

Causes of the Financial Crisis and the Slow Recovery: A 10-Year Perspective

John B. Taylor¹

December 2013

When I told my colleague, Alvin Rabushka, about the topic of this panel, he sent me a list of 210 reasons for the fall of the Roman Empire, and facetiously added “ditto” for the financial crisis. The view that there are a host of reasons for the financial crisis—or a perfect storm where many things went wrong simultaneously—is not uncommon. It allows policymakers, financial market participants, and economists to point to someone else’s actions or theories to deflect blame and say it’s not my fault. And such a long list avoids the tough political decisions about how to move forward and undertake needed but difficult reforms.

Fortunately, the evidence points to a much narrower set of causes and perhaps even to an underlying common cause for the financial crisis and the poor performance of the economy since the crisis. At least that is what I have found in my research during the five years since the crisis, as summarized in Taylor (2009, 2012, 2013).

When looking for possible causes of big historical events—especially at the time of anniversaries of the event—it is tempting to concentrate on a small window of time around the event. For the financial crisis that would be the months of September, October and November 2008. It was then that the stock market crashed, interest rate spreads spiked, and extreme financial stress spread around the world. Figure 1 focusses on the drop in the S&P 500. You can

¹ George P. Shultz Senior Fellow in Economics and Mary and Robert Raymond Professor of Economics, Stanford University. This paper was presented at the joint Conference of the Brookings Institution and the Hoover Institution on the “US Financial System—Five Years after the Crisis,” at the panel “Causes and Effects of the Financial Crisis,” October 1, 2013

see the huge crash in the first part of October. From October 1 to October 10 the Dow Jones Industrial Index fell by 2,399 points.

But focusing only on this slice of time can be very misleading. If one is considering monetary policy, for example, there are big differences between the policy during the panic and the policy before and after the panic. In a presentation at the annual Jackson Hole conference last summer, IMF Managing Director Christine Lagarde (2013) argued that “unconventional monetary policies...helped the world pull back from the precipice of another Great Depression.” That conclusion might well apply to the monetary policy during the panic, but if one also considers monetary policy before and after the panic, the possibility arises that policy helped bring us to the precipice and then helped create forces which delayed the recovery. When you widen the window—not only to include the 5 years since that panic ended but also the 5 years before the panic began—you get a more complete assessment, and the lessons are clearer.

Such a 10-year view shows that the underlying cause was not some exogenous forces or inherent defects with market system that inevitably placed the economy on that precipice. Rather the cause was largely government policy, and in particular monetary policy, regulatory policy and an ad hoc bailout policy. Simply put we deviated from economic policies that had worked well for nearly two decades. And ironically, a major effect of the crisis has been to perpetuate many of these policies, and this has made recovery from the crisis much harder.

Monetary Policy

First, consider monetary policy. My empirical research, which was conducted before the panic, showed that the Federal Reserve held interest rates excessively low starting about 10 years ago. It was a big deviation from the kind of policy that had worked well for more than 20 years

in the 1980s, 1990s until this time. Figure 2 illustrates this deviation. It shows the inflation rate going back to the 1950s along with two flat lines: one where the inflation rate was four percent and one where it was two percent. The little boxes indicate the stance of monetary policy during several periods in terms of the settings of the federal funds rate. The late 1960s and 1970s were a period where monetary policy wasn't working very well. Inflation started picking up in the late 1960s and continued into the 1970s seventies. You can see the reason: the federal funds rate was only 4.8% when the inflation rate was about 4% – a very low real interest rate, and certainly not enough at that point in time to tame the upward pressure on inflation. So inflation picked up.

Starting in the early 1980s the Fed then moved to a better monetary policy. In 1989, for example, Figure 2 shows that the federal funds rate was much higher for the same inflation rate as in the late 1960s. And that policy continued through the 1990s. For example, in 1997 the federal funds rate was 5.5% when the inflation rate was 2%.

But then policy went off track, and that is the main point illustrated in this historical chart. In the period before the crisis monetary—especially around 2003-2005—policy was inappropriate for the circumstances. The federal funds rate was only one percent in the third quarter of 2003 with the inflation rate was about two percent and rising; and the economy was operating pretty close to normal. The Fed's federal funds rate was below the inflation rate, completely unlike the policy in the 1980s and 1990s and similar to the 1970s.

So it was a shift to a much different policy. Not coincidentally this was the time that there was an inflection point in housing price inflation. The monetary action helped accelerate the housing boom. Even if long-term fixed rate mortgages were not affected much, the policy made low teaser rates on adjustable rate mortgages possible.

During the past 5 years since the panic ended, many researchers have studied this period before the crisis carefully and have confirmed these effects of monetary policy on housing. Jarocinski and Smets (2008) and Kahn (2010) found such effects on housing using entirely different empirical methods in the United States during this period. Bordo and Lane (2013) have shown effects of such policies on housing in a longer study of U.S. history.

Other researchers have found evidence that the policy of very low rates caused a search for yield and encouraged risk-taking. Empirical research by Bekaert et al (2013), for example, finds that “lax monetary policy increases risk appetite (decreases risk aversion).”

There is also evidence from Ahrend (2010) at the OECD that the same thing happened in Europe. The European Central Bank (ECB) held the interest rate too low for Greece, Ireland, and Spain, and these countries are where the booms and excesses in the housing markets were most pronounced. So there is international corroboration of the initial findings.

Regulatory Policy

Second, there was a deviation from sound regulatory policy. The main problem was not insufficient regulations, but rather that regulators permitted violations from existing safety and soundness rules. Hundreds of regulators and supervisors were on the premises of large financial institutions, and they allowed too many institutions to take too many risks.

Wallison (2011) makes the case that federal government housing policy effectively forced risky private sector lending—through affordable-housing requirements for Fannie Mae and Freddie Mac and lax regulation of these institutions—without any change in risk aversion. The irresponsible regulation of Fannie and Freddie allowed these institutions to go well beyond prudent capital levels. Regulatory capture was clearly evident, as Morgenson and Rosner (2011)

document in the case of Fannie and Freddie. They showed that government officials took actions that benefited well connected individuals, and that these individuals in turn helped the government officials. This was a mutual-support system which drove out good economic policies and encouraged bad ones. It thereby helped bring about the financial crisis and sent the economy into a deep recession.

Though there is debate about the impact of the SEC decision in April 2004 to relax the capital ratio rules for the very large broker-investment banks, including Bear Sterns and Lehman, at the least it raised risk by allowing those institutions to do their own risk weighting. There's a great deal of research still needed here, but it certainly is a symptom of the problems of regulatory policy during this period of time.

Ad Hoc Bailout Policy

The third policy problem was an ad hoc bailout policy, which upset many Americans and was on balance destabilizing.

The inevitable bust and defaults that followed the boom and risk taking induced by monetary policy and regulatory policy started as early as 2006. At first the Fed misdiagnosed the problem arguing that widening interest rate spreads in the money market were not signs of the resulting damage to bank balance sheets but rather a pure liquidity problem. They thus treated it by pouring liquidity into the interbank market via the 2007 Term Auction Facility.

When risk spreads did not respond and financial institutions began to falter, the Fed followed up with an on-again off-again bailout policy which created more instability. When the Fed bailed out Bear Stearns' creditors in March 2008, investors assumed Lehman's creditors would be bailed. Whether or not it was appropriate to bail out Bear Stearns' creditors (in this

case I tend to give the benefit of the doubt to the policy makers in the room), it was inappropriate not to lay out a framework for future interventions (a number of us recommended that at a conference in the summer of 2008). With no framework other than an implicit support for a rescue of creditors, it was a big surprise when they were not rescued. With policy uncertainty rising, the panic in the fall of 2008 began.

The policy uncertainty continued as the TARP was rolled out and then radically altered in mid-stream. From the time that the TARP was announced on September 19th until a new TARP was put in place, there was a major decline in equity prices. The same thing occurred in other countries. The timing is almost exactly the same as shown in the following table. Observe that the S&P 500 was higher on September 19—following a week of trading after the Lehman Brothers bankruptcy—that it was on September 12, the Friday before the bankruptcy. This an indication that some policy steps taken after September 19 worsened the problem.

	S&P	FTSE	DAX	CAC	Brazil	NIKKEI
Sept 12	1252	5417	6235	4332	52393	12215
Sept 15	1192	5204	6064	4169	48419	11609
Sept 19	1255	5311	6134	4324	53055	11921
Oct 10	899	3821	4544	3176	40829	8276

Again consider Figure 1 which shows in more detail what was happening during this period. Note that the stock market crash started at the time TARP was being rolled out. Though it is hard to prove, I believe the strange three page request for the TARP legislation, the initial rejection, and the flawed nature of the plan to buy toxic assets were all factors in the panic. When former Treasury Secretary Hank Paulson appeared on CNBC on the fifth anniversary of Lehman, he said that the markets tanked and he came to the rescue; effectively the TARP saved us.

Appearing on the same show minutes later, former Wells Fargo Chairman and CEO Dick Kovacevich observing the same facts in the same time said that the TARP caused the crash and made things worse.

Five Years since the Crisis

So now let's look at what has happened since the crisis. Ironically, the legacy of the crisis has been to continue and even double down on the deviations from good policy that led to the crisis. And that, in my view, is the explanation for why we have added another five years of economic disappointments. In many ways the policies resemble the policies that got us into this mess with the uncertainty, the unpredictability, the unprecedented nature, and the failure to follow rules and a basic strategy. The crisis itself has given more rationale to "throw out the rule book," to do special, unusual things.

To illustrate this in the case of monetary policy, consider Figure 3 which deserves careful study in analyzing the causes and effects of policy. Figure 3 shows reserve balances held by banks at the Fed (deposits of the banks at the Fed). It is a measure of liquidity provided by the Fed.

The first part of the chart illustrates what represents good monetary policy before the crisis. You can see as small blip around 9/11/2001 in the chart. With the physical damage in lower Manhattan, the Fed provided what was then an amazing \$60 billion of liquidity to the financial markets. You can hardly see it in the picture, but it was beautiful monetary policy: the funds were put in quickly and removed quickly. There is another expansion of liquidity during the panic of the fall of 2008; again, this largely represents good lender-of-last-resort policy,

including the swaps with foreign central banks and loans to US financial institutions. When the panic subsided in late 2008 this lender of last resort policy began to wind down as it should have.

But as shown in the picture, the liquidity increases didn't end. Instead we saw a massive expansion of liquidity with QE1, QE2, and QE3. It has been completely unprecedented. There's really no way for such a massive policy to be predictable or rules-based. I know what the intentions were good, but there is little evidence that it has helped economic growth or job growth. Those of us who were concerned about the QE way back in 2009, said: well, what about the exit? And these are exactly the concerns that we have seen realized in the market this year. In the year since QE3 started, long term Treasuries and mortgage backed securities have risen rather than fallen at the Fed predicted with this policy.

The suggestion by the Fed that there would be a tapering of QE3 is also illustrated in the chart. I believe anticipations of a difficult exit are part of the reason why this unconventional monetary policy has not been effective. And now we're back to a seemingly never ending QE3 as originally implemented with a great deal of uncertainty about when it will slow down and end. How it's going to be unwound, we still don't know.

Figure 3 also serves as a reminder that the magnitudes of quantitative easing are very large, and that this is a very unusual policy. Indeed, the magnitudes on that graph are completely unprecedented. So we are facing a very interventionist, unconventional, unpredictable policy. After good lender of last resort policies during the panic of 2008, the Fed has doubled down since 2009 on the interventionist policies of 2003-2007 and this has raised questions about its independence and credibility. In this sense the impact of the crisis has not been good for the future of monetary policy.

Figure 3 also is an illustration that when referring to unconventional monetary policy it is important to distinguish between these massive asset purchase programs from 2009 onwards, and the liquidity operations during the panic of 2008.

I believe this interventionist orientation of policy spread to other kinds of policy, including the Keynesian temporary fiscal stimulus packages. These have not led to sustained recovery, and indeed they have necessitated their own reversals and resulting volatility. There is nothing that needs to be partisan about this view. Both political parties have been responsible for the changes in policy.

The stimulus package of 2008, for example, was enacted in the George W. Bush administration. It increased personal disposable income because of the rebate in that package. But consumption did not increase as policy makers hoped. Consumption went nowhere but down, even though it was supposed to jumpstart the economy. This temporary action did to consumption exactly what Milton Friedman would have predicted – very little.

There are many other examples where these kinds of temporary discretionary policies—sometimes aimed at particular sectors—have not worked. Another example is the Cash for Clunkers program, which occurred in 2009. It was supposed to jumpstart the economy. Some people argued very strongly that this would help increase and sustain economic growth. There was a little bit of an effect, as far as we can tell, but then it diminished quickly and was offset by declines a few months later. And this was a very short span of this expansion, just within the year 2009. It's hard to see how this could be anything positive in terms of jump starting the economy, getting the expansion moving again.

On the regulatory front, the changes are mixed, but on balance negative for the economy. Dodd-Frank did some good things, including eliminating the Office of Thrift Supervision, but it

also left us with hundreds of new rules many of which have not been written, creating a great deal of uncertainty especially for smaller banks. Even with the orderly liquidation authority in Title II of Dodd-Frank, I am concerned that the bailout mentality and too big to fail remains a problem. Creditors are likely to benefit more than they would in bankruptcy under Title II, and that is why we have proposed a reform of the bankruptcy code (Chapter 14) as part of the resolution project at the Hoover Institution. Still without higher levels of capital or subordinated debt I fail to see how the immensely large and complex institutions will be resolved, and that leaves the incentive for even the toughest Treasury Secretary to do a bailout again on a large scale.

The danger is not only the so-called moral hazard, but the uncertainty that that this policy causes. “Is there going to be a bailout?” investors ask. “What’s going to happen? What’s the policy? Is it going to be a Lehman? Is it going to be a Bear Stearns?” We just don’t know, and that is a concern I have about the policy itself.

Alternative Views

In sum, there is considerable evidence that our economic troubles in recent years—not only the financial crisis but also the weak recovery—are due to ineffective and counterproductive government policy interventions. There are, of course, alternative views.

The Reinhart and Rogoff view. One widely discussed view of the recovery is that it has been weak because the recession and the financial crisis were severe. This alternative view is based largely on the book by Carmen Reinhart and Kenneth Rogoff (2009). In this book they argue that history shows that severe financial crises are normally followed by weak recoveries. This view is frequently cited by government officials as the reason why policy has not been the problem.

But there are a number of problems with this view. Michael Bordo and Joseph Haubrich (2012) found that the “weak recovery is normal” result does not actually characterize American history. Bordo summarized these findings in a September 27, 2012 *Wall Street Journal* article, “Financial Recessions Don’t Lead to Weak Recoveries.” In discussing the view that weak recoveries follow deep recessions, Bordo wrote that “The mistaken view comes largely from the 2009 book *This Time Is Different*, by economists Carmen Reinhart and Kenneth Rogoff...” and he then showed that U.S. data disprove their findings. Recent research by David Papell and Ruxandra Prodan also comes to the conclusion “that the current recovery for the U.S. has been slower than the typical recovery from severe recessions associated with financial crises.”

Figure 4 summarizes the main message from the American experience with recoveries from deep recessions associated with financial crises. The bars show the growth rates in the period immediately following deep recessions. These have been stronger than recoveries following shallower recessions, and they have averaged about 6 percent per year. The growth rate over a comparable period in this recovery is about 2 percent per year. So the recovery from the recent deep recession of 2007-2009 is a clear exception from U.S. experience.

One of the reasons for the disagreement with the findings of Reinhart and Rogoff relates to differences in how one defines recovery. When you define recovery as starting from the trough, the current U.S. recovery is clearly relatively weak compared to recoveries from past deep recessions with financial crises. This is the standard way to define recovery as explained, for example, in introductory economics text by Taylor and Weerapana (2012): the recovery is “the early part of an economic expansion, immediately after the trough of a recession.” But if you include the downturn itself in the definition, which is what Reinhart and Rogoff do, you can get a different answers because the downturn and the recovery are mixed together.

The Summers View. An entirely different explanation for our poor economic performance during the past decade was outlined by Larry Summers at the Brookings-Hoover conference and later at a November 8 IMF conference. It is summarized in his chapter in this volume. The key elements of the Summers view are:

First, in the years before the crisis and recession, “arguably inappropriate monetary policies and surely inappropriate regulatory policies,” should have caused the economy to overheat; it should have shown up in demand pressures, rising inflation, and boom-like conditions. But the economy failed to overheat and there was significant slack. As Larry put it at the Brookings-Hoover conference “there is almost no case to be made that the real US economy overheated prior to the crisis.”

Second, in the years since the crisis and recession, the recovery should have been quite strong, once the panic was halted. But the recovery has been very weak. Employment as percentage of the working age population has not increased and the gap between real GDP and potential GDP has not closed.

Third, a decade long secular decline in the equilibrium real interest rate explains both the lack of demand pressures before the crisis and the slow growth since the crisis. This decline in the equilibrium real interest rate offset any positive demand effects of the low interest rate policy before the crisis. And, with the zero interest rate bound, the low equilibrium interest rate leaves the economy weak even with the current monetary policy. The first point of Summers is inconsistent with some important facts. Inflation was not steady or falling during the easy money period from 2003-2005. It was rising. During the years from 2003 to 2005, when Fed’s interest rate was too low, the inflation rate for the GDP price index doubled from 1.7% to 3.4% per year. On top of that there was an extraordinary inflation and boom in the

housing market as demand for homes skyrocketed and home price inflation took off, exacerbated by the low interest rate and regulatory policy. Finally, the unemployment rate got as low as 4.4% well below the natural rate, not a sign of slack.

As I have described above, the second point that the recovery has been weak is clearly true. I have been writing about this weakness since the recovery began. The book by Lee Ohanian, Ian Wright and me (2012) published last year shows the distressing picture of the employment to population ratio on the cover. Indeed, these are the facts that we are trying to explain in this conference.

Regarding the third point there is little direct evidence for a saving glut. In my 2009 book on the crisis, I examined the claim that there was a savings glut and found evidence to the contrary. Globally, savings rates had fallen going into the crisis and the U.S. was running a current account deficit which means national saving below investment. But the factual problem with Larry's first point sheds doubt on the whole "low equilibrium real interest rate" explanation.

Concluding Remarks

To conclude, the explanation for the financial crisis and weak recovery laid out here fits the facts of the past 10 years very well. Deviations from good economic policy have been responsible for the very poor performance. Such policy deviations created a boom-bust cycle, and were a significant factor in the crisis and slow recovery.

Such deviations include the Fed's low interest rate policy in 2003-2005 and the lax enforcement of financial regulations—both deviations from rules-based policies that had worked in the past. These were largely responsible for the boom and the high level of risk taking, which ended in the bust in 2007 and 2008. Other more recent deviations are the hundreds of new

complex regulations under Dodd-Frank, the vast government interventions related to the new health care law, the temporary stimulus packages such as cash for clunkers which failed to sustain growth, the exploding federal debt that raises questions about how it will be stopped, and a highly discretionary monetary policy that has generated distortions and uncertainty.

Moreover, as summarized here, this view that “policy is the problem” stands up quite well compared to either the Summers “secular stagnation” view or the Reinhart-Rogoff “it’s due to the financial crisis” view.

Finally, I note that there is a very optimistic implication of what I have been arguing here. If you take the view that “policy is the problem” is correct, then you know what to do to fix the problem: change the policy. This means mainly getting back to policy principles that worked in the past; that worked before all these tragic events happened. It would mean a more predictable monetary policy, a more rules-based regulatory policy, and an aversion to bailouts rather than a too big to fail mentality. Of course the world is changing and applying these principles will not mean exactly the same policy strategy as in the two decades before the last one. But the economy worked pretty well in those days, and it’s not working now.

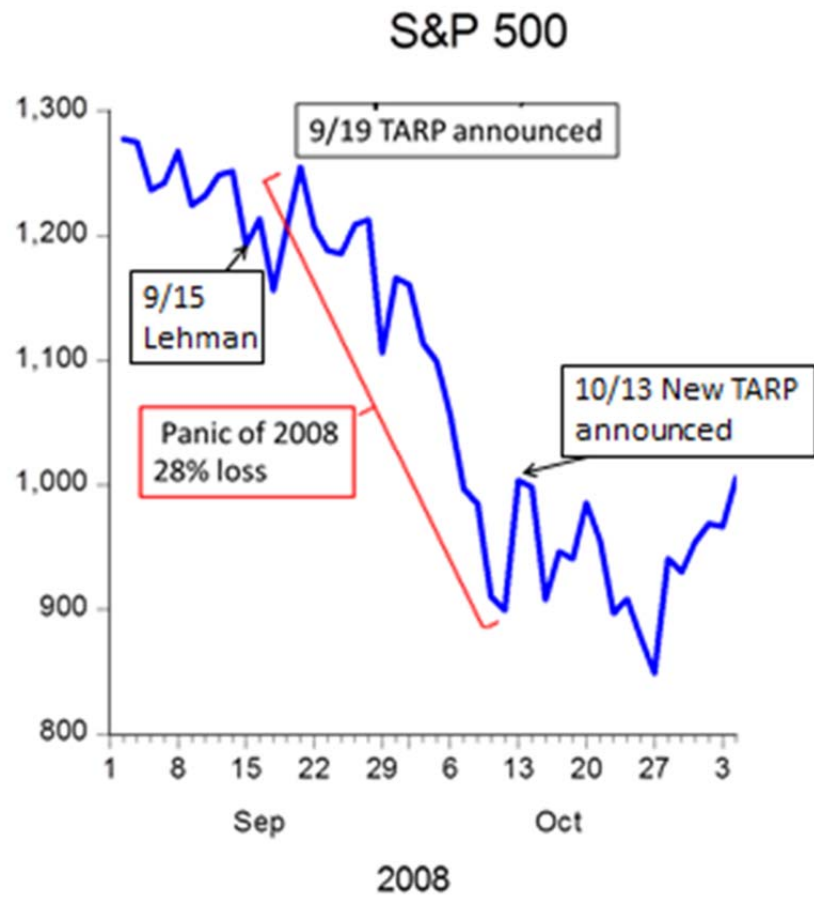


Figure 1 The S&P 500 during the Panic of 2008

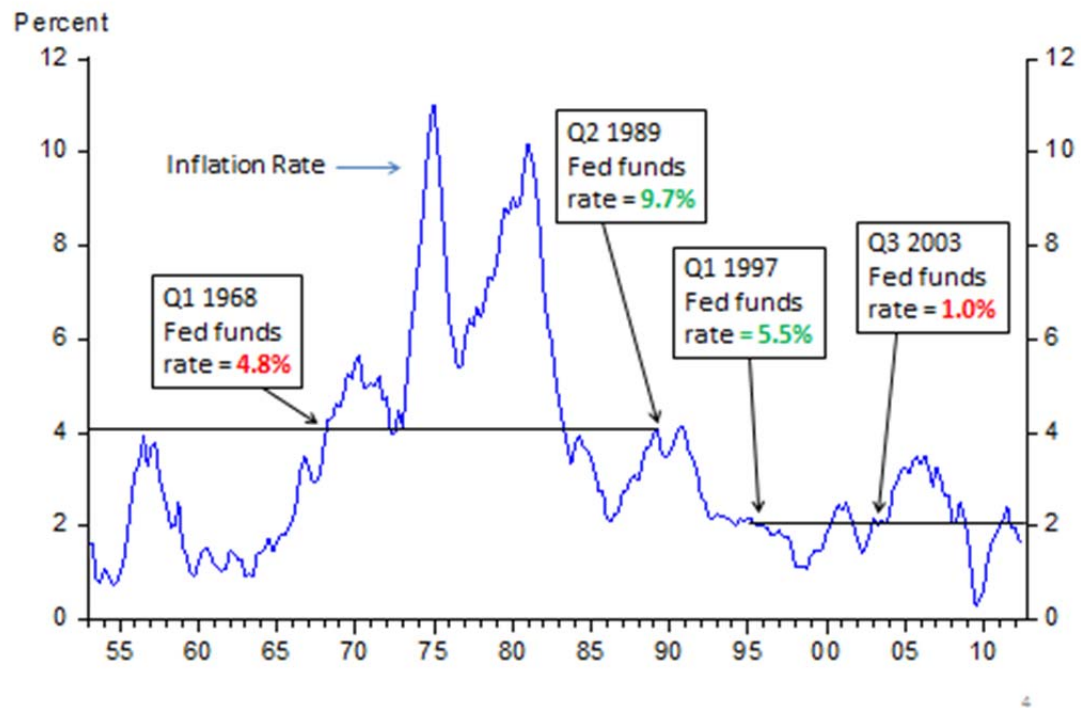


Figure 2. Changes in Monetary Policy Leading Up to the Crisis

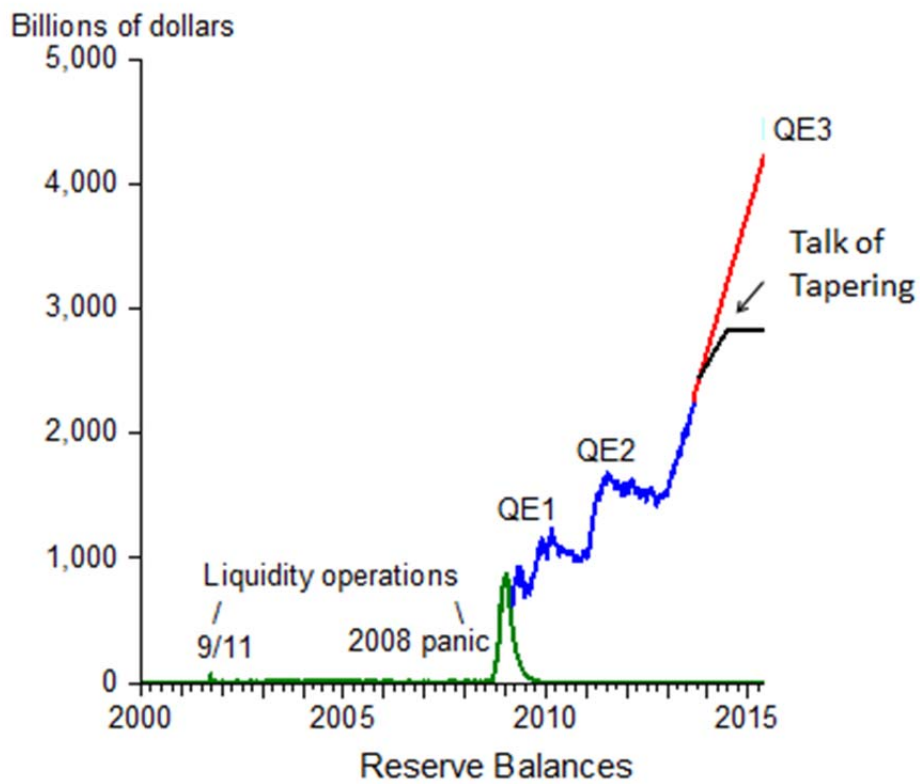


Figure 3. Shifting from Liquidity Operations to Unconventional Monetary Policy

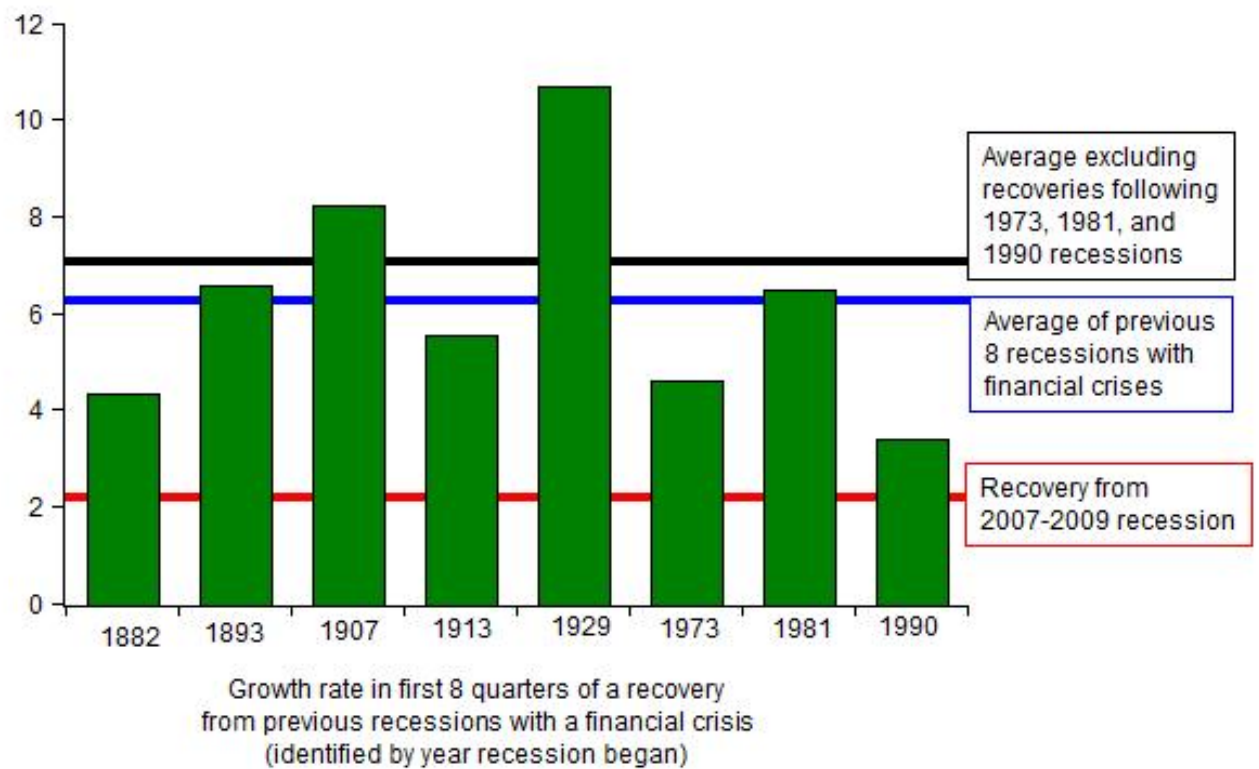


Figure 4. Economic Growth following recoveries deep recessions with financial crises

References

- Ahrend, Rudiger (2010), “Monetary Ease: A Factor Behind Financial Crises? Some Evidence from OECD Countries,” *Economics: The Open Access, Open Assessment E-Journal*, 4, April.
- Bekaert, Geert, Marie Hoerova, and Marco Lo Duca. (2013). “Risk, Uncertainty and Monetary Policy,” *European Central Bank Working Paper Series*, No. 1565, July 2013.
- Bordo, Michael D. and Joseph G. Haubrich (2011), “Deep Recessions, Fast Recoveries, and Financial Crises: Evidence from the American Record.”
- Bordo, Michael and John Landon Lane (2013) “Does Expansionary Monetary Policy Cause Asset Price Booms: Some Historical and Empirical Evidence,” *NBER Working Paper Number 19585*, October.
- Kahn, George A. (2010), “Taylor Rule Deviations and Financial Imbalances.” *Federal Reserve Bank of Kansas City Economic Review*, Second Quarter, 63–99.
- Jarocinski, Marek and Frank R. Smets, (2008) “House Prices and the Stance of Monetary Policy.” *Federal Reserve Bank of St. Louis Review*, July/August, 339–65.
- LaGarde, Christine (2013), “The Global Calculus of Unconventional Monetary Policies,” *Jackson Hole*, August 23
- Ohanian, Lee, John B. Taylor and Ian Wright (2012) *Government Policies and the Delayed Economic Recovery*, (Eds.), Hoover Institution Press, Stanford, California.
- Morgenson, Gretchen and Joshua Rosner (2011) *Reckless Endangerment: How Outsized Ambition, Greed, and Corruption Led to Economic Armageddon*. Times Books, New York.

Papell, David and Ruxandra Prodan (2012), “The Statistical Behavior of GDP after Financial Crises and Severe Recessions,” Working Paper, University of Houston, October.

Rogoff, Kenneth and Carmen Reinhart (2009) *This Time is Different: Eight Centuries of Financial Folly*, Princeton University Press, Princeton, New Jersey.

Summers, Lawrence (2013), Chapter published in this volume

Taylor, John B. (2009), *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis*, Hoover Institution Press, Stanford University.

Taylor, John B. (2012) *First Principles: Five Keys to Restoring America’s Prosperity*, WW Norton, New York.

Taylor, John B. (2013), “The Effectiveness of Central Bank Independence Versus Policy Rules,” *Business Economics*, July 2013.

Taylor, John B. and Akilia Weerapana (2012), *Principles of Economics*, 7th Edition, Cengage.

Wallison, Peter J. (2011), “Three Narratives About the Financial Crisis,” *Cato Journal*, Vol. 31, No. 3, 2011.