FRBNY, Treasury, and the AIG Credit Facility Trust, AIG executed a recapitalization deal in mid-January 2011 that will significantly accelerate the Government’s exit from AIG. As a result of the recapitalization, the Treasury has a 92 percent ownership stake in AIG, approximately 61 percent of which will be held within TARP. A summary of the deal terms is provided below:

- AIG retired the remaining \$20 billion credit facility, which included accrued interest and fees, held by the FRBNY with \$27.2 billion in cash proceeds raised from the initial public offering of the AIA Group Limited (AIA) and the sale of American Life Insurance Company (ALICO) to MetLife.
- AIG drew \$20.3 billion from the remaining \$22.3 billion TARP capital facility to buy-out the FRBNY’s preferred interests in special purposes vehicles (SPV) holding 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 are currently valued well over \$22.3 billion, as well as Series F preferred stock. The recapitalization agreement allows AIG to draw \$2.0 billion from the TARP capital facility for general corporate purposes. Although AIG has not utilized this borrowing authority, the Budget’s cost estimates assume that AIG will draw the available \$2.0 billion in 2011.
- Treasury exchanged its Series E and F preferred in-

terest holdings for 1.09 billion shares in AIG common stock.

- As part of the aid package extended to AIG, 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 for the benefit of the Treasury. As part of the recapitalization plan, the Series C preferred interest 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 is not a TARP purchase, and thus is not included in the TARP cost estimates).

The Budget reflects a total AIG cost estimate of \$11.7 billion, which is approximately \$38.2 billion lower than the 2011 MSR projection. The shares Treasury received from the independent Trust, which is separate from TARP, were valued at \$20 billion at the end of November 2010. Therefore, when aggregating the AIG TARP investments with the transfer from the Trust, Treasury is projected to yield a positive return of nearly \$8.5 billion on the total \$69.8 billion in aid extended to AIG by the Treasury, based on the November 30, 2010 AIG share price of \$41.29².

Targeted Investment Program (TIP). The goal of 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, including dividend payments of approximately \$3.0 billion. In March 2010, Treasury sold Bank of America warrants for \$1.2 billion. As of December 31, 2010, the Treasury still holds Citigroup warrants acquired through the TIP. The Budget reflects a positive return of \$3.6 billion on TIP investments.

Asset Guarantee Program (AGP). Treasury created the AGP to provide Government assurances for assets held by financial institutions that are 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

² In order to calculate the value of Treasury's AIG common stock, the November 30, 2010 share price of \$41.29 was adjusted downward to \$35.84 to reflect the value of 75 million warrants that AIG issued to existing shareholders as part of the recapitalization deal that closed in January 2011.

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 Treasury 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 from and after the date of the term sheet.

The Treasury, the Federal Reserve and the FDIC entered into a final agreement for a loss-sharing arrangement 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 have kept \$5.2 billion of the \$7 billion in trust preferred securities.³ Treasury retained \$2.2 billion of the trust preferred securities, as well as warrants for common shares that were issued by Citigroup as consideration for the guarantee. As of December 31, 2010, Treasury still holds these Citigroup warrants. Treasury is also 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 Loan Guarantee Program.

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, finance companies, and suppliers. In exchange for the assistance provided to automotive manufacturers, Treasury received:

- 60.8 percent of the common equity and \$2.1 billion in preferred stock in "New GM" when the sale of valuable assets from the old GM to the new GM took place on July 10, 2009.⁴ 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 GM's initial public offering (IPO) in November 2010, Treasury sold nearly 359 million shares of GM common stock at \$33.00 per share and, subsequently, sold an additional 53.7 million shares in December 2010.⁵ In total, Treasury raised \$13.5 billion in net proceeds from the GM IPO and reduced its owner-

³ 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.

⁴ Pursuant to the sale of its major assets, intellectual property, and trademarks on July 10, 2009, General Motors was renamed Motors Liquidation Company (referred to as "Old GM" in the text). The purchasing company subsequently changed its name to General Motors Company LLC (referred to as "New GM" in the text).

⁵ Pursuant to the underwriters' exercise of an option as part of the GM IPO, Treasury sold 53.7 million additional shares in GM in December 2010.

ship stake by nearly half to approximately 33 percent. GM also repurchased \$2.1 billion in preferred stock from Treasury in December 2010. As of December 31, 2010, Treasury has recouped \$23.1 billion of the \$49.5 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 Treasury's original \$4 billion loan to Chrysler Holding (old Chrysler). Therefore, Treasury held a \$3.5 billion loan with old Chrysler in addition to investments in new Chrysler. In April 2010, Treasury 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 loan to old Chrysler.
- The Treasury has also purchased equity investments totaling \$17.2 billion in Ally Financial (formerly GMAC). On December 30, 2010, Treasury converted \$5.5 billion of its \$11.4 mandatorily convertible preferred stock in Ally Financial into common stock, which will facilitate Treasury's ability to exit the company. As of December 31, 2010, Treasury holds \$5.9 billion of mandatory convertible preferred shares and \$2.7 billion of trust preferred securities in Ally Financial, as well as 74 percent of the common shares outstanding.

Since the publication of the 2011 President's Budget, 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.

The net cost of TARP auto company assistance through the AIFP is estimated to be \$20.3 billion.

TARP Housing Programs. To mitigate foreclosures and preserve homeownership, the Administration in February 2009 established a comprehensive housing program utilizing up to \$50 billion in funding through the TARP. The Government-Sponsored Entities (GSEs) Fannie Mae and Freddie Mac participate 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.⁶ These housing programs

focus 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. 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 Program⁷.

The MHA initiative includes among its components the Home Affordable Modification Program (HAMP), FHA-HAMP, the Second Lien Program (2MP), and the second lien extinguishment portion of the FHA-Refinance Program.⁸ 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, 2010, 143 non-GSE mortgage servicers had signed up to participate in the HAMP, over 1.7 million trial modification offers had been extended to borrowers, and over 1.4 million trial modifications were initiated. Over one-half million permanent modifications were active at the end of December 2010. 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.

Treasury offers other forms of incentives to encourage modifications, or prevent foreclosure under the HAMP, as part of its MHA program. For example, Treasury provides payments 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, in order to provide a means for borrowers to avoid foreclosure.

As part of its ongoing effort to continuously refine targeting of mortgage assistance, the Administration announced several programs in addition to the original first lien HAMP program 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:

Unemployment Program (part of HAMP): Unemployed borrowers that meet eligibility criteria will have an opportunity to receive temporary mortgage payment assistance for a minimum of three months, while they look for a new job.

⁷This program has also been referred to as the FHA Short Refinance Program or Option in other reporting.

⁸For more information on MHA programs please visit: www.makinghomeaffordable.gov.

⁶For additional information on the program, visit: <http://www.makinghomeaffordable.gov/>.

Principal Reduction Alternative (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 makes the modification 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.

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

FHA Refinance Program: This program, which was initiated in September 2010, allows eligible borrowers who are current on their mortgage but owe more than their home is worth, to re-finance into a FHA-guaranteed loan if the lender writes off at least 10 percent of the existing loan. Nearly \$3.0 billion in TARP funds will be available to provide incentive payments to extinguish second lien mortgages to facilitate refinancing, and an additional \$8.1 billion is committed to cover a share of any losses on the loans and administrative expenses.

The Administration originally allocated \$50 billion to the TARP Housing programs; however, following the enactment of the Dodd-Frank Act, Treasury reduced its commitments to the TARP Housing programs to \$45.6 billion. For additional discussion of TARP Housing programs, see the Credit and Insurance chapter in this volume.

Consumer and Business Lending Initiative (CBLI). The CBLI is designed to facilitate lending that supports consumers and small businesses, through the Term Asset-Backed Securities Loan Facility (TALF), the Community Development Capital Initiative, and the Small Business Administration's guaranteed loan programs.

TALF: The TALF is a joint initiative with the Federal Reserve that provides financing (TALF loans) to private investors to help unfreeze secondary markets for various types of credit. The Treasury provides protection to the Federal Reserve through a loan to the TALF special purpose vehicle (SPV), which was originally available to purchase up to \$20 billion in assets acquired through TALF loans in the event of default. 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 acquire 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. The Budget reflects this change, as shown in Table 4–7.

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 new CDCI program, under which institutions received capital investments of up to 5 percent of risk-weighted assets and pay dividends to Treasury as low as 2 percent per annum. The dividend rate increases to 9 percent after eight years. CDFI credit unions were able to apply 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 to banks and thrifts. The Budget reflects \$0.6 billion in TARP capital committed to this program.

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 as of December 31, 2010, purchased 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 \$0.4 billion, as demand for the program waned due to significantly improved secondary market conditions for these securities since the original announcement of the program. The Budget reflects this change, as shown in Table 4–7.

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 \$22.4 billion in PPIP commitments.

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 par-

ticipated 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.

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 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 program, involve financial instruments without any provision for income or other returns, and are recorded on a cash basis.⁹

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, analytical cash flow models generate expected 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, and other factors as appropriate. Models are used to generate cash flows for original subsidy rate estimates; to calculate changes in cost due to changes in contract terms or other Government actions (modification cost estimates); and to update costs for revised 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

⁹ 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 FHA Hardest Hit Fund involve the purchase of financial instruments which have no provision for repayment or other return on investment, and do not constitute 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.

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 subsidy cost estimates are derived using analytical models that estimate the cash flows to and from the Government over the life of the loan. These cash flows include the scheduled principal, interest, and other payments to the Government, including estimated income from warrants or additional notes. These models also 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 by using applicable historical data and econometric projections when 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, 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.

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. The Treasury projects cash flows to and from the Government based on estimated SPV performance, the estimated mix of assets funded through the TALF, the terms of the contracts, and other factors.

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, guarantees provided through TARP must have at most a zero-cost basis (i.e., fees and other income must completely offset estimated claim payments) at the time of commitment. In TARP guarantee transactions to date, guarantee 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 be-

low. Claim payments were modeled consistent with the terms of the guarantee contract. For the Citigroup guarantee, Citigroup would have covered the first loss, and the Treasury would have borne the second loss. Projected claim payments on the guaranteed portfolio of assets 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 Citigroup guarantee was terminated with no claim payments made by the Treasury. The Budget reflects actual collections, and estimated savings from preferred stock proceeds.

Equity Purchases. Preferred stock cash flow projections for programs such as the CPP reflect the risk of losses associated with adverse events, likely failure of an institution, or increases in market interest rates. The model estimates how 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 certain date, such as November 30, 2010, for the 2012 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 Refinancing Letter of Credit. 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 certain portion of first losses on 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 the Federal Credit Reform Act (FCRA), with a risk adjustment to the discount rate as prescribed by EESA. The

model 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. Payments from the LOC provider to lenders are reflected as a means of financing.

Other TARP Housing. Foreclosure mitigation incentive payments occur when the Government makes incentive payments 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 becoming eligible and entering into the program, loan characteristics, the overall participation rate in the program, the re-default rate, and home price appreciation. 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 described under Sections 202 and 203 of EESA, including estimates of the cost to taxpayers and the current value and budgetary effects of TARP transactions as reflected in the Budget.¹⁰ The analysis includes explanations of the effects from subsidy cost reestimates and prior-year activity. It also includes what the budgetary effects would have been had all transactions been reflected on a cash basis. The infor-

¹⁰ The analysis does not assume the effects of a recoupment proposal under Section 134 of the EESA.

Table 4-1. CHANGE IN PROGRAMMATIC COSTS OF TROUBLED ASSET RELIEF ACTIONS (EXCLUDING DEBT SERVICE)

(In billions of dollars)

TARP Actions	2011 MSR ¹		2012 Budget		Change from 2011 MSR to 2012 Budget	
	TARP Obligations	Estimated Cost (+) / Savings (-)	TARP Obligations	Estimated Cost (+) / Savings (-)	TARP Obligations	Estimated Cost (+) / Savings (-)
Equity purchases	339.3	55.9	339.1	5.9	-0.2	-50.0
Structured and direct loans and asset-backed security purchases	101.4	22.7	85.1	16.5	-16.3	-6.1
Guarantees of troubled assets ²	5.0	-3.0	5.0	-3.7	.....	-0.7
TARP housing programs	48.7	48.7	45.6	45.6	-3.1	-3.1
Total	494.4	124.4	474.8	64.4	-19.6	-60.0
Memorandum:						
Deficit impact before administrative costs and interest effects ³		114.5		48.3		-66.2

¹ Total reflects estimated TARP obligations and costs, before enactment of the Dodd-Frank Act (P.L. 111-517) which limited TARP program levels to \$475 billion.

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

³ The 2012 Budget total deficit impact of the TARP program includes net downward interest on reestimates of \$16.2 billion.

mation below reflects the estimates of actual and anticipated use of TARP authority as of November 30, 2010, unless noted otherwise.

Table 4–1 summarizes TARP activity, and the estimated lifetime budgetary costs, comparing these amounts to estimates published in the 2011 MSR. The direct impact of TARP program costs on the deficit is now projected to be \$48.3 billion, down from \$114.5 billion as projected in the 2011 MSR. The subsidy cost represents the lifetime net present value cost of TARP obligations from the date TARP obligations originate. With the risk-adjustment to the discount rate required under EESA, the subsidy cost for TARP is now estimated to be \$64.4 billion. The current subsidy cost of TARP is higher than the expected eventual subsidy cost because of the risk adjustment to the discount rate, which adds a premium to TARP costs. Because actual cash flows with the public already include the effects of market risks, if actual cash flows match projections, the premium added to TARP costs is returned in downward reestimates. While TARP’s cost to taxpayers will likely be lower than current estimates, the final cost will not be fully known until all TARP investments are extinguished. Also, the subsidy cost is higher than the deficit effect of TARP because it excludes interest received on subsidy cost reestimates. Gross TARP obligations counting against the program purchase authority total \$474.8 billion.

Current Value of Assets. Through its operations, TARP acquires financial instruments which in the aggregate are expected to provide future returns. The subsidy cost of TARP reflects the difference between what TARP pays for these instruments, and the value of assets acquired. Overall, TARP is currently expected to result in a cost because payments made by the TARP to purchase assets and cover liabilities are expected to exceed the value of assets acquired. At any given point in time, the current value of TARP assets reflects the estimated value of TARP investments that have not been repaid, sold, or written off, net of liabilities.

The value of future cash flows related to TARP transactions can 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 expected value of

TARP transactions, because they equal the present value of future anticipated cash flows to and from the public related to outstanding loans or guarantees. So, the net debt or cash balances reflect the expected value of the asset or future liabilities. A direct loan financing account, for example, receives the subsidy cost from the program account (reflecting the net present value cost of the loan), and borrows the difference between the face value of the loan and the subsidy cost from the Treasury to disburse a loan to a borrower. Future collections from the public – such as proceeds from stock sales, or payments of principal and interest – are financial assets. As inflows from the public are received, the value is realized. These amounts are used to repay borrowing, and reduce the debt balance in the financing account. 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.¹¹

Table 4–2 shows the actual balances of TARP financing accounts as of the end of 2010, and projected balances for each subsequent year through 2021.¹² Actual net balances in financing accounts at the end of 2009 totaled \$129.9 billion. In 2010, total financing account balances decreased to \$122.0 billion, as repayments primarily from large banks exceeded disbursements of TARP assistance. Estimates in 2011 and beyond reflect reestimated activity for TARP outstanding as of September 30, 2010, and all other anticipated transactions. The value of TARP assets is expected to increase by the end of 2011 to \$134.6 billion, indicating that—as of the end of 2011—the Government is expected to hold TARP-related assets with an expected present value of \$134.6 billion in future cash flows, based on risk-adjusted discount rates. The expected increase over 2010 is primarily due to lower estimated costs for outstanding TARP investments, reflected in the downward reestimate to be executed

¹¹ 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.

¹² Reestimates for TARP are calculated using actual data through September 30, 2010, and updated projections of future activity. Thus, the full impacts of TARP reestimates are reflected in the 2011 financing account balances.

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
Financing Account Balances:													
Troubled Asset Relief Program Equity Purchase Financing Account	105.4	76.9	92.4	73.3	64.2	55.3	44.2	38.1	33.3	29.0	21.8	13.2	13.5
Troubled Asset Relief Program Direct Loan Financing Account	23.9	42.7	43.9	44.1	43.7	41.9	38.5	31.2	24.7	20.8	15.6	9.0	5.5
Troubled Assets Insurance Financing Fund Guaranteed Loan Financing Account	0.6	2.4	0.8	0.8	*	*	*	*	*	*	*	*	*
Troubled Assets Relief Program FHA Refinance Letter of Credit Financing Account			-2.6	-6.6	-7.3	-6.2	-4.8	-3.4	-2.2	-1.3	-0.6	-*	.....
Total Financing Account Balances	129.9	122.0	134.6	111.6	100.6	91.0	77.9	66.0	55.8	48.6	36.9	22.2	19.1

* \$50 million or less.

¹ Current value as reflected in the 2012 Budget. Amounts exclude the Making Home Affordable Program and the Hardest Hit Fund activities, which are reflected on a cash basis.

in 2011. It reflects the fact that actual performance exceeded expectations, market conditions improved, and the market risk adjustment to the discount rate was removed for actual transactions through the end of 2010. The 2011 value of TARP assets is also expected to increase due to draws on the AIG facility. The overall balance of the financing accounts is estimated to fall in 2012, and continue to decrease over time as the assets and loans acquired under the TARP program are repaid or sold, and liabilities funded.

TARP equity purchases are expected to reach a total value of \$92.4 billion in 2011, declining thereafter as participants repurchase stock and assets are sold. The value of direct loans is expected to increase to \$44.1 billion in 2012 as disbursements increase, predominantly due to the PPIP and TALF programs, which are expected to generate net positive returns overall. The value of TARP direct loans is expected to decline to \$5.5 billion by 2021 as loans are repaid and warrants and other assets are sold. The \$0.8 billion value under the Asset Guarantee Program (AGP) in 2011 reflects the 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 Letter of Credit 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 over the 10 year period as claims are paid.

Where Table 4–2 displays the value of TARP investments, guarantees, and loss share agreements, Table 4–3 shows the estimated face value of outstanding TARP investments at the end of each year through 2012. For equity investments, the par value of Treasury's remaining investment is reflected. The outstanding amount of equity investments increases slightly in 2011, as the expected AIG disbursements are greater than repurchases of other equity investments. Direct loans increase with planned disbursements under the AIFP and other programs, and fall in 2012 as loans are repaid. The face value of guarantees section in Table 4–3 reflects the full face value of the loan supported by TARP for programs that are reflected as loan guarantees for budget purposes. TARP's liability under the Asset Guarantee Program and the FHA Refinance mortgages through the

letter of credit facility is only a fraction of the face value of the underlying loans (see Table 4–6). There were no outstanding guarantees in 2010, with the termination of the Citibank guarantee in 2009. The face value of loans reported in this section increases by \$59.7 billion in 2011 and reaches \$137.8 billion in 2012, reflecting the full face value of FHA refinance loans supported by the TARP letter of credit. The overall outstanding face value of TARP investments, loan guarantees, and mortgages supported by the FHA Refinance letter of credit is projected to reach \$258.8 billion in 2012.

Estimate of the Deficit, Debt Held by the Public, and Gross Federal Debt, Based on the FCRA/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 debt service costs on Treasury borrowing to finance the program. The TARP is expected to reduce the 2011 deficit by \$30.6 billion, capturing direct program costs, net downward reestimates of \$41.6 billion (including interest on reestimates), administrative costs, Special Inspector General for TARP activities, and interest effects.

The estimates of debt due to TARP include borrowing to finance both the deficit impact of TARP activity, and the requirements of non-budgetary financing accounts. These estimates are shown in Table 4–4. Estimated debt due to TARP as of the end of 2011 is \$145.6 billion, and declines in later years as TARP loans are repaid and TARP equity purchases are sold or redeemed.

Debt held by the public net of financial assets reflects the cumulative amount of money the Federal Government has borrowed from the public and not repaid, minus the current value of financial assets such as loan assets, or equity held by the Government. While debt held by the public is a key measure for examining the impact of TARP, it provides incomplete information on the program's effect on the Government's financial condition. The U.S. Government holds financial assets as a result of TARP assistance, which must be offset against debt held by the

Table 4–3. TROUBLED ASSET RELIEF PROGRAM FACE VALUE OF TARP OUTSTANDING¹

(In billions of dollars)

	Actual		Estimate	
	2009	2010	2011	2012
Troubled Asset Relief Program Equity Purchases	229.6	119.0	119.4	103.6
Troubled Asset Relief Program Direct Loans	60.5	15.7	22.7	17.4
Troubled Assets Insurance Financing Fund Guaranteed Assets	251.4	.....	.....	.....
FHA Refinance Letter of Credit .....	.....	.....	59.7	137.8
Total Face Value of TARP Outstanding	541.5	134.7	201.8	258.8

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 as of September 30, 2010. Financial instrument purchases under the Making Home Affordable Program and Hardest Hit Fund are reflected in the budget on a cash basis, and are not included here.

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
Deficit Effect:													
Programmatic and administrative expenses:													
Programmatic expenses:													
Equity purchases	115.3	8.4	3.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Direct loans and purchases of asset-backed securities	36.9	-0.9	0.2	.....	-*	-*	.....	.....	.....	.....	.....	.....	.....
Guarantees of troubled asset purchases	-1.0	-1.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TARP Housing Programs	*	0.5	9.8	13.2	9.4	5.1	4.1	2.1	1.1	0.2	*	*	.....
Reestimates of credit subsidy costs .....	.....	-116.5	-41.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Subtotal, programmatic expenses	151.2	-109.9	-28.2	13.2	9.4	5.1	4.1	2.1	1.1	0.2	*	*	.....
Administrative expenses	0.1	0.2	0.5	0.3	0.3	0.2	0.2	0.2	0.1	0.1	*	*	*
Special Inspector General for TARP	*	*	0.1	*	*	*	*	*	*	*	0.1	0.1	0.1
Subtotal, programmatic and administrative expenses	151.3	-109.6	-27.7	13.6	9.7	5.4	4.4	2.3	1.2	0.3	0.1	0.1	0.1
Interest effects:													
Interest transactions with credit financing accounts ²	-2.8	-4.7	-15.4	-12.4	-11.9	-11.7	-11.1	-10.3	-9.2	-7.9	-6.3	-4.2	-2.6
Debt service ³	2.8	4.7	12.5	10.2	10.3	10.7	10.6	10.1	9.4	8.5	7.2	5.5	4.5
Subtotal, interest effects	*	*	-2.9	-2.2	-1.6	-1.0	-0.5	-0.2	0.2	0.5	1.0	1.3	1.9
Total deficit impact	151.3	-109.6	-30.6	11.4	8.1	4.4	3.8	2.1	1.4	0.9	1.1	1.4	2.0
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	15.5	-19.1	-9.1	-8.9	-11.1	-6.1	-4.8	-4.3	-7.2	-8.6	0.3
Troubled Asset Relief Program Direct Loan Financing Account	23.9	18.8	1.2	0.1	-0.4	-1.8	-3.4	-7.2	-6.6	-3.9	-5.2	-6.6	-3.5
Troubled Assets Insurance Financing Fund Guaranteed Loan Financing Account	0.6	1.8	-1.5	*	-0.8	.....	.....	.....	.....	.....	-*	.....	.....
Troubled Assets Relief Program FHA Refinance Letter of Credit Financing Account .....	.....	.....	-2.6	-3.9	-0.7	1.1	1.4	1.4	1.2	0.9	0.7	0.6	.....
Total, other transactions affecting borrowing from the public ...	129.9	-7.9	12.6	-22.9	-11.0	-9.6	-13.1	-11.9	-10.2	-7.2	-11.7	-14.7	-3.2
Change in debt held by the public	281.2	-117.5	-18.0	-11.5	-2.9	-5.2	-9.2	-9.8	-8.8	-6.4	-10.6	-13.3	-1.2
Debt held by the public	281.2	163.6	145.6	134.1	131.2	126.0	116.8	107.0	98.2	91.8	81.2	67.9	66.7
As a percent of GDP	2.0%	1.1%	1.0%	0.8%	0.8%	0.7%	0.6%	0.5%	0.5%	0.4%	0.4%	0.3%	0.3%
Debt held by the public net of financial assets:													
Debt held by the public	281.2	163.6	145.6	134.1	131.2	126.0	116.8	107.0	98.2	91.8	81.2	67.9	66.7
Less financial assets net of liabilities — credit financing account balances:													
Troubled Assets Relief Program Equity Purchase Financing Account	105.4	76.9	92.4	73.3	64.2	55.3	44.2	38.1	33.3	29.0	21.8	13.2	13.5
Troubled Asset Relief Program Direct Loan Financing Account	23.9	42.7	43.9	44.1	43.7	41.9	38.5	31.2	24.7	20.8	15.6	9.0	5.5
Troubled Assets Insurance Financing Fund Guaranteed Loan Financing Account	0.6	2.4	0.8	0.8	*	*	*	*	*	*	*	*	*
Troubled Assets Relief Program FHA Refinance Letter of Credit Financing Account .....	.....	.....	-2.6	-6.6	-7.3	-6.2	-4.8	-3.4	-2.2	-1.3	-0.6	-*	.....
Total, financial assets net of liabilities	129.9	122.0	134.6	111.6	100.6	91.0	77.9	66.0	55.8	48.6	36.9	22.2	19.1
Debt held by the public net of financial assets	151.3	41.6	11.1	22.5	30.6	35.0	38.9	41.0	42.4	43.2	44.3	45.7	47.7
As a percent of GDP	1.1%	0.3%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

* \$50 million or less.

¹ Table reflects the deficit effect of budgetary costs, including 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 Federal Credit Reform Act.

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

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
Deficit Effect:													
Programmatic and administrative expenses:													
Programmatic expenses:													
Equity purchases	217.6	-121.9	-25.6	-26.7	-16.0	-15.4	-17.0	-11.5	-9.6	-8.5	-10.4	-10.7	-1.2
Direct loans and purchases of asset-backed securities ..	61.1	-1.0	-10.4	-4.7	-5.3	-6.8	-8.3	-11.7	-10.5	-7.2	-7.9	-8.5	-4.5
Guarantees of troubled asset purchases	-0.5	-0.3	-2.2	*	-0.8	.....	.....	.....	.....	.....	.....	.....	.....
TARP Housing Programs	*	0.5	7.2	9.3	8.6	6.0	5.2	3.1	1.8	0.8	0.4	0.3	.....
Subtotal, programmatic expenses	278.3	-122.6	-31.0	-22.1	-13.5	-16.2	-20.1	-20.1	-18.3	-14.9	-18.0	-18.9	-5.7
Administrative expenses	0.1	0.2	0.5	0.3	0.3	0.2	0.2	0.2	0.1	0.1	*	*	*
Special Inspector General for TARP	*	*	0.1	*	*	*	*	*	*	*	0.1	0.1	0.1
Subtotal, programmatic & administrative expenses	278.4	-122.3	-30.4	-21.7	-13.2	-15.9	-19.8	-19.9	-18.2	-14.8	-17.9	-18.8	-5.6
Debt service ²	2.8	4.7	12.5	10.2	10.3	10.7	10.6	10.1	9.4	8.5	7.2	5.5	4.5
Total deficit impact	281.2	-117.5	-18.0	-11.5	-2.9	-5.2	-9.2	-9.8	-8.8	-6.4	-10.6	-13.3	-1.2
Change in debt held by the public	281.2	-117.5	-18.0	-11.5	-2.9	-5.2	-9.2	-9.8	-8.8	-6.4	-10.6	-13.3	-1.2
Debt held by the public	281.2	163.6	145.6	134.1	131.2	126.0	116.8	107.0	98.2	91.8	81.2	67.9	66.7
As a percent of GDP	2.0%	1.1%	1.0%	0.8%	0.8%	0.7%	0.6%	0.5%	0.5%	0.4%	0.4%	0.3%	0.3%
Debt Held by the Public Net of Financial Assets:													
Debt held by the public	281.2	163.6	145.6	134.1	131.2	126.0	116.8	107.0	98.2	91.8	81.2	67.9	66.7
Less financial assets net of liabilities — credit financing account balances:													
Troubled Asset Relief Program Equity Purchase Financing Account	105.4	76.9	92.4	73.3	64.2	55.3	44.2	38.1	33.3	29.0	21.8	13.2	13.5
Troubled Asset Relief Program Direct Loan Financing Account	23.9	42.7	43.9	44.1	43.7	41.9	38.5	31.2	24.7	20.8	15.6	9.0	5.5
Troubled Assets Insurance Financing Fund Guaranteed Loan Financing Account	0.6	2.4	0.8	0.8	*	*	*	*	*	*	*	*	*
FHA Refinance Letter of Credit Financing Account .....	.....	.....	-2.6	-6.6	-7.3	-6.2	-4.8	-3.4	-2.2	-1.3	-0.6	0.0	0.0
Total, financial assets net of liabilities	129.9	122.0	134.6	111.6	100.6	91.0	77.9	66.0	55.8	48.6	36.9	22.2	19.1
Debt held by the public net of financial assets	151.3	41.6	11.1	22.5	30.6	35.0	38.9	41.0	42.4	43.2	44.3	45.7	47.7
As a percent of GDP	1.1%	0.3%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

* \$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.

public and other financial liabilities to achieve a more complete understanding of the Government's financial condition.

Accounting for the financial assets acquired through TARP, the impact of the program on debt net of financial assets is projected to be \$11.1 billion as of the end of 2011. Amounts are lower than recent reports, due to both a reduction in the total amount of TARP investments and other support, and higher-than-anticipated TARP repayments in 2009 and 2010.

Under the FCRA, the financing account earns and pays interest 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 for market risks. This results in subsidy costs for TARP equity purchases, direct loans, and guarantees that are higher than the net present value cost using Treasury discount rates under FCRA. Actual cash flows as of September 30, 2010 already reflect the effect of any market risks to that point, and therefore actual credit transactions with financing accounts reflect

Treasury interest rates under FCRA, with no adjustment.¹³ Future cash flows reflect a risk-adjusted discount rate, consistent with the FCRA requirement that financing account interest be earned or paid at the same rate used to discount the cash flows. This aligns the financing account balances with the current subsidy cost reflected in the Budget. For example, over time, if actual transactions with the public were consistent with projections, the TARP subsidy costs would reflect downward reestimates to return the premium charged under the market risk-adjusted discount rate. Although TARP subsidy costs would be lower, the cumulative deficit effect including interest effects would not be reduced because Treasury net interest earnings on TARP financing account balances would

¹³ 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 reflects discounting with Treasury rates.

be lower once those transactions were executed without the market-risk adjustment to the discount rate.

Estimate of the Current Value on a Cash Basis

The value of the assets acquired through TARP does not depend on whether the costs of acquiring or purchasing the assets are recorded in the budget on a cash basis, or a credit basis; their value would be the same either way. 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 the budgetary side, and the value of the assets is reflected in the financing accounts for equity purchases, direct loans and loan guarantees.¹⁴ If these purchases were instead presented in the budget on a cash basis, the value of assets purchased would not be reflected in the budget. Rather, 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.

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 with 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 consistent with FCRA and Section 123 of EESA.

If TARP transactions were reported on a cash basis, the deficit would include the full amount of government disbursements for activities such as equity purchases and direct loans, offset by cash inflows from 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. Differences between actual and estimated performance, and updated estimates of future performance, would impact the deficit in the year that they occur, and there would be no credit reestimates.

Table 4–5 shows that if TARP transactions were reported on a cash basis, TARP would reduce the deficit in 2011 by an estimated \$18.0 billion, so the 2011 deficit would be \$12.6 billion higher than the estimate in the Budget that reflects TARP on a FCRA basis. The deficit would be higher because outlays would be reported for TARP disbursements that are now included in non-budgetary financing accounts for TARP, and the portion of TARP downward reestimates attributable to better-than-expected future inflows from the public would not be recognized up front, rather, as offsetting receipts when

they occur. Under this alternative approach, the impact of TARP on the debt, and on debt held net of financial assets, is the same as under FCRA with adjustments to the discount rate for market risks.

Portion of the Deficit Attributable to Any Action Taken by the Secretary, and the Extent to Which the Deficit Impact is Due to a Reestimate

Table 4–4 shows the portion of the deficit attributable to actions taken by the Treasury Secretary under the authorities of TARP. The largest effects are for reestimates of TARP activity outstanding as of September 30, 2010, and reductions in the total anticipated size of TARP from \$494.4 billion in TARP obligations at MSR to \$474.8 billion in the 2012 Budget. The specific effects are as follows:

- TARP reestimates and interest on reestimates will reduce the deficit by \$41.6 billion in 2011, including \$35.4 billion in reduced subsidy costs for TARP disbursements as of September 30, 2010, and \$6.2 billion in interest on reestimates. Reestimate effects and changes to anticipated activity together are estimated to reduce total TARP program costs (excluding administrative expenses) by \$48.3 billion from MSR.
- Program costs for purchases of troubled assets including costs associated with AIG disbursements, MHA incentive payments, FHA Refinance letter of credit loss sharing, and modifications of existing TARP activity (excluding reestimates) are estimated to increase the deficit by \$13.4 billion in 2011.
- TARP equity purchases in 2011 are expected to increase outlays by \$3.3 billion due to AIG's expected use of the capital facility, and PPIP purchases.
- Costs associated with new disbursements of direct loans under TARP, including funding under the AIFP program and the TALF, are estimated to result in \$0.2 billion in net outlays in 2011 through 2014, based on estimated loan disbursements.
- Outlays for the TARP Housing Programs are estimated at \$9.8 billion in 2011, which includes payments under the MHA program, Hardest Hit Fund, and subsidy costs for the FHA Refinance letter of credit facility. Outlays for TARP Housing are estimated to decline gradually through 2020.
- Administrative expenses for TARP are estimated at \$0.5 billion in 2011, and expected to fall as TARP winds down through 2021.
- Costs for the Special Inspector General for TARP are estimated at \$0.1 billion in 2011, and to remain relatively stable through 2021.
- 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 payment and receipt of interest are budgetary transactions and therefore affect

¹⁴ For the Making Home Affordable programs and the Hardest Hit Fund, Treasury's purchase of financial instruments does not result in the acquisition of an asset with potential for future returns, and do not constitute the economic equivalent of a loan guarantee under FCRA.

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 \$15.4 billion in 2011 and declines over time as the financing accounts repay borrowing from Treasury through proceeds and repayments on TARP equity purchases and direct loans.¹⁵

¹⁵ Actual TARP financing account interest for 2011 will reflect Treasury rates with no risk adjustment, as the effects of market risks would already be realized on actual cash flows.

The full impact of TARP on the deficit includes the estimated cost of Treasury borrowing from the public—debt service—for the higher outlays listed above. Debt service is estimated at \$12.5 billion for 2011 (as shown in Table 4–5), and then expected to fall gradually to \$4.5 billion in 2021 as the program winds down.

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 reestimate) or by reducing subsidy costs (a downward reestimate). The reestimated dollar amounts reflect TARP disburse-

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 9/30/2010
Equity Programs:					
Automotive Industry Financing Program (Equity)					
2009	54.52%	25.98%	-2.9	-5.1	12.5
2010	30.25%	7.93%	-0.9	-0.8	3.8
Capital Purchase Program					
2009	26.99%	-2.93%	-7.6	-62.3	204.6
2010	5.77%	18.28%	*	*	0.3
AIG Investments					
2009	82.78%	16.74%	-21.8	-27.9	47.5
Legacy Securities Public-Private Investment Program					
2009	34.62%	-1.68%	-0.4	-0.3	0.9
2010	22.97%	-0.80%	-1.7	-1.5	6.5
Targeted Investment Program					
2009	48.85%	-8.94%	0.3	-23.1	40.0
Community Development Capital Initiative					
2010	48.06%	50.05%	*	*	0.6
Subtotal equity program reestimates			-34.9	-121.1	316.7
Structured and Direct Loan Programs:					
Automotive Industry Financing Program (AIFP)					
2009	58.75%	25.66%	-7.5	-21.0	63.4
Legacy Securities Public Private Investment Program					
2009	-2.52%	5.52%	0.1	0.1	1.4
2010	-10.85%	-0.46%	1.4	1.4	7.8
Small Business Lending Initiative 7(a) purchases					
2010	0.48%	0.30%	-*	-*	0.2
Term-Asset Backed Securities Loan Facility ¹					
2009	-104.23%	-237.20%	*	-0.2	0.1
Subtotal direct loan program reestimates			-6.0	-19.7	73.0
Guarantee Programs:					
Asset Guarantee Program ²					
2009	-0.25%	-1.21%	-0.7	-1.21	301.0
Total TARP Reestimates			-41.6	-142.0	690.6

* \$50 million or less.

¹ The Term-Asset Backed Securities Loan Facility 2009 subsidy rate reflects the anticipated collections for Treasury's \$20 billion commitment, as a percent of estimated lifetime disbursements of roughly \$0.3 billion.

² Disbursement amount reflects the face value of guarantees 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.

ments through September 30, 2010, while subsidy rates reflect anticipated future disbursements. As noted above, the total decrease in the deficit attributable to TARP reestimates in 2011 is \$41.6 billion, reflecting a \$35.4 billion downward reestimate of the subsidy cost, plus \$6.2 billion in interest on the reestimates. Detailed information on downward reestimates is reflected in Table 4–6.

The subsidy cost for outstanding TARP equity is estimated to be substantially lower than originally estimated. The majority of reduced subsidy costs reflects 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 warrants, resulting in a positive return and a lower

subsidy rate for these 2009 investments. Costs for CPP investments in 2010 increased from the initial estimates, as many of the remaining CPP investments are in institutions that are not as strong as those that have repaid Treasury. However, the program as a whole is anticipated to result in net positive returns. Reduced subsidy costs for AIG investments and AIFP Equity are due to improved market conditions and performance expectations compared to original estimates. The \$4.3 billion TALF facility is estimated to generate a return of \$0.3 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

Table 4–7. DETAILED TARP PROGRAM LEVELS AND COSTS

(In billions of dollars)

Program	2011 MSR ¹		2012 Budget	
	Estimated TARP Cumulative Obligations	Subsidy Costs	Estimated TARP Cumulative Obligations	Subsidy Costs
Equity Purchases				
Capital Purchase Plan	204.9	1.2	204.9	–5.9
AIG Investments	69.8	49.9	69.8	11.7
Targeted Investment Program	40.0	–3.7	40.0	–3.6
Automotive Industry Financing Program (AIFP)	16.3	6.3	16.3	3.5
Public-Private Investment Program - Equity	7.5	1.8	7.5	–0.1
Community Development Capital Initiative	0.8	0.4	0.6	0.3
Subtotal equity purchases	339.3	55.9	339.1	5.9
Direct Loan Programs				
Automotive Industry Financing Program (AIFP)	65.5	24.4	65.5	16.8
Term Asset-Backed Securities Loan Facility (TALF)	20.0	–0.5	4.3	–0.3
Public-Private Investment Program - Debt	14.9	–1.3	14.9	*
Small Business 7(a) Program	1	*	0.4	*
Other Section 101	*	*	*	*
Subtotal direct loan programs	101.4	22.7	85.1	16.5
Guarantee Programs under Section 102				
Asset Guarantee Program	5.0	–3.0	5.0	–3.7
Non-Add Asset Guarantee Program Face Value	301.0		301.0	
Subtotal asset guarantees	5.0	–3.0	5.0	–3.7
TARP Housing Programs ^{2,3}				
Making Home Affordable (MHA) Programs	N/A	N/A	29.9	29.9
Hardest Hit Fund	N/A	N/A	7.6	7.6
Subtotal non-credit programs	N/A	N/A	37.5	37.5
FHA Refinance Letter of Credit	N/A	N/A	8.1	8.1
Subtotal TARP housing programs	48.7	48.7	45.6	45.6
Total program costs	494.4	124.4	474.8	64.4
Memorandum:				
Interest on Reestimates ⁴		–9.9		–16.2
Deficit impact before administrative costs and interest effects		114.5		48.3

* \$50 million or less.

¹ Estimates do not include the effects of the Dodd-Frank Act (Public Law 111-203), which limited total TARP program levels to \$475 billion.

² The 2011 MSR did not break out the TARP Housing costs as one line item. To increase transparency, the 2012 Budget disaggregates the TARP Housing costs.

³ 2011 MSR obligations and subsidy costs account for a reduction included in the Helping Families Save Their Homes Act, as an offset for Special Inspector General for the Troubled Asset Relief Program (SIGTARP) administrative costs.

⁴ Cumulative 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 a direct programmatic cost.

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	-15	-6
Targeted Investment Program	-4	-4
AIG assistance	14	12
Automotive Industry Financing Program	19	20
Term Asset-Backed Securities Loan Facility	1	-*
Other programs ³	-2	-3
TARP housing programs	12	46
Total	25	64

* \$50 million or less.

¹ The CBO cost estimate published in January 2011.

² Lifetime subsidy costs as reflected in the 2012 Budget, excluding interest on reestimates.

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

facility. The reestimated rate declined dramatically, as TALF anticipates fewer default purchases, and income is anticipated to remain strong. Estimated costs for the AIFP direct loan program are also lower than last year because GM fully repaid its \$6.7 billion loan, with interest, and the financial condition of Chrysler, the only outstanding AIFP loan, has improved. The Asset Guarantee Program downward reestimate reflects an estimated increase in the value of preferred stock held by Treasury. No losses were paid through the program.

Differences Between Current and Previous OMB Estimates

As shown in Table 4–7, the Budget reflects a total TARP deficit impact of \$48.3 billion, a reduction of \$66.2 billion from the 2011 MSR projection of \$114.5 billion or \$292.7 billion from the 2010 MSR estimate of \$340.9 billion. The deficit impact differs from the subsidy cost of \$64.4 billion because the deficit impact reflects a \$16.2 billion cumulative downward adjustment for interest on reestimates (for 2010 and 2011 reestimates). These adjustments account for the time between when the subsidy cost was originally estimated and the time when the reestimate is booked. The subsidy cost of \$64.4 billion reflects the estimated present value cost of the program from the date TARP obligations originate.

There are two factors driving the significant reduction in total TARP costs: 1) lower subsidy costs on TARP obligations due to better-than-expected actual performance in some programs, and improved market conditions, and 2) prudent management of TARP programs. The financial and credit markets have progressively improved since the height of the economic crises, and as a result the stock markets are beginning to regain momentum. The vast majority of the \$168.7 billion in outstanding TARP balances are affected by movements in the equity markets. Therefore,

signals of appreciating share prices have improved the Government's outlook of TARP costs. In December 2010, Treasury sold the last tranche of its 7.7 billion shares in Citigroup common stock that was acquired through Citigroup's participation in CPP. In total, Treasury received \$32 billion from the sale of Citigroup common stock at an average selling price of \$4.14 per share, representing a per share premium of \$0.89. Treasury's dual strategy of gradually selling Citigroup's shares to avoid flooding the markets and depressing the company's share price and opportunistically selling a slightly higher volume of common stock when share prices appreciated, yielded the taxpayers nearly a \$7 billion return on the Citigroup CPP investment. This, coupled with higher-than-expected repayments, resulted in the estimated CPP cost falling by \$7.1 billion.

Similarly, Treasury's management of TARP investments in AIG and GM, coupled with strong equity markets significantly reduced the projected TARP costs compared to the 2011 MSR. The AIG common stock and the preferred interest shares in the two Special Purchase Vehicles held by the Federal Reserve Bank of New York that Treasury will receive as part of the AIG recapitalization deal announced in September 2010, was the predominant driver reducing the TARP AIG cost estimate by \$38.2 billion compared to the MSR projection of \$49.9 billion. GM's strong initial public offering (IPO) in November of 2010, which was largest global IPO in history, and the improved prospects of the U.S. auto industry contributed to the \$10.4 billion reduction in the TARP's auto investments relative to the 2011 MSR.

Differences Between OMB and CBO Estimates

Table 4–8 compares the subsidy cost for TARP reflected in the Budget against the costs estimated by the Congressional Budget Office in its January 2011 "Budget

and Economic Outlook: Fiscal Years 2011 Through 2021” Report.¹⁶

CBO estimates the total cost of TARP at \$25 billion, based on an estimated lifetime TARP activity level of \$433 billion. The Budget reflects current estimates of roughly \$475 billion in program level commitments, and \$64 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 \$12 billion in total TARP Housing expenditures, while the Budget reflects a \$46 billion estimate.

Differences Between EESA and FCRA Cost Estimates

EESA directs that for asset purchases and guarantees under the Troubled Asset Relief Program, the cost shall be determined pursuant to the Federal Credit Reform Act of 1990 (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 a higher cost to finance these transactions than the FCRA, which requires that Treasury rates be used to

¹⁶ United States. Congressional Budget Office. Budget and Economic Outlook: Fiscal Years 2011 Through 2021. Washington: CBO, 2011. <http://www.cbo.gov/doc.cfm?index=12039>

discount cashflows. In implementing this requirement of EESA, the methodologies used by the Administration seek to capture the cost of the extra return that a private investor would seek in compensation for uncertainty surrounding risks of default and other losses reflected in the cashflows.¹⁷

Table 4–9 compares the subsidy costs and rates of TARP programs discounted at the Treasury rate adjusted for market risk and discounted at the unadjusted Treasury rate. The largest differences in the estimated subsidy rates reflect the most uncertainty regarding the probability of losses. For example, there is greater uncertainty regarding the value of Treasury’s investments in CPP and PPIP than there is related to value of Treasury’s investments in AIG, and so the difference between the market-risk adjusted cost versus the non-adjusted cost is greater for CPP and PPIP than for AIG. Removing the risk adjustment to the discount rate for Treasury’s investment in CPP and PPIP decreases the subsidy cost by \$4.4 billion and \$2.1 billion, respectively, whereas it only decreases the AIG subsidy cost by \$0.5 billion. For the TIP there is no difference in the subsidy cost because the TIP program has been fully repaid. With no further liabilities under AGP, the market risk adjustment is applied to the remaining Citigroup warrants and preferred shares that

¹⁷ 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.

Table 4–9. COMPARISON OF EESA AND FCRA TARP SUBSIDY COSTS USING 2012 BUDGET VALUATIONS

(In billions of dollars)

Program	TARP Obligation	Subsidy Cost	
		EESA	FCRA
Capital Purchase Plan	204.9	-5.9	-10.4
Targeted Investment Program	40.0	-3.6	-3.6
Asset Guarantee Program	5.0	-3.7	-3.7
Community Development Capital Initiative	0.6	0.3	0.1
Term Asset-Backed Securities Loan Facility (TALF)	4.3	-0.3	-0.4
Small Business 7(a) Program	0.4	*	_*
Public Private Investment Program ¹	22.4	-*	-2.1
AIG Investments	69.8	11.7	11.2
Automotive Industry Financing Program ¹	81.8	20.3	16.4
Subtotal TARP equity and direct loans	429.2	18.8	7.5
TARP Housing Programs:			
Making Home Affordable Programs ²	29.9	29.9	29.9
Hardest Hit Fund ²	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	5.0
Subtotal TARP housing programs	45.6	45.6	42.5
Total ³	474.8	64.4	50.0

* \$50 million or less.

¹ Rates for PPIP and AIFP reflect weighted average subsidy costs across various instruments.

² TARP Making Home Affordable Programs and Hardest Hit Fund involve financial instruments without any provision for income or other returns, and are recorded on a cash basis. 100 percent is assumed for the subsidy cost.

³ Total subsidy costs do not include interest effects.

Treasury received as a fee, and has negligible effects on the AGP cost. 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, 2010 valuations, TARP investments discounted at a risk-adjusted rate will

cost an estimated \$64.4 billion or a net subsidy rate of 14 percent. TARP investments discounted at Treasury's cost of borrowing will cost an estimated \$50.2 billion or a net subsidy rate of 11 percent, a difference of 3 percentage points.

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 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. 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 and 2010 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 compensation 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 has initiated 23 audits and over 130 investigations since its inception. Treasury's Office of Financial Stability has worked closely with SIGTARP staff in designing programs that incorporate strong and effective program safeguards against fraud, waste, and abuse. The Budget supports SIGTARP's continued oversight activities with a request for \$47.4 million in 2012 administrative cost appropriations.

5. LONG TERM BUDGET OUTLOOK

The horizon for most numbers in this budget is 10 years. In particular, the account-level estimates in the 2012 Budget extend to 2021. 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.

Nonetheless, many decisions made today will have important repercussions beyond the 10-year horizon. It is also important to anticipate what future budgetary requirements beyond the 10-year horizon might flow from current laws and policies despite the uncertainty surrounding the assumptions needed for such estimates. Long-run budget projections can be useful in drawing attention to potential problems. Imbalances that may be manageable in the 10-year time frame can become unmanageable if allowed to grow.

To this end, the budget projections in this chapter extend the 2012 Budget for approximately 75 years through 2085. 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) has a profound effect on these projections. The cost-reduction mechanisms in the ACA significantly reduce projected budget deficits in the long run, and the 2012 Budget also 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 large enough 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.

The key drivers of the long-range deficit are the Government's major health and retirement programs: Medicare, Medicaid and Social Security.

- 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 would curtail this cost growth, but Medicare spending is still projected to reach higher levels relative to the economy and the Budget than it has today.

- Medicaid provides medical assistance, including acute and long-term care, to low-income children and families, seniors, and people with disabilities. Like Medicare, for decades Medicaid's growth has 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 Medicaid coverage provided by the ACA. However, 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 its dedicated revenue stream over the next quarter century 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 individual programs, even large ones such as Medicare, Medicaid, and Social Security, do not determine by themselves the Government's overall budgetary position, which is why 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 deficit is projected to fall from its recent peak levels as the economy recovers from the recession and the worldwide financial crisis eases. By the end of the 10-year budget window, the policies in this Budget stabilize the deficit at around 3 percent of GDP, and the debt held by the public is no longer rising as rapidly relative to

GDP. However, beyond 2021, the fiscal position deteriorates again mainly because of the aging of the population and the high continuing cost of the Government's health programs. The publicly-held debt rises unsustainably relative to GDP.

In the public sector as well as the private sector, health care costs have risen faster than inflation for decades. This rising cost trend has led 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 slowing future growth in medical costs. When the law is fully implemented, the general rate at which Medicare spending per beneficiary has risen for more than four decades would be substantially reduced. However, health care costs would continue to rise as the population ages, threatening long-run fiscal sustainability. Population aging also poses a serious long-run budgetary challenge. Because of lower expected fertility and improved longevity, the Social Security actuaries project that the ratio of workers to Social Security beneficiaries will fall from around 3.3 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 2037.

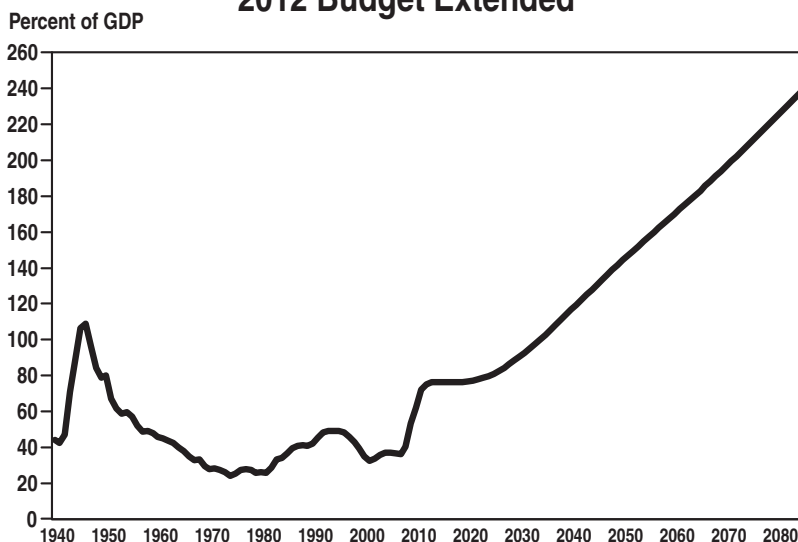
The Nation also faces the challenge of reforming the tax code to make it fairer and simpler and to provide sufficient revenue to meet long-run commitments. Resolving the long-run fiscal challenge will require a comprehensive approach, one that restrains spending growth but also addresses the sufficiency of our tax code. However, those necessary changes in tax policy have yet to be agreed upon.

Long-Run Budget Projections.—In 2010, the three major entitlement programs—Medicare, Medicaid, and Social Security—accounted for 44 percent of non-interest 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 2085, this figure would remain above 60 percent of non-interest spending. In other words without further reforms, nearly two-thirds 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, the overall budget may not be sustainable without either new cost-reducing measures or additional revenues. The budget projections shown in Table 5-1 illustrate that point. Without further adjustments to spending and revenue, the deficit will rise relative to the overall economy and the debt-to-GDP ratio will far exceed its previous peak level reached at the end of World War II. Reforms are needed to avoid such a development. The Administration aims to work with the Congress so that the ratio of debt to GDP stabilizes at an acceptable level once the economy has recovered.

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 are essentially the same as those used in the latest Medicare Trustees' report (August 2010), 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 0.3 percentage points per year above the growth

Chart 5-1. Publicly Held Debt Under 2012 Budget Extended



in GDP per capita. This growth rate is significantly smaller than their previous projections—a reduction they largely attribute to the ACA.¹ 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.² 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.³

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 fiscal discipline in current

¹The ACA provisions limiting growth in non-physician payments and other changes in assumptions in the 2010 Trustees' report reduce long range average annual growth in Medicare spending by 0.7 percentage points.

²Groups 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.

³The projections assume that growth in Medicaid spending per enrollee and private health spending per capita exceeds growth in GDP per capita by 0.65 percentage points.

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.

Revenues.—Projected revenues in these long-run budget projections start with the estimated receipts under the Administration's proposals in the 2012 Budget. There is some built-in momentum in the tax code that would tend to push up average tax rates over time. 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. Beyond the 10-year budget window, the projections in this chapter assume that this feature of the current tax code will not be allowed to raise individual income taxes. The projections also assume that the Alternative Minimum Tax will be similarly indexed. 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. By 2050, the revenue share is 20.5 percent of GDP and by 2085 it is projected to be 21.2 percent of GDP. However, the 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-ad-

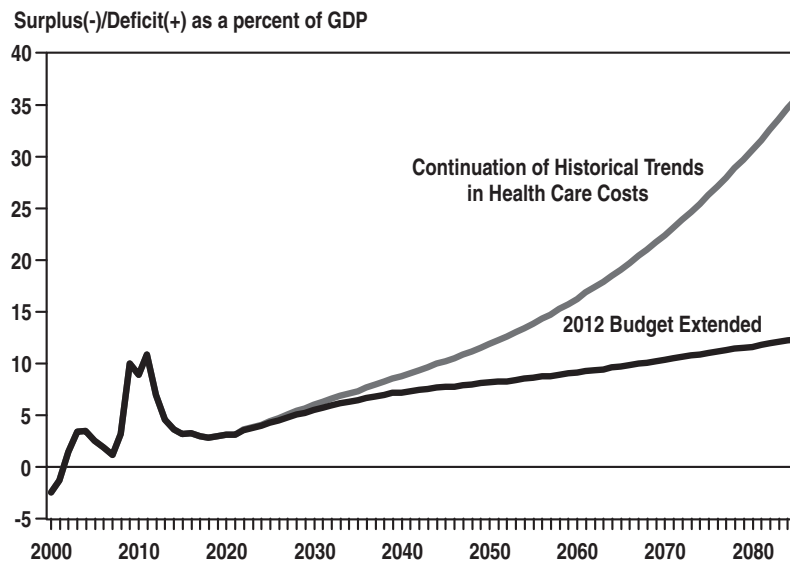
Table 5-1. LONG-RUN BUDGET PROJECTIONS

(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	14.9	19.9	19.8	20.1	20.5	20.7	20.9	21.1	21.2
Outlays:												
Discretionary	10.1	8.7	6.3	9.0	5.7	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Mandatory:												
Social security	4.3	4.3	4.1	4.8	5.1	5.7	5.7	5.6	5.6	5.7	5.9	5.9
Medicare	1.1	1.7	2.0	3.1	3.3	4.3	4.9	5.1	5.2	5.3	5.3	5.3
Medicaid	0.5	0.7	1.2	1.9	2.4	2.8	3.1	3.3	3.3	3.3	3.3	3.3
Other	3.7	3.2	2.4	3.7	3.2	3.0	2.8	2.7	2.6	2.6	2.5	2.6
Subtotal, Mandatory	9.6	9.9	9.7	13.5	13.9	15.8	16.6	16.7	16.7	16.9	17.0	17.1
Net interest	1.9	3.2	2.3	1.4	3.4	4.1	5.3	6.5	7.7	8.9	10.2	10.9
Total outlays	21.7	21.9	18.2	23.8	23.0	25.3	27.3	28.7	29.9	31.3	32.7	33.5
Surplus or Deficit (–)	–2.7	–3.9	2.4	–8.9	–3.1	–5.5	–7.2	–8.2	–9.2	–10.4	–11.6	–12.3
Primary Surplus/Deficit (–)	–0.8	–0.6	4.7	–7.6	0.2	–1.5	–1.9	–1.7	–1.4	–1.4	–1.4	–1.4
Federal Debt Held by the public, End of Period	26.1	42.1	34.7	62.2	76.7	90.4	116.7	144.3	170.0	196.7	225.2	239.9

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.

Chart 5-2. Alternative Health Care Costs



justed 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. However, extending this assumption over many decades is not realistic. When the population and economy grow, as assumed in these projections, the demand for public services is likely to expand as well. Therefore, the current base projection assumes that discretionary spending keeps pace with the growth in GDP in the long run, so that spending increases in inflation-adjusted terms whenever there is real economic growth. The chapter also uses alternative assumptions to show other possible paths. It is important to note that these paths are merely illustrative; they do not represent policy decisions by this Administration, or seek to project the policy decisions of future Administrations.

Table 5-1 shows how the budget would evolve without further changes in policy under the base assumptions described above. The key assumption is the full implementation of the ACA with its various provisions which control costs and alter incentives for medical practice. Under these assumptions, the future growth of Medicare and Medicaid slows sharply relative to GDP. Social Security benefits rise relative to the economy over the next 25 years, but increase more slowly after that as the age composition of the population begins to stabilize. Other mandatory programs do not increase relative to the size of the economy, and discretionary programs are held to a constant share of GDP by assumption. On the revenue side, once tax revenues recover from the economic downturn, revenues reach a ratio of 19.9 percent and then gradually grow to 21.2 percent by 2085. 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. Medicare, Medicaid, and Social Security will absorb a much larger share of Federal resources than in the past limiting what the Government can do in other areas. The high level of debt to GDP that is projected risks unsustainability without further policy changes.

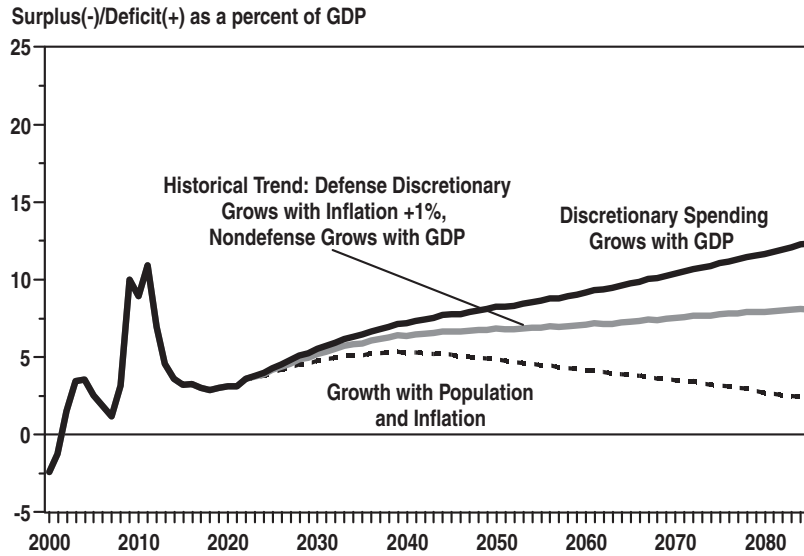
Alternative Policy, Economic, and Technical Assumptions

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. Increasing deficits result for most plausible projections of the long run trends.

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 2021, 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 allow 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

Chart 5-3. Alternative Discretionary Projections



is somewhat closer to historical experience over the last sixty years.

Alternative Revenue Projections.—In the base projection, tax receipts rise gradually relative to GDP, so that, by 2085, the share of revenues in GDP is 21.2 percent. Chart 5-4 shows alternative receipts assumptions. Allowing receipts to rise by an additional 2.0 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 2-1/4 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 nonfarm business grew at an average annual rate of just 1.4 percent per year. In the latter half of the 1990s, however, the rate of productivity growth increased again and it has remained higher albeit with some fluctuations since then. Indeed, the average growth rate of productiv-

Chart 5-4. Alternative Revenue Projections

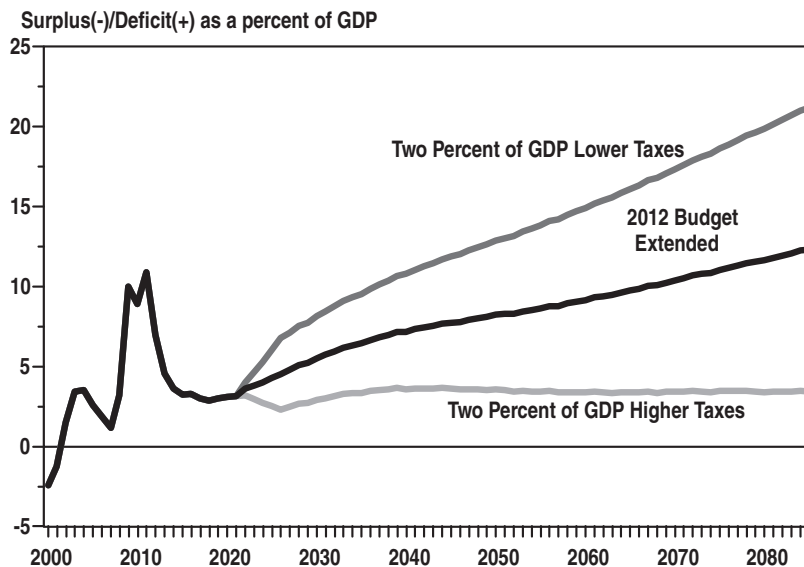
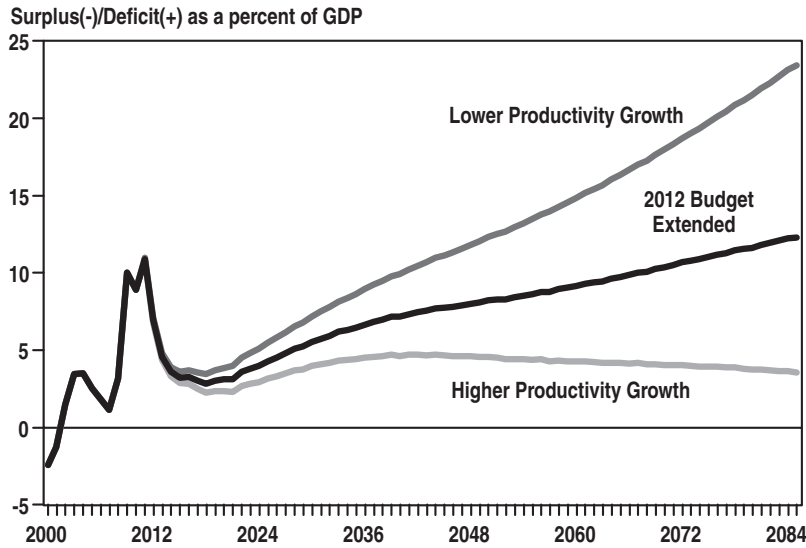


Chart 5-5. Alternative Productivity Assumptions



ity in nonfarm business has averaged 2.7 percent per year since the fourth quarter of 1995, the same as the average growth rate in the earlier postwar period.

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 these projections (see Chart 5-7). Higher immigration relieves some of the downward pressure on population growth from low fertility and allows total popula-

Chart 5-6. Alternative Fertility Assumptions

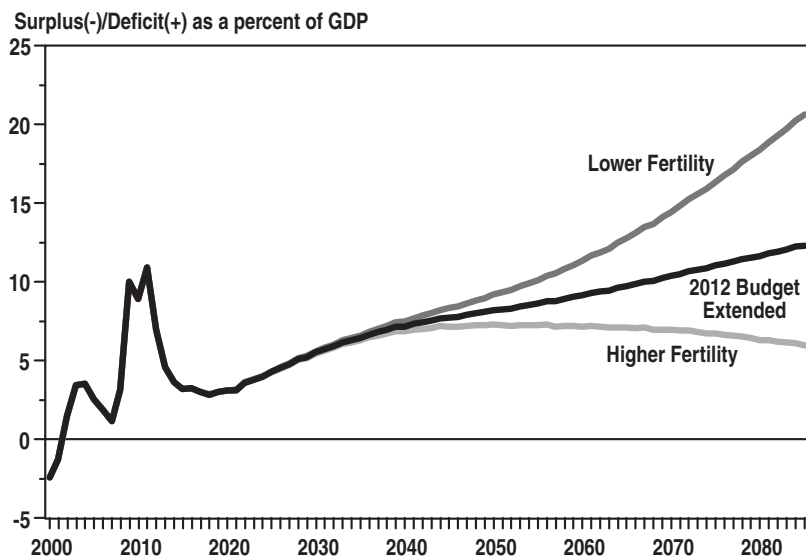
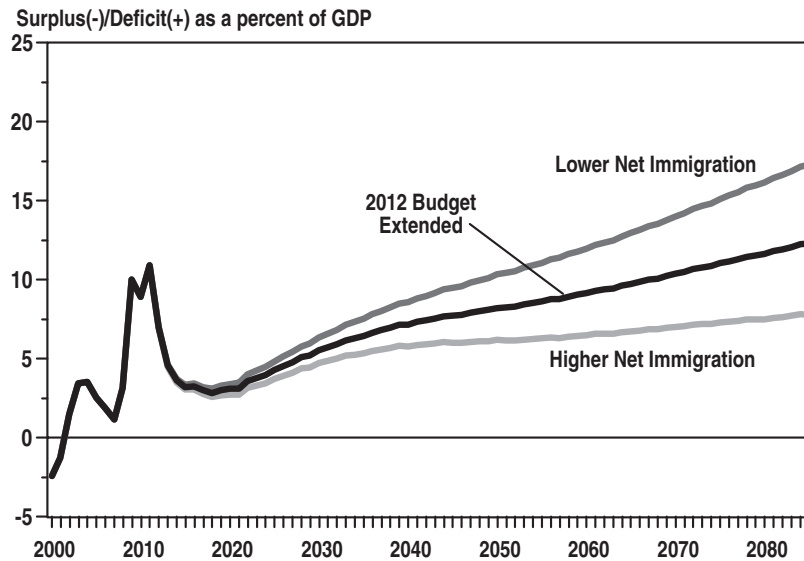


Chart 5-7. Alternative Immigration Assumptions



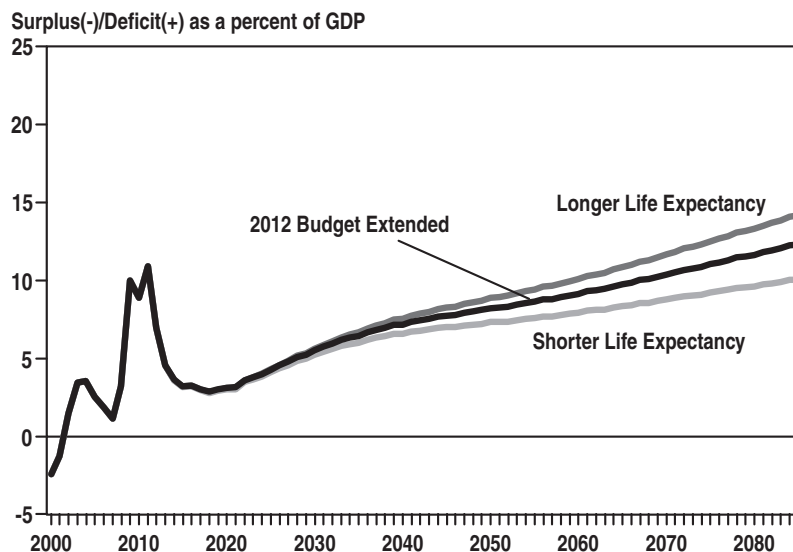
tion to expand throughout the projection period, although at a much slower rate than has prevailed historically. The alternatives are taken from the Social Security Trustees' Report (1.2 million total immigrants per year in the high alternative and 0.8 million in the low alternative).

- 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 period life expectancy for women is projected to rise from 80.3 years in 2009 to 86.7 years in 2085, and the average period life expectancy for men is expected to increase from 75.6 years in 2009 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 83.0 and 79.3 in the low cost alternative and 90.3 and 87.5 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.

Chart 5-8. Alternative Mortality Assumptions



The Fiscal Gap

The fiscal gap is one measure of the size of the adjustment needed to preserve fiscal sustainability in the long run.⁴ 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 longer-run 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 1.8 percent of GDP, and it ranges in the alternative scenarios from 0.2 percent of GDP to 4.8 percent of GDP. This suggests both that additional reforms are needed to put the Budget on a sustainable course and also underscores the importance of successful implementation of the ACA.

⁴ 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)

Baseline	1.8
Health:	
Excess cost growth averages 2 percent	4.8
Discretionary Outlays:	
Grow with inflation plus population	0.2
Defense grows with inflation +1; nondefense grows with GDP	1.1
Revenues:	
Revenues exceed baseline by 2 percent of GDP	0.2
Revenues fall short of baseline by 2 percent of GDP	3.4
Productivity:	
Productivity grows by 0.25 percent per year faster than the baseline	0.3
Productivity grows by 0.25 percent per year slower than the baseline	3.4
Population:	
Fertility:	
2.3 births per woman	1.0
1.7 births per woman	2.7
Immigration:	
1.2 million immigrants per year	1.1
0.8 million immigrants per year	2.6
Mortality:	
Female life expectancy 83.0 years; male life expectancy 79.3 years in 2085	1.4
Female life expectancy 90.3 years; male life expectancy 87.5 years in 2085	2.1

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 has greatly curtailed 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.

Table 5–3 shows the projected income rate, cost rate, and annual balance for the Medicare HI and OASDI Trust Funds at selected dates under the Trustees' intermediate assumptions. Data from both the 2009 and the 2010 reports are shown. As can be seen, there was a major improvement in the projections for Medicare's HI program between 2009 and 2010. This reflects passage of the ACA. Even with this major reform, however, there is still a long-run deficit in the HI program, albeit one that is much smaller than projected last year. 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 12.2 percent between 2010 and 2080 and the HI trust fund imbalance was projected to be -8.7 percent. 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. Demographic trends and continued high per-person costs combine to explain the continued small imbalance in the long-run projections.

As a result of reforms legislated in 1983, Social Security had been running a cash surplus with taxes exceeding costs up until 2010. This surplus in the Social Security trust fund helped to hold down the unified budget deficit. The cash surplus ended last year. The 2010 Social Security trustees report projects that the trust fund will

return to cash surplus briefly as the economy improves, but that cash deficits will reappear in 2015, and, from that point forward, Social Security will no longer act to hold down the unified budget deficit. Social Security will eventually begin to draw on its trust fund balances. Over time, as the ratio of workers to retirees falls, costs are projected to rise further from 13.1 percent of Social Security covered payroll today to 14.2 percent of payroll in 2020, 16.4 percent of payroll in 2030 and 17.3 percent of payroll in 2080. Revenues excluding interest are projected to rise only slightly from 12.3 percent of payroll

today to 13.3 percent in 2080. Thus the annual balance is projected to decline from -0.8 percent in 2010 to -1.1 percent of payroll in 2020, -3.2 percent of payroll in 2030, and -4.0 percent of payroll in 2080. On a 75-year basis, the actuarial deficit is projected to be 1.9 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 2037. These projections assume that benefits would continue to be paid despite the negative balance in the trust funds after 2037.

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
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
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
Actuarial Balance:					
2009 Trustees' Report			25 years	50 years	75 years
2010 Trustees' Report			-1.4	-2.8	-3.9
2010 Trustees' Report			-0.3	-0.6	-0.7
	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
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
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
Actuarial Balance:					
2009 Trustees' Report			25 years	50 years	75 years
2010 Trustees' Report			-0.2	-1.5	-2.0
2010 Trustees' Report			-0.3	-1.5	-1.9

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 2011–2021, the assumptions are drawn from the Administration's economic projections used for the 2012 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 2010 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 5.3 percent, and the yield on 10-year Treasury notes is steady at 5.3 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 it is as low as 0.4 percent per year. Real GDP growth is 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 2021.

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 2021, receipts follow the 2012 Budget's policy projections. After 2021, total tax receipts rise gradually relative to GDP eventually reaching 21.2 percent in 2085. 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 assumptions. Medicare benefits are projected based on a projection of beneficiary growth and excess health care cost growth from the 2010 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 2010, the Government owed \$9,019 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 \$228 billion of interest on this debt. In addition to the Government's debt obligation, at the end of 2010, the Government held financial

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 2010 dollars ¹	GDP	Credit market debt ²	Total outlays	GDP
1946	241.9	2,276.4	108.7	N/A	7.4	1.8
1950	219.0	1,677.3	80.2	53.3	11.4	1.8
1955	226.6	1,525.0	57.2	43.2	7.6	1.3
1960	236.8	1,414.9	45.6	33.7	8.5	1.5
1965	260.8	1,456.9	37.9	26.9	8.1	1.4
1970	283.2	1,315.5	28.0	20.8	7.9	1.5
1975	394.7	1,349.2	25.3	18.4	7.5	1.6
1980	711.9	1,683.0	26.1	18.5	10.6	2.3
1985	1,507.3	2,716.2	36.4	22.3	16.2	3.7
1990	2,411.6	3,721.8	42.1	22.6	16.2	3.5
1995	3,604.4	4,900.7	49.1	26.7	15.8	3.3
2000	3,409.8	4,268.2	34.7	19.1	13.0	2.4
2001	3,319.6	4,059.4	32.5	17.5	11.6	2.1
2002	3,540.4	4,259.4	33.6	17.5	8.9	1.7
2003	3,913.4	4,612.0	35.6	17.8	7.5	1.5
2004	4,295.5	4,935.6	36.8	18.0	7.3	1.4
2005	4,592.2	5,109.8	36.9	17.6	7.7	1.5
2006	4,829.0	5,195.4	36.5	16.9	8.9	1.8
2007	5,035.1	5,258.5	36.2	16.2	9.2	1.8
2008	5,803.1	5,924.8	40.3	17.5	8.7	1.8
2009	7,544.7	7,601.8	53.5	21.9	5.7	1.4
2010	9,018.9	9,018.9	62.2	N/A	7.2	1.7
2011 estimate	10,856.5	10,713.8	72.0	N/A	7.7	1.9
2012 estimate	11,881.1	11,563.8	75.1	N/A	10.2	2.4
2013 estimate	12,784.0	12,243.9	76.3	N/A	12.8	2.9
2014 estimate	13,562.2	12,778.2	76.3	N/A	14.3	3.2
2015 estimate	14,301.1	13,243.5	76.1	N/A	15.2	3.4
2016 estimate	15,063.9	13,711.6	76.1	N/A	15.8	3.6

N/A = Not available.

¹ Debt in current dollars deflated by the GDP chain-type price index with fiscal year 2010 equal to 100.

² Total credit market debt owed by domestic nonfinancial sectors, modified in some years to be consistent with budget concepts for the measurement of Federal debt. 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).

assets, net of other liabilities, of \$1,125 billion. Therefore, the Government's debt net of financial assets was \$7,894 billion, or 54.4 percent of GDP.

The deficit was \$1,293 billion in 2010. This \$1,293 billion deficit and other financing transactions totaling \$181 billion required the Government to increase its borrowing from the public by \$1,474 billion last year. Meanwhile, assets net of liabilities rose by \$226 billion in 2010. Debt held by the public net of financial assets increased from 47.1 percent of Gross Domestic Product (GDP) at the end of 2009 to 54.4 percent of GDP at the end of 2010. The deficit is estimated to increase to \$1,645 billion in 2011, and then begin to fall. Declining deficits are estimated to significantly reduce growth in debt as a percentage of GDP; debt net of financial assets is projected to reach 63.0 percent of GDP at the end of 2011 and 66.9 percent at the end of 2012 and then to remain relatively stable in subsequent years.

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 2016. (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 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 in 2001. 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 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 Nation's economy and financial markets. The deficit fell somewhat in 2010. The deficit is projected to increase in 2011 but then to recede thereafter. Debt net of financial assets as a percent of GDP is estimated to grow to 63.0 percent at the end of 2011 and 66.9 percent at the end of 2012 and then to remain relatively stable in later years.

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.¹ 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."²

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.

¹ 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.

² 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.

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.³ 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 fund that holds the securities, and are a mechanism for crediting interest to that fund on its 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—

³ 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."

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.⁴

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 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 2010 through 2021.⁵ In 2010 the Government borrowed \$1,474 billion, increasing the debt held by the public from \$7,545 billion at the end of 2009 to \$9,019 billion at the end of 2010. The debt held by Government accounts increased \$179 billion, and gross Federal debt increased by \$1,653 billion to \$13,529 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.⁶ Table 6–2 shows the relationship between the

⁴ 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.

⁵ For projections of the debt beyond 2021, see Chapter 5, "Long-Term Budget Outlook."

⁶ Treasury debt held by the public is measured as the sales price

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

	Actual 2010	Estimate										
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Financing:												
Unified budget deficit	1,293.5	1,645.1	1,101.2	767.5	644.6	606.7	648.7	626.7	618.9	681.5	735.3	773.9
Other transactions affecting borrowing from the public:												
Changes in financial assets and liabilities: ¹												
Change in Treasury operating cash balance ²	34.6	0.2	-235.0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Net disbursements of credit financing accounts:												
Direct loan accounts	178.7	167.9	182.8	147.7	140.9	138.8	116.1	107.3	105.8	103.4	100.9	105.5
Guaranteed loan accounts	2.5	10.3	-3.7	-1.8	3.1	5.8	6.2	3.5	-1.3	-4.7	-6.4	-14.6
Troubled Asset Relief Program equity purchase accounts	-28.5	15.5	-19.1	-9.1	-8.9	-11.1	-6.1	-4.8	-4.3	-7.2	-8.6	0.3
Subtotal, net disbursements	152.7	193.7	160.0	136.8	135.1	133.6	116.1	106.0	100.2	91.4	85.9	91.2
Net purchases of non-Federal securities by the National Railroad Retirement Investment Trust	0.8	-1.2	-1.2	-1.1	-1.1	-1.1	-1.5	-1.0	-1.2	-1.3	-1.2	-1.2
Net change in other financial assets and liabilities ³	-6.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Subtotal, changes in financial assets and liabilities	181.1	192.7	-76.2	135.7	134.0	132.5	114.6	105.0	99.0	90.2	84.8	90.0
Seigniorage on coins	-0.4	-0.3	-0.3	-0.4	-0.3	-0.3	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Total, other transactions affecting borrowing from the public	180.7	192.4	-76.6	135.3	133.7	132.2	114.1	104.5	98.5	89.7	84.3	89.5
Total, requirement to borrow from the public (equals change in debt held by the public)	1,474.2	1,837.5	1,024.7	902.8	778.2	738.9	762.8	731.2	717.4	771.2	819.6	863.4
Changes in Debt Subject to Statutory Limitation:												
Change in debt held by the public	1,474.2	1,837.5	1,024.7	902.8	778.2	738.9	762.8	731.2	717.4	771.2	819.6	863.4
Change in debt held by Government accounts	178.7	109.9	153.3	193.4	232.5	275.4	286.6	311.1	339.3	327.5	322.6	317.9
Less: change in debt not subject to limit and other adjustments	4.7	0.9	1.1	1.9	1.1	0.8	2.2	2.0	1.9	2.2	1.8	2.1
Total, change in debt subject to statutory limitation	1,657.7	1,948.4	1,179.2	1,098.1	1,011.8	1,015.2	1,051.7	1,044.3	1,058.6	1,100.9	1,144.0	1,183.4
Debt Subject to Statutory Limitation, End of Year:												
Debt issued by Treasury	13,502.7	15,449.2	16,627.1	17,723.8	18,734.3	19,748.5	20,798.9	21,842.5	22,900.5	24,000.8	25,144.8	26,328.2
Less: Treasury debt not subject to limitation (-) ⁴	-11.2	-9.4	-8.1	-6.7	-5.3	-4.3	-3.1	-2.3	-1.8	-1.1	-1.2	-1.2
Agency debt subject to limitation	*	*	*	*	*	*	*	*	*	*	*	*
Adjustment for discount and premium ⁵	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
Total, debt subject to statutory limitation ⁶	13,510.8	15,459.2	16,638.4	17,736.5	18,748.3	19,763.5	20,815.2	21,859.5	22,918.1	24,019.0	25,163.0	26,346.4
Debt Outstanding, End of Year:												
Gross Federal debt: ⁷												
Debt issued by Treasury	13,502.7	15,449.2	16,627.1	17,723.8	18,734.3	19,748.5	20,798.9	21,842.5	22,900.5	24,000.8	25,144.8	26,328.2
Debt issued by other agencies	26.1	27.0	27.2	26.7	26.9	27.1	26.1	24.8	23.5	21.9	20.1	17.9
Total, gross Federal debt	13,528.8	15,476.2	16,654.3	17,750.5	18,761.2	19,775.5	20,825.0	21,867.3	22,924.0	24,022.7	25,164.9	26,346.2
Held by:												
Debt held by Government accounts	4,509.9	4,619.8	4,773.1	4,966.5	5,199.0	5,474.5	5,761.1	6,072.2	6,411.4	6,738.9	7,061.5	7,379.5
Debt held by the public ⁸	9,018.9	10,856.5	11,881.1	12,784.0	13,562.2	14,301.1	15,063.9	15,795.1	16,512.6	17,283.7	18,103.3	18,966.7

*\$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 assumed Supplementary Financing Program balance of \$200 billion on September 30, 2011, and zero on September 30, 2012, and beyond.

³ Besides checks outstanding, includes 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.

⁴ Consists primarily of debt issued by or held by the Federal Financing Bank.

⁵ 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.

⁶ The statutory debt limit is \$14,294 billion, as enacted on February 12, 2010.

⁷ 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).

⁸ At the end of 2010, the Federal Reserve Banks held \$811.7 billion of Federal securities and the rest of the public held \$8,207.2 billion. Debt held by the Federal Reserve Banks is not estimated for future years.

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.⁷ 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 significantly increased 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 2010 the deficit was \$1,293 billion while these other factors—primarily the net disbursements of credit financing accounts—increased the need to borrow by \$181 billion. As a result, the Government borrowed \$1,474 billion from the public. The other factors are estimated to increase borrowing by \$192 billion in 2011 and reduce borrowing by \$77 billion in 2012. In 2013–2021, these other factors are expected to increase borrowing by annual amounts ranging from \$84 billion to \$135 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,

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.

⁷ For further explanation of the off-budget Federal entities, see Chapter 13, "Coverage of the Budget."

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.

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

Change in Treasury operating cash balance.—Since 2008, changes in the cash balance have been largely driven by fluctuations in the temporary Supplementary Financing Program (SFP). Under the SFP, Treasury issues short-term debt and deposits 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 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 be \$310 billion at the end of 2011, including an assumed SFP balance of \$200 billion and a non-SFP balance of \$110 billion. In 2012, the cash balance is projected to decrease by \$235 billion, to \$75 billion, including an assumed SFP balance of zero. 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.

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, they are non-budgetary in nature and are recorded as transactions of the non-budgetary financing account for each credit program.⁸

The financing accounts also include several types of intragovernmental transactions. In particular, they receive payment from the credit program accounts for the costs

⁸ 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."

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 2010, due primarily to the Troubled Asset Relief Program (TARP), downward reestimates were significantly larger than upward reestimates, resulting in a net downward reestimate of \$117 billion. In 2011, there is a net downward reestimate of \$54 billion, largely as a result of downward reestimates in the TARP and student loan 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 is estimated to increase to \$194 billion. After 2011, the credit financing accounts are expected to increase borrowing by amounts ranging from \$86 billion to \$160 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 an outlay. Therefore, the increased need to borrow from the public to finance the purchase 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 2010, net purchases, including gains, were \$1 billion. Net reductions of roughly \$1 billion annually are projected for 2011 through 2021.⁹

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 2010. In 2010, the total trust fund surplus was \$123 billion, and trust funds invested \$143 billion in Federal securities. Investment may differ somewhat from the surplus due to 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—

⁹ The budget treatment of this fund is further discussed in Chapter 12, “Budget Concepts.”

Table 6-3. DEBT HELD BY THE PUBLIC NET OF FINANCIAL ASSETS AND LIABILITIES
(Dollar amounts in billions)

	Actual 2010	Estimate										
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Debt Held by the Public:												
Debt held by the public	9,018.9	10,856.5	11,881.1	12,784.0	13,562.2	14,301.1	15,063.9	15,795.1	16,512.6	17,283.7	18,103.3	18,966.7
As a percent of GDP	62.2%	72.0%	75.1%	76.3%	76.3%	76.1%	76.1%	76.1%	76.2%	76.4%	76.7%	77.0%
Financial Assets Net of Liabilities:												
Treasury operating cash balance	309.8	310.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
Credit financing account balances:												
Direct loan accounts	668.0	835.9	1,018.7	1,166.5	1,307.4	1,446.2	1,562.2	1,669.6	1,775.3	1,878.7	1,979.6	2,085.1
Guaranteed loan accounts	-32.5	-22.2	-25.9	-27.8	-24.7	-18.8	-12.6	-9.2	-10.4	-15.2	-21.6	-36.2
TARP equity purchase accounts	76.9	92.4	73.3	64.2	55.3	44.2	38.1	33.3	29.0	21.8	13.2	13.5
Subtotal, credit financing account balances	712.4	906.1	1,066.1	1,202.9	1,338.0	1,471.6	1,587.7	1,693.7	1,793.9	1,885.4	1,971.3	2,062.5
Government-sponsored enterprise preferred stock	109.2	143.3	163.8	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0
Non-Federal securities held by NRRIT	22.8	21.6	20.4	19.2	18.1	17.1	15.5	14.5	13.3	12.0	10.9	9.6
Other assets net of liabilities	-29.3	-29.3	-29.3	-29.3	-29.3	-29.3	-29.3	-29.3	-29.3	-29.3	-29.3	-29.3
Total, financial assets net of liabilities	1,125.0	1,351.7	1,296.1	1,439.9	1,573.9	1,706.4	1,821.0	1,925.9	2,024.9	2,115.1	2,199.9	2,289.9
Debt Held by the Public Net of Financial Assets and Liabilities:												
Debt held by the public net of financial assets	7,894.0	9,504.7	10,585.1	11,344.1	11,988.3	12,594.7	13,242.9	13,869.2	14,487.6	15,168.6	15,903.4	16,676.8
As a percent of GDP	54.4%	63.0%	66.9%	67.7%	67.4%	67.0%	66.9%	66.8%	66.8%	67.0%	67.4%	67.7%

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 has increased greatly since the later part of 2008, as a result of Government actions, such as implementation of TARP, to address the challenges facing the Nation's financial markets and economy.¹⁰

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

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 2010, debt held by the public was \$9,019 billion, or 62.2 percent of GDP. The Government held \$1,125 billion in net financial assets, including a cash balance of \$310 billion, net credit financing account balances of \$712 billion,¹¹ and other assets and liabilities that aggregated to a net asset of \$103 billion. Therefore, debt net of financial assets was \$7,894 billion, or 54.4 percent of GDP. As shown in Table 6-3, the value of the Government's net financial assets is projected to increase to \$1,352 billion in 2011, due largely to increases in the net balances of credit financing accounts. While debt held by the public is expected to increase from 62.2 percent to 72.0 percent of GDP during 2011, net debt is expected to increase from 54.4 percent to 63.0 percent of GDP.

¹¹ 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.

¹⁰ For more information on these activities, see Chapter 4, "Financial Stabilization Efforts and Their Budgetary Effects."

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).¹² 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. In addition, under the temporary Supplementary Financing Program, discussed above, Treasury issues cash management bills and deposits the proceeds with the Federal Reserve, for the Federal Reserve to use in its efforts to address the financial and economic challenges facing the Nation.

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 59 months at the end of 2010.

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 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. (This view of Treasury securities as "risk-free" would be jeopardized in the event that Treasury was not able to meet its obligations as a consequence of failure to enact necessary increases to the debt limit; see the discussion under "Limitations on Federal Debt.")

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 2009 and 2010, there was net disinvestment in nonmarketables, necessitating

¹² 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.

additional marketable borrowing to finance the redemption of nonmarketable debt.¹³

Agency Debt

Some Federal agencies, shown in Table 6–4, sell or have sold debt securities to the public and, at times, to other Government accounts. At one time, several other agencies issued debt securities, but this activity has declined significantly over time. 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 \$25.5 billion at the end of 2009 to \$26.1 billion at the end of 2010, 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 \$0.8 billion in 2011 and by \$0.2 billion in 2012.

The predominant agency borrower is the TVA, which had borrowed \$25.8 billion from the public as of the end of 2010, 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.¹⁴ 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 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.¹⁵

¹⁴ 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.

¹⁵ 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 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.

Table 6–4. AGENCY DEBT
(In millions of dollars)

	2010 Actual		2011 Estimate		2012 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	–4	29	*	29	.....	29
Architect of the Capitol	–5	139	–6	133	–5	128
National Archives	–13	180	–14	166	–15	151
Tennessee Valley Authority:						
Bonds and notes	790	23,622	1,043	24,665	392	25,058
Lease/leaseback obligations	–52	1,352	–73	1,280	–78	1,202
Prepayment obligations	–105	822	–105	717	–105	612
Total, borrowing from the public	611	26,144	846	26,990	189	27,179
Borrowing from other funds:						
Tennessee Valley Authority	3	4	.....	4	.....	4
Total, borrowing from other funds	3	4	.....	4	.....	4
Total, agency borrowing	614	26,148	846	26,994	189	27,183

* \$500,000 or less.

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

Description	Investment or Disinvestment (-)			Holdings End of 2012 Estimate
	2010 Actual	2011 Estimate	2012 Estimate	
Investment in Treasury debt:				
Defense: Host nation support fund for relocation	492	131	132	1,106
Energy:				
Nuclear waste disposal fund ¹	1,804	1,055	1,162	26,290
Uranium enrichment decontamination fund	*	-337	-528	3,896
Health and Human Services:				
Federal hospital insurance trust fund	-30,227	-39,781	-29,548	210,146
Federal supplementary medical insurance trust fund	9,218	-7,401	-13,020	50,561
Vaccine injury compensation fund	56	51	72	3,062
Child enrollment contingency fund	5	-101	-184	1,834
Homeland Security:				
Aquatic resources trust fund	-47	14	30	1,980
Oil spill liability trust fund	105	174	340	2,014
Housing and Urban Development:				
Federal Housing Administration mutual mortgage fund	-6,470	995	5,053	10,242
Guarantees of mortgage-backed securities	-5,696	-220	16	3,357
Interior:				
Abandoned mine reclamation fund	92	79	103	2,805
Bureau of Land Management permanent operating funds	-240	-205	-175	1,041
Environmental improvement and restoration fund	33	-16	6	1,189
Justice: Assets forfeiture fund	171	61	45	2,290
Labor:				
Unemployment trust fund	-925	-7,703	5,000	16,000
Pension Benefit Guaranty Corporation ¹	1,336	607	763	15,723
State: Foreign service retirement and disability trust fund	528	357	.....	16,219
Transportation:				
Airport and airway trust fund	-784	-240	-1,104	5,701
Transportation trust fund	12,970	-7,170	6,145	23,430
Aviation insurance revolving fund	181	117	153	1,722
Treasury:				
Exchange stabilization fund	1,821	2,264	1,604	24,304
Treasury forfeiture fund	678	-383	-250	750
Comptroller of the Currency assessment fund	61	39	44	1,109
Veterans Affairs:				
National service life insurance trust fund	-573	-664	-685	6,812
Veterans special life insurance fund	-4	-33	-46	1,918
Corps of Engineers: Harbor maintenance trust fund	455	292	.....	5,713
Other Defense-Civil:				
Military retirement trust fund	41,199	73,800	58,109	413,915
Medicare-eligible retiree health care fund	15,468	12,476	15,653	170,418
Education benefits fund	128	16	-27	2,015
Environmental Protection Agency:				
Leaking underground storage tank trust fund	98	164	182	3,774
Hazardous substance trust fund	339	372	410	4,433
International Assistance Programs: Overseas Private Investment Corporation	157	121	115	5,208
Office of Personnel Management:				
Civil service retirement and disability trust fund	26,121	22,998	20,323	823,686
Postal Service retiree health benefits fund	7,000	3,087	7,189	52,391
Employees life insurance fund	1,459	738	1,749	40,092
Employees health benefits fund	875	50	-258	16,036
Social Security Administration:				
Federal old-age and survivors insurance trust fund ²	102,795	85,191	103,462	2,587,764
Federal disability insurance trust fund ²	-20,710	-26,640	-26,664	133,918

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

Description	Investment or Disinvestment (-)			Holdings End of 2012 Estimate
	2010 Actual	2011 Estimate	2012 Estimate	
District of Columbia: Federal pension fund	34	49	54	3,769
Farm Credit System Insurance Corporation: Farm Credit System Insurance fund	204	176	158	3,420
Federal Communications Commission: Universal service fund	74	-*	.....	6,081
Federal Deposit Insurance Corporation:				
Federal deposit insurance fund	21,365	-4,030	-4,628	28,783
Senior unsecured debt guarantee fund	-852	-559	186	5,785
FSLIC resolution fund	75	24	15	3,427
National Credit Union Administration:				
Share insurance fund	1,625	925	903	11,107
Central liquidity facility	137	99	104	2,174
Temporary corporate credit union stabilization fund	335	*	900	1,265
Postal Service funds ²	-2,858	-1,391	.....	.....
Railroad Retirement Board trust funds	-288	-3	-11	2,235
Securities Investor Protection Corporation	31	207	181	1,511
United States Enrichment Corporation fund	-2	70	70	1,707
Other Federal funds	-1,395	-327	37	4,659
Other trust funds	46	334	-9	3,437
Unrealized discount ¹	223	.....	.....	-1,105
Total, investment in Treasury debt¹	178,720	109,926	153,330	4,773,119
Investment in agency debt:				
Railroad Retirement Board:				
National Railroad Retirement Investment Trust	3	.....	.....	4
Total, investment in agency debt¹	3	.....	.....	4
Total, investment in Federal debt¹	178,723	109,926	153,330	4,773,123
MEMORANDUM				
Investment by Federal funds (on-budget)	37,969	16,232	28,704	397,149
Investment by Federal funds (off-budget)	-2,858	-1,391	.....	.....
Investment by trust funds (on-budget)	61,305	36,534	47,828	1,655,398
Investment by trust funds (off-budget)	82,085	58,552	76,798	2,721,682
Unrealized discount ¹	223	.....	.....	-1,105

* \$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 2010 the debt figures would be \$23.5 billion higher for the Nuclear waste disposal fund and \$0.5 billion higher for PBGC than recorded in this table.

² Off-budget Federal entity.

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. At the end of 2010, obligations were \$1.4 billion for lease/leasebacks and \$0.8 billion for prepayments. Obligations for these two types of alternative financing are estimated to continue to 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.

The amount of agency securities sold to the public has been reduced over time by borrowing from the Federal Financing Bank (FFB). The FFB is an entity within the

Treasury Department, one of whose purposes is to substitute Treasury borrowing for agency borrowing from the public. It has the authority to purchase agency debt and finance these purchases by borrowing from the Treasury. Agency borrowing from the FFB is not included in gross Federal debt. It would be double counting to add together (a) the agency borrowing from the FFB and (b) the Treasury borrowing from the public that is needed to provide the FFB with the funds to lend to the agencies. In addition, several agencies or programs are authorized to borrow from the Treasury Department's Bureau of the Public Debt (BPD). It would similarly be double-counting to add together the agency borrowing from BPD and the Treasury borrowing from the public that is needed to provide 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 \$179 billion in 2010. Investment by Government accounts is estimated to be \$110 billion in 2011 and \$153 billion in 2012, as shown in Table 6–5. The holdings of Federal securities by Government accounts are estimated to grow to \$4,773 billion by the end of 2012, or 30 percent of the gross Federal debt. The percentage is estimated to remain relatively stable 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 2012, these Social Security, Medicare, and Federal employee retirement funds are estimated to own 93 percent of the total debt held by Government accounts. During 2010–2012, the Social Security OASI fund has a large surplus and is estimated to invest a total of \$291 billion, 66 percent of total net investment by Government accounts. Over this period, the military retirement trust fund is projected to invest \$173 billion, another 39 percent of the total. Some Government accounts reduce their investments in Federal securities during 2010–2012. During these years, the Medicare Hospital Insurance trust fund disinvests \$100 billion, or 23 percent of the total net investment, and the Social Security DI fund disinvests \$74 billion, or 17 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 \$24.0 billion at the end of 2010.

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 \$1.1 billion at the end of 2010.

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 2010, \$10 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 2010 and is projected to increase by small amounts annually in 2011 through 2021.

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 \$488 million at the end of 2010 and is projected to gradually decline over time.

The sole agency debt currently subject to the general limit, \$10 million at the end of 2010, is certain debentures issued by the Federal Housing Administration.¹⁶

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 \$19.4 billion at the end of 2010 compared with the total unamortized discount (less premium) of \$59.0 billion on all Treasury securities.

Changes in the debt limit.—The statutory debt limit has been changed many times. Since 1960, Congress has passed 78 separate acts to raise the limit, extend the duration of a temporary increase, or revise the definition.¹⁷

The most recent debt limit increase, which raised the debt limit by \$1,900 billion to \$14,294 billion, was enacted on February 12, 2010. The limit had previously been increased by \$290 billion, from \$12,104 billion to \$12,394 billion, on December 28, 2009. The December increase, enacted shortly before the anticipated reaching of the previous limit, had been intended to cover only a short period.

Between July 2008 and February 2009, the debt limit was increased three times, in each case before the Government approached the limit. In these three instances, the increase was included in a larger piece of legislation aimed at stabilizing the financial markets and restoring economic growth. The increases 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.

¹⁶ At the end of 2010, there were also \$18 million of FHA debentures not subject to limit.

¹⁷ The Acts and the statutory limits since 1940 are listed in *Historical Tables, Budget of the United States Government, Fiscal Year 2012*, Table 7.3.

The debt reached or neared the ceiling prior to each of the five increases enacted between 2002 and 2007. The debt limit was increased to \$6,400 billion on June 28, 2002, to \$7,384 billion on May 27, 2003, to \$8,184 billion on November 19, 2004, to \$8,965 billion on March 20, 2006, and to \$9,815 billion on September 29, 2007.

At many times in the past several decades, including 2002, 2003, 2004, and 2006, 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 2010, the TSP G-fund had an outstanding balance of \$124 billion. The Treasury Secretary is also authorized to declare 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. Another measure for staying below the debt limit is disinvestment of the Exchange Stabilization Fund. The outstanding balance in the Exchange Stabilization Fund was \$20 billion at the end of 2010. 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 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.

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

Table 6-6. FEDERAL FUNDS FINANCING AND CHANGE IN DEBT SUBJECT TO STATUTORY LIMIT
(In billions of dollars)

Description	Actual 2010	Estimate										
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Change in Gross Federal Debt:												
Federal funds deficit (+)	1,416.8	1,691.2	1,226.6	913.4	833.6	835.0	888.0	886.8	901.3	946.8	991.9	1,036.3
Other transactions affecting borrowing from the public -- Federal funds ¹	179.9	193.6	-75.3	136.4	134.7	133.2	115.7	105.5	99.7	91.0	85.5	90.7
Increase (+) or decrease (-) in Federal debt held by Federal funds	35.1	14.8	28.7	47.6	43.5	47.1	47.3	51.1	56.9	62.1	66.0	55.5
Adjustments for trust fund surplus/deficit not invested/ disinvested in Federal securities ²	20.9	47.8	-2.0	-1.1	-1.1	-1.1	-1.5	-1.0	-1.2	-1.3	-1.2	-1.2
Change in unrealized discount on Federal debt held by Government accounts	0.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total financing requirements	1,653.0	1,947.4	1,178.0	1,096.2	1,010.7	1,014.4	1,049.5	1,042.3	1,056.7	1,098.6	1,142.2	1,181.3
Change in Debt Subject to Limit:												
Change in gross Federal debt	1,653.0	1,947.4	1,178.0	1,096.2	1,010.7	1,014.4	1,049.5	1,042.3	1,056.7	1,098.6	1,142.2	1,181.3
Less: increase (+) or decrease (-) in Federal debt not subject to limit	-1.1	-0.9	-1.1	-1.9	-1.1	-0.8	-2.2	-2.0	-1.9	-2.2	-1.8	-2.1
Less: change in adjustment for discount and premium ³	-3.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total, change in debt subject to limit	1,657.7	1,948.4	1,179.2	1,098.1	1,011.8	1,015.2	1,051.7	1,044.3	1,058.6	1,100.9	1,144.0	1,183.4
ADDENDUM												
Debt subject to statutory limit ⁴	13,510.8	15,459.2	16,638.4	17,736.5	18,748.3	19,763.5	20,815.2	21,859.5	22,918.1	24,019.0	25,163.0	26,346.4

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 \$14,294 billion.

would likely shift out of dollar-denominated assets, driving down the value 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 \$15,459 billion by the end of 2011, above the current limit of \$14,294 billion. On February 2, 2011, Treasury estimated that the current limit would be reached between April 5 and May 31, 2011. Therefore, the Congress is anticipated to take up an increase to the statutory debt ceiling in the spring.

In contrast to recent debt limit increases, which have been in amounts sufficient to last for less than two years, the debt limit was increased three times during the 1990s by amounts large enough to last for two years or more. All three of these increases were enacted as part of a deficit reduction package or a plan to balance the budget and were intended to last a relatively long time: the Omnibus Budget Reconciliation Act of 1990; the Omnibus Budget Reconciliation Act of 1993; and the Balanced Budget Act of 1997. The 1997 increase lasted until 2002.

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 22 percent of the estimated total increase in debt subject to limit from 2011 through 2021.

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.¹⁸

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

¹⁸ For further discussion of the trust funds and Federal funds groups, see Chapter 28, "Trust Funds and Federal Funds."

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	2,799.5	48.2	767.9	564.2
2009	7,544.7	3,575.5	47.4	1,741.7	776.0
2010	9,018.9	4,261.2	47.2	1,474.2	685.7

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.

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 2010 the Federal funds deficit was \$1,417 billion, and other factors increased financing requirements by \$180 billion. The net financing disbursements of credit financing accounts increased financing requirements by \$153 billion and the change in the Treasury operating cash balance increased financing requirements by \$35 billion. Other factors reduced financing requirements by \$6 billion. In addition, special funds and revolving funds, which are part of the Federal funds group, invested a net of \$35 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,

\$1,653 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 \$4 billion, the debt subject to limit increased by \$1,658 billion, while debt held by the public increased by \$1,474 billion.

Debt subject to limit is estimated to increase by \$1,948 billion in 2011 and \$1,179 billion in 2012. 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 \$6,045 billion from the end of 2010 through 2016, debt subject to limit increases by \$7,304 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 2010, foreign holdings of Treasury debt were \$4,261 billion, which was 47 percent of the total debt

held by the public.¹⁹ Foreign central banks and foreign official institutions owned 74 percent of the foreign holdings of Federal debt; private investors owned nearly all the rest. This 74 percent is a small decrease from the 76 percent held by foreign central banks at the end of 2009. 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 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 47 percent at the end of 2009 and 2010. The increase in foreign holdings was about 47 percent of total Federal borrowing from the public in 2010 and 53 percent over the last five years. At the end of 2010, the nations holding the largest shares of U.S. Federal debt were China, which held 21 percent of all foreign holdings, Japan, which held 20 percent, and the United Kingdom, which held 11 percent.

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

¹⁹ 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.

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 direct 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.