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The 2007-2009 Recession: Similarities to and Differences from the Past

Marc Labonte
Specialist in Macroeconomic Policy

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Summary

According to the National Bureau of Economic Research (NBER), the U.S. economy was in a recession for 18 months from December 2007 to June 2009. It was the longest and deepest recession of the post-World War II era. The recession can be separated into two distinct phases. During the first phase, which lasted for the first half of 2008, the recession was not deep as measured by the decline in gross domestic product (GDP) or the rise in unemployment. It then deepened from the third quarter of 2008 to the first quarter of 2009. The economy continued to contract slightly in the second quarter of 2009, before returning to expansion in the third quarter. The recent recession features the largest decline in output, consumption, and investment, and the largest increase in unemployment, of any post-war recession.

Previously, the longest and deepest of the post-war recessions were those beginning in 1973 and 1981. Both of those recessions took place in a context of high inflation that made the Federal Reserve (Fed) hesitant to aggressively reduce interest rates to stimulate economic activity. The Fed has not shown a similar reluctance in the recent recession, bringing short-term rates down to almost zero. Although inflation exceeded the Fed's "comfort zone" in 2007 and 2008, it was not nearly as high as it was in the 1970s or 1980s recessions. The economy briefly experienced deflation (falling prices) at the end of 2008, and inflation has generally remained very low since. Deflation may be a bigger threat to the economy in the near term, although some economists are fearful that the Fed's actions will cause inflationary problems once the economy returns to full employment.

Both the 1973 and 1981 recessions also featured large spikes in oil prices near the beginning of the recession—as did the recent one. Disruptions to oil markets and recessions have gone hand in hand throughout the post-war period.

The previous two recessions (beginning in 1991 and 2001) were unusually mild and brief, but subsequently featured long "jobless recoveries" where growth was sluggish and unemployment continued to rise. The recent recession did not feature a jobless recovery longer than the norm, but employment growth has been weak in 2010.

A decline in residential investment (house building) during a recession is not unusual, and it is not uncommon for residential investment to decline more sharply than business investment and to begin declining before the recession. The recent contraction in residential investment was unusually severe, however, as indicated by the atypical decline in national house prices.

One unique characteristic of the recent recession was the severe disruption to financial markets. Financial conditions began to deteriorate in August 2007, but became more severe in September 2008. While financial downturns commonly accompany economic downturns, financial markets have continued to function smoothly in previous recessions. This difference has led some commentators to instead compare the recent recession to the Great Depression. While the onset of both crises bear some similarities, the effects on the broader economy have little in common. In the first contraction of the Great Depression, lasting from 1929 to 1933, GDP fell by almost 27%, prices fell by more than 25%, and unemployment rose from 3.2% to 25.2%. The changes in GDP, prices, and unemployment in the recent recession were much closer to those experienced in other post-war recessions than the Great Depression. Most economists blame the severity of the Great Depression on policy errors—notably, the decision to allow the money supply to contract and

thousands of banks to fail. By contrast, in the recent recession policymakers have aggressively intervened to stimulate the economy and provide direct assistance to the financial sector.

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Introduction

According to the National Bureau of Economic Research (NBER), the U.S. economy was in a recession for 18 months from December 2007 to June 2009. It was the longest and deepest recession of the post-World War II era. This report provides information on the patterns found across past recessions since World War II to gauge whether and how this recession might be different.

There is no simple, rule-of-thumb measure to determine when recessions begin or end. Recessions are officially declared by the National Bureau of Economic Research (NBER), a non-profit research organization.[1] The NBER 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.[2] It is unlikely that all of those indicators will begin declining or rising simultaneously. Thus, when comparing historical episodes, some of the symptoms associated with a recession may occur before or after the recession has officially begun or ended. In the recent episode, gross domestic product (GDP) began to fall (in the fourth quarter of 2007) before employment (in January 2008), and both deteriorated significantly in the third quarter of 2008. The economy began to grow again in the third quarter of 2009, but employment continued to fall through December 2009.

The Length and Depth of Recessions

Recessions are not uncommon—2008 marked the 11th since World War II. In recent years, recessions have been less frequent—from 1982 to 2001, there were only two recessions—but the length between the recent one and the prior one, 73 months, was comparable to the frequency of recessions from 1945 to 1981.

As can be seen from **Table 1**, the recent recession was 18 months long, making it the longest of the post-war period.[3] It was almost twice as long as the median length of post-war recessions (9.5 months). Recessions end because of monetary and fiscal stimulus—both were employed in the recent episode[4]—and because markets automatically adjust.

[1] The NBER announced in December 2008 that the recent recession began in December 2007. It announced in September 2010 that the recession had ended in June 2009. For more information, see CRS Report R40052, *What is a Recession and Who Decided When It Started?*, by Brian W. Cashell.

[2] National Bureau of Economic Research, *Determination of the December 2007 Peak in Economic Activity*, January 7, 2008, http://www.nber.org/cycles/dec2008.html.

[3] Another possibility is that the NBER could have dated the beginning of the recession later in 2008, once unemployment began rising more quickly. If it had, then the recession would have been closer to the average for the post-war period, but the output decline would still have been the most severe.

[4] For a review of policy steps already taken and current policy proposals, see CRS Report R40104, *Economic Stimulus: Issues and Policies*, by Jane G. Gravelle, Thomas L. Hungerford, and Marc Labonte.

Table 1. Economic Indicators During Post-War Recessions

Dates	Duration (months)	Cumulative Percent Change GDP	Consumption	Investment
Nov. 1948 - Oct. 1949	11	-1.6%	3.4%	-10.2%
July 1953 - May 1954	10	-2.6	-0.5	-3.4
Aug. 1957 - April 1958	8	-3.7	-1.3	-8.0
April 1960 - Feb. 1961	10	-1.6	1.0	-5.1
Dec. 1969 - Nov. 1970	11	-0.6	2.5	-2.6
Nov. 1973 - March 1975	16	-2.8	-0.7	-18.4
Jan. 1980 - July 1980	6	-2.2	-1.2	-8.1
July 1981 - Nov. 1982	16	-2.7	0.1	-9.3
July 1990 - Mar. 1991	8	-1.4	-0.7	-7.2
March 2001 - Nov. 2001	8	-0.3	1.2	-3.2
Dec. 2007 - June 2009	18	-4.1	-2.3	-23.4

Source: National Bureau of Economic Research; CRS calculations based on data from Bureau of Labor Statistics, Bureau of Economic Analysis.

Notes: Table measures changes in economic indicators from peak to trough, which do not always correspond with NBER business cycle dates. Investment growth excludes changes in inventories.

Recessions affect economic well-being by their length and depth. When considering depth, the recent recession can be separated into two distinct phases. During the first phase, which lasted for the first two quarters of 2008, the recession was not deep as measured by the change in GDP or unemployment. It deepened in the third quarter of 2008, however, and remained deep through the first quarter of 2009. After a slight further decline in the second quarter, the economy returned to expansion in the third quarter of 2009.

The fall in GDP during the recent recession, a cumulative 4.1%, was the deepest of the post-war period. By contrast, output fell by 1.4% in the 1990-1991 recession and 0.3% in the 2001 recession. The decline in output after the second quarter of 2008 was even larger than over the entire recession. Most of the decline occurred from the third quarter of 2008 to the first quarter of 2009. The 1981 recession was the last recession to feature consecutive quarters of steep declines in GDP.

The 1973 and 1981 recessions were also unusually long and deep, in terms of lost output. During the recession beginning in 1973, GDP fell by a cumulative 3%. During the recession beginning in 1981, GDP fell by a cumulative 2.9%, and this recession came on the heels of a 2.2% decline in GDP in a separate recession one year earlier.

Economists often attribute the unusual length and depth of the 1973 and 1981 recessions in part to the Federal Reserve's decision to keep interest rates high. The rate targeted by the Fed, the federal funds rate, peaked at 12.9% in July 1974 and 19% in July 1981. (After adjusting for inflation, these rates were not nearly as high as they appear because inflation was so much higher at the time.) The Fed had raised rates that high in order to reduce inflation, which, as measured in the GDP accounts, peaked at an annualized rate of 12.8% in the third quarter of 1974 and 11.1% in the fourth quarter of 1980. For that reason, some economists have described these recessions as "made in Washington"—had the Fed not raised rates so high, they argue, the recessions would presumably have been shorter and milder (although inflationary problems might have worsened).

This dynamic has not been important in the recent recession, as the federal funds rate's recent peak was 5.25% and was reduced before the recession had begun, eventually falling to almost zero. Rising inflation was initially a concern in the current episode, but has never come close to the rates of the 1970s and 1980s—it peaked at 4.2% in the first quarter of 2007. Rising energy and commodity prices were temporarily pushing inflation up in the first half of 2008. Since then, declines in those prices temporarily led to deflation (falling prices) at the end of 2008, with very low inflation since.

As the economy gradually recovers, views are divided on the outlook for inflation. Some commentators point to a federal funds rate of zero and the unprecedented scale of the Fed's intervention in financial markets as policies that will ultimately push inflation higher. Through direct lending and asset purchases, the Fed's outstanding support to the financial sector has, at times, exceeded $1 trillion, compared with less than $1 billion before the financial crisis began.[5] In normal times, such interest rate and lending policies would be expected to be highly inflationary. But as the recession drove down aggregate demand, it put downward pressure on inflation. Other commentators fear that the recession was severe enough that deflation is a greater threat than inflation. They argue that the Fed's intervention in financial markets was necessary to avoid a "liquidity trap," where lower interest rates no longer stimulate interest-sensitive spending. Although the Fed has brought the federal funds rate down to near zero, because it was only 5.25% when the Fed began reducing rates, the Fed's scope for easing monetary policy through traditional methods was somewhat limited. By contrast, the federal funds rate, although high, was reduced (peak to trough) by 6.8 percentage points in the 1973 recession and by 10.5 percentage points in the 1981 recession.

Unemployment in Recessions

Table 2 shows the rise in unemployment in all 11 post-war recessions. Unsurprisingly, the recessions with the deepest declines in output also featured the largest increases in unemployment. From the expansion peak to post-recession high, the 1973 recession saw an increase in the unemployment rate of 4.2 percentage points, and the 1981 recession saw an increase of 3.6 percentage points (or 4.8 percentage points compared with the expansion that ended in 1980). Unemployment peaked at 10.1% in October 2009, a 5.1 percentage point increase compared with the previous expansion peak. The 1981-1982 recession was the only other recession in the post-war period in which unemployment topped 10%.

[5] See CRS Report RL34427, *Financial Turmoil: Federal Reserve Policy Responses*, by Marc Labonte

Table 2. The Unemployment Rate at a Recession's End and Its Subsequent Peak Since World War II

Dates of Business Cycle Peak and Trough	Unemployment Rate at Expansion Peak	Unemployment Rate at Recession Trough	Peak Unemployment Rate	
			Level	Date
Nov. 1948 - Oct. 1949	3.8%	7.9%	7.9%	Oct. 1949
July 1953 - May 1954	2.6%	5.9%	6.1%	Sept. 1954
Aug. 1957 - Apr. 1958	4.1%	7.4%	7.5%	July 1958
Apr. 1960 - Feb. 1961	5.2%	6.9%	7.1%	May 1961
Dec. 1969 - Nov. 1970	3.5%	5.9%	6.1%	Aug. 1971
Nov. 1973 - Mar. 1975	4.8%	8.6%	9.0%	May 1975
Jan. 1980 - July 1980	6.3%	7.8%	7.8%	July 1980
July 1981 - Nov. 1982	7.2%	10.8%	10.8%	Nov. 1982
July 1990 - Mar. 1991	5.5%	6.8%	7.8%	June 1992
Mar. 2001 - Nov. 2001	4.3%	5.5%	6.3%	July 2003
Dec. 2007 – June 2009	5.0%	9.5%	10.1%	Oct. 2009
Average	4.8%	7.5%	7.9%	-

Source: CRS Report R40798, *Unemployment and Employment Trends Before and After the End of Recessions*; based on data from the Bureau of Labor Statistics.

Most of the increase in unemployment in the recent recession occurred after the first six months of the recession, underlining the initial mildness of the recession. The rise in the unemployment rate during this recession was comparable to the recessions since 1960 for the first 10 months following the recession's onset. Beginning in the 11th month, however, it followed a pattern similar but even more severe than the two "deep and long" recessions of 1973 and 1980. (Unemployment leveled off after about a year in the other four recessions since 1960.) The recent recession eventually featured the largest increase in unemployment in the post-war period. Unemployment rose for 22 months, the longest period of rising unemployment since World War II. The 1973 and 1981 recessions were the only other two in the post-war period where unemployment continued to rise after about a year; in the 1973 recession, it rose for 19 months.

The previous two recessions, in 1991 and 2001, were mild and brief as measured by the decline in GDP, and had some of the smallest increases in unemployment in the post-war period. This is not the whole story, however, because, in both cases, unemployment continued to rise for over a year after the recession had ended. (In every other post-war recession, with the exception of the one beginning in November 1970, unemployment began falling within six months of the recession's end.) These two episodes have therefore been called "jobless recoveries." If the rise in unemployment in the jobless recovery were included, the episode beginning in 1991 would have featured an above average rise in unemployment; but the episode beginning in 2001 would still remain below average. It is unclear whether the economy has changed in some fundamental way that makes jobless recoveries more likely from now on, or if it was simply a coincidence that the previous two recessions ended in this way.

Job growth following the recent recession was more typical in that employment began rising in January 2010, seven months after the recession officially ended. Less typically, subsequent employment growth has been weak.

Consumption and Investment in Recessions

The recent recession has also featured the largest decrease in consumption and private fixed investment spending of any post-war recession. There are a few commonalities found across all previous post-war recessions. First, in all cases, consumption spending did not weaken as much as GDP, as shown in **Table 1**. In fact, in five out of 11 recessions, consumption continued to grow while GDP fell. To the extent that households can adjust their saving and borrowing levels, they are thought to generally prefer to "smooth" consumption over time, avoiding sudden increases and decreases. In the recent recession, consumption declined relatively rapidly in the third and fourth quarters of 2008, with small positive and negative changes in the other quarters. Consistent with the historical pattern, consumption has fallen by proportionately less than output cumulatively.

Second, in all recessions, fixed investment spending fell more sharply than GDP. This evidence casts doubt on a popular explanation that recessions are caused by declines in consumption. It suggests to some that the primary driver of the business cycle is cyclical changes in investment demand.[6] Investment demand is separated into two categories—business investment (in plant and equipment) and residential investment (home building). Cyclical changes in business investment could be driven by changes in business conditions, confidence, or credit conditions. Residential investment is driven by changes in housing demand and credit conditions. Changes in credit conditions are heavily influenced by monetary policy.

Both business investment and residential investment fell in each of the post-war recessions. In eight out of 10 recessions, there was a larger percentage decline in residential investment than in business investment.[7] The percentage decline in residential investment was much larger in the recent recession—beginning in the second quarter of 2006, residential investment fell by more than an annualized rate of 10% for thirteen straight quarters, while business investment fell by more than 10% in only two quarters. Further, in nine out of 10 past recessions, the decline in residential investment preceded the decline in GDP growth.[8] This pattern held in the recent recession as well. Many economists have argued that the housing crash was a root cause of the recent recession.

The fact that the decline in residential investment preceded the decline in GDP is not necessarily evidence that housing crashes have also caused other post-war recessions. It may be that recessions are caused by a tightening in credit conditions, and residential investment is the sector that is first and most affected by tighter credit conditions. For example, the deep decline in

[6] Unless one made the case that changes in investment were in response to anticipated changes in consumption spending.

[7] Since business investment accounts for a larger share of GDP than residential investment, the decline in dollar terms was not always larger.

[8] Economist Edward Leamer estimates that residential investment is responsible for 26% of the weakening in the economy before the average recession, and 11% of the weakness during the recession. Edward Leamer, "Housing is the Business Cycle," *National Bureau of Economic Research working paper*, no. 13428 (September 2007).

residential investment in the early 1980s is usually attributed to the Fed's decision to push the federal funds rate as high as 19%. While residential investment has fallen in all other post-war recessions, national house prices had not (since the major data series were first collected), until now.[9] In the recent recession, national house prices fell 15% peak to trough,[10] and residential investment fell by more than half from peak to trough. Unlike many other post-war recessions, housing may be a cause, rather than a symptom, of the recent recession.

Recessions and Oil Prices

Another commonality between the recent recession and past recessions is the behavior of oil prices. The recessions of 1973 and the early 1980s are remembered for their oil shocks, and this pattern is not uncommon. In a well-known article, economist James Hamilton identified disruptions to oil supply before all but one of the post-war recessions—a pattern that has continued in every recession since his article was published, including the latest.[11] Crude oil prices rose from $51 per barrel in January 2007 to a peak of $129 per barrel in July 2008. The average price in 2009 was about half the 2008 peak price, which should eventually offset much of the contractionary effects of the previous price increase on GDP. Evidence against attributing the economic downturn to rising oil prices would be the fact that oil prices rose significantly in the previous expansion without any noticeable effect on GDP growth. For example, prices rose from $37 per barrel in December 2004 to $69 per barrel in July 2006.

Recessions and the World Economy

As a result of the current global nature of the financial turmoil, the recent recession was widespread throughout the world.[12] In 2009, world GDP growth was -0.6% overall and -3.2% in developed economies, contracting in all of the G-7 economies.[13] A widespread recession is not historically unusual. For example, between 1980 and 1982, all of the G-7 countries except France and Japan experienced a contraction in GDP for at least one year (and growth was close to zero in France in 1981). Likewise, between 1991 and 1993, all of the G-7 countries except Japan experienced a contraction in GDP for at least one year (and growth was close to zero in Japan in 1992 and 1993). The global nature of the recession could potentially prolong and deepen it because there would be less demand abroad for a country's exports. In a study of historical recessions in industrial countries, the International Monetary Fund (IMF) found that recessions that were highly synchronized internationally lasted an average of four months longer and GDP fell an average of 1% more than in other recessions.[14]

[9] Prices may have fallen during the Great Depression and previous recessions for which official data are not available.

[10] 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.

[11] James Hamilton, "Oil and the Macroeconomy Since World War II," Journal of Political Economy, vol. 91, no. 2, 1983, p. 228.

[12] See CRS Report RL34742, *The Global Financial Crisis: Analysis and Policy Implications*, coordinated by Dick K. Nanto.

[13] The G-7 countries consist of the United States, United Kingdom, France, Italy, Germany, Canada, and Japan.

[14] International Monetary Fund, *World Economic Outlook*, Washington, DC, April 2009, p. 111.

Recessions and the Financial Sector

A primary reason that the recent recession was longer and deeper than normal is the severity of the financial downturn that began in August 2007 and worsened dramatically in September 2008. As noted above, the recession was initially mild, and the decline in GDP accelerated markedly after the financial downturn worsened. Although a diminished investor appetite for risk and a stock market decline before or during a recession is common, the recent recession has featured a breakdown in activity in certain financial markets, such as the markets for asset-backed securities, commercial paper, and interbank lending, and the failure (or government rescue to avoid failure) of several large, established financial firms. Since then, financial conditions have improved but have not completely returned to normal. Beginning in the fourth quarter of 2008, disruptions in financial markets resulted in significant declines in business investment. Given the lag between changes in financial conditions and economic activity, it is less surprising that the recession was so much longer than average. In a study of historical recessions in industrial countries, the IMF found that recessions associated with financial crises lasted an average of seven months longer, although the decline in GDP was not statistically significant from other recessions.[15]

Comparisons Between the Recent Recession and the Great Depression

Some commentators have suggested that the financial crisis of the recent recession makes the Great Depression a more relevant comparison than the other post-war recessions. While the current financial downturn has been the most severe in the post-war period by many measures, there are many differences between the recent situation and the Great Depression. Although the stock market crash of 1929 played a role in setting the economic downturn in motion, there is a consensus among economists that policy errors caused the downturn to become the Great Depression.[16] Among the most important errors were the Fed's failure to counteract the contraction in the money supply, which caused overall prices to fall a cumulative 25%, and bank runs, which caused thousands of banks to fail. (The money supply fell primarily in order to maintain the gold standard, and the economic growth rate was high after the United States abandoned the gold standard.)

By contrast, policymakers have responded aggressively and unconventionally to attempt to contain the current crisis. The Fed has reduced short-term interest rates to nearly zero. Direct Fed assistance outstanding to the financial system has exceeded $1 trillion, and Congress authorized Treasury to provide an additional $700 billion to the financial system through the Troubled Assets Relief Program.[17] Widespread bank runs have not occurred since the introduction of deposit insurance in the 1930s, and similar runs on money market mutual funds in 2008 were

[15] International Monetary Fund, *World Economic Outlook*, Washington, DC, April 2009, p. 111. See also Carmen Reinhart and Kenneth Rogoff, "The Aftermath of Financial Crises," *National Bureau of Economic Research*, working paper no. 14656 (January 2009).

[16] For an overview, see Ben Bernanke, "The Macroeconomics of the Great Depression: A Comparative Approach," *Journal of Money, Credit, and Banking*, vol. 27, no. 1 (February 1995).

[17] For more information, see CRS Report R41427, *Troubled Asset Relief Program (TARP): Implementation and Status*, by Baird Webel.

circumvented when Treasury temporarily guaranteed their principal. The Federal Deposit Insurance Corporation (FDIC) also temporarily guaranteed certain bank debt to ensure that banks would not lose access to borrowing markets.[18]

During the Great Depression, policymakers were also reluctant to stimulate the economy through fiscal expansion (a larger structural budget deficit).[19] By contrast, the budget deficit increased as a share of GDP from 1.2% in 2007 to 10% in 2009. There was also a belief among some policymakers at the time that recessions were healthy processes that purged the economy of inefficiently allocated resources—a view that fell out of favor as the Depression worsened, and was eventually replaced by the view that prudent policy changes could avoid the needless waste of resources laid idle by recessions.

The Great Depression included two recessions, with the first lasting 3½ years and the second, beginning four years later, lasting another year. As deep as the recent recession was, it was mild compared with the first contraction of the Great Depression, as shown in **Table 3**.[20] The changes in GDP, prices, and unemployment in the recent recession were much closer to those experienced in other post-war recessions than the Great Depression.

Table 3. Comparing the First Contraction of the Great Depression to the Recent Recession

	Cumulative Change in Output	Rise in Unemployment Rate	Cumulative Change in Prices
1929 to 1933	-26.7%	3.2% to 25.2%	-25.5%
2007:Q4 to 2009:Q2	-4.1%	5.0% to 9.5%	2.5%

Source: CRS calculations based on data from the Bureau of Economic Analysis and Department of Commerce, *Historical Statistics of the United States*, 1975.

Notes: Quarterly data are not available for the 1920s and 1930s, so annual data are used. Inflation measured using the gross domestic product deflator.

Author Contact Information

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

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[18] For more information, see CRS Report R41073, *Government Interventions in Response to Financial Turmoil*, by Baird Webel and Marc Labonte.

[19] Much of the increase in the budget deficit during the Great Depression was caused by falling revenues due to the Depression, rather than the introduction of new policy measures that were deficit-financed. The structural budget deficit refers to the budget deficit that would occur in the absence of changes in economic conditions.

[20] Quarterly data do not exist for the 1920s and 1930s. Percent changes for annual data compare the mid-point of the current year to the mid-point of the previous year.