It Could Have Happened Here:
The Policy Response That Helped Prevent a Second Great Depression

Remarks by Jason Furman
Chairman, Council of Economic Advisers

Macroeconomic Advisers' 25th Annual Washington Policy Seminar
September 9, 2015

This is an expanded version of these remarks as prepared for delivery.

It is a pleasure to be back at Macroeconomic Advisers' Washington Policy Seminar along with many respected colleagues from the public and private sectors. This conference is an outstanding forum for strengthening our mutual understanding of the U.S. economic situation and the policy choices we face.

The performance of the economy in the first half of the year exceeded the expectations many forecasters had just a few months ago. Expectations for consumer spending, business investment, and residential investment have all improved. The pace of job creation in the last three years has not been exceeded since 2000, bringing the unemployment rate down to 5.1 percent—essentially where it was in the years before the Great Recession. The labor market is not all the way recovered: broader measures of labor underutilization have improved but are still not back to pre-crisis levels. We still face challenges translating that employment growth into economic output, as productivity growth has slowed in recent years. We would like to see faster real wage growth, and our domestic momentum must continue to overcome weakening foreign demand.

That is why we are spending most of our time in the Administration looking forward to ensure our domestic momentum persists. That starts with pushing Congress to avoid self-inflicted wounds by passing a budget that reverses the sequester and avoids shutting down the government. We are also encouraging Congress to move forward with policies to strengthen our economy in the long term by taking steps to expand trade; increasing investments in infrastructure; and advancing other important structural economic policies, such as those in the education and innovation spaces. The President will take action on his own to help achieve those goals where he can, rather than just waiting for Congress.

As important as all of these issues are, today is also an apt moment to look back as we near the seventh anniversary of the Lehman Brothers bankruptcy—to understand the progress we have made and the swift policy response that contributed to that progress. This is not just a historical exercise but one that reminds us of the importance of some of the current policy debates we are in and also has implications for other countries still facing severe challenges today as well as for future contingencies in the United States.

A big challenge in assessing the impact of economic policy is to choose the right counterfactual. I will argue that the Great Depression is a reasonable counterfactual for the outcome of the financial crisis that began in 2007. The shocks that initiated the recent financial crisis were, in many dimensions, larger than the shocks that precipitated the Great Depression. Another

reasonable counterfactual is the experience of other advanced economies in the wake of the financial crisis. By either benchmark, the recovery in the United States has been relatively strong.

In each case, the shocks to the economy were severe, but different choices led to different outcomes. The United States' policy response—including the efforts of the Bush Administration, the Obama Administration, the Federal Reserve, Congress, and others—combined with the resilience of our private sector and coordination with our international partners to stave off a second Great Depression. Unemployment peaked at 10 percent and then achieved nearly the fastest decline we have seen in the postwar records. The United States was one of the first advanced economies to return to its pre-crisis GDP per working-age population. And even today, the euro area has not reached its pre-crisis GDP per working-age population and some peripheral European countries are still facing depression-like economic conditions. Although our economy today differs in many ways from the U.S. economy in the 1930s, Europe today—or even relatively stronger economies like Japan—those adverse outcomes could have happened here too had we failed to make the choices that we did.

The Onset of the Great Recession in Historical and International Context

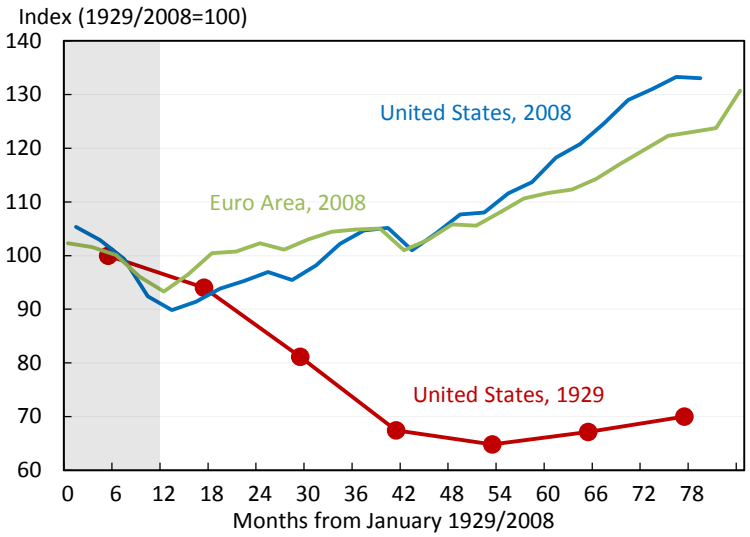
With the unemployment rate at 5.1 percent it has become easy to forget just how close our economy came to the brink seven years ago. But during the Great Recession, comparisons to the Great Depression were by no means hyperbolic. I remember sitting in my West Wing office in early 2009 looking each day at a chart comparing the U.S. stock market in the wake of the financial crisis to previous corrections. And each day added a new point to the graph heading directly on the same trajectory as 1929 and considerably worse than every other episode. As I will discuss, a broader set of measures—some of which we were tracking in real time and some of which were only available in retrospect—were telling a similar or worse story.

And of course, not all countries emerged as resiliently as we did: just as the United States slipped into depression after an insufficiently aggressive policy response eighty years ago, a few European nations have been mired in a persistent depression-like condition since the crisis.

But only one year after the onset of the Great Recession, the United States was on worse footing than Europe in 2009 or the United States itself in 1930. Indeed, by many macroeconomic metrics, the first year of the Great Recession in the United States looked worse than or as bad as the U.S. Great Depression in 1930, or even most of the peripheral euro area economies in 2009.

U.S. households saw their net worth decline by even more in the first year of the Great Recession than they did during the Depression, as shown below in Figure 1. Overall declining asset prices wiped $13 trillion in wealth off the U.S. economy, 19 percent of total wealth, and about five times the reduction in wealth experienced at the onset of the Great Depression.

Figure 1
Household Net Worth



Between 2008 and 2009 on an annual average basis, the U.S. stock market (as measured by the Standard & Poor's 500 Index) declined 23 percent, roughly matching the concurrent decline in the euro area and exceeding the 1929-1930 decline in the United States (19 percent), as shown in Figure 2. Home prices in the United States fell 5.6 percent between 2008 and 2009, outpacing the 4.3 percent decline from 1929 to 1930. European home prices also declined less than in the United States, about 4 percent, from 2008 to 2009 (Figure 3).

Figure 2
Stock Market Performance

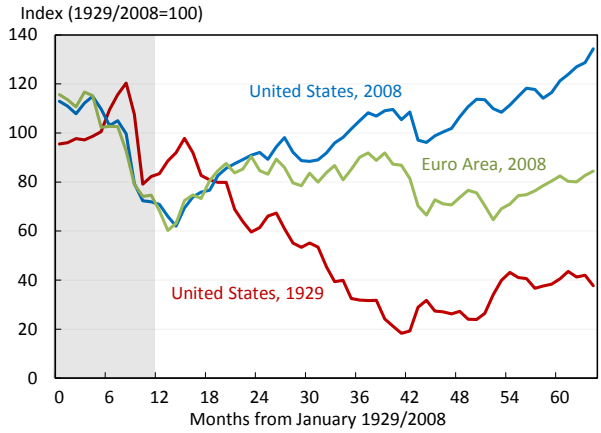
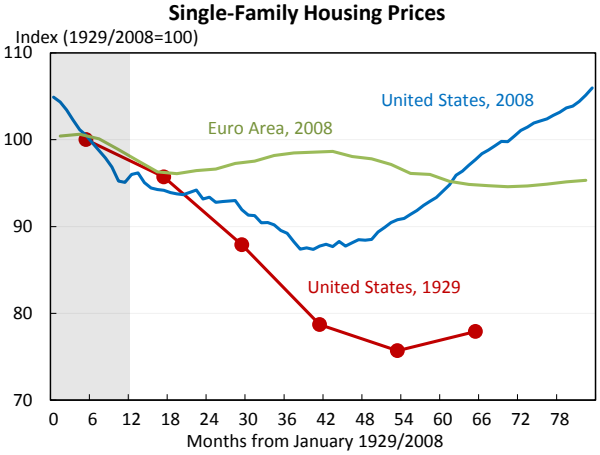


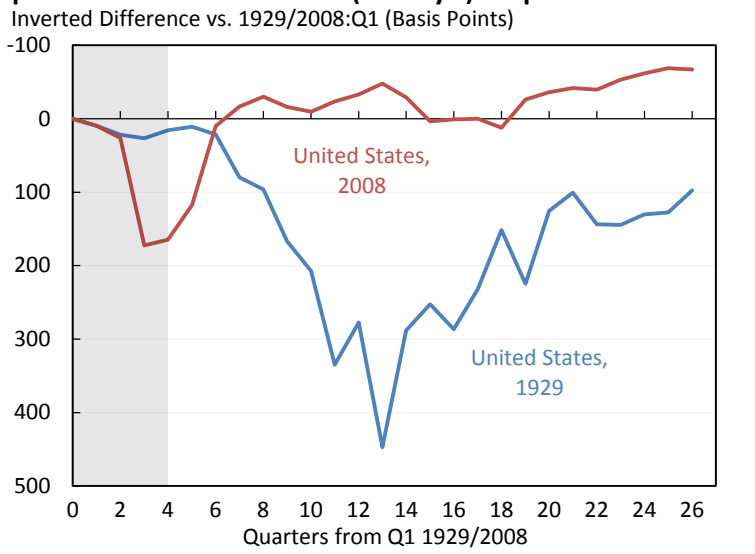
Figure 3
Single-Family Housing Prices



Other measures of financial market risk support the notion that the 2008 crisis started off worse than the Great Depression. The spread between yields on high credit and moderate credit bonds measures the market's perception of the riskiness of lending to firms of inferior credit quality. The spread rose 156 basis points between August and November 2008, much more than the 10 basis point increase in spread experienced during the fall of 1929. But after that first year, Great Depression credit spreads continued to increase while Great Recession credit spreads turned

around. By late 2009, outsized credit spreads had largely returned to normal, as shown below in Figure 4.

Figure 4
Spread Between AAA & BAA (Moody's) Corporate Bond Yields



The broader macroeconomy was following a similar trajectory, although much of this was obscured in the real-time data. At the time, incoming data understated the severity of the contraction but was subsequently revised down. Employment in the United States declined 4 percent from 2008 to 2009, the same rate as from 1929 to 1930, as shown in Figure 5. Private domestic final purchases—the sum of personal consumption and fixed investment, the largest and most stable components of GDP—declined between 6 and 9 percent in both cases, as shown in Figure 6. Initial employment and private demand declines in the euro area were less acute.

Figure 5
Civilian Employment

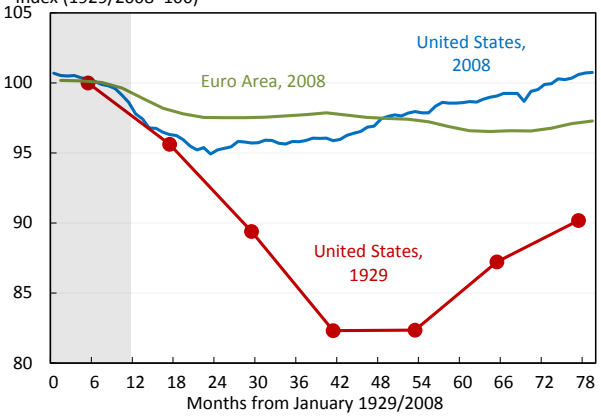
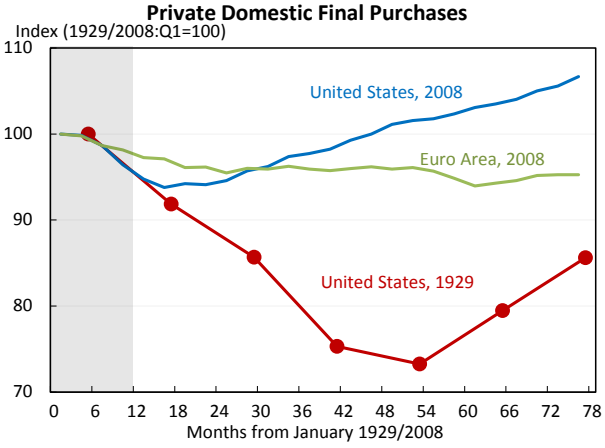


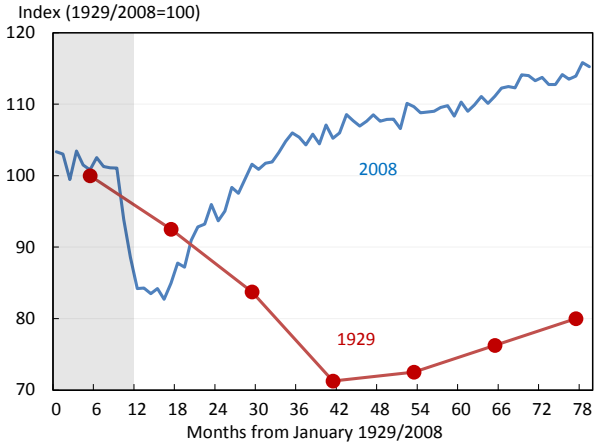
Figure 6
Private Domestic Final Purchases



Global trade, shown in Figure 7, suffered a much more drastic fall between 2008 and 2009 than during the first year of the Depression.

Figure 7

Global Trade Flows



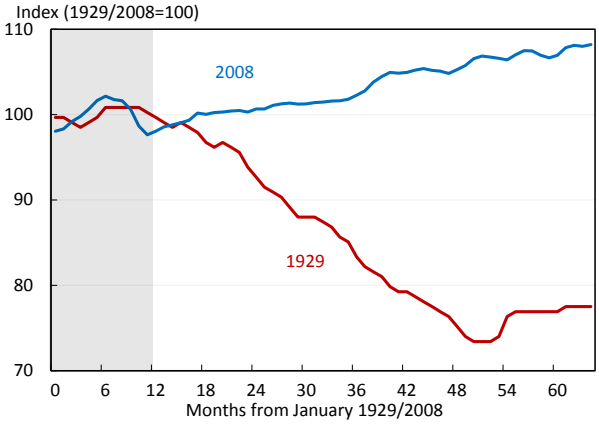
The macroeconomic metrics I have discussed so far reflect a diverse set of trends, yet I am struck by the similar pattern observed in each: over the first year of the business-cycle downturn, the United States' 2008-2009 experience looks quite similar, and in many cases worse—sometimes considerably so—than its experience in the Great Depression and the depression-like conditions in some parts of peripheral Europe. But after the first year, the modern United States reversed those trends and escaped depression, unlike its historical and international comparators.

Some Structural Differences between the U.S. Economy Today and in the 1930s

No economic counterfactual is perfect, and the U.S. economy of 1929 was much different than in 2008. Those structural differences can tell us something—but certainly not everything—about how we avoided a second Great Depression. Today, as both Eichengreen (1992) and Bernanke (2004) have noted, free-floating currencies have enabled much more independent monetary policies, and the Federal Reserve's aggressive easing—which I will discuss more below, contributed to the very different behavior of prices (as shown in Figure 8) and other economic variables in this episode than in the historical counterfactual.

Figure 8

U.S. Consumer Price Index



In addition, the composition of the U.S. economy shifted dramatically between 1929 and 2008. In general, as many scholars have noted, the United States shifted from the higher-volatility goods sector to lower-volatility services sector. To the extent that the services sector is less sensitive to macroeconomic conditions than production industries like manufacturing, a service-concentrated economy is less likely to experience protracted downturns in the face of demand shocks. Moreover, the public sector accounted for a much larger portion of consumption and investment in 2008 than it did in 1929. The federal government has a much better ability to borrow and spend in weaker times than the private sector, so its consumption and investment are less necessarily procyclical.

While monetary management and industrial composition both suggest that the economy was less susceptible to crisis in the 2000s than the 1930s, there are other structural factors that cut in the opposite direction. The global financial system of 2008 was decidedly more integrated than in 1929, providing each economy much less insulation from an adverse shock in another. Indeed, as Helbling (2009) observes, the 2004-2007 credit boom was global; the 1920s surge in credit was largely confined to the United States. The elevated interdependence of the global financial system presents many benefits, but it can leave an economy more vulnerable to international shocks.

Although we should not ignore the structural differences in a comparison of the Depression and the Great Recession, the question is whether these structural differences or discretionary policies can account for most of the comparatively better economic outcomes the United States experienced after the global financial crisis. Few researchers assign the structural differences sufficient weight to account for the muted propagation. Rather, the starkest difference—both historically versus the Great Depression and internationally versus peripheral Europe—can be found in the United States' policy response (see e.g. Aiginger 2010, Eichengreen and O'Rourke 2009). I will now turn to those different choices made by the United States that were so different than the past.

Different Choices: Demand Management

The U.S. policy response to the global financial crisis in 2008-09 can be understood as the combination aggressive demand management driven by expansionary fiscal and monetary policy and the short-term stability measures that prevented the risks of the crisis from compounding further. In addition, and beyond the scope of my talk today, these efforts were complemented by structural reforms in health, energy, education, technology, and finance that helped strengthen potential GDP while reducing further systemic risks.

The Great Recession was characterized by the emergence of an output gap and an unemployment gap that, as described above, appeared from many perspectives worse than 1929 and modern Europe. The response to managing aggregate demand in the wake of the setback was aggressive, swift, and—by the preponderance of evidence from many private-sector, academic, and government analyses—effective. I will consider the fiscal and monetary responses to the crisis separately.

The Fiscal Response

The fiscal response began in early 2008, well before the height of the financial crisis, as the economy began to slide into recession. Congress and the Bush Administration enacted the Economic Stimulus Act in February 2008, cutting taxes for low- and middle-income households while providing tax incentives to encourage business investment. The Act totaled $124 billion over eleven years, effectively entirely in FY 2008. It was designed to counteract a short recession by providing temporary support to consumer spending, but it was insufficient to reverse the emerging distress and, by design, did not have long-lasting effects.

The prospects for aggregate demand in January 2009 were bleak. Comparisons to the Depression were commonplace, and very real concerns about an extended decline in GDP and depression-like persistent unemployment dominated the economic policy conversation. Still, as the policy response was being crafted, the actual situation was even worse than initial data were suggesting.

Before taking office, the President-elect had already proposed an outline of what would become the American Recovery and Reinvestment Act of 2009 (Recovery Act). The Recovery Act was the first bill introduced in the House of Representatives just days after the President's inauguration, and the President signed it into law less than a month after he took office.

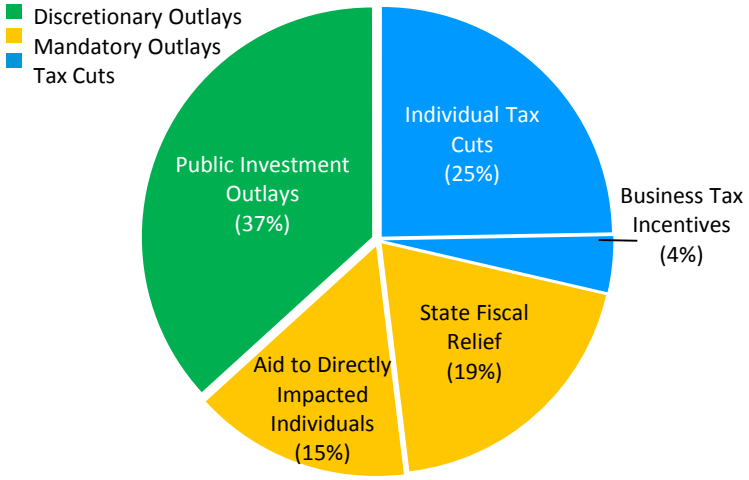
Several principles guided the new Administration's fiscal policy. First, the fiscal effort was to be implemented quickly. Second, it should be large, given the scope of the economic problem. Finally, it should be a sustained effort that would not only provide immediate fiscal impulse over the first two years, but would continue temporary support thereafter. The new approach would require a mix of policy instruments such as tax cuts and other temporary assistance that put cash in the hands of households who immediately needed it. Others components would be more lagged but have larger cumulative countercyclical impacts and greater longer-run benefits, such as investments in infrastructure and innovation. In all cases, however, the measures would end and would not have long-term impacts on the Federal Government's primary budget deficit.

When passed, the Congressional Budget Office (CBO) estimated that the Recovery Act would cost $787 billion, although that estimate would increase as the full impact of the recession became apparent. More recent CBO estimates show that the fiscal support from the Recovery Act will total above $800 billion through 2019. Between calendar years 2009 and 2012, the period for which the Recovery Act had the largest impact, the Recovery Act expanded fiscal policy by $764 billion.

The initial cost projections of the Recovery Act showed the law would be fairly evenly distributed across tax cuts ($212 billion), expansions to mandatory programs such as Medicaid and unemployment benefits ($296 billion), and discretionary spending ($279 billion) in areas ranging from direct assistance to individuals to investments in infrastructure, education, job training, energy, and health information technology. More specifically, Figure 9 shows how Recovery Act policies can be divided into five functional categories: individual tax cuts, business tax incentives, State fiscal relief, aid to directly impacted individuals, and public investments.

Figure 9

Recovery Act Programs by Functional Categories



Importantly, while the Recovery Act contained a considerable short-term impulse for aggregate demand, its investments were targeted for their long-term growth potential, helping ensure that the United States climbed out of the crisis stronger than before. The provisions of the Recovery Act were tailored to deepen the United States' stock of private physical capital (through business tax incentives), public physical capital (through investments in transportation infrastructure), human capital (through extensive education investments), and intellectual capital (through research and development investments).

The contribution of the Recovery Act is well-recognized and it does reflect the largest single contribution to the fiscal response. But perhaps less widely appreciated is the fact that half of the total fiscal expansion came after the Recovery Act was enacted, in more than a dozen additional fiscal measures. These included measures that extended Recovery Act provisions, including Emergency Unemployment Compensation; measures for teacher jobs; and aid to States for Medicaid. Subsequent legislation also expanded on the Recovery Act, such as the temporary payroll tax cut in 2011 and 2012, which was nearly twice as large as the Making Work Pay credit it replaced—an even greater allowance for businesses to write off the cost of investments when computing their tax liability. And subsequent legislation also instituted new fiscal measures, including the HIRE Act tax credit, tax credits for infrastructure, a small business tax cut and credit bill, veterans hiring incentives, and a number of other measures. All told, these subsequent jobs measures, listed in Table 1, provided an additional $674 billion in countercyclical fiscal support through the end of 2012—bringing the total fiscal support over those years to $1.4 trillion. This total excludes routine or expected policies such as continuing the 2001 and 2003 tax cuts, passing so-called "tax extenders" to address regularly expiring tax provisions, and fixing Medicare's Sustainable Growth Rate formula.

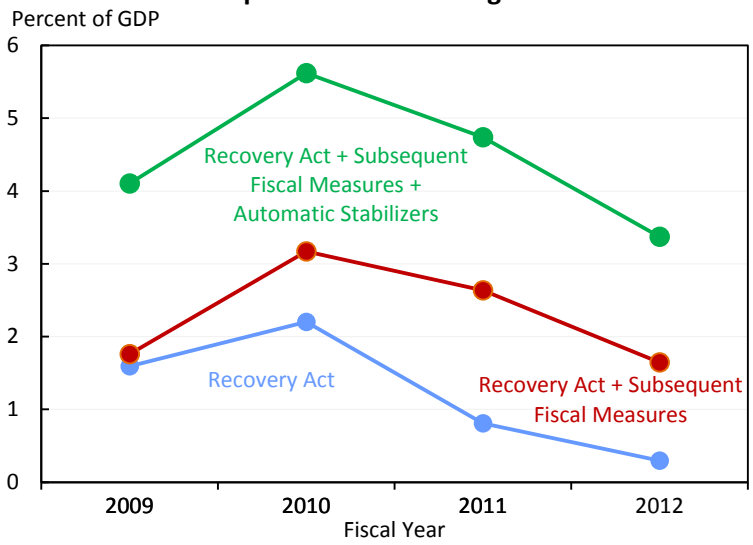
Table 1

Fiscal Support for the Economy Enacted Under President Obama

	Billions of Dollars	
	2009-12	2009-19
Enacted 2009		
American Recovery and Reinvestment Act (Recovery Act)	768	840
Worker, Homeownership, and Business Assistance Act (HR 3548)	35	24
Supplemental Appropriations Act of 2009 (HR 2346) (Cash for Clunkers)	3	3
Defense Appropriations Act of 2010 (HR 3326) (Unemployment Insurance and	18	18
Enacted 2010		
Temporary Extension Act of 2010 (HR 4691)	9	9
Hiring Incentives to Restore Employment Act (HR 2847)	13	15
Continuing Extension Act of 2010 (HR 4851)	16	16
Unemployment Compensation Act of 2010 (HR 4213)	33	34
FAA Safety Improvement Act (HR 1586) (Education Jobs/ FMAP Extension)	26	12
Small Business Jobs Act (HR 5297)	68	10
Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act (HR	309	237
Enacted 2011		
Temporary Payroll Tax Cut Continuation Act (HR 3765)	28	29
VOW to Hire Heroes Act (HR 674)	0	0
Enacted 2012		
Middle Class Tax Relief and Job Creation Act of 2012 (HR 3630)	98	123
American Taxpayer Relief Act of 2012 (HR 8)	17	178
Total	**1,441**	**1,549**
Total ex. Recovery Act	*674*	*709*

In addition to Obama Administration policies, previously enacted laws have built-in provisions that allow for automatic support when economic conditions worsen. For example, personal income tax payments decline when income declines, and spending on unemployment insurance picks up as more individuals struggle to find work. These "automatic stabilizers"—can help moderate business cycles, as shown for instance by Auerbach and Feenberg (2000) and Follette and Lutz (2010), in addition to alleviating the human costs of economic downturns. Together with automatic stabilizers, total fiscal support to the economy between 2009 and 2012 totaled nearly $2.8 trillion—twice the discretionary fiscal impulse. That constitutes 4.5 percent of total GDP over that four-year period, with the annual fiscal support peaking at 5.5 percent of annual GDP in 2010, as shown below in Figure 10.

Figure 10
Fiscal Expansion as Percentage of GDP



It is clear that the size and swiftness of the post-crisis fiscal expansion was far more than the lack of meaningful fiscal expansion—and even outright fiscal contraction in the early years—following the Great Depression. Moreover, while many European countries have more robust automatic stabilizers than the United States, they adopted relatively small stimulus packages and, in some cases, quickly turned to fiscal contraction.

Isolating the macroeconomic effects of particular fiscal policy actions—especially when they were concurrent with large monetary policy volatility—is challenging due to the lack of observable counterfactuals. But a wide range of approaches to measuring the effect of the Recovery Act and subsequent fiscal measures find a large positive impact on output and employment.[1] Overall, the CEA estimates that the Recovery Act saved or created about 6 million job-years (where a job-year is the equivalent of one full time job for one year) through 2012 and raised GDP by between 2 and 2.5 percent in FY 2010 and part of FY 2011. Combining effects of the Recovery Act and additional countercyclical fiscal legislation that followed, CEA estimates that the cumulative gain in employment was about 9 million job-years through the end of 2012. The cumulative boost to GDP from 2009 to 2012 is equivalent to 9.5 percent of fourth-quarter 2008 GDP.

Although no outside estimates of the total impact of all the fiscal measures are available, Table 2 displays the estimates of the impact of the Recovery Act offered by several leading private-sector forecasters before the Act was fully implemented. Despite the differences in the models, these private-sector forecasters all estimated that the Recovery Act would raise GDP substantially from 2009 to 2011, including a boost to GDP of between 2.0 and 3.4 percent in 2010.

---

[1] For a more comprehensive discussion of methods of estimating the impact of the Recovery Act and subsequent fiscal measures, see Chapter 3 of the 2014 *Economic Report of the President*.

Table 2

Estimates of the Effects of the Recovery Act on the Level of GDP

	Percent				
	2009	2010	2011	2012	2013
CEA: Model Approach	+1.1	+2.4	+1.8	+0.8	+0.3
CBO: Low	+0.4	+0.7	+0.4	+0.1	+0.1
CBO: High	+1.7	+4.1	+2.3	+0.8	+0.3
Goldman Sachs	+0.9	+2.3	+1.3	-	-
HIS Global Insight	+0.8	+2.2	+1.6	+0.6	-
James Glassman, JP Morgan Chase	+1.4	+3.4	+1.7	0.0	-
Macroeconomic Advisers	+0.7	+2.0	+2.1	+1.1	-
Mark Zandi, Moody's Economy.com	+1.1	+2.6	+1.7	+0.4	-

Taking a broader view that incorporates fiscal measures in addition to the Recovery Act, Blinder and Zandi (2010) estimate the effect of the fiscal policies enacted through 2009 (the Economic Stimulus Act, the Recovery Act, cash for clunkers, the unemployment insurance benefits extensions of 2009). They find that these policies raised the level of real GDP in 2009 by 3.4 percent in the third quarter and by 4.3 percent in the fourth quarter.

The Recovery Act and subsequent fiscal measures were part of an overall fiscally responsible economic strategy that cut the deficit in the medium and long run. The Recovery Act itself was temporary so it had no long-term non-interest costs and, assuming the CBO score, added less than 0.1 percentage point to the 75-year fiscal gap. Even this may overstate the true cost of the Recovery Act. To the degree that the Act successfully expanded output and boosted employment, those gains would result in additional revenue and less spending on countercyclical programs than would otherwise have occurred. DeLong and Summers (2012) have shown, for example, that with plausible multipliers and persistence in output effects, it is possible that the additional output associated with the Recovery Act, and associated additions to revenue and reductions to debt, could result in a *reduced* debt-to-GDP ratio by the end of the decade. The IMF (2014) had similar findings in the context of a generic infrastructure-driven fiscal expansion. Furthermore, these estimates do not reflect the potential benefits for long-term growth of the productivity-enhancing investments in the Recovery Act. None of these estimates should be taken as conclusive or as a suggestion that official budget scoring should take these feedback effects into account. When the economy is operating at full employment, and monetary policy is not constrained by the zero lower bound, many of these macroeconomic feedback effects would be less relevant or not even operative at all.

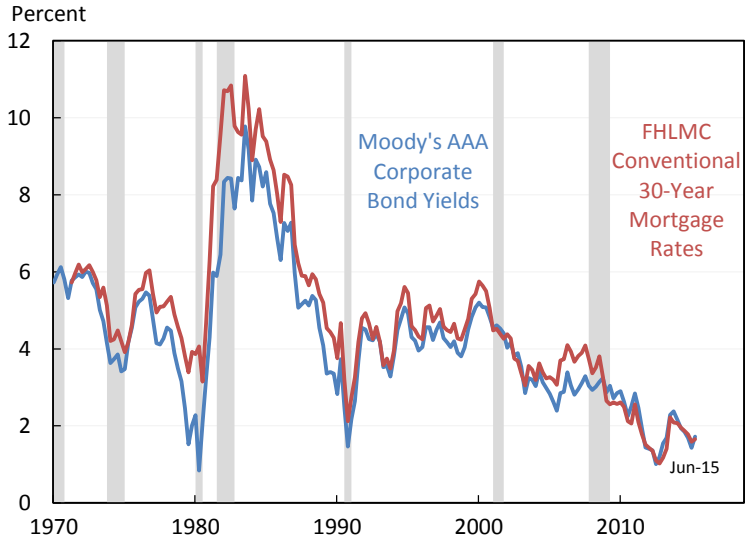
As a result, given the overall context of highly insufficient aggregate demand, monetary policy operating at the zero lower bound, and other measures for medium- and long-term deficit reduction, fiscal measures to support jobs have the potential for even larger impacts on output and thus greater associated revenue feedbacks and a much lower long-run fiscal cost, if they have any long-run fiscal cost at all.

The Monetary Response

The Federal Reserve's independent decision to take a vigorous approach to monetary stabilization was another major driver of the United States' recovery. The traditional tool of monetary policy—the federal funds target rate—was reduced to nearly zero by the end of 2008, after which the Federal Reserve turned to a program of unconventional policy in an effort to reduce long-term interest rates when short-term rates could be reduced no further. The Federal Reserve used two principal mechanisms to achieve this end: forward guidance, by which it provided an indication of its plan for the future path of short-term interest rates, and asset purchases (commonly known as "quantitative easing"). As part of its forward guidance, the Federal Reserve assured market participants that it would maintain its near-zero interest rate policy for extended periods of time. As part of its quantitative easing program, the Federal Reserve purchased long-term debt instruments, including mortgage-backed securities and U.S. Treasury bonds, expanding its balance sheet from $900 billion to $4.5 trillion between 2008 and 2014.

Both of these policies contributed to the reduction in long-term interest rates across a wide range of maturities. In the case of forward guidance, the Federal Reserve achieved this end by shaping the market's expectation of the future path of short-term interest rates. As for the asset purchases, these also had the effect of lowering long term rates as well as creating a boost to aggregate demand by increasing the market value of debt securities. As shown below in Figure 11, the Federal Reserve's efforts contributed to historically low real interest rates for mortgages and corporate debt, although many still faced active credit constraints.

Figure 11
Selected Real U.S. Interest Rates



The Fed's aggressive monetary response contrasts with the response seen in the United States during the Great Depression and in Europe in 2008. Even after the 1929 stock market crash, the Federal Reserve tightened policy in an attempt to defend the dollar against speculators, raising

interest rates and reserve requirements—certainly nothing like the consistent accommodative policy instituted during the Great Recession.

During the Great Recession, many central banks, including the European Central Bank (ECB), were considerably less consistently aggressive than the Federal Reserve. The ECB did not bring its main refinancing rate (its principal policy instrument) to zero until 2014. It was still at 2 percent in January 2009, and remained at 1 percent from May 2009 until April 2011. In mid-2011, the ECB actually raised interest rates twice, before reversing those increases a few months later. Moreover, the asset-purchase programs instituted by the ECB in the years immediately following the crisis were of much smaller size and scope than the Federal Reserve's. The ECB's major balance sheet expansion did not come until it launched large-scale Long Term Refinancing Operations at the end of 2011, and its largest asset-purchase program was only announced in January 2015 amid disinflation in the euro area and persistent risk of instability in peripheral nations. On both a historical and international comparison, the Fed's policy response was something different: a series of swift, decisive, and credible actions that gave market participants little reason to doubt the Fed's commitment to accommodative policy.

Short-Term Stability Measures and Financial Market Rescue

Complementing these macroeconomic efforts were policies designed to stabilize or support critical sectors of the economy, including financial markets, the automobile sector, and housing. While the fiscal and monetary policy responses were designed to boost aggregate demand and minimize the impact of the recession, such a policy response requires stability in the real economy and in the financial sector to be effective. Financial crises bring a blend of problems stemming from insolvency and from illiquidity, and addressing these challenges are complementary with stimulating demand. To the degree the government has greater liquidity, does not suffer from temporarily extremely elevated risk premiums, and is focused on overall social welfare then the financial situation—especially one that has components of a panic and illiquidity—offers a substantial opportunity for well-designed policies to stabilize the financial system while potentially even making a profit.

Financial Markets

The Bush and Obama Administrations and the Federal Reserve implemented a package of short-term measures to stabilize financial markets. In late 2008, the Treasury Department established a temporary guarantee program for money market mutual funds while the Federal Deposit Insurance Corporation (FDIC) expanded its guarantee on bank deposits and debt to avoid runs on banks and other financial institutions. The Bush Administration also proposed and Congress approved the Troubled Asset Relief Program (TARP), providing up to $700 billion to stabilize troubled banks, automakers, insurance companies, secondary markets for consumer and small business loans, and the housing sector.

The Federal Reserve instituted an alphabet soup of programs designed to provide liquidity to borrowers, investors, and financial market participants—including the Term Auction Facility

(TAF), Term Asset-Backed Securities Loan Facility (TALF), Term Securities Lending Facility (TSLF), Primary Dealer Credit Facility (PDCF), and Commercial Paper Funding Facility (CPFF). These early policy responses were a central component of the early financial rescue and helped stem a plunge in consumer confidence, credit flows, and corporate balance sheets that could have been much worse. Nevertheless, the financial market and credit conditions remained severely depressed when President Obama took office.

Within three weeks of taking office, President Obama and Treasury Secretary Geithner announced the Administration's Financial Stability Plan. Building on the initial action of the Bush Administration, the plan included a host of new measures designed to shore up financial markets and increase credit flows. The Administration also expanded the use of TARP funds to help millions of families affected by the housing crisis, restructure the auto industry, and support small businesses. Ultimately, over 700 banks received capital through the TARP program and the Administration eventually earned a nearly $28 billion return on all TARP bank investments.

In addition to expanding and effectively managing the TARP program, the Administration established comprehensive stress tests of the nation's 19 largest financial institutions to reduce uncertainty regarding their solvency, stabilize the financial system, and ensure the banks were able to continue lending. The Supervisory Capital Assessment Program (SCAP), which administered the stress tests, provided temporary capital to institutions found to need a stronger capital base, although they were first encouraged to raise private funds. After the first stress tests were completed, ten of the 19 tested financial institutions fell short of the necessary capital buffer, and more than $80 billion was raised without additional government support. The plan accomplished the dual purpose of ensuring the stability of the country's largest financial institutions and strengthening investor confidence in those very institutions. The stress tests conducted by the U.S. Treasury are regarded as having calmed markets and provided key information in a much more effective manner than the early stress tests in Europe. Such stress tests are now a model for sound financial management in the United States and around the world.

The Administration—along with the Federal Reserve—also prevented a greater shock to the rest of the global economy by intervening to stabilize American International Group (AIG) at the peak of the crisis. Under its restructuring plan, the Treasury Department and the Federal Reserve Bank of New York worked with AIG to fundamentally restructure AIG's balance sheet and its business operations, winding down riskier parts of the business, and selling non-core assets. Rather than lose tens of billions of dollars on its investment, the Administration eventually turned a $23 billion profit.

In addition to saving AIG, the Administration stabilized numerous other key financial institutions by removing distressed assets from their balance sheets through the Public-Private Investment Program—a partnership between the Treasury Department, FDIC and Federal Reserve. By restoring the balance sheets of major financial institutions, the program reduced market uncertainty and increased the ability of financial institutions to raise capital and restore lending. The program's partnership with the private sector leveraged scarce public funds and utilized private competition and incentives to ensure the government did not overpay for assets.

The Administration's swift action also unfroze vital credit flows to American consumers and businesses. The Treasury's Consumer and Business Lending Initiative facilitated securitization and helped unfreeze credit and lower interest rates for auto loans, credit card loans, student loans, and small business loans. Since the recession, the price of auto loans and credit card borrowing has improved substantially and banks have begun easing their lending standards, while also reporting stronger consumer demand in most loan categories.

All of these key measures were implemented within four months of President Obama taking office—a nearly unprecedented reaction time to such a tremendous crisis. Of course, not all these programs had the same degree of take-up or enjoyed the same level of success; they were instituted in the spirit of bold, persistent experimentation. But collectively, they made an enormous difference toward ensuring the stability of the financial system and fostering the economic recovery.

Rescuing the Automobile Sector

In addition to stabilizing the financial market, the Administration provided substantial support to auto companies to keep them afloat during the Great Recession. In normal times, the bankruptcy process is well designed to handle the failure of individual companies. In the height of the financial crisis, however, capital markets would not have been able to oversee an orderly restructuring of the auto companies that would have preserved their viable assets. The ensuing disastrous job losses and the devastation of many communities would actually have resulted in substantial costs to the Federal government for Medicaid, unemployment insurance, and other programs. In these circumstances the government took extraordinary steps to avoid the unmanaged bankruptcy of the largest auto manufacturers.

Building upon the initial support extended by President Bush, the Administration guided America's largest auto manufacturers—General Motors and Chrysler—through a comprehensive restructuring and targeted bankruptcy in the spring of 2009.

Upon taking office, the Obama Administration required the automakers to submit restructuring plans before additional funds were committed. To sustain the industry during this planning process, the Treasury established the Warranty Commitment Program to reassure consumers that warranties of the troubled firms would be honored. It also initiated the Auto Supplier Support Program to maintain stability in the auto supply base.

Over the spring of 2009, the Administration's Auto Task Force worked with GM and Chrysler to produce plans for viability. In the case of Chrysler, the task force determined that viability could be achieved by merging with the Italian automaker Fiat. For GM, the task force determined that substantial reductions in costs were necessary and charged the company with producing a more aggressive restructuring plan. For both companies, a quick, targeted bankruptcy was judged to be the most efficient and successful way to restructure. Chrysler filed for bankruptcy on April 30, 2009; GM, on June 1. In addition to concessions by all stakeholders, including workers, retirees, creditors, and suppliers, the U.S. government invested substantial funds to bring about the orderly restructuring. Despite a chorus of warnings that the government would not recoup the

vast majority of its investments in the auto companies, American taxpayers had recovered all of the total invested in Chrysler and a substantial portion of its investments in GM.

Since then, GM and Chrysler have become profitable again and auto sales have been trending up since 2009. The auto industry has added more than 600,000 jobs since June 2009. In December 2013, the Treasury sold its remaining shares of General Motors.

Supporting the Housing Market

Real estate valuations were central to the global financial crisis, and the short-term policy response did not lose sight of that. By establishing the Home Affordable Refinance Program (HARP), the Obama Administration helped more than 3 million borrowers refinance their loans and save hundreds of dollars per month. The Administration also eliminated additional barriers to refinancing and proposed reforms so that all responsible borrowers with loans insured by Fannie Mae and Freddie Mac have access to simple, low-cost refinancing.

In addition to helping millions of Americans refinance, the Administration created the Home Affordable Mortgage Program (HAMP) to provide homeowners who are behind on their payments an opportunity to modify their mortgages to reduce their monthly payments and avoid foreclosure. Since early 2009, the program has resulted in about twice as many mortgage modifications as foreclosures, while the rate of new foreclosures has been cut in half.

The Administration has also provided targeted support to the hardest-hit communities who experienced the sharpest decline in home prices. Over $7 billion has been provided to manage vacant and foreclosed properties that bring down local home values, support unemployed and underwater homeowners, and convert foreclosed properties into rentals.

The housing market continues its recovery. Sales of existing homes hit their highest level since 2007 in July 2015, while sales of new homes are at their highest level over the course of the recovery period. National home prices are also at or near their pre-recession level. The Administration continues to work to encourage the housing market’s recovery by improving access to mortgage credit for creditworthy borrowers.

Conclusion: Different Outcomes

While putting out the fire of the financial crisis was always the highest priority, it also provided an opportunity to strengthen our economy’s structure for the long run. In designing the countercyclical fiscal measures, we also had the growth of long-term potential output in mind. And this was also a consideration in structural reforms in a number of sectors including clean energy, healthcare, technology and education—while at the same time financial reform reduced the systemic risks facing the economy. The importance of that design principle is amplified when considering that recessions themselves can reduce long-term potential.

While we still need to guard against unforced errors, like a shutdown or the harmful austerity associated with the sequester, our focus today is almost entirely on pushing these types of structural reforms forward in order to increase our potential GDP, both by increasing labor force participation and boosting the productivity of each individual worker. When those goals are combined with policies that help more people share in the benefits of the economy, the policy mix will improve the incomes of middle-class workers.

In addition to boosting potential growth, we must also focus on reducing the volatility of actual output by promoting stability and mitigating the impact of future downturns. The financial system is safer today, especially with the Dodd-Frank Wall Street Reform and Consumer Protection Act in place to help prevent or address future crises. But that does not mean we can forget about stability: the President's macroeconomic stability agenda is designed to entrench the most effective parts of our crisis response while avoiding some of the pitfalls we experienced. Indeed, while the immediate fiscal response to the crisis was sizeable and swift, as detailed above, fiscal brinksmanship in recent years has slowed the recovery, both via the direct channel of reduced government spending and via its deleterious effects on consumer and investor confidence. Accordingly, the President supports stronger automatic stabilizers that step in to produce countercyclical fiscal expansion without requiring high-frequency legislative action. The President's proposed extensions to unemployment insurance, for example, are a countercyclical fiscal measure that will naturally expand in a downturn.

It is also important that countercyclical fiscal policy extend beyond the Federal government. The contraction in State and local government spending was a major drag on growth through this recovery. The macroeconomic effects of State and local government spending reflect a classic cost internalization problem, as State and local policymakers are quite sensitive to their budget constraints but less so to the macroeconomic costs of aggregate fiscal drag. Accordingly, State and local government spending tends to be procyclical, with harmful macroeconomic effects. This problem provides a further barrier for countercyclical Federal fiscal policy to help ameliorate.

The achievement of avoiding a second depression is not one to be minimized. The similarities between macroeconomic variables during the onset was in many respects worse than in 1929 and 1930, but the policy response and the resulting outcomes could not have been more different. As difficult as it was losing hundreds of thousands of jobs per month, the 20 percent-plus unemployment rates of the 1930s should not be forgotten. As United States—and global—economic policy shifts its focus from crisis response to continued structural reform, it will be important to learn from what has worked and what has not as we continue to encourage more, shared growth in the twenty-first century.

Notes to Figures and Tables

Figure 1
Note: Data for 1929 is annual, other data is quarterly. All series indexed to annual average of 100 in 1929/2008. Red markers represent annual averages. For the United States, net worth reflects the full household balance sheet reported in the Financial Accounts of the United States. For Europe, net worth reflects the net financial asset position of the household sector.
Source: Federal Reserve Board of Governors; Mishkin (1978); Eurostat.

Figure 2
Note: All series indexed to annual average of 100 in 1929/2008. Data for the United States reflects the S&P 500 index. Data for the Euro Area reflects the EURO STOXX 50 Price Index.
Source: Bloomberg Professional Service.

Figure 3
Note: Data for the United States in 2008 reflect the FHFA House Price Index. Data for the United States in 1929 reflect the house price index for single-family owner-occupied homes reported in the Historical Statistics of the United States. Data for the Euro Area reflects the European Central Bank's residential property price index. Red markers represent annual averages.
Source: FHFA; Historical Statistics of the United States; European Central Bank.

Figure 4
Source: Federal Reserve Board of Governors.

Figure 5
Note: Civilian employment for the United States is 16 years and older for the 2008 series, and 14 years and older for the 1929 series. Civilian employment for the Euro Area is 15 years and older. Red markers represent annual averages.
Source: Bureau of Labor Statistics; Eurostat.

Figure 6
Note: Private domestic final purchases is the sum of personal consumption and fixed investment for the United States in 2008 and the euro area in 2008. For the United States in 1929, the sum of personal consumption and total investment is shown due to data availability. All series shown are real. Red markers represent annual averages.
Source: Bureau of Economic Analysis; Eurostat.

Figure 7
Note: Red markers represent annual averages.
Source: CPB World Trade Monitor; Statistical Office of the United Nations.

Figure 8
Note: All series indexed to annual average of 100 in 1929/2008.
Source: Bureau of Labor Statistics.

Figure 9
Note: Percentages may not add to 100 due to rounding. Data does not include AMT Relief.
Source: Office of Management and Budget, Agency Financial and Activity Reports; Department of the Treasury, Office of Tax Analysis, based on the FY2013 Mid-Session Review.

Table 1
Note: All measures use prospective CBO cost estimates for 2009-19. Routine tax extenders have been removed from the cost estimates. Column 1 contains data through the end of calendar year 2012 as updated in CEA's Ninth Quarterly Report (2013), while Column 2 contains data through the end of fiscal year 2019.
Source: Congressional Budget Office; Joint Committee on Taxation; Council of Economic Advisers.

Figure 10
Note: Data is displayed in calendar year terms for all series.
Source: Congressional Budget Office, The Budget and Economic Outlook: 2014 to 2024; Office of Management and Budget; Bureau of Economic Analysis.

Table 2
Note: Firm estimates were obtained from and confirmed by each firm or forecaster, and collected in CEA's Ninth Quarterly Report.
Sources: Congressional Budget Office, Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output from October 2012 Through December 2012; CEA Ninth Quarterly Report; CEA Calculations.

Figure 11
Note: Nominal rates reported by the Federal Reserve Board of Governors are deflated by the mean long-term CPI inflation expectation reported by the Federal Reserve Bank of Philadelphia's Survey of Professional Forecasts from 1991:Q4 to the present, and by trailing 1-year growth in the Consumer Price Index beforehand. Shading denotes recession.
Source: Federal Reserve Board of Governors; Federal Reserve Bank of Philadelphia; Bureau of Labor Statistics.

References

Aiginger, Karl. 2010. "The Great Recession versus the Great Depression: Stylized Facts on Siblings That Were Given Different Foster Parents." Economics Discussion Papers 2010-9, Kiel Institute for the World Economy.

Auerbach, Alan J., and Daniel Feenberg. 2000. "The Significance of Federal Taxes as Automatic Stabilizers." Journal of Economic Perspectives 14(3): 37-56.

Bernanke, Ben S. 2004. "Money, Gold, and the Great Depression." H. Parker Willis Lecture in Economic Policy, Washington and Lee University.

Blinder, Alan S., and Mark Zandi. 2010. "How the Great Recession was Brought to an End." Princeton University and Moody's Analytics.

Delong, J. Bradford, and Lawrence H. Summers. 2012. "Fiscal Policy in a Depressed Economy." Brookings Papers on Economic Activity. Spring.

Eichengreen, Barry. 1992. *Golden Fetters: The Gold Standard and the Great Depression, 1919-1939.* Oxford: Oxford University Press.

Eichengreen, Barry and Kevin O'Rourke. 2009 (updated 2010). "A Tale of Two Depressions: What Do the New Data Tell Us?" VoxEU. Available at http://www.voxeu.org/article/tale-two-depressions-what-do-new-data-tell-us-february-2010-update.

Follette, Glenn, and Byron Lutz. 2010. "Fiscal Policy in the United States: Automatic Stabilizers, Discretionary Fiscal Policy Actions, and the Economy." Finance and Economics Discussion Series. Washington: Federal Reserve Board.

Helbling, Thomas. 2009. "How Similar is the Current Crisis to the Great Depression?" VoxEU. Available at http://www.voxeu.org/article/how-similar-current-crisis-great-depression.

International Monetary Fund. October 2014. World Economic Outlook: Legacies, Clouds and Uncertainties. Available at http://www.imf.org/external/pubs/ft/weo/2014/02/pdf/text.pdf.

Martin, Robert F., Teyanna Munyan, & Beth Anne Wilson. 2014. "Potential Output and Recessions: Are We Fooling Ourselves?" Federal Reserve Board of Governors. International Finance and Discussion Papers Notes.

Mishkin, Frederic S. 1978. "The Household Balance Sheet and the Great Depression." *Journal of Economic History* 38: 918-937.