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International Dimensions of the Great Recession and the Weak Recovery

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Confronting Policy Challenges of the Great Recession

Lessons for Macroeconomic Policy

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6
International Dimensions of the Great Recession and the Weak Recovery

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The global economic slowdown that followed the U.S. financial crisis in 2008 was deeper and longer lasting than any previous economic downturn other than the Great Depression. Indeed, the downturn is widely referred to as the Great Recession, testimony to its severity in comparison to other postwar recessions, while at the same time delineating it as a recession and not a depression. Worldwide GDP fell by over 15 percent during the Great Depression. The global GDP decline during the Great Recession was much lower—around 1 percent—but the slow pace of the recovery from the recent downturn is unprecedented. This chapter will examine the reasons for the weak recovery from the Great Recession. Reinhart and Rogoff (2011, 2014) make a strong case for why recessions precipitated by financial crises are likely to be more severe than those caused by other factors, which is undoubtedly part of the explanation.[1] The international dimensions of the recent financial crisis are also significant contributors to both the diffusion and persistence of the weak recovery.

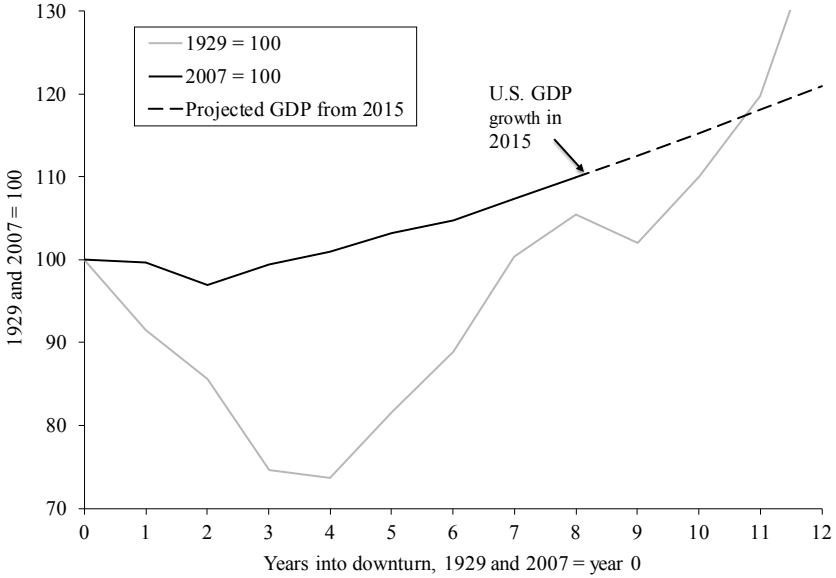
COMPARISONS TO THE GREAT DEPRESSION

The Great Depression started with major economic contractions in the period 1930–1933, but the U.S. economy rebounded strongly in the subsequent three years with an average growth rate of 11 percent. In contrast, the Great Recession only lasted six quarters, but growth rates

have only averaged 2.2 percent over the six subsequent years. Figure 6.1 compares annual real GDP growth in the United States during the 1930s to current growth rates. It dramatically illustrates that the depth of the Great Depression far exceeded our recent experience, while at the same time showing the relatively slow pace of the current recovery.

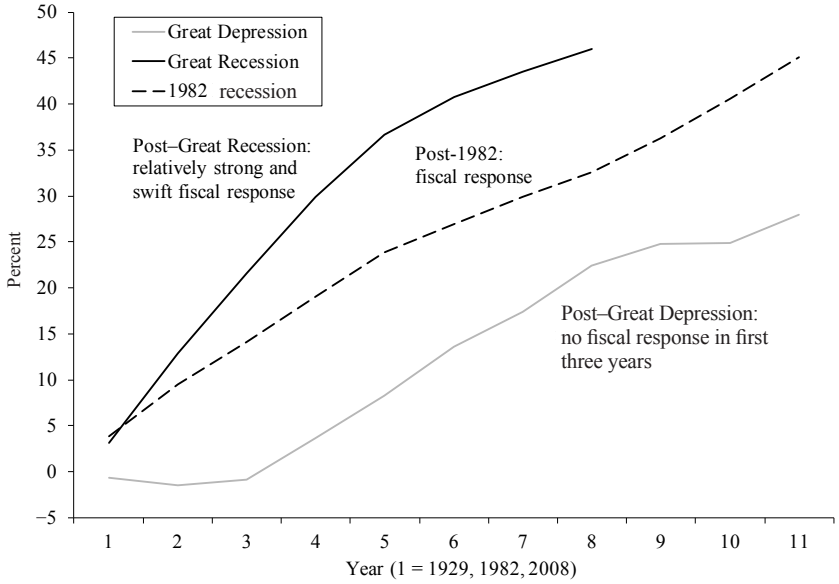
Economists have long studied the causes and consequences of the Great Depression, and among the many lessons learned from that experience was that fiscal and monetary policy decisions in that time period likely exacerbated the severity and persistence of the downturn (Brown 1956; Friedman and Schwartz 1963; Keynes 1936; Romer 1992; Temin 1989). Figures 6.2 and 6.3 compare the fiscal and monetary policy responses taken during the Great Depression relative to actions taken in the wake of the Great Recession. As DeLong (1998) describes, the U.S. government did not consider economic stabilization, let alone full employment, as one of its responsibilities prior to the Great Depres-

Figure 6.1 Comparing the Great Recession to the Great Depression, in Annual Real GDP Growth



SOURCE: US. Bureau of Economic Analysis: Real GDP, not seasonally adjusted, billions of chained 2009 dollars.

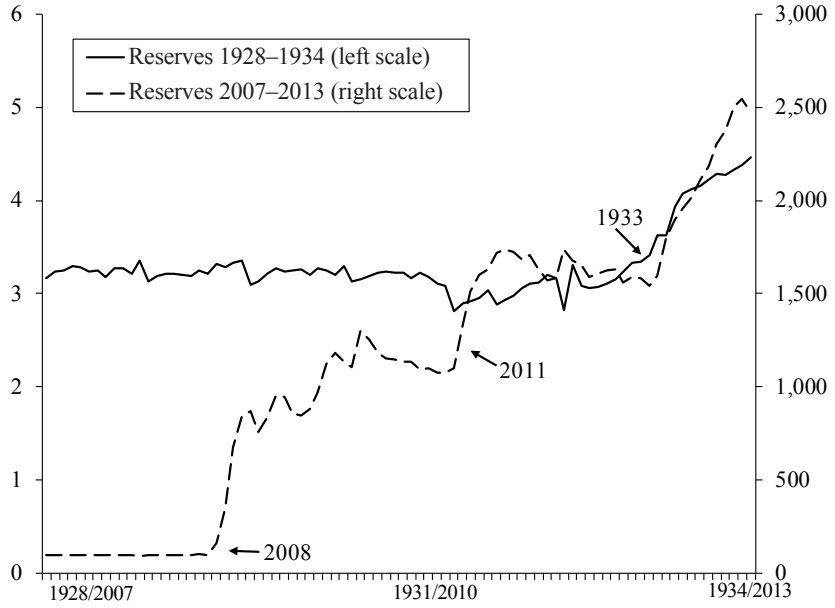
Figure 6.2 U.S. Fiscal Policy Response Comparison



SOURCE: Federal Reserve Bank of St. Louis, US. Office of Management and Budget: Federal surplus or deficit [-] as percent of GDP (FYFSGDA188S) was first constructed by the Federal Reserve Bank of St. Louis in October 2012. It is calculated using Federal Surplus or Deficit [-] (FYFSD) and GDP (GDPA): FYFSGDA188S = [(FYFSD/1000) ÷ GDPA] × 100 FYFSD ÷ 1000.

sion. The government borrowed to pay for wars and attempted to run surpluses during peacetimes to pay off the accrued debts, which led to the principle that the only good peacetime budget was a balanced budget. It was not until the passage of the Employment Act of 1946 that the federal government was required to actively manage the macro economy, though by 1931 U.S. fiscal deficits started to rise as a consequence of the congressional override of Hoover's veto of the veterans' bonus (Hausman 2016) and other relief expenditures, as well as the collapse in tax revenues. The fiscal response to the Great Recession was, in comparative terms, strong and swift. Figure 6.2 also shows the fiscal response to the recession in 1982, which was far stronger than was the case in the 1930s but less aggressive than the approach taken after 2008. The American Recovery and Reinvestment Act (ARRA) of

Figure 6.3 U.S. Monetary Policy Response Comparison



SOURCE: Federal Reserve Bank of St. Louis; St. Louis Monthly Reserves and Monetary Base.

2009 provided around $800 billion in tax cuts and federal spending to stimulate the economy, and various other programs (Cash for Clunkers, the extension and expansion of the housing tax credit, the job tax credit, and extensions of emergency unemployment insurance benefits) added another $200 billion in stimulus spending.

The U.S. monetary response to the Great Recession was also dramatically different from the approach taken in the 1930s. As is evident in Figure 6.3, it was not until the United States left the gold standard in 1933 that monetary policy became more expansionary during the Great Depression. In contrast, the Federal Reserve's immediate and unprecedented approach to providing liquidity to financial markets began with a half-point reduction in the federal funds target rate (to 4.75 percent) in September 2007, followed by further reductions that brought the target rate down to a range of 0 to 0.25 percent by December 2008. In 2007,

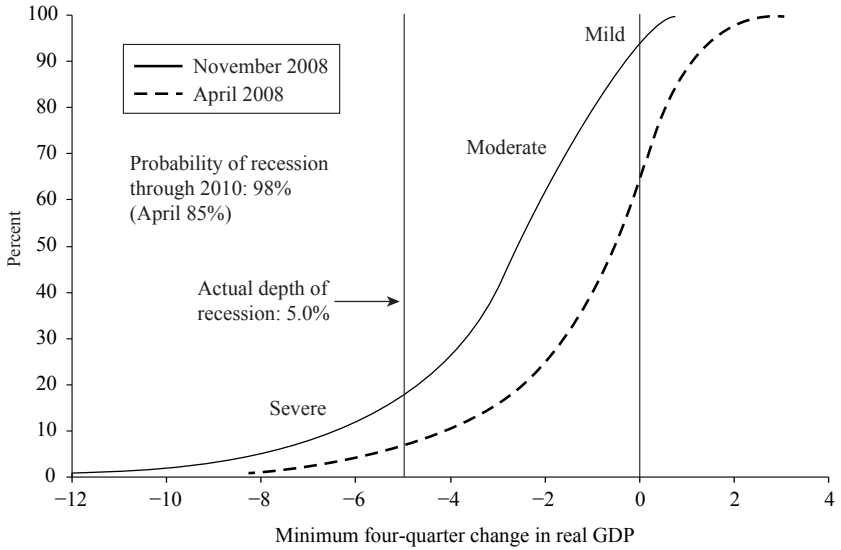
the Fed created a Term Auction Facility (TAF), which provided banks with additional access to liquidity. This was followed by a series of extraordinary credit mechanisms: in March 2008, the Term Securities Lending Facility (TSLF), which allowed banks and eventually non-bank financial institutions to exchange less-liquid securities for U.S. Treasury bills; the Commercial Paper Funding facility; and the Term Asset-Backed Securities Loan Facility (TALF). In October 2008, the Emergency Economic Stabilization Act of 2008 was passed, which provided up to $700 billion to the Fed to purchase a wide array of illiquid assets through the Troubled Assets Relief Program (TARP). In 2009 the Fed announced its first round of quantitative easing, which involved the purchase of $1 trillion of securities, and in 2010 it announced a second round of $750 billion.

The aggressive U.S. policy response to the financial crisis was, and remains, controversial. The efficacy of specific policies, the size of the programs, and the approach to implementation will likely be debated for decades to come. Lessons from the Great Depression clearly spurred policymakers to action, and it seems likely that the policies, at the very least, delayed the slowdown in U.S. growth. However, fiscal and monetary policy actions, whether because they were not aggressive enough or because other factors complicated their efficacy, were not able to head off the Great Recession.

FORECASTING THE GREAT RECESSION

Are major economic downturns predictable? Dominguez, Fair, and Shapiro (1988) find no evidence that contemporary forecasters realized that a major economic downturn would follow the 1929 stock market crash. Likewise, there is little evidence that professional or government forecasters could predict the Great Recession. Figure 6.4 shows the probability distributions of U.S. GDP growth calculated by the Federal Reserve Bank of New York before and after the Lehman Bank failure in September 2008. The solid line in the figure is based on data available up to November 2008, and the dashed line is based on data available through April 2008. The actual depth of the Great Recession was 5 percent; in April 2008 the Fed forecasters attributed less than 3 percent

Figure 6.4 Forecasting the Great Recession: Probability Distribution before and after the Lehman Failure



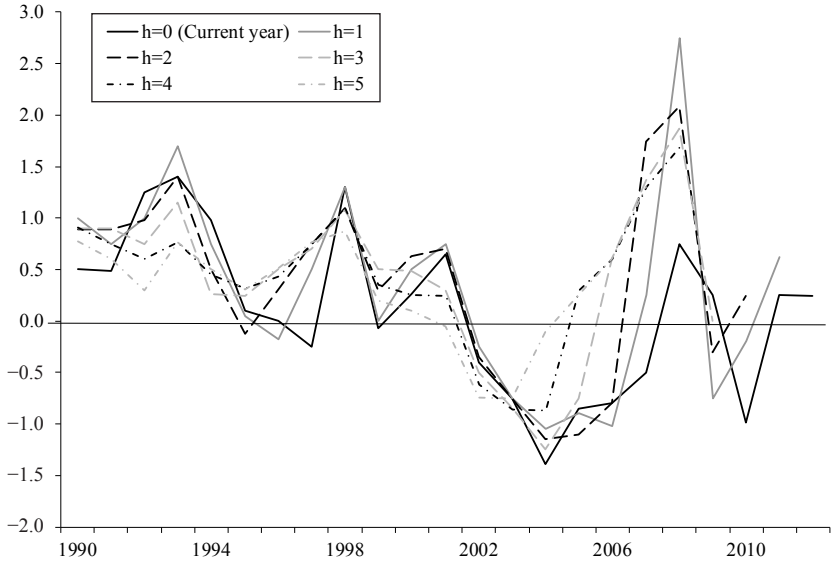
NOTE: Figure shows probability distribution of GDP growth from a calibration exercise before and after the Lehman failure. The solid line corresponds to a November 20, 2008, calibration (and therefore after Lehman) based on a 97% probability of recession (even in November 2008 the simulation had some paths that did not produce a recession), whereas the dashed line is based on a beginning of April 2008 calibration. As can be seen the shape of the conditional cumulative distribution function also changes as more weight is placed on extreme scenarios in the underlying Markov process and the fat tail of the extreme scenarios is increased. The actual depth of the 2007–2009 recession was −5% (using the pre-2013 benchmark data). As gauged by this metric, the April 2008 calibration attributed less than 3% probability to the ultimate outcome, and it was only by November 2008 that the probability of the actual outcome was close to 15%.

SOURCE: Federal Reserve Bank of New York research staff; Potter (2011).

probability to this outcome, and even in November 2008 the probability of the actual outcome was only 15 percent.

It was not just forecasts of the U.S. economy that missed the mark—there is little cross-country evidence that forecasters could predict the global downturn. Figure 6.5 shows the International Monetary Fund's (IMF) average rolling forecast errors over various horizons starting in 1990 and ending in 2012 for 188 countries. Forecast errors were gen-

Figure 6.5 IMF's Rolling Forecast Errors by Horizon, 1990–2012 (percentage points, annual average)



NOTE: Forecast error = forecast − actual. Actual data as of December 2013; forecasts for 0-to 5-year horizons; 188 countries.

SOURCE: IMF's World Economic Outlook (1990–2012 vintages); Figure 12 in Ho and Mauro (2014).

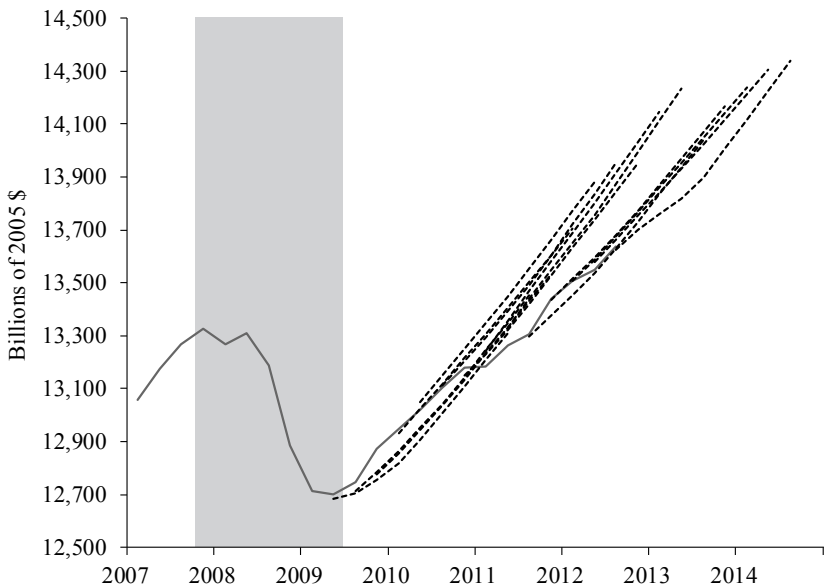
erally positive in the 1990s, meaning that the IMF forecast exceeded actual GDP growth. Between 2000 and 2007 forecast errors were negative, indicating that economic growth was stronger than what IMF forecasters expected. In the aftermath of the financial crisis in 2008, forecast errors again swung positive, with five-year horizon forecast errors nearing an unprecedented 3 percent.

FORECASTING THE RECOVERY

Although most forecasters missed the depth and severity of the Great Recession, they seem to have largely anticipated the slow recov-

ery. Dominguez and Shapiro (2013) examine real GDP forecasts and forecast revisions starting in 2009 by the Survey of Professional Forecasters (SPF) maintained by the Philadelphia Fed, the Eurozone Survey of Professional Forecasters maintained by the European Central Bank (ECB), and the IMF World Economic Outlook forecasts. Figure 6.6 shows actual real U.S. GDP from 2007 to 2012 (the solid line) along with average eight-quarter-ahead SPF forecasts (the dashed lines) starting at the trough of the Great Recession (mid-2009). The SPF forecasts are initially overly pessimistic, but over time they track actual GDP growth closely, and revisions of the outlook consistently shift downward over time. In 2012 the SPF forecasts predict a downward shift not

Figure 6.6 U.S. Real GDP Forecast: Actual and Survey of Professional Forecasters, 2007–2014



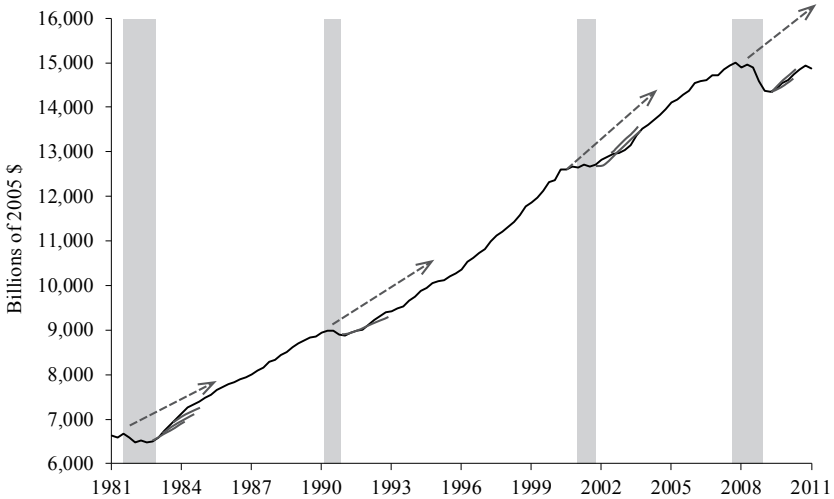
NOTE: Real GDP, billions of chained 2005 dollars, quarterly, seasonally adjusted (solid line), real-time mean eight-quarter ahead Survey of Professional Forecasters as calculated in Dominguez and Shapiro (2013) (dashed lines). The shaded area indicates the dates of the Great Recession as determined by the NBER.

SOURCE: Dominguez and Shapiro (2013, Figure 1). Federal Reserve Bank of St. Louis.

only of the trend path but also in the growth rate of GDP. Importantly, as Dominguez and Shapiro (2013) emphasize: "Nowhere in the forecast horizon since the 2009 trough have forecasters projected a return to the pre–Great Recession trend path" (pp. 149). Figure 6.7 shows that this "new normal" of not returning to the previous trend path of GDP is also evident in the actual and SPF forecast data in the aftermath of the 1991 and 2001 recessions. The "old normal" of a rapid return to the previous trend path is only evident after the 1981 recession.

It is interesting to note that when we compare the recent U.S. recovery to recoveries from the four previous post–WWII recessions, trend GDP growth across all five recoveries looks fairly similar in the first few quarters, but then we see evidence of a negative shock about a year into the recovery after the 1973, 1981, and 2008 downturns. However, instead of the quick reversal to stronger growth that we saw in the 1970s

Figure 6.7 U.S. Real GDP Forecast: Actual and Survey of Professional Forecasters, 1981–2011



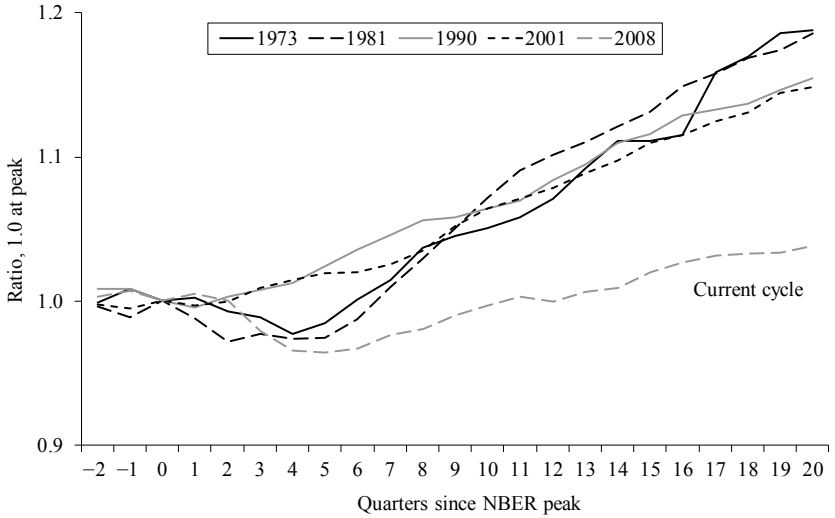
NOTE: Real GDP, billions of chained 2005 dollars, quarterly, seasonally adjusted (solid line), real-time Survey of Professional Forecasterss (dashed lines), trend growth (arrows). The SPF forecasts are made shortly after the preliminary release of data for the previous quarter.

SOURCE: Federal Reserve Bank of St. Louis.

and 1980s, Figure 6.8 shows that the recovery in the recent period never experiences a growth uptick. Table 6.1 provides a comparison of historical recoveries across the past 11 NBER-dated recessions. The Great Recession stands out for sustaining the largest 4-quarter GDP decline at the start of the recession, and the smallest GDP rise over the subsequent 10 quarters.

What might account for the unusually slow pace of the recovery after the Great Recession? One factor that the Congressional Budget Office (CBO) has emphasized is the concomitant reduction in potential GDP. "CBO estimates that about two-thirds of the difference between growth in real GDP in the current recovery and the average for other recoveries can be attributed to sluggish growth in potential GDP" (CBO 2012, pp. 2–3). Figure 6.9 shows actual real GDP starting in 2003 to the present, along with the precrisis trend, and CBO's estimate of potential GDP. The slower growth in potential GDP is, in turn, largely attributed to "long-term trends unrelated to the cycle, including the nation's chang-

Figure 6.8 U.S. Real GDP Recovery Comparisons



NOTE: Real GDP, billions of chained 2009 dollars, quarterly, seasonally adjusted annual rate. NBER business cycle dates: http://www.nber.org/cycles.html (accessed June 1, 2017).

SOURCE: Federal Reserve Bank of St. Louis.

Table 6.1 GDP Growth: Historical Recovery Comparisons

Recession		% change from peak at start of recession			
Start	End	4 quarters	8 quarters	12 quarters	14 quarters
Nov. 1948	Oct. 1949	−1.6	11.6	17.3	18.7
July 1953	May 1954	−2.2	5.2	7.5	9.1
Aug. 1957	April 1958	−0.9	6.0	8.4	7.7
April 1960	Feb. 1961	−1.0	6.4	10.3	13.8
Dec. 1969	Nov. 1970	0.4	9.2	14.5	14.6
Nov. 1973	March 1975	−2.0	0.5	4.8	8.1
Jan. 1980	July 1980	1.6	−0.9	0.6	4.9
July 1981	Nov. 1982	−2.7	2.8	9.8	11.8
July 1990	March 1991	−0.7	2.3	5.3	7.2
March 2001	Nov. 2001	1.5	3.3	7.3	9.0
Dec. 2007	June 2009	−3.3	−3.8	−0.8	−0.4
Average without recession of 2007–2009		−0.7	4.6	8.6	10.5

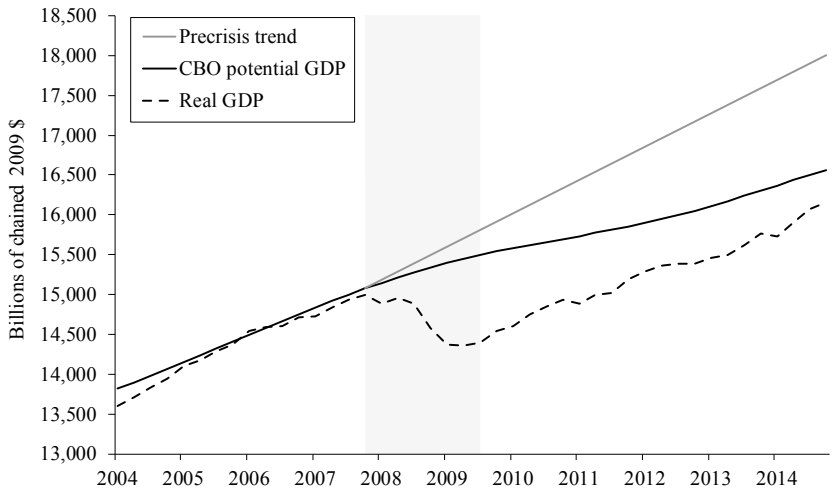
SOURCE: U.S. Bureau of Economic Analysis, National Bureau of Economic Research.

ing demographics" (CBO 2012, pp. 3). Past recoveries were helped by favorable demographic trends coming from increases in labor force participation of women and the strength of the baby boom, while the most recent recovery coincided with the retirement of baby boomers.

BUSINESS CYCLE COMOVEMENT

When America sneezes, the world catches cold—meaning, business cycles across the globe are increasingly synchronous with the U.S. cycle.[2] Ng and Wright (2013) provide an excellent survey of business cycle facts, updated to include the data from the Great Recession, and find strong evidence that recessions with financial market origins are different from those driven by supply or monetary policy shocks, and that when countries are more financially integrated, business cycles are more synchronous. In real business cycle models with complete markets, financially integrated economies will correlate negatively, leading to low synchronicity. However, if we (realistically) allow for the exis-

Figure 6.9 Great Recession GDP, Precrisis Trend, and CBO Potential GDP Estimate

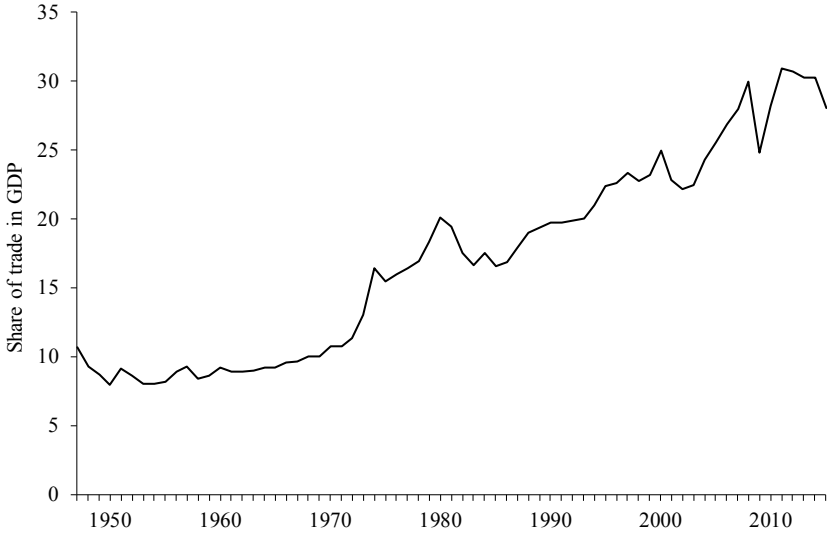


SOURCE: Federal Reserve Bank of St. Louis: Real GDP, billions of chained 2009 dollars, quarterly, seasonally adjusted annual rate; real potential GDP is the CBO's estimate of the output the economy would produce with a high rate of use of its capital and labor resources. The data are adjusted to remove the effects of inflation; trend line based on prerecession GDP growth.

tence of financial frictions that impede perfect risk sharing, business cycle models generally predict higher synchronicity when countries are more financially open and connected (Baxter and Crucini 1995).

Business cycle comovement is likely to increase when trade and financial linkages are stronger and policy responses are more similar. Figure 6.10 shows how U.S. trade volume (measured as imports plus exports as a share of GDP) has evolved over time; trade fell precipitously during the Great Recession, providing an important channel through which the downturn in the United States spread to the rest of the globe. However, the fact that trade volume bounced back to prerecession levels by early 2010 suggests that the trade channel is unlikely to be an important contributor to the slow global recovery. Cross-country holdings of assets grew dramatically in the early 2000s, and interestingly, while the rapid growth in foreign ownership of U.S. assets has largely returned to its prerecession trend line, the growth in U.S. hold-

Figure 6.10 U.S. Trade Linkages (share of trade in U.S. GDP)



SOURCE: U.S. Bureau of Economic Analysis: Imports of Goods and Services plus Exports of Goods and Services over GDP.

ings of foreign assets has leveled off. This pattern tracks the recovery of global financial markets and returns; the U.S. recovery has been unusually slow, but the recovery in the rest of the globe has been even slower.

The timing of policy responses to the global downturn have also contributed to business cycle synchronicity. The European Central Bank held its target interest rate constant for a full year after the Fed started on its expansionary path, and initially it looked as if most developing countries would not be dragged down by the unfolding financial crisis in the advanced countries. By mid-2009, however, the Great Recession had become a global recession, and most countries followed the U.S. policy lead by implementing expansionary fiscal and monetary policy programs (Almunia et al. 2010). Toward the end of 2009 the U.S. economy looked as if it were on the brink of a robust rebound, and although the rest of the world was playing catch-up, economic forecasts were relatively optimistic for the global economy.[3] This upbeat forecast was fairly quickly reversed when the financial/fiscal problems in Europe began to be better understood. In 2011 global forecasts were

substantially revised downward as a result of the combination of negative news from Japan due to the earthquake and tsunami, the euro-wide consequences of the ongoing debt crisis in Southern Europe, and the U.S. fiscal impasse, which led Standard and Poor's to downgrade U.S. government debt. Additional negative news continued in 2012, when the eurozone, the U.K., and Japan returned to recession; in 2013, when Cyprus and Portugal required bank bailouts and the U.S. government shut-down briefly; and in 2014, with Japan again returning to recession and the Russian Ruble crisis.

COMBINING NARRATIVE EVIDENCE WITH FORECASTS

Real-time economic forecasts provide high-frequency information about the perceived state of the economy based on available data. Likewise, narrative information from contemporaneous news reports and government announcements help to identify the policy and financial market shocks to the global economy that potentially influenced the forecasts. Dominguez and Shapiro (2013) follow in the tradition of Ramey and Shapiro (1998) and Romer and Romer (2010) to combine forecast revisions with narrative information in the years immediately following the Great Recession to better understand the reasons for the slow U.S. recovery. They argue that the U.S. recovery from the Great Recession was stalled in 2010, 2011, and 2012 by negative shocks mainly emanating from Europe. Table 6.2 updates the narrative evidence through 2014 and includes a broader group of countries in the analysis. Whereas most news concerning the Great Recession is centered on the United States in 2008–2009, the focus shifts to the eurozone starting in 2010, to Asia in 2011, and to Russia in 2014.

Table 6.3 documents the revisions in the two-year cumulative economic outlook for 14 countries over the period 2009–2014 using the IMF's World Economic Outlook forecasts. These forecast revisions in the IMF's outlook for the United States align well with the narrative evidence summarized in Table 6.2. Negative shocks from Europe, Asia, and Russia led to substantial downward revisions in growth prospects for countries in these regions, and these shocks also seem to have adversely impacted the outlook for the United States.

Table 6.2 Percent of Occurrences of Recession-Related Policy and Financial Market News Events

Year	U.S. news	Asia news	U.K. & Russia news	Eurozone news
2008	55	10	11	24
2009	52	15	10	23
2010	33	2	3	62
2011	13	20	2	65
2012	8	21	6	65
2013	20	11	7	62
2014	9	18	27	45

SOURCE: *Financial Times*, *Wall Street Journal*, BBC News, Federal Reserve websites, U.S. Treasury, European Central Bank, European Commission.

CONCLUSIONS

The slow recovery from the Great Recession has lowered prospective standards of living for people in the United States and around the world. The consequences of the high levels of unemployment, especially for those who were just starting their working careers when the recession hit, are likely to be felt for many decades to come. Older workers whose savings and pension plans were devastated by the financial crisis are unlikely to ever recuperate those losses. Moreover, the slow pace of recovery in business investment, worker productivity, and consumer confidence suggests that even those not directly hit by the recession will be affected. It is difficult to fully explain these outcomes based only on U.S. economic conditions, even if we consider the precipitating financial crisis and CBO's estimates of the reduction in potential GDP. The international dimension of the weak recovery is unsurprising given the complex interdependencies of the global economy. The 2008 financial crisis started in the United States but soon spread around the globe. The aftershocks from this crisis and the subsequent Great Recession continue to reverberate in Europe, Asia, and Russia, along with their own homegrown economic crises. These combined shocks in turn have prolonged and weakened the global recovery.

Table 6.3 Revision in Two-Year Cumulative GDP Growth Outlook

	U.S.	Cyprus	France	Germany	Greece	Nether-lands	Portugal	Spain	Korea	Japan	Iceland	U.K.	Russia	China
2009	3.2	−2.6	1.0	2.7	1.1	2.7	1.8	−0.1	4.1	2.3	−3.6	2.6	2.1	3.1
2010	−0.5	−0.2	−0.2	0.5	−3.1	0.7	−1.4	−0.3	−1.1	−0.9	1.4	−1.0	2.1	−0.6
2011	−2.2	−2.4	−0.8	−1.6	−6.1	−0.3	−2.7	−1.0	0.3	0.5	−0.7	−1.5	−0.9	−1.0
2012	−0.5	−3.5	−1.8	−1.2	−7.9	−0.9	−2.7	−2.9	−0.7	−0.9	0	−1.8	−0.2	−1.1
2013	−0.7	n/a	0.2	−0.1	0.1	−1.5	0.3	−1.1	−0.4	−0.3	0	0.7	−1.6	−2.0

NOTE: Revisions from the second to fourth quarter of the forecast for the cumulative percent change real GDP two years ahead.
SOURCE: IMF World Economic Outlook reports, April 2009–October 2014.

Notes

1. See also Romer and Romer (2015), who argue that output declines following financial crises are highly variable and depend importantly on the severity and persistence of the financial distress itself.
2. This is thought to be a modern adaptation of a nineteenth century saying attributed to Austria's Prince Clemens von Metternich, originally: "When France sneezes all Europe catches a cold."
3. See the IMF's World Economic Outlook forecasts for 2009 in Table 6.3.

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