



Economic Stimulus: Issues and Policies

Jane G. Gravelle

Senior Specialist in Economic Policy

Thomas L. Hungerford

Specialist in Public Finance

Marc Labonte

Specialist in Macroeconomic Policy

November 27, 2009

Congressional Research Service

7-5700

www.crs.gov

R40104

Summary

The National Bureau of Economic Research (NBER), in December 2008, declared the economy in recession since December 2007. With the worsening performance of the economy beginning in September 2008, Congress passed and President Obama signed a much larger stimulus package composed of spending and tax cuts. The American Recovery and Reinvestment Act of 2009 (ARRA, P.L. 111-5), a \$787 billion package with \$286 billion in tax cuts and the remainder in spending, was signed into law on February 17, 2009. It includes spending for infrastructure, unemployment benefits, and food stamps, revenue sharing with the states, middle class tax cuts, and business tax cuts.

Also in 2008 and 2009, the government intervened in specific financial markets by providing financial assistance to troubled firms and enacting legislation granting authority to the Treasury Department to purchase \$700 billion in assets. The broad intervention into the financial markets was passed to avoid the spread of financial instability into the broader market; but there are disadvantages, including leaving the government holding large amounts of mortgage debt.

The need for additional fiscal stimulus depends on the state of the economy. Growth rates, measured by gross domestic product (GDP), after two strong quarters, were 2.1% in the fourth quarter of 2007, slightly negative in the first quarter of 2008, positive in the second quarter, a negative 2.7% in the third quarter, and a negative 5.4% in the fourth quarter. The contraction of GDP continued into 2009, with a decrease by 6.4% in the first quarter and a second quarter fall of 0.7%. However, after four consecutive quarters of decline, revised 2009 third quarter estimates indicate a real GDP increase of 2.8%.

The unemployment rate, which rose slightly in the last half of 2007, declined in January and February of 2008, but began rising in March 2008 and by October 2009 stood at 10.2%, the highest rate since April 1983. After extensions of, and modifications to, unemployment compensation in 2008 and early 2009, another extension of unemployment benefits for 14 weeks in all 50 states was enacted in the Worker, Homeownership, and Business Act (H.R. 3548, P.L. 111-92) and signed into law on November 6, 2009. The new law also offers an additional six weeks of benefits for laid-off workers in 27 states with high unemployment.

Fiscal policy temporarily stimulates the economy through an increase in the budget deficit, which leads to an increase in total spending in the economy, either through direct spending by the government or spending by the recipients of tax cuts or government transfers. There is a consensus that certain proposals—ones that result in more spending, can be implemented quickly, and leave no long-term effect on the budget deficit—would increase the benefits and reduce the costs of fiscal stimulus relative to other proposals. Economists generally agree that spending proposals are somewhat more stimulative than tax cuts because part of a tax cut may be saved by the recipients. The most important determinant of the effect on the economy is the stimulus' size. For instance, the 2008 stimulus package increased the deficit by about 1% of GDP while ARRA is estimated to increase the budget deficit by about 1.3% in 2009 and an additional 2.2% (or 3.5% overall) in 2010. The Congressional Budget Office (CBO) projects that ARRA would raise GDP by a range of 1.4% to 3.8% in 2009 compared with what it otherwise would have been.

This report, which includes research and analysis from Andrew Hanna, will be updated as legislative and economic events occur.

Contents

Introduction	1
The Current State of the Economy.....	2
The 2009 Stimulus Package	5
Preliminary Discussions	5
House Proposal	6
Senate Proposal.....	7
The American Recovery and Reinvestment Act of 2009	7
Discussion	8
Issues Surrounding Fiscal Stimulus	10
The Magnitude of a Stimulus	10
Bang for the Buck	11
Timeliness.....	14
Long-Term Effects	16
Should Stimulus be Targeted?	16
Is Additional Fiscal Stimulus Needed?	17
Policies Previously Adopted.....	18
Interventions for Financial Firms and Markets.....	19

Tables

Table 1. Zandi's Estimates of the Multiplier Effect for Various Policy Proposals.....	14
Table 2. Timing of Past Recessions and Stimulus Legislation	15

Contacts

Author Contact Information	22
Acknowledgments	22

Introduction

The National Bureau of Economic Research (NBER) has declared the U.S. economy to be in recession since December of 2007. With the worsening performance of the economy, congressional leaders and President Obama proposed much larger stimulus packages. The American Recovery and Reinvestment Act of 2009 (ARRA), an \$820 billion package with \$275 billion in tax cuts (offset by a \$7 billion gain from the treatment of built in losses) and the remainder in spending, was passed by the House on January 28 (H.R. 1). It contained infrastructure spending, revenue sharing with the states, middle class tax cuts, business tax cuts, unemployment benefits, and food stamps. Similar legislation was passed in the Senate on February 10 (an amendment in the nature of a substitute for H.R. 1) and would cost \$838 billion, with \$292 billion in tax cuts. The version of the bill signed into law on February 17, 2009 (P.L. 111-5), was a \$787 billion package with \$286 billion in tax cuts and the remainder in spending.

Numerous actions have already been taken to contain damages spilling over from housing and financial markets to the broader economy. These policies include traditional monetary and fiscal policy, as well as federal interventions into the financial sector. In February 2008, in response to weaker economic growth, an economic stimulus package of approximately \$150 billion was adopted.¹ A provision that was considered (but not enacted) in the February stimulus bill was a 26-week extension of unemployment benefits; this extension was eventually enacted.²

A number of financial interventions have also been undertaken, before and after financial market conditions worsened significantly in September 2008. The Federal Reserve (Fed) has reduced short-term interest rates to zero and introduced a number of facilities, providing direct assistance to the financial system that would eventually surpass \$1 trillion. In October 2008, legislation granting the Treasury Department authority to purchase up to \$700 billion in assets through the Troubled Assets Relief Program (TARP) was adopted.³ On March 18, 2009, the Federal Reserve announced plans to purchase more than \$1 trillion in assets, including \$750 billion in mortgage-backed securities and \$300 billion in long-term Treasury debt. On March 23, 2009, the Treasury announced a plan for a public-private partnership to purchase troubled assets, including one part that uses the Federal Deposit Insurance Corporation (FDIC) to insure loans and another part that would allow access to the Federal Reserve's Term Asset-Backed Securities Loan Facility (TALF).⁴

¹ A second stimulus plan (H.R. 7110) passed the House on September 26, but was not passed by the Senate. It included \$36.9 billion on infrastructure (\$12.8 billion highway and bridge, \$7.5 billion water and sewer, \$5 billion Corps of Engineers); \$6.5 billion in extended unemployment compensation; \$14.5 billion in Medicaid; and \$2.7 billion in food stamp and nutrition programs.

² For a discussion of the tax, housing, and unemployment legislation adopted in the 110th Congress, see CRS Report RS22850, *Tax Provisions of the 2008 Economic Stimulus Package*, by Jane G. Gravelle; CRS Report RS22172, *The Conforming Loan Limit*, by N. Eric Weiss and Mark Jickling; and CRS Report RS22915, *Temporary Extension of Unemployment Benefits: Emergency Unemployment Compensation (EUC08)*, by Julie M. Whittaker and Alison M. Shelton.

³ See CRS Report RL34427, *Financial Turmoil: Federal Reserve Policy Responses*, by Marc Labonte, for a discussion of Federal Reserve Policy and CRS Report RL34730, *Troubled Asset Relief Program: Legislation and Treasury Implementation*, by Baird Webel and Edward V. Murphy.

⁴ For further discussion see CRS Report RL34730, *Troubled Asset Relief Program: Legislation and Treasury Implementation*, by Baird Webel and Edward V. Murphy.

This report first discusses the current state of the economy, including measures that have already been taken by the monetary authorities. The next section reviews the economic stimulus package. The following section assesses the need for, magnitude of, design of, and potential consequences of fiscal stimulus. The final section of the report discusses recent and proposed financial interventions.

The Current State of the Economy⁵

The need for fiscal stimulus depends, by definition, on the state of the economy. According to the NBER, the official arbiter of the business cycle, the economy has been in recession since December 2007. It defines a recession as a “significant decline in economic activity spread across the economy, lasting more than a few months” based on a number of economic indicators, with an emphasis on trends in employment and income.⁶

Economic growth rose by 2.1% in the fourth quarter of 2007 and then fell by 0.7% in the first quarter of 2008; it increased by 1.5% in the second quarter of 2008. Real GDP decreased by 2.7% in the third quarter of 2008 and by 5.4% in the fourth quarter. The contraction of GDP continued into 2009, with a decrease by 6.4% in the first quarter and a second quarter fall of 0.7%. However, after four consecutive quarters of decline, 2009 third quarter estimates indicate a real GDP increase of 2.8%.⁷ The latest consensus forecast predicts that GDP will expand in 2010, with output increasing at an annual rate of 2.7% in the first quarter, 2.9% in the second quarter, 2.8% in the third quarter, and 3.0% in the final quarter of 2010.⁸

According to one data series, employment fell in every month of 2008. The deepening of the downturn following September can also be seen in the movement of the unemployment rate. The unemployment rate, which was 4.8% in February 2008, rose to 6.1% in August and September, and has steadily risen since, reaching 9.7% in June 2009; it declined slightly to 9.4% in July 2009 and rose to 10.2% in October 2009, the highest rate since April 1983.

After a long and unprecedented housing boom, house prices fell 12% from peak to trough,⁹ and residential investment has fallen by more than half. This marked possibly the first year of falling house prices since the Great Depression, according to one organization that compiles the data.¹⁰ The decline in residential investment has acted as a drag on overall GDP growth, whereas the other components of GDP grew at more healthy rates until the third quarter of 2008. Many economists argued that the housing boom was not fully caused by improvements in economic

⁵ This section was prepared by Marc Labonte of the Government and Finance Division.

⁶ National Bureau of Economic Research, *The NBER's Recession Dating Procedure*, January 7, 2008.

⁷ U.S. Department of Commerce, Bureau of Economic Analysis, news release <http://www.bea.gov/newsreleases/national/gdp/gdpnewsrelease.htm>, visited November 27, 2009.

⁸ Blue Chip, *Economic Indicators*, vol. 34, no.11, November 10, 2009.

⁹ Based on the Federal Housing Finance Administration's Purchase-Only House Price Index, a national measure of single-family houses with conforming mortgages based on resale data. Available through the Federal Housing Finance Agency, available at <http://www.fhfa.gov/Default.aspx?Page=87>.

¹⁰ Michael Grynbaum, “Home Prices Sank in 2007, and Buyers Hid,” *New York Times*, January 25, 2008. Prices are compiled by the National Association of Realtors.

fundamentals (such as rising incomes and lower mortgage rates), and instead represented a housing *bubble*—a situation where prices were being pushed up by “irrational exuberance.”¹¹

Most economists believed that a housing downturn alone would not be enough to singlehandedly cause a recession.¹² But in August 2007, the housing downturn spilled over to widespread financial turmoil.¹³ Triggered by a dramatic decline in the price of subprime mortgage-backed securities and collateralized debt obligations, large losses and a decline in liquidity spread throughout the financial system. Although the real production of goods and services showed unexpected resilience until the fourth quarter of 2008, the ability of private borrowers to access credit markets remained restricted throughout the year. Evidence of a credit crunch was seen in the persistence of wide spreads between the interest rates that private borrowers paid for credit and the yields on Treasury securities of comparable maturity.

The Fed was forced to create unusually large amounts of liquidity to keep short-term interest rates from rising in August 2007, and has since reduced interest rates significantly. The Fed has gradually reduced the federal funds target rate from 5.25% to a range of 0 to 0.25%, and it remains at this level as of November 4, 2009.¹⁴ In addition, the Fed has lent directly to financial institutions through an array of new facilities, and the amounts of loans outstanding has at times exceeded a trillion dollars.¹⁵ A reduction in lending by financial institutions in response to uncertainty or financial losses is another channel through which the economy entered a recession.

To date, financial markets remain volatile, new losses have been announced at major financial institutions, and responses outside traditional monetary policy have been undertaken. Last March, the financial firm Bear Stearns encountered liquidity problems, was purchased, after a plummet in stock value, by JPMorgan Chase with financial assistance from the Fed. Then in July, the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac experienced rapidly falling equity prices in response to concerns about the value of their mortgage-backed securities assets. In July, Congress authorized Treasury to extend the GSEs an unlimited credit line (which has not been utilized to date) in the Housing and Economic Recovery Act of 2008 (P.L. 110-289) because of concern that the failure of a GSE would cause a systemic financial crisis. The federal government took control of Fannie Mae and Freddie Mac in early September.

According to news reports in the fall of 2008, government officials decided not to intervene on behalf of Lehman Brothers and Merrill Lynch;¹⁶ on September 14, Bank of America took over Merrill Lynch without federal intervention, and on September 15, Lehman Brothers filed for bankruptcy. The Treasury and Federal Reserve were trying to engineer a private bailout of the nation’s largest insurance company, AIG, but on September 16 seized control with an \$85 billion emergency loan, which would later be increased.¹⁷

¹¹ For more information, see CRS Report RL34244, *Would a Housing Crash Cause a Recession?*, by Marc Labonte.

¹² See, for example, Frederic Mishkin, “Housing and the Monetary Transmission Mechanism,” working paper presented at the Federal Reserve Bank of Kansas City symposium, August 2007.

¹³ See CRS Report RL34182, *Financial Crisis? The Liquidity Crunch of August 2007*, by Darryl E. Getter et al.

¹⁴ Federal Reserve Board, *Federal Open Market Committee Statement*, November 4, 2009.

¹⁵ See CRS Report RL34427, *Financial Turmoil: Federal Reserve Policy Responses*, by Marc Labonte.

¹⁶ David Cho and Neil Irwin, “No Bailout: Feds Made New Policy Clear in One Intense Weekend,” *Washington Post*, September 16, 2008, pp. A1, A6-A7.

¹⁷ Glenn Kessler and David S. Hilzenrath, “AIG at Risk; \$700 Billion in Shareholder Value Vanishes,” *Washington Post*, September 16, 2008; U.S. Seizes Control of AIG With \$85 Billion Emergency Loan, *Washington Post*, (continued...)

On September 18, Administration and Federal Reserve officials, with the bipartisan support of the congressional leadership, announced a massive intervention in the financial markets.¹⁸ The proposal asked for authority to purchase up to \$700 billion in assets over the next two years. The Treasury had also provided insurance for money market funds, where withdrawals have been significant. These proposals suggested that government economists see problems with the transmission of traditional monetary stimulus into the financial sector and ultimately into the broader economy, where a significant contraction of credit could significantly reduce aggregate demand. Although the legislation passed with some delay, the stock market fell significantly. The original proposal had discussed buying mortgage related assets, particularly mortgage-backed securities, but the Treasury indicated it will spend the initial \$250 billion on preferred stock in financial institutions. The Fed has also announced purchases of commercial paper, \$200 billion of asset-backed securities, and \$600 billion of mortgage-related securities; the government has also announced a plan to guarantee certain assets of Citigroup and Bank of America. On March 18, the Fed announced plans to purchase more than \$1 trillion in assets, including \$750 billion in mortgage-backed securities and \$300 billion in long-term Treasury debt. On March 23, 2009, the Treasury announced a plan for a public-private partnership to purchase troubled assets, including one part that uses the Federal Deposit Insurance Corporation (FDIC) to insure loans and another part that would allow access to the Federal Reserve's Term Asset-Backed Securities Loan Facility (TALF).¹⁹

As the economy and financial sector had been grappling with the housing downturn, energy prices had risen significantly, from \$48 per barrel in January 2007 to \$115 per barrel on April 30, 2008, and \$144 as of July 2, 2008. After that, oil prices began a downward trend, and had fallen below \$70 by October and \$60 by the end of November. The price reached \$43 per barrel on December 10, 2008, but has since increased to about \$80 per barrel as of November 4, 2009.²⁰ Most recessions since World War II, including the most recent, have been preceded by an increase in energy prices.²¹ Energy prices had gone up almost continuously in the current expansion, however, without causing a recession, which may point to the relative decline in importance of energy consumption to production. Although a housing downturn, financial turmoil, or an energy shock might not be enough to cause a recession in isolation, the combination was sufficient.

(...continued)

September 17, 2008, pp. A1, A8.

¹⁸ See CRS Report RL34730, *Troubled Asset Relief Program: Legislation and Treasury Implementation*, by Baird Webel and Edward V. Murphy.

¹⁹ For further discussion, see CRS Report RL34730, *Troubled Asset Relief Program: Legislation and Treasury Implementation*, by Baird Webel and Edward V. Murphy.

²⁰ U.S. Department of Energy, Energy Information Administration, *Selected Crude Oil Spot Prices*.

²¹ For more information, see CRS Report RL31608, *The Effects of Oil Shocks on the Economy: A Review of the Empirical Evidence*, by Marc Labonte.

The 2009 Stimulus Package²²

Preliminary Discussions

On December 15, House Speaker Pelosi suggested a \$600 billion package with \$400 billion of spending and \$200 billion in tax cuts as a starting point for discussion. It was reported that the package would include infrastructure spending, aid to the states, unemployment compensation, and food stamps. Earlier, on December 11, Finance Committee Chairman Baucus suggested that half of an expected \$700 billion plan might be in tax cuts; he mentioned child tax credits, state and local property tax deductions, the R&D tax credit, the marriage penalty, tax exempt bonds and energy incentives. House Republican Leader Boehner proposed a tax package that included increases in the child tax credit, suspending the capital gains tax on newly acquired assets, increasing expensing, extending bonus depreciation and raising the share of costs expensed from 50% to 75%, extending net operating loss carrybacks to three years, lowering the corporate tax rate from 35% to 25%, and expanding energy subsidies.

Reports on December 29 suggested that President-elect Obama would propose a package of \$670 billion to \$770 billion, but that additions in Congress might raise the total to \$850 billion. The package was reported to include \$100 billion in aid to the states to fund Medicaid, possibly with additional grants, and at least \$350 billion for public works, alternative energy, health care and school modernization, and expanding unemployment insurance and food stamp benefits. The package would also include middle class tax cuts, possibly including changes to the child credit, state and local property taxes, marriage penalties, the R&D tax credit and tax exempt bonds.

Following a meeting between President-elect Obama and congressional leaders on January 5, news reports indicated that the share of the package directed at tax cuts would increase to about 40%, perhaps \$300 billion. President-elect Obama suggested a credit for working families of up to \$1,000 for couples and \$500 for singles. Business provisions that were discussed included extensions of the bonus depreciation and small business expensing enacted in February 2008 that expired at the end of 2008 as well as an extended net operating loss carryback provision that was discussed but not enacted in 2008. Also discussed was an expansion of the first-time homebuyers credit adopted in the 2008 housing legislation and expanding renewable energy incentives. A payroll tax holiday was also discussed.

News reports on January 9 indicated some resistance of congressional lawmakers to two provisions in President-elect Obama's plan: a \$3,000 tax credit for employers who hire new workers and the working families credit which provides for a credit of 6.2% of earnings up to a ceiling of \$500 for individuals and \$1,000 for married couples. Some were concerned that the employer tax credit would not benefit distressed firms and will be difficult to administer. There were also concerns about the effects of a tax benefit of small magnitude having an effect if reflected in withholding, although many economists suggest that a larger fraction of income received in small increments is spent.

²² This section was prepared by Jane Gravelle and Thomas Hungerford, Government and Finance Division.

House Proposal

The House proposal of the American Recovery and Reinvestment Act (H.R. 1) was composed of both spending and tax cuts. The spending proposals, which total \$518.7 billion, included \$54 billion for energy efficiency (\$32 billion to improve the energy grid and encourage renewable energy, \$16 billion to repair and retrofit public housing; \$6 billion to weatherize modest income homes); \$16 billion for science and technology (\$10 billion for research, \$6 billion to expand broadband access in rural and underserved areas); \$90 billion for infrastructure (\$30 billion for highways, \$31 billion for public infrastructure that leads to energy cost savings, \$19 billion for clean water, flood control and environmental infrastructure, \$10 billion for transit and rail); \$141.6 billion for education (\$41 billion to local school districts dedicated to specific purposes, \$79 billion to prevent cutbacks in state and local services including \$39 billion to local school districts and public colleges and universities distributed through existing formulas, \$15 billion to states for meeting performance measures, \$25 billion to states for other needs, \$15.6 billion to increase the Pell grant by \$500, \$6 billion for higher education modernization); \$24.1 billion for health (\$20 billion in health information technology and \$4.1 billion for preventive care); \$102 billion for transfer payments (\$43 billion for unemployment benefits and job transit benefits, \$39 billion to cover health care for unemployed workers, \$20 billion for food stamps); and \$91 billion to the states (\$87 billion in general revenues by temporarily increasing the Medicaid matching rate and \$4 billion for law enforcement).

The proposal also contained \$275 billion in tax cuts, which was reduced by a small revenue gain from limits on built-in losses. The tax elements included temporary income tax cuts for individuals included the Making Work Pay tax credit—a 6.2% credit for earnings with a maximum of \$500 for singles and \$1,000 for couples, phased out for taxpayers with incomes over \$75,000 (\$150,000 for joint returns)—with a \$145.3 billion 10-year cost, \$4.7 billion for a temporary increase in the earned income credit, \$18.3 billion to make the child credit fully refundable, \$13.7 billion to expand higher education tax credits and make them 40% refundable (the refundability feature accounts for \$3.5 billion). Tax provisions for business, which would have lost revenue in FY2009-FY2010 and gain revenue thereafter, included \$37.8 billion for extending bonus depreciation, \$59.1 billion for a temporary five year loss carryback for 2008 and 2009 (except for recipients of TARP funds; and electing firms would reduce losses by 10%), and \$1.1 billion for extending small business expensing. A series of provisions related to tax exempt bonds aimed at aiding state and local governments, which would have cost \$1.3 billion for FY2009-FY2010, but \$37.3 billion from FY2009-FY2019. Almost half the revenue loss would have arisen from allowing taxable bond options which to make bonds attractive to tax exempt investors. Other major provisions measured by dollar cost were qualified school construction bonds, recovery zone bonds, and provisions to allow financial institutes more freedom to buy tax exempt bonds. A permanent provision would have repealed the 3% withholding for government contractors, which would not have lost revenue until 2011 and would have cost \$10.9 billion for FY2009-FY2019. Energy provisions, some permanent and some temporary, would have totaled \$5.4 billion in FY2009-FY2011 and \$20.0 billion in FY2009-FY2019. There was also a provision substituting grants for credits for certain energy projects which would have shifted benefits to the present. The proposal also included a provision to eliminate the requirement for paying back credit for first-time homebuyers unless they sell their homes within three years (\$2.5 billion for 2009-2019). There was also a substitution of grants for the low income housing credit, which would have shifted benefits to the current year (\$3 billion). A minor provision (\$208 million for FY2009-2019) would have provided incentives for hiring unemployed veterans and disconnected youth. Repeal (prospectively) a Treasury ruling made in 2008 that allowed financial institutions to carry over losses in an acquisition (gains \$7 billion for FY2009-FY2010).

The bill passed the House on January 28, with an additional of \$3.7 billion, primarily for transit funds, bringing the total cost to \$820 billion.

Senate Proposal

The Senate passed a bill (a substitute for H.R. 1) with \$838 billion in spending and tax cuts. The higher cost was primarily due to the addition of the Alternative Minimum Tax (AMT) “patch” (see below).

The tax provisions were similar to the House tax bill in many respects. The bill, however, did not fully refund the child credit and made 30% of tuition credits refundable, but allowed an exclusion of up to \$2,400 of unemployment benefits. The Senate bill also included a \$15,000 homeownership tax credit at a 10-year cost of \$35 billion and an above-the-deduction for certain costs of a new automobile purchase (\$11 billion 10-year cost). It would not have required net operating losses to be reduced, as in the House bill. It added provisions for businesses including an election to accelerate alternative minimum tax and research and experimentation credits in lieu of bonus depreciation, a deferral of tax on income from cancellation of indebtedness, an increase in the exclusion for small business stock. It also altered the size and mix of tax exempt bond provisions, with the total cost of \$22.6 billion, and changed some energy provisions. The bill also included a \$300 per adult payment to individuals eligible for Social Security, Railroad Retirement, Veterans benefits, and Supplemental Security Income, at a cost of \$17 billion, and provided a one year increase in the ATM “patch” exemption, at a cost of \$70 billion. Overall, the tax cuts were \$368.4 billion. The measure also included \$87 billion in Medicaid funding for the states, \$20 billion to provide health insurance for unemployed workers, and \$16 billion to provide for health information technology.

The details of the spending provisions amounted to \$290 billion in discretionary spending and \$260 billion in direct spending.²³ One category of provisions would have provided \$116 billion for infrastructure and science, including \$5.9 billion for the Department of Homeland Security and border stations, \$7 billion for broadband technology, provisions in infrastructure and science for a variety of federal programs (e.g., \$4.6 billion for the corps of engineers, \$9.3 billion for defense and veterans), \$27 billion for highways, \$8.4 billion for mass transit, \$10.9 billion for grants and other transportation, \$8.6 billion for public housing, \$15 billion for environmental programs, and \$4.3 billion for science. The bill would have provided \$84 billion for education and training, with the majority, \$79 billion, in grants to states and localities, and also included \$13 billion in Title 1, and \$3.9 billion in Pell grants. Energy programs accounted for \$43 billion; \$23 billion would have been provided for nutrition, early childhood, and similar programs; and \$14 billion for health. The Senate bill also contained a limit on executive compensation at firms receiving assistance from TARP.

The American Recovery and Reinvestment Act of 2009

The American Recovery and Reinvestment Act of 2009 (P.L. 111-5) was signed by President Obama on February 17, 2009. The version of the act signed into law has several provisions similar to the House and Senate proposals. The total 10-year cost, at \$787 billion, is lower than both versions initially passed by the House and Senate, however. The spending parts of the act

²³ The direct spending also includes \$83.7 billion in the refundable portion of tax credits.

account for 63.7% of the total cost (\$501.6 billion) and the tax provisions account for 36.3% (\$285.6 billion). The act includes the \$70 billion AMT “patch” and an executive compensation limitation for TARP recipients.

Many of the tax and spending provisions of the act were scaled down from the House and Senate proposals. The Making Work Pay tax credit was scaled back to \$116.2 billion between FY2009 and FY2011 and provides a tax credit of up to \$400 for a single taxpayer and \$800 of joint taxpayers. The temporary increase in the earned income credit is projected to cost \$4.7 billion over 10 years and the child tax credit is projected to cost \$14.8 billion. The act also includes a \$8,000 first-time homebuyer credit with a 10-year cost of \$6.6 billion, an above-the-line deduction for sales tax on a new automotive purchase (\$1.7 billion), a \$2,400 exclusion of unemployment compensation benefits (\$4.7 billion), and a \$250 payment to recipients of Social Security, SSI, Railroad Retirement benefits, and certain veterans benefits (\$14.2 billion).²⁴

The business tax provisions are projected to lose \$75.9 billion in revenues for FY2009 and FY2010, but gain revenue in the future; the total 10-year revenue loss is projected to be \$6.2 billion. Other business tax provisions include an extension of bonus depreciation (\$5.1 billion revenue loss), a five-year carryback of net operating losses for small businesses (\$0.9 billion), delayed recognition of certain cancellation of debt income (\$1.6 billion), an increase in the small business capital gains exclusion from 50% to 75% (\$0.8 billion), and incentives to hire unemployed veterans and disconnected youth (\$0.2 billion).

The energy tax provisions amount to \$20 billion over 10 years and \$3.4 billion for FY2009-FY2011. The major energy provision is a long-term extension and modification of renewable energy production tax credits (\$13.1 billion over 10 years). The act alters the size and mix of tax-exempt bond provisions with a total 10-year cost of \$25 billion.

The discretionary appropriations provisions of the act provide \$311 billion in appropriations between FY2009 and FY2019. Investments in infrastructure and science account for \$120 billion and education and training programs are to receive \$106 billion. Health programs are set to receive \$14.2 billion, the Supplemental Nutrition Assistance Program (formerly food stamps) will receive \$20 billion, Head Start \$2.1 billion, and \$2 billion for the child care development block grant. Almost \$40 billion will be used for investments in energy infrastructure and programs. Increases for direct spending programs include \$57.3 billion for assistance to unemployed workers and struggling families, \$25.1 billion for health insurance assistance, \$20.8 billion for health information technology, and \$90.0 billion for state fiscal relief.

Discussion

Fiscal stimulus is only effective when the policy options increase aggregate demand. Many economists view fiscal policy as less effective than monetary policy in an open economy. As mentioned earlier in this report, however, several monetary policy options have already been employed for several months.

Fiscal stimulus can involve tax cuts, spending, or a combination of both. Tax cuts may be less effective than spending because some of the tax cut may be saved, which diminishes the

²⁴ There is also a \$250 tax credit for federal and state pensioners not eligible for Social Security with a \$218 million 10-year cost.

effectiveness of the stimulus. Some argue that tax cuts that are temporary, that appear in a lump sum rather than in withholding, or that are aimed at higher income individuals are more likely to be saved. Some evidence suggests that two-thirds of the 2001 tax rebate was spent within two quarters.

The challenge to spending programs is that there may be a lag time for planning and administration before the money is spent. For that reason, infrastructure spending is often discussed in the context of “ready-to-go” projects where all of the planning is in place and the only missing factor is funding. The U.S. Conference of Mayors has identified \$73 billion of these projects and urged some funds to be given directly to localities; the American Association of State Highway and Transportation Officials has identified \$64 billion of these projects; the National Association of Counties has identified \$9.9 billion. Some analysts suggest that aid to state and local governments may be more quickly spent because these governments are likely to cut back on spending in downturns due to balanced budget requirements, and the aid may forestall these cuts.²⁵ The Congressional Budget Office (CBO) score for the spending (discretionary and direct) portion of the act estimates that about 21% will be spent in FY2009, and 38% in FY2010.²⁶ Overall, about 74% of the spending and tax provisions are estimated to reach the public by the end of FY2010. However, if the AMT “patch” is omitted then about 70% is estimated to reach the public by the end of FY2010. According to the Obama Administration, the total payout for ARRA through October 30, 2009, is \$83.8 billion in tax benefits (10.6% of ARRA total), \$52.1 billion in contracts, grants, and loans (6.6% of ARRA total), and \$71.4 billion in new entitlement spending (9.1% of ARRA).²⁷

The receipt of tax cuts can also be delayed. For example, according to Joint Committee on Taxation estimates of the Making Work Pay credit revenue losses, 17% of the total would be received in FY2009.²⁸ The benefit is provided in the form of withholding; since the measure was not in place on January 1, some benefit would be delayed until tax returns are filed. Close to 50% would be received in FY2009 if a rebate mechanism were used (based on estimates of a similar provision considered in 2008 at about the same time of the year, 93% of the rebate was projected to be received in the current fiscal year). There is some limited evidence that periodic payments are more likely to be spent than lump sum payments, but that evidence is subject to uncertainty and is not of a magnitude that the withholding approach would result in a larger short run stimulus than a rebate.²⁹ In the second year, 57% would be received.

²⁵ See CRS Report R40107, *The Role of Public Works Infrastructure in Economic Stimulus*, coordinated by Claudia Copeland, and CRS Report 92-939, *Countercyclical Job Creation Programs*, by Linda Levine.

²⁶ CBO, Letter to the Honorable Nancy Pelosi, Estimated Budget Impact of the Conference Agreement for H.R. 1, February 13, 2009.

²⁷ Current data on ARRA spending are at the Administration’s website covering implementation and oversight of the stimulus, available at <http://www.recovery.gov/>.

²⁸ Joint Committee on Taxation, *Estimated Effects of the Revenue Provisions Contained in the Conference Agreement for H.R. 1, The “American Recovery and Reinvestment Act of 2009”*, available at <http://www.house.gov/jct/x-19-09.pdf>.

²⁹ This issue does not address the difference between temporary and permanent tax cuts; economists expect the latter to have more effect on consumption, but a permanent tax cut would result in budget pressures after recovery. Alan S. Blinder, “Temporary Income Taxes and Consumer Spending” *The Journal of Political Economy*, Vol. 89, February 1981, pp. 26-53, found the rebate 38% as effective as a permanent change and a withholding approach 50%, suggesting that the rebate would be 75% as effective as withholding. James M. Poterba, “Are Consumers Forward Looking?” *American Economic Review*, Vol. 78, (May 1988), pp. 413-418 found only 20% spent. Many economists have reservations about estimates using aggregate data, however, because of the difficulties of determining the counterfactual. For that reason, many researchers turned to comparisons of households with different amounts of tax (continued...)

Several studies have estimated the effects of the proposed package on the economy. Romer and Bernstein estimate an increase of 3.7 million jobs by the fourth quarter of 2010; Zandi estimates 3.3 million in 2010.³⁰ The Romer-Bernstein estimates were criticized by Cogan et al. as being too large.³¹ Citing uncertainty surrounding the effects of fiscal stimulus, CBO projects that the ARRA would boost GDP in 2009 by a range of 1.4% to 3.8% and employment by a range of 0.8 million to 2.3 million compared with what it otherwise would have been. In 2010, CBO projects that the ARRA would boost GDP by 1.1% to 3.3% and employment by 1.2 million to 3.6 million in 2010 compared with what it otherwise would have been. Starting in 2014, CBO projects that the ARRA would cause GDP to be slightly lower than it otherwise would have been due to “crowding out” effects described in the section titled “Long-Term Effects.” The Council of Economic Advisors (CEA) is charged with providing a quarterly report on the effects of the legislation; that report estimates that the stimulus increased GDP growth by 2-3 percentage points in the second and third quarters and increased employment by 600,000 to 1.1 million jobs in the third quarter.³²

Issues Surrounding Fiscal Stimulus³³

The Magnitude of a Stimulus

The most important determinant of a stimulus’ macroeconomic effect is its size. The 2008 stimulus package (P.L. 110-185) increased the budget deficit by about 1% of gross domestic product (GDP). In a healthy year, GDP grows about 3%. In the moderate recessions that the United States experienced in 1990-1991 and 2001, GDP contracted in some quarters by 0.5% to

(...continued)

cuts. Two studies of spending out of refunds (lump sum receipts) and spending out of withholding in the first Reagan tax cut found that 35% to 60% of refunds were spent but 60% to 90% of the withholding was spent (See Nicholas Souleles, “The Response of Household Consumption to Income Tax Refunds,” *American Economic Review*, vol. 89 (September 1999), pp. 947-958; and Nicholas Souleles, “Consumer Response to the Reagan Tax Cuts,” *Journal of Public Economics*. Vol. 85, pp. 99-120.). This research suggests a significant fraction of a temporary tax cut is spent, but that the lump sum has an effect that is about two thirds of the effect of withholding. This comparison is, however, somewhat clouded by the possibility that individuals may use tax refunds as a method of forced savings and not intend to spend them. In both cases, however, there is evidence of an effect for temporary tax cuts. Research on the 2001 rebate also indicates a significant amount was spent: David S. Johnson, Jonathan A. Parker, and Nicholas S. Souleles, “Household Expenditures and the Income Tax Rebate of 2001,” *American Economic Review*, Vol. 96, December 2006, pp. 1589-1610 find over two thirds spent within two quarters. For other research see CRS Report RS21126, *Tax Cuts and Economic Stimulus: How Effective Are the Alternatives?*, by Jane G. Gravelle. Not included in that discussion are survey data asking individuals about their spending, as individuals themselves may not know what they spent. A preliminary study of the 2008 rebate also found significant spending: Christian Broda and Jonathan Parker, “The Impact of the 2008 Tax Rebates on Consumer Spending: Preliminary Evidence,” Mimeo, University of Chicago and Northwestern University, July 29, 2008: <http://online.wsj.com/public/resources/documents/WSJ-2008StimulusStudy.pdf>.

³⁰ Christina Romer and Jared Bernstein, “The Job impact of the American Recovery and Reinvestment Plan, Chair, Nominee Designate Council of Economic Advisors and Office of the Vice President Elect, January 9, 2009, http://otrans.3cdn.net/45593e8ecbd339d074_13m6bt1te.pdf; Mark Zandi, “The Economic Impact of the American Recovery and Reinvestment Act,” January 21, 2009, http://www.economy.com/mark-zandi/documents/Economic_Stimulus_House_Plan_012109.pdf.

³¹ John Cogan et al., *New Keynesian vs. Old Keynesian Government Spending Multipliers*, National Bureau of Economic Research, Working Paper 4782, March 2009.

³² Council of Economic Advisors, *The Economic Impact of the American Recovery and Reinvestment Act of 2009*, September 10, 2009, http://www.whitehouse.gov/assets/documents/CEA_ARRA_Report_Final.pdf.

³³ This section was prepared by Marc Labonte, Government and Finance Division.

3%. (The U.S. economy has not experienced contraction in a full calendar year since 1991.) Thus, a swing from expansion to recession would result in a change in GDP growth equal to at least 3.5 percentage points. A stimulus package of 1% of GDP could be expected to increase total spending by about 1%.³⁴ To the extent that spending begets new spending, there could be a multiplier effect that makes the total increase in spending larger than the increase in the deficit. Offsetting the multiplier effect, the increase in spending could be neutralized if it results in crowding out of investment spending, a larger trade deficit, or higher inflation. The extent to which the increase in spending would be offset by these three factors depends on how quickly the economy is growing at the time of the stimulus—an increase in the budget deficit would lead to less of an increase in spending if the economy were growing faster.

Thus, if the recession is mild, additional stimulus may not be necessary for the economy to revive. If, on the other hand, the economy has entered a deeper, prolonged recession, as some economists believe to be likely, then fiscal stimulus may not be powerful enough to avoid it. Since the current recession has already lasted longer than the historical average, it may end before further fiscal stimulus can be enacted. Economic forecasts are notoriously inaccurate due to the highly complex and changing nature of the economy, so there is significant uncertainty as to how deep the downturn will be, and how much fiscal stimulus would be an appropriate response.

The American Recovery and Reinvestment Act of 2009 will increase the budget deficit by about 1.3% in 2009 and an additional 2.2% (or 3.5% overall) in 2010. Some believe that circumstances warrant a larger stimulus—GDP in FY2009 is expected to contract by more than size of the stimulus in 2009. Others have expressed reservations that the deficit is already too large and, at least with respect to spending, it would be difficult to spend such large amounts without financing wasteful projects. Although the act authorizes \$379 billion of spending in 2009, CBO estimates a outlays of only \$120 billion because it does not project that executive agencies can spend the total amount authorized in this fiscal year.

Bang for the Buck

In terms of first-order effects, any stimulus proposal that is deficit financed would increase total spending in the economy.³⁵ For second-order effects, different proposals could get modestly more “bang for the buck” than others if they result in more total spending. If the goal of stimulus is to maximize the boost to total spending while minimizing the increase in the budget deficit (in order to minimize the deleterious effects of “crowding out”), then maximum bang for the buck would be desirable. The primary way to achieve the most bang for the buck is by choosing policies that result in spending, not saving.³⁶ Direct government spending on goods and services would therefore lead to the most bang for the buck since none of it would be saved. The largest categories of direct federal spending are national defense, health, infrastructure, public order and safety, and natural resources.³⁷

³⁴ See, for example, “Options for Responding to Short-term Economic Weakness,” Testimony of CBO Director Peter Orszag before the Committee on Finance, January 22, 2008.

³⁵ There may be a few proposals that would not increase spending. For example, increasing tax incentives to save would probably not increase spending significantly. These examples are arguably exceptions that prove the rule.

³⁶ Policies that result in more bang for the buck also result in more crowding out of investment spending, which could reduce the long-term size of the economy (unless the policy change increases public investment or induces private investment).

³⁷ For the purpose of this discussion, government transfer payments, such as entitlement benefits, are not classified as (continued...)

Higher government transfer payments, such as extended unemployment compensation benefits or increased food stamps, or tax cuts could theoretically be spent or saved by their recipients.³⁸

Although there is no way to be certain how to target a stimulus package toward recipients who would spend it, many economists have reasoned that higher income recipients would save more than lower income recipients because U.S. saving is highly correlated with income. For example, two-thirds of families in the bottom 20% of the income distribution did not save at all in 2004, whereas only one-fifth of families in the top 10% of the income distribution did not save.³⁹ Presumably, recipients in economic distress, such as those receiving unemployment benefits, would be even more likely to spend a transfer or tax cut than a typical family.

The effectiveness of tax cuts also depends on their nature. As discussed above, tax cuts received by lower income individuals are more likely to be spent. Some economists have also argued that temporary individual tax cuts, such as the 2001 and 2008 rebates, are more likely to be saved; however, evidence on the 2001 tax rebate suggests most was eventually spent, and debate continues on the effect of the 2008 rebate. Most evidence does not suggest that business tax cuts would provide significant short-term stimulus. Investment incentives are attractive, if they work, because increasing investment does not trade off short term stimulus benefits for a reduction in capital formation, as do provisions stimulating consumption. Nevertheless, most evidence does not suggest these provisions work very well to induce short-term spending. This lack of effectiveness may occur because of planning lags or because stimulus is generally provided during economic slowdowns when excess capacity may already exist. Of business tax provisions, investment subsidies are more effective than rate cuts, but there is little evidence to support much stimulus effect. Temporary bonus depreciation is likely to be most effective in stimulating investment, more effective than a much costlier permanent investment incentive because it encourages the speed-up of investment. Although there is some dispute, most evidence on bonus depreciation enacted in 2002 nevertheless suggests that it had little effect in stimulating investment and that even if the effects were pronounced, the benefit was too small to have an appreciable effect on the economy. The likelihood of the remaining provisions having much of an incentive effect is even smaller. Firms may, for example, benefit from the small business expensing, but it actually discourages investment in the (expanded) phase out range.⁴⁰ Net operating losses carrybacks do not increase incentives to spend, but do target cash to troubled businesses.

Mark Zandi of *Moody's Economy.com* has estimated multiplier effects for several different policy options, as shown in **Table 1**.⁴¹ The multiplier estimates the increase in total spending in the

(...continued)

government spending.

³⁸ Food stamps cannot be directly saved since they can only be used on qualifying purchases, but a recipient could theoretically keep their overall consumption constant by increasing their other saving.

³⁹ Brian Bucks et al., "Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances," *Federal Reserve Bulletin*, vol. 92, February 2006, pp. A1-A38.

⁴⁰ For more information, see CRS Report RS21136, *Government Spending or Tax Reduction: Which Might Add More Stimulus to the Economy?*, by Marc Labonte; CRS Report RS21126, *Tax Cuts and Economic Stimulus: How Effective Are the Alternatives?*, by Jane G. Gravelle; CRS Report RL31134, *Using Business Tax Cuts to Stimulate the Economy*, by Jane G. Gravelle; and CRS Report RS22790, *Tax Cuts for Short-Run Economic Stimulus: Recent Experiences*, coordinated by Jane G. Gravelle. Also see *Fiscal Policy for the Crisis*, IMF Staff Position Note, December 29, 2008, SPN/08/01 <http://www.imf.org/external/np/pp/eng/2008/122308.pdf>.

⁴¹ Mark Zandi, "Washington Throws the Economy a Rope," *Dismal Scientist*, *Moody's Economy.com*, January 22, 2008.

economy that would result from a dollar spent on a given policy option. Zandi does not explain how these multipliers were estimated, other than to say that they were calculated using his firm's macroeconomic model. Therefore, it is difficult to offer a thorough analysis of the estimates. In general, many of the assumptions that would be needed to calculate these estimates are widely disputed (notably, the difference in marginal propensity to consume among different recipients and the size of multipliers in general), and no macroeconomic model has a highly successful track record predicting economic activity. Thus, the range of values that other economists would assign to these estimates is probably large. Qualitatively, most economists would likely agree with the general thrust of his estimates, however—spending provisions have higher multipliers because tax cuts are partially saved, and some types of tax cuts are more likely to be saved by their recipients than others. As discussed above, a noticeable increase in consumption spending has not yet accompanied the receipt of the rebates from the first stimulus package. (Note, however, that these effects do not account for the possibility of extensive delay in direct spending taking place.)

The CBO rankings of multipliers are similar to Zandi's.⁴² For government purchases and transfers to state and local governments for infrastructure, their multipliers are 1.0 in the low scenario and 2.5 in the high. For transfers to state and local governments not for infrastructure, the multipliers are 0.7 and 1.9. CBO sets the multipliers for transfers at 0.8 to 2.2, for temporary individual tax cuts at 0.5 to 1.7, and the tax loss carryback at 0 to 0.4. As with Zandi, these effects do not incorporate differentials in the rate of spending, however. In particular, they note that infrastructure spending will likely be delayed, while transfers would occur very quickly. Unlike Zandi, CBO emphasizes the broad uncertainty inherent in estimating multipliers.

⁴² Congressional Budget Office, "The State of the Economy and Issues in Developing an Effective Policy Response," Testimony of Douglas W. Elmendorf, Director, House Budget Committee, January 27, 2009.

Table 1. Zandi's Estimates of the Multiplier Effect for Various Policy Proposals

Policy Proposal	One-year change in real GDP for a given policy change per dollar
Tax Provisions	
Non-refundable rebate	1.02
Refundable rebate	1.26
Payroll tax holiday	1.29
Across the board tax cut	1.03
Accelerated depreciation	0.27
Extend alternative minimum tax patch	0.48
Make income tax cuts expiring in 2010 permanent	0.29
Make expiring dividend and capital gains tax cuts permanent	0.37
Reduce corporate tax rates	0.30
Spending Provisions	
Extend unemployment compensation benefits	1.64
Temporary increase in food stamps	1.73
Revenue transfers to state governments	1.36
Increase infrastructure spending	1.59

Source: Mark Zandi, Moody's Economy.com.

Timeliness

Timeliness is another criterion by which different stimulus proposals have been evaluated. There are lags before a policy change affects spending. As a result, stimulus could be delivered after the economy has already entered a recession or a recession has already ended. First, there is a legislative process lag that applies to all policy proposals—a stimulus package cannot take effect until bills are passed by the House and Senate, both chambers can reconcile differences between their bills, and the President signs the bill. Many bills get delayed at some step in this process. As seen in **Table 2**, many past stimulus bills have not become law until a recession was already underway or finished.⁴³

⁴³ The International Monetary Fund recently analyzed the “timeliness, temporariness, and targeting” of U.S. tax cuts from 1970 to 2008 in International Monetary Fund, *World Economic Outlook*, Washington, DC, October 2008, p. 172.

Table 2. Timing of Past Recessions and Stimulus Legislation

Beginning of Recession	End of Recession	Stimulus Legislation Enacted
November 1948	October 1949	October 1949
August 1957	April 1958	April 1958, July 1958
April 1960	February 1961	May 1961, September 1962
December 1969	November 1970	Aug. 1971
November 1973	March 1975	March 1975, July 1976, May 1977
July 1981	November 1982	January 1983, March 1983
July 1990	March 1991	December 1991, April 1993
March 2001	November 2001	June 2001

Source: Bruce Bartlett, "Maybe Too Little, Always Too Late," *New York Times*, January 23, 2008.

Second, there is an administrative delay between the enactment of legislation and the implementation of the policy change. For example, although the 2008 stimulus package was signed into law in February, the first rebate checks were not sent out until the end of April, and the last rebate checks were not sent out until July. When the emergency unemployment compensation (EUC08) program began in July 2008, there was about a three week lag between enactment and the first payments of the new EUC08 benefit. Many economists have argued that new government spending on infrastructure could not be implemented quickly enough to stimulate the economy in time since infrastructure projects require significant planning. (Others have argued that this problem has been exaggerated because existing plans or routine maintenance could be implemented more quickly.) Others have argued that although federal spending cannot be implemented quickly enough, fiscal transfers to state and local governments would be spent quickly because many states currently face budgetary shortfalls, and fiscal transfers would allow them to avoid cutting spending.⁴⁴ CBO's cost estimate of the ARRA conference agreement projected only \$120 billion in outlays for 2009.⁴⁵ According to ARRA spending totals reported by the Obama Administration as of October 30, 2009, the CBO projections are close to actual, with approximately \$123.5 billion in stimulus funds paid out currently on appropriations and direct spending.⁴⁶

Finally, there is a behavioral lag because time elapses before recipient of a transfer or tax cut increases its spending. For example, the initial reaction to the receipt of rebate checks was a large spike in the personal saving rate (see above). It is unclear how to target recipients that would spend most quickly, although presumably liquidity-constrained households (i.e., those with limited access to credit) would spend more quickly than others. In this regard, the advantage to direct government spending is that there is no analogous lag. Although monetary policy changes

⁴⁴ Transfers to state and local governments could be less stimulative than direct federal spending because state and local governments could, in theory, increase their total spending by less than the amount of the transfer. (For example, some of the money that would have been spent in the absence of the transfer could now be diverted to the state's budget reserves.) But if states are facing budgetary shortfalls, many would argue that in practice spending would increase by as much as the transfer.

⁴⁵ Congressional Budget Office, *Cost Estimate for the Conference Agreement for H.R. 1*, Letter to Honorable Nancy Pelosi, February 13, 2009.

⁴⁶ See *Overview of Spending* at <http://www.recovery.gov/>.

have no legislative or administrative lags, research suggests they do face longer behavioral lags than fiscal policy changes because households and business generally respond more slowly to interest rate changes than tax or transfer changes.

Long-Term Effects

A main factor in another round of fiscal stimulus may be the size of the current budget deficit. CBO estimates that the deficit for FY2009 was \$1.4 trillion, or 9.9% of GDP.⁴⁷ Deficits of this magnitude would set a peacetime record relative to GDP. Although current government borrowing rates are extremely low (because of the financial turmoil), there is a fear that a deficit of this size could become burdensome to service when interest rates return to normal. A larger deficit could eventually crowd out private investment, act as a drag on economic growth, and increase reliance on foreign borrowing (which would result in a larger trade deficit). By doing so, the deficit places a burden on future generations, and could further complicate the task of coping with long-term budgetary pressures caused by the aging of the population.⁴⁸ In the highly unlikely, worst case scenario, if too much pressure is placed on the deficit through competing policy priorities, then investors could lose faith in the government's ability to service the debt, and borrowing rates could spike.

Many of these issues could be minimized if the elements of the stimulus package are temporary—an increase in the budget deficit for one year would lead to significantly less crowding out over time than a permanent increase in the deficit. There is often pressure later to extend policies beyond their original expiration date, however. Among policy options, increases in public investment spending would minimize any negative effects on long-run GDP because decreases in the private capital stock would be offset by additions to the public capital stock. Also, tax incentives to increase business investment would offset the crowding out effect since the increase in aggregate spending was occurring via business investment.

The direct effect of the American Recovery and Reinvestment Act on the budget deficit is relatively small after 2011, although it leads to a permanent increase in interest payments on the national debt if not offset by future policy changes.

Should Stimulus be Targeted?

It is clear that the slowdown has been concentrated in housing and financial markets to date. Some economists have argued that as long as problems remain in these depressed sectors, then generalized stimulus will only postpone the inevitable downturn. For example, as long as financial intermediation remains impaired, access to credit markets will be limited and it will be difficult for stimulus to lead to sustained growth. (As noted above, separate legislation to support housing and financial markets was enacted in 2008.) If so, fiscal stimulus may, at most, provide a temporary boost as long as those problems are outstanding, but cannot singlehandedly shift the economy to a sustainable path of expansion. For example, the first stimulus package, enacted in the first quarter of 2008, did not prevent the economy from deteriorating further in the third quarter of 2008. Other economists argue that if the current housing bust is being caused by the

⁴⁷ Congressional Budget Office, *Monthly Budget Review: Fiscal Year 2009*, A Congressional Budget Office Analysis, October 7, 2009.

⁴⁸ See CRS Report RL32747, *The Economic Implications of the Long-Term Federal Budget Outlook*, by Marc Labonte.

unwinding of a bubble, then the government could be unable to reverse unavoidable market adjustment that is bringing those markets back to equilibrium. But some would argue that the best way to help a troubled sector is by boosting overall demand.

Is Additional Fiscal Stimulus Needed?

The economy naturally experiences a boom and bust pattern called the business cycle. A recession can be characterized as a situation where total spending in the economy (*aggregate demand*) is too low to match the economy's potential output (*aggregate supply*). As a result, some of the economy's labor and capital resources lay idle, causing unemployment and a low capacity utilization rate, respectively. Recessions generally are short-term in nature—eventually, markets adjust and bring spending and output back in line, even in the absence of policy intervention.⁴⁹

Policymakers may prefer to use stimulative policy to attempt to hasten that adjustment process, in order to avoid the detrimental effects of cyclical unemployment. By definition, a stimulus proposal can be judged by its effectiveness at boosting total spending in the economy. Total spending includes personal consumption, business investment in plant and equipment, residential investment, net exports (exports less imports), and government spending. Effective stimulus could boost spending in any of these categories.

Fiscal stimulus can take the form of higher government spending (direct spending or transfer payments) or tax reductions, but generally it can boost spending only through a larger budget deficit, as is the case with ARRA. A deficit-financed increase in government spending directly boosts spending by borrowing to finance higher government spending or transfer payments to households. A deficit-financed tax cut indirectly boosts spending if the recipient uses the tax cut to increase his spending. If an increase in spending or a tax cut is financed through a decrease in other spending or increase in other taxes, the economy would not be stimulated since the deficit-increasing and deficit-decreasing provisions would cancel each other out.

How much additional spending can stimulate economic activity depends on the state of the economy at that time. When the economy is in a recession, fiscal stimulus could mitigate the decline in GDP growth by bringing idle labor and capital resources back into use. When the economy is already robust, a boost in spending could be largely inflationary—since there would be no idle resources to bring back into production when spending is boosted, the boost would instead bid up the prices of those resources, eventually causing all prices to rise. While the recession deepened in the fourth quarter of 2008, a return to positive real GDP growth occurred by the third quarter of 2009. By historical standards, the recession would be expected to end before fiscal stimulus could be delivered, but forecasters are predicting this recession will be longer than usual. Most of the stimulus provided by ARRA will be delivered by 2011, and CBO is projecting that there will still be a significant output gap at that point.

Because total spending can be boosted only temporarily, stimulus has no long-term benefits, and may have long-term costs. Most notably, the increase in the budget deficit “crowds out” private investment spending because both must be financed out of the same finite pool of national saving, with the greater demand for saving pushing up interest rates.⁵⁰ To the extent that private

⁴⁹ For more information, see CRS Report RL34072, *Economic Growth and the Business Cycle: Characteristics, Causes, and Policy Implications*, by Marc Labonte.

⁵⁰ Crowding out is likely to be less of a concern when the economy is in recession since recessions are typically (continued...)

investment is crowded out by a larger deficit, it would reduce the future size of the economy since the economy would operate with a smaller capital stock in the long run. In recent years, the U.S. economy has become highly dependent on foreign capital to finance business investment and budget deficits.⁵¹ Because foreign capital can come to the United States only in the form of a trade deficit, a higher budget deficit could result in a higher trade deficit, in which case the higher trade deficit could dissipate the boost in spending as consumers purchase imported goods. Indeed, conventional economic theory predicts that fiscal policy has no stimulative effect in an economy with perfectly mobile capital flows.⁵² Some economists argue that these costs outweigh the benefits of fiscal stimulus.

Policies Previously Adopted

Stimulus has also been delivered from other fiscal changes and monetary policy. First, the federal budget has *automatic stabilizers* that cause the budget deficit to automatically increase (and thereby stimulate the economy) during a downturn in the absence of policy changes. When the economy slows, entitlement spending on programs such as unemployment compensation benefits automatically increases as program participation rates rise and the growth in tax revenues automatically declines as the recession causes the growth in taxable income to decline.

Second, any consideration for additional stimulus has to include the effects of stimulus previously enacted. According to CBO, the total deficit in FY2008 was \$455 billion, or 3.2% of gross domestic product, sharply higher than the FY2007 deficit of \$162 billion. In January 2008, CBO had projected that under current policy the budget deficit would increase by \$56 billion in 2008 compared with 2007. When the cost of the February 2008 stimulus package and part of the cost of financial market intervention in the fall of 2008 is added, the increase in the deficit for one year rose by nearly \$300 billion. For FY2009, CBO estimates the budget deficit at \$1.4 trillion or 9.9% of GDP.

Third, the Federal Reserve has already delivered a large monetary stimulus. By the end of April 2008, the Fed had reduced overnight interest rates to 2% from 5.25% in September 2007.⁵³ On December 16, the interest rate was lowered to a targeted range of 0% to 0.25%, and at a November 4, 2009, Federal Open Market Committee meeting it was announced that this target range would be maintained.⁵⁴ Typically, lower interest rates stimulate the economy by increasing the demand for interest-sensitive spending, which includes investment spending, residential housing, and consumer durables such as automobiles. Yet, the potential for stimulus caused by lower interest rates can be limited if tight credit markets constrain borrowing. In addition, lower

(...continued)

characterized by falling business investment.

⁵¹ If foreign borrowing prevents crowding out, the future size of the economy will not decrease but capital income will accrue to foreigners instead of Americans.

⁵² For more information, see CRS Report RS21409, *The Budget Deficit and the Trade Deficit: What Is Their Relationship?*, by Marc Labonte and Gail E. Makinen.

⁵³ For interest rate changes see CRS Report 98-856, *Federal Reserve Interest Rate Changes: 2001-2009*, by Marc Labonte.

⁵⁴ Federal Reserve Board, *Federal Open Market Committee Statement*, November 4, 2009.

interest rates can stimulate the economy by reducing the value of the dollar, all else equal, which would lead to higher exports and lower imports.⁵⁵

It could be viewed that the Federal Reserve has chosen a monetary policy that it believes will best achieve a recovery given the actions already taken. If it has chosen that policy correctly, an argument can be made that an additional fiscal stimulus is unnecessary since the economy is already receiving the correct boost in spending through lower interest rates and through the first stimulus package. In this light, additional fiscal stimulus would be useful only if monetary policy is unable to adequately boost spending—either because the Fed has chosen an incorrect policy or because the Fed cannot boost spending enough through lower interest rates and direct assistance to the financial sector to spark a recovery, and direct intervention in financial markets is not adequate.⁵⁶ (Now that interest rates have fallen to zero, the Fed can no longer reduce rates to stimulate the economy, but it can increase—and has increased—its direct assistance to the financial sector.)

Interventions for Financial Firms and Markets

A number of direct interventions in the economy occurred in 2008 that could be seen as a type of stimulus, in part because of credit problems. While the Federal Reserve enacted stimulative monetary policy in the first half of 2008 to lower its target for the federal funds rate to 2% by April 20, 2008, mortgage rates failed to fall significantly. Instead, the spread between Treasury and GSE bonds remained elevated over the summer. The Federal Housing Finance Agency announced on September 7, 2008, that Fannie Mae and Freddie Mac would be placed in a conservatorship due to their inability to provide liquidity and stability to the housing market.⁵⁷ On September 15, 2008, financial markets were further disturbed by the bankruptcy of investment bank Lehman Brothers. The Federal Reserve announced the following day that it would lend up to \$85 billion to American International Group (AIG), one of the world's largest insurers nearing bankruptcy.⁵⁸ These actions eroded market confidence further, resulting in a sudden spike of the commercial paper rate spread from just under 90 basis points to 280 basis points, a spike that in times past might have been called a panic.

On September 19, 2008, Treasury and Federal Reserve officials with the bipartisan support of the congressional leadership announced a massive intervention in the financial markets, requesting authority to purchase up to \$700 billion in troubled assets over the next two years.⁵⁹ At this time, the Treasury also established a temporary guaranty program providing insurance for money market funds, where withdrawals have been significant. Congressional leaders and other Members raised a number of issues and made some additional proposals, which included setting

⁵⁵ For more information, see CRS Report RL30354, *Monetary Policy and the Federal Reserve: Current Policy and Conditions*, by Marc Labonte.

⁵⁶ Fed Chairman Ben Bernanke may have hinted at the latter case when he testified that “fiscal action could be helpful in principle, as fiscal and monetary stimulus together may provide broader support for the economy than monetary policy actions alone.” Quoted in Ben Bernanke, “The Economic Outlook,” testimony before the House Committee on the Budget, January 17, 2008.

⁵⁷ Federal Housing Finance Agency, *Statement of Director James B. Lockhart*, September 7, 2008.

⁵⁸ CRS Report R40438, *Ongoing Government Assistance for American International Group (AIG)*, by Baird Webel.

⁵⁹ U.S. Department of Treasury, *Statement by Secretary Henry M. Paulson, Jr. on Comprehensive Approach to Market Developments*, September 19, 2008.

up an oversight mechanism, restrictions on executive compensation of firms from which assets are purchased, acquiring equity stakes in the participating firms, and allowing judges to reduce mortgage debt in bankruptcies.

In an effort to restore stability to the U.S. financial system, the Emergency Economic Stabilization Act of 2008 (EESA, P.L. 110-343) was enacted on October 3, 2008, creating the Troubled Asset Relief Program (TARP). Under EESA, the Secretary of the Treasury was provided authority to establish both a troubled asset insurance program and a troubled asset purchase program. Authority to purchase or insure \$250 billion was effective on the date of enactment, with an additional \$100 billion in authority effective upon submission of a Presidential certification. The final \$350 billion in authority was to be exercised upon transmission of a written report by the President detailing the plan for the exercise of this authority. Congress had 15 calendar days to pass a joint resolution under “fast track” rules, to deny the authority to use the final \$350 billion.⁶⁰ The plan also created several new oversight mechanisms including a Financial Stability Oversight Board to monitor the authorities in the act, a Special Inspector General to oversee TARP and report quarterly to Congress, and a Congressional Oversight Panel comprised of five Congressional appointees. In addition, EESA granted audit authority on TARP to the Government Accountability Office. There remained, however, concerns about how to price acquired assets in a way that balances protection of taxpayers with providing adequate assistance to firms.

Following passage of EESA, several key developments occurred in fall 2008 impacting the direction of the TARP program. On October 14, 2008, the Treasury announced the formation of the Capital Purchase Program, where up to \$250 billion in TARP funds would be made available to purchase senior preferred stock in eligible financial institutions.⁶¹ This announcement signaled an important shift in policy focus for the Treasury, which had previously indicated that the direct purchase of troubled assets would be the focus of the TARP program. In November, Senate Majority Leader Harry Reid introduced legislation (S. 3688) that would amend EESA in order to make available \$25 billion in TARP funds to U.S. automotive manufacturers Chrysler, General Motors, and Ford, but use of TARP for this purpose was opposed by the Bush Administration, which instead suggested the use of funds already appropriated for the auto industry under the Energy Independence and Security Act (EISA, P.L. 110-140).⁶² A bipartisan group of Senators subsequently drafted a compromise proposal to permit loans to the Detroit 3 through EISA; however, on November 21, 2008, House and Senate leadership rejected this approach.⁶³

The Federal Reserve initiated a series of interventions for financial firms in October and November 2008 aimed at stabilizing financial markets. On October 7, 2008, the Fed announced the creation of the Commercial Paper Funding Facility (CPFF), which would allow the Federal Reserve to purchase asset-backed and unsecured commercial paper.⁶⁴ After the September 2008 rollout of an \$85 billion loan package for AIG, the Fed in conjunction with the Treasury announced on November 10, 2008, a restructuring of government assistance, which limited to \$60

⁶⁰ CRS Report RL34730, *Troubled Asset Relief Program: Legislation and Treasury Implementation*, by Baird Webel and Edward V. Murphy.

⁶¹ U.S. Department of Treasury, *Treasury Announces TARP Capital Purchase Program Description*, October 14, 2008.

⁶² White House, Press Briefing by Dana Perino, November 14, 2008.

⁶³ CRS Report R40003, *U.S. Motor Vehicle Industry: Federal Financial Assistance and Restructuring*, coordinated by Bill Canis.

⁶⁴ Federal Reserve Board, Press Release, October 7, 2008.

billion the total amount available in loans (conditional on the Treasury's purchase of \$40 billion of newly issued AIG preferred shares under TARP), and reduced the interest rate on the Federal Reserve credit facility accessed by the firm.⁶⁵ On November 23, 2008, the Fed announced with FDIC and the Treasury a joint intervention in Citigroup, which included \$20 billion in purchases of preferred shares with TARP funds and a government guarantee of \$306 billion in Citigroup assets.⁶⁶ Two days later the Federal Reserve released its plans to purchase \$200 billion in asset-backed securities through the Term Asset-Backed Securities Loan Facility (TALF); these securities are backed by various assets including auto, credit card, student, and small business loans.⁶⁷

At the end of 2008 significant interventions to stabilize the economy continued with federal action to assist the U.S. automotive industry. Following an unsuccessful November 2008 legislative effort in the Senate to provide emergency loans to Chrysler, General Motors, and Ford, the Detroit 3 presented their respective corporate restructuring plans to Congress on December 2, 2008, which included a combined request for \$34 billion in loans to forestall bankruptcy. After Congress did not adopt an emergency loan of \$14 billion under the Auto Industry Financing and Restructuring Act (H.R. 7321) in a special post-election session in December 2008, the Bush Administration announced, on December 19, 2008, that it would provide \$13.4 billion from TARP: \$9.4 billion to GM and \$4 billion to Chrysler.⁶⁸ An additional \$4 billion would be made available for GM contingent on congressional approval of the second \$350 billion tranche of TARP funding. On December 30, 2008, \$6 billion in TARP funds were provided for the auto-financing company GMAC, and in the middle of January 2009 a resolution in the Senate to disapprove the release of the second tranche (S.J.Res. 5) was defeated 42-52.⁶⁹

On January 9, 2009, House Financial Services Chairman Barney Frank introduced the TARP Reform and Accountability Act of 2009 (H.R. 384). This legislation proposed significantly amending EESA by including provisions to increase reporting requirements for use of TARP funds, applying stricter executive compensation rules for institutions receiving financial aid, requiring assistance for homeowners under EESA, and clarifying conditions for providing assistance to automotive manufacturers.⁷⁰ While the House passed H.R. 384 on January 21, 2009, the companion Senate bill has not received any legislative action since being referred to the Senate Finance Committee on January 22, 2009.

The Treasury announced on March 23, 2009, a new plan to provide financial stability through the establishment of a Public Private Investment Program (PPIP).⁷¹ This initiative created both a Legacy Loans Program (LLP), which would allow the Treasury to acquire troubled loans in a fund with FDIC debt guarantees, and a Legacy Securities Program (LSP) that was compatible

⁶⁵ Federal Reserve Board, Press Release, November 10, 2008.

⁶⁶ FDIC, Federal Reserve Board and U.S. Department of Treasury, *Joint Statement by Treasury, Federal Reserve and FDIC on Citigroup*, November 23, 2008.

⁶⁷ Federal Reserve Board, Press Release, November 25, 2008.

⁶⁸ White House Office of Press Secretary, *President Bush Discusses Administration's Plan to Assist Automakers*, December 19, 2008.

⁶⁹ Phil Mattingly, "Senate Votes to Release Bailout Funds," *CQ Weekly*, January 19, 2009.

⁷⁰ CRS Report RL34730, *Troubled Asset Relief Program: Legislation and Treasury Implementation*, by Baird Webel and Edward V. Murphy.

⁷¹ U.S. Department of Treasury, *Treasury Department Releases Details on Public Private Partnership Investment Program*, March 23, 2009.

with the existing TALF program where investors could use asset-backed securities as collateral for new loans provided by the Federal Reserve. As of November 5, 2009, the Treasury has provided \$16.36 billion of total purchasing power for Public Private Investment Funds (PPIF) under LSP.⁷² On March 26, 2009, the FDIC announced the beginning of a comment period for LLP, and on September 16, 2009, the first pilot sale of receivership assets under this program was completed.⁷³

On March 2, 2009, the Federal Reserve and the Treasury released another restructuring of the financial assistance offered to AIG. Among the changes to the assistance were a reduction to \$25 billion of the amount available through the Federal Reserve credit facility, and an exchange of \$40 billion in preferred shares purchased through the TARP program for new preferred shares with revised terms designed to improve AIG's equity position.⁷⁴ In August 2009 the firm used \$2.1 billion in Treasury funds to buy shares from one of its insurance units, and in November AIG announced that it would access another \$2.1 billion from the Treasury in the coming months.

Among the issues of concern with financial interventions is whether an ad hoc, case-by-case intervention is likely to be a successful strategy. A case-by-case strategy can create uncertainty and also moral hazard (causing firms to undertake too much risk if they expect to be rescued). The creation of TARP represents a shift to a more broad-based approach. The approach of a broad-based intervention could take the form of the purchase of troubled assets (as originally proposed or through a "bad bank") or the injection of capital (such as the Treasury's decision to purchase preferred stock).⁷⁵

Author Contact Information

Jane G. Gravelle
Senior Specialist in Economic Policy
jgravelle@crs.loc.gov, 7-7829

Marc Labonte
Specialist in Macroeconomic Policy
mlabonte@crs.loc.gov, 7-0640

Thomas L. Hungerford
Specialist in Public Finance
thungerford@crs.loc.gov, 7-6422

Acknowledgments

The authors acknowledge the assistance of Andrew Hanna in updating this report.

⁷² U.S. Department of Treasury, *Treasury Department Announces Additional Initial Closing of Legacy Securities Public-Private Investment Fund*, November 5, 2009.

⁷³ FDIC, *Legacy Loans Program – Winning Bidder Announced in Pilot Sale*, September 16, 2009.

⁷⁴ Federal Reserve Board and U.S. Department of Treasury, *U.S. Treasury and Federal Reserve Board Announce Participation in AIG Restructuring Plan*, March 2, 2009.

⁷⁵ These issues are discussed in more detail in CRS Report RL34730, *Troubled Asset Relief Program: Legislation and Treasury Implementation*, by Baird Webel and Edward V. Murphy.