

This time is different, again? The US five years after the onset of subprime

Carmen M Reinhart, Kenneth Rogoff, 22 October 2012

The strength of the US recovery has become a political issue in the presidential election. The US is doing better than other advanced economies, but famous economists associated with the Romney campaign claim this is not good enough. The US, they argue, is different. Here, the masters of the 'this time is different' research genre – Carmen Reinhart and Ken Rogoff – argue that US historical performance is not different when it is properly measured, so the economy's performance is better than expected.

Five years after the onset of the 2007 subprime financial crisis:

- GDP per capita in the US remains below its initial level;
- Unemployment, although down from its peak, is still hovering near 8%.

Rather than the V-shaped recovery that is typical of most postwar recessions, growth has been slow and halting.

Based on our research (Reinhart and Rogoff, 2009), this disappointing performance should not be surprising. We have presented evidence that recessions that are associated with a *systemic* banking crisis tend to be deep and protracted, and that this pattern is seen in historical and cross-country comparisons. Subsequent academic research using different approaches and samples have found similar results.¹

Recently, however, a few op-ed writers have argued that in fact, the US is 'different'. International comparisons are not relevant because of profound institutional differences from other countries. A recent spate of op-ed writers, including Kevin Hassett and Glenn Hubbard, Michael Bordo and John Taylor, have stressed that the US is also 'different' in that recoveries from recessions associated with financial crises have been rapid and strong. Their interpretation is at least partly based on a study by Bordo and Haubrich (2012), which examines the issue for the US since 1880.

In this column, we question their 'interpretation' of the US historical track record, which is incorporated in Reinhart and Rogoff (2009), where we present results of 224 historical banking crises from around the world, including pre-2007 banking crises in the US.

Confusion in the 'US is different' discussion

Perhaps part of the confusion in the recent 'US is different' op-eds is a failure to distinguish systemic financial crises from more minor ones and from regular business cycles.

- A systemic financial crisis affects a large share of a country's financial system;
- They are quite distinct from less severe events that clearly fall short of a full-blown systemic meltdown.

These are referred to in the literature as 'borderline' crises.

The distinction between a systemic and a borderline event is well established according to widely accepted criteria and is clear in both our work and that of other scholars.² Indeed, in our initial paper on this topic (Reinhart and Rogoff, 2008), we showed that systemic financial crises across advanced economies had far more serious economic consequences than *borderline* crises.

Our paper – written nine months before the collapse of Lehman in September 2008 – showed that by 2007, US already shared many of the key recurring precursors of a *systemic* financial crisis: a real estate bubble, high levels of debt, chronically large current account deficits, and signs of slowing economic activity. Today, there can be little doubt that the US has experienced a systemic crisis.³ This is, in fact, the first systemic financial crisis the US has experienced since the Great Depression. Before that, notable systemic post-civil war US financial crises include those dated in 1873, 1893 and 1907.

Measurement matters

How a recovery is measured is also important as is the way success is defined. The recent op-eds focus on GDP growth immediately following the trough (usually four quarters).

- For a normal recession, the restoration of positive growth is typically a signal event.
- In a V-shaped recovery, the old peak level of GDP is quickly reached, and the economy returns to trend within a year or two.

In Reinhart and Rogoff (2009), we examine both levels and rates of change of per capita GDP; recovery is defined by the time it takes for per capita GDP to 'recover' or return to its pre-crisis peak level.⁴

- For post-WWII systemic crises it took about four and a half years to regain lost ground;⁵
- In 14 Great Depression episodes around the world (including the US) it took ten years on average.

A focus on levels is a more robust way to capture the trajectory of an economy where the recovery is more U or nearly L-shaped than V-shaped. It also avoids exaggerating the strength of the recovery when after a deep recession there has been a large cumulative decline in the level of GDP.

- An 8% decline followed by an 8% increase does not bring the economy back to its starting point.

Taylor's chart shows the recovery from the Great Depression as the strongest in the history of the US, even though (as we show in our book) it took about a decade for the US to reach the same *level* of per capita income as its starting point in 1929.

GDP growth is misleading when population growth rates change

Another important consideration when working with historical series is the impact of population growth on GDP growth. US population growth has fallen from 2-2.5% per annum in the late 1800s to less than 1% in more recent times. To control for this, we stress per capita measures. Put differently, in the early 1900s a year with 2% real GDP growth left the average person's income unchanged; in the modern context, 2% annual GDP growth means slightly more than 1% increase in real income per person. Population growth changes over time are even more pronounced in other countries. The impact of cumulative population growth even within an individual crisis episode is significant, as the recovery process usually spans four to ten years.

Even allowing for all the above issues does not seem to entirely account for differences in our interpretation of the facts from the Hasset-Hubbard, Bordo and Taylor op-eds. The narrative in the Bordo Haubrich paper emphasizes that "*the 1907-1908 recession was followed by vigorous recovery.*" The Panic of 1907 does indeed fit the standard criteria of a systemic crisis (and one with a global dimension at that). As the charts below show:

- The *level* of real GDP per capita in the US did not return to its pre-crisis peak of 1906 until 1912.

Can one call this a vigorous recovery?

- The US unemployment rate (not examined in the Bordo-Haubrich study) which was 1.7% in 1906 and climbed to 8% in 1908, did not return to the pre-crisis low until 1918.

The aftermath of the systemic banking crisis of 1893 is worse than the 1907 episode; the Depression of the 1930s is worse still.

According to our (2009) metrics, the aftermath of the US financial crisis has been quite typical of post-war systemic financial crises around the globe. If one really wants to

focus just on US systemic financial crises, then the recent recovery looks positively brisk.

Summary of findings from comparison to US historical crises

We first focus on four previous systemic financial crises that the US has experienced since 1870. These include:

- The crisis of 1873 (called the Great Depression until the 1930s),
- The 1893 crisis,
- The panic of 1907, and
- The Great Depression.

Given that all of the earlier crises predate the creation of deposit insurance in 1933, and that three of the four crises predate the establishment of a central bank in the US, one could well quibble about the claim that the relevant institutions are more comparable across centuries in the US than across advanced countries over the last 30 years.

Be that as it may, the comparison across systemic US financial crises suggests:

- That US recoveries from pre-WWII systemic crises were no swifter than the general cross-country pattern;
- That the US has fared no worse this time around than in previous systemic crises.

Standard errors have to be taken with a grain of salt for such a small sample. On the whole, however, the conclusion would have to be that in the five years since the onset of the financial crisis the US has performed better in terms of output per capita and unemployment than in the previous crises, even if one excludes the Great Depression.

The reader will note that our comparisons relate to the period dating from the onset of the crisis, and do not delineate between the 'recession' period and the 'recovery' period. Elsewhere we have explained why this distinction is somewhat meaningless in the aftermath of a financial crisis where 'false dawns' make it very difficult to detect the start of an ultimate recovery in real time. That is why we have consistently argued that the popular term 'Great Recession' is something of a misnomer for the current downturn, which we have argued would be better thought of as 'The Second Great Contraction' (after Friedman and Schwartz's characterisation of the Great Depression as the Great Contraction).

Summary of findings from comparison of US to other advanced economies

Secondly, we assess how the US has fared, so far, compared to other advanced economies that experienced systemic financial crises in 2007-2008 as well other advanced economies that experienced *borderline* episodes. Focusing on real per capita GDP, we show that

- The recent crises patterns confirm our earlier result that the countries that recently suffered *systemic* financial crises have generally fared quite poorly compared to countries where the financial problem was less severe, that is, those with *borderline* crises;⁶ and
- Although tracking worse than the countries that did not have systemic financial crises, the US output performance is, in fact, among the best of those that did.

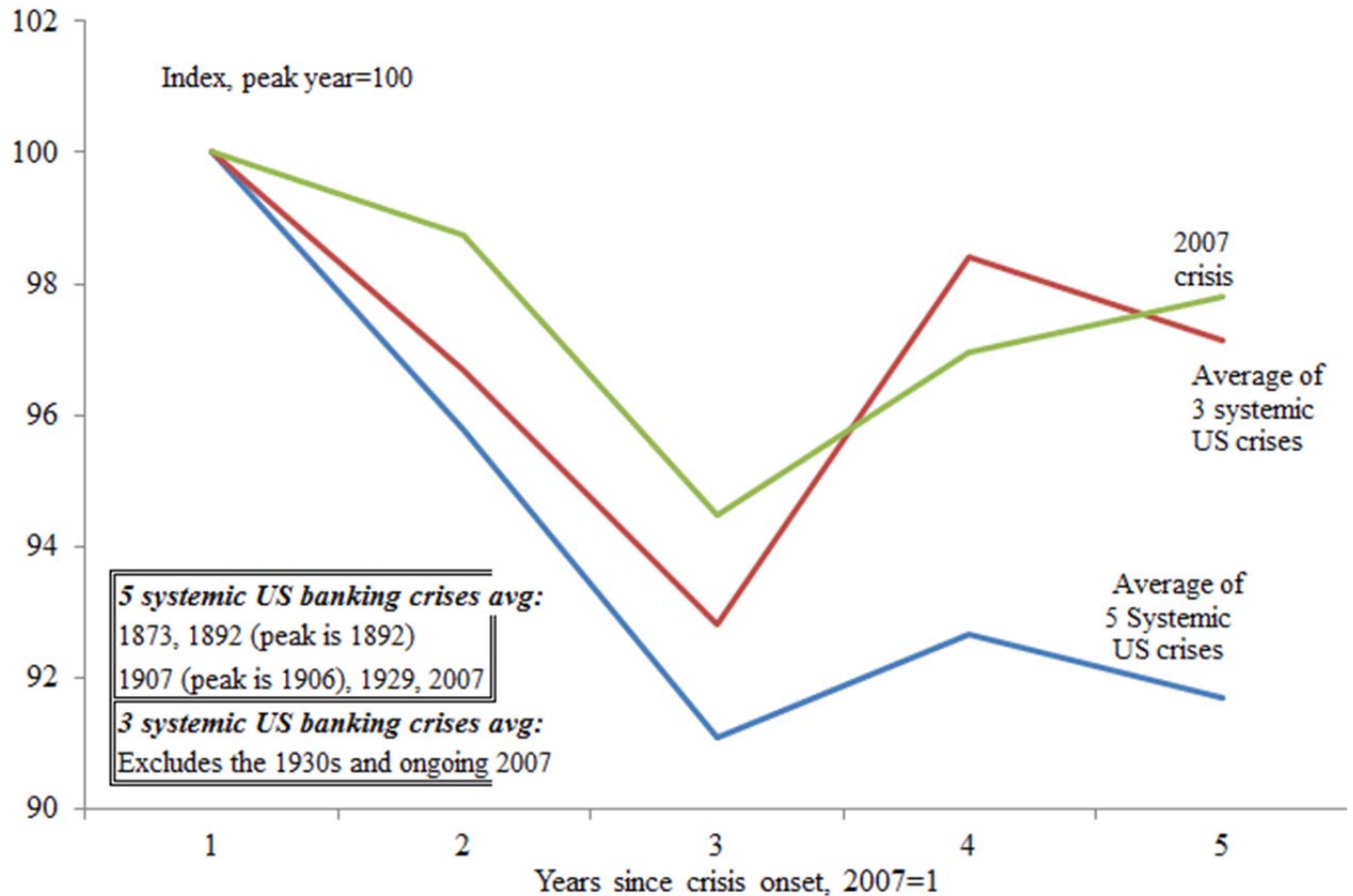
Charting the US historical episodes

As in our work on the aftermath of financial crisis (Reinhart and Rogoff, 2009), we start our analysis by anchoring the crisis episode at the peak of economic activity, which usually occurs either the year immediately before the crisis or the crisis year. For real per capita GDP we use the Total Economy Database, a multi-country database conceived by Angus Maddison and now updated by the Conference Board: the most recent annual observation is 2011. The US data is available from 1870. For US unemployment, the data is taken from the *Historical Statistics of the United States*, where the unemployment rate series is available from 1890 (and is consistent with the Bureau of Labour Statistics for the modern era).

Figure 1 compares the still unfolding (2007) financial crisis to earlier US systemic financial crises of 1873, 1892, 1907 and 1929. As the figure illustrates, the initial contraction in per capita GDP is smaller for the recent crisis than in the earlier crises (even when the Great Depression of the 1930s is excluded). Five years on, the current level of per capita GDP, relative to baseline, is higher than the corresponding five-crisis average that includes the 1930s. The recovery of per capita GDP after 2007 is also slightly stronger than the average for the systemic crises of 1873, 1893 and 1907. Although not as famous as the Great Depression, the depression of the 1890s paints a dismal picture; in 1896 real per capita GDP was still 6% below its pre-crisis level in 1892.

So how many years did it take for per capita GDP to return to its peak at the onset of the crisis? For the 1873 and 1893 (peak is 1892) crises it was five years; for the 1907 (peak is 1906) panic six years and for the Depression 11 years. In output per capita timelines, at least, it difficult to argue that 'the US is different'. It can hardly be said to have enjoyed vigorous output per capita recoveries from past systemic financial crises.

Figure 1. Real per capita GDP (levels) in the aftermath of systemic banking crises in the US, 1873-2011



Sources: Reinhart and Rogoff (2009), Maddison (2006), GDP per capita from Total Economy Database, Conference Board. Notes: Total GDP per capita in 1990 US dollars (converted at Geary Khamis PPPs).

The 'US is different' idea is not supported by the unemployment data

The notion the US exhibits rapid recovery from systemic financial crises does not emerge from the unemployment data either. As we noted, the US unemployment rate data only begins in 1890, which eliminates the 1873 crisis from the pool. The aftermath of the remaining four crises are shown in Figure 2.

- The 2007 crisis is associated with significantly lower unemployment rates than both the Depression of the 1930s and the depression of the 1890s.

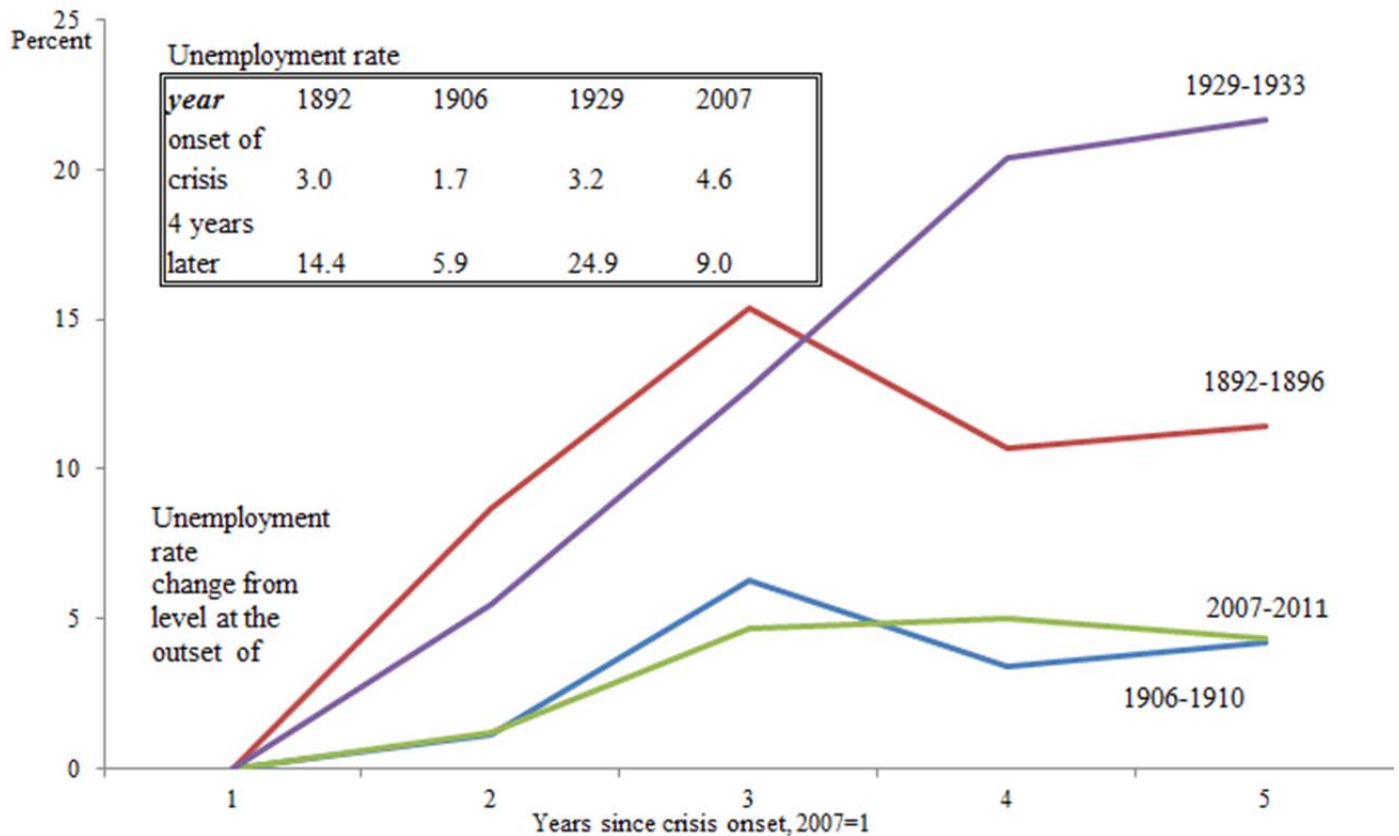
2007 it is more in line with the unemployment increases observed following the Panic of 1907. As shown in the inset to the figure, the unemployment rate, which was 1.7% in 1906 was near 6% five years later.

- In the 1893 crisis, the unemployment rate started at 3% in 1892, shot up to over 18%, and still remained above 14% in 1896.

In effect, the unemployment never dips back to below 3% until 1906 (on the eve of the next crisis). The pattern during the Great Depression of the 1930s, is off the charts (Eichengreen and O'Rourke, 2010, is a must read on this comparison). These historic US episodes are in line with the findings in Reinhart and Reinhart (2010), who examine the decade after post-WWII severe/systemic financial crises in both advanced economies and emerging markets, documenting that in ten of the 15 episodes examined the unemployment rate had not returned to its pre-crisis level in the decade following the crisis.

- For the 1893 and 1929 Depression it was 14 years; for 1907 it was 12 years before the unemployment rate went back to its pre-crisis level.

Figure 2. Average annual unemployment rate in the aftermath of systemic banking crises in the US, 1892-2011



Sources: Bureau of Labor Statistics, Historical Statistics of the US, and Reinhart and Rogoff (2009).
 Notes: Average annual unemployment rates. The change from the level at the outset is the simple difference; for example the unemployment rate in 2007 was 4.6% so the difference from 2011 (when the unemployment rate is 9%) is 4.4%.

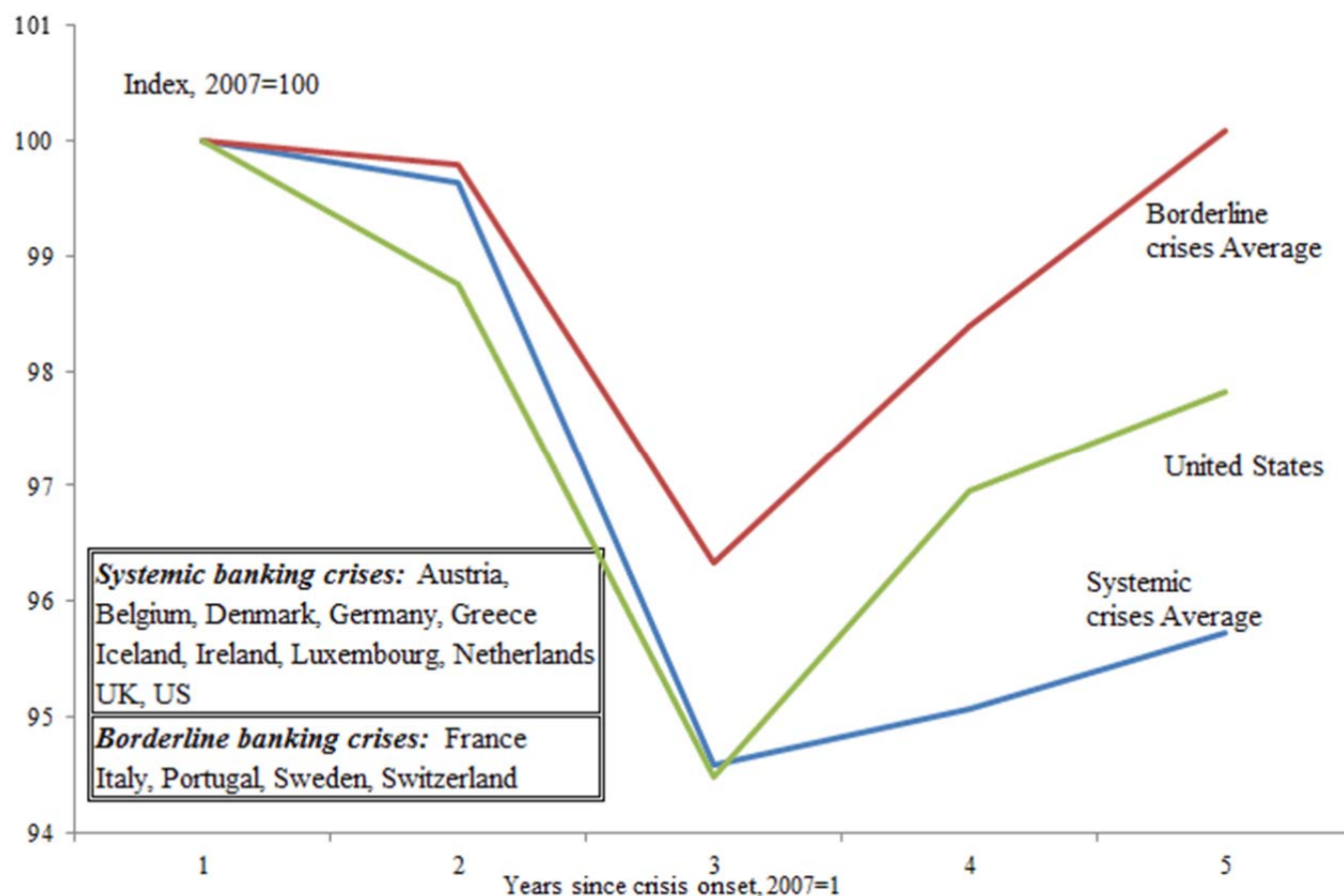
Charting the cross-country real per capita GDP comparisons: 2007-2011

We next turn to comparisons between the US and other countries in the Second Great Contraction. The simplest of cross-country comparisons involves dividing the post-2007 crisis experience into two batches:

- Those countries that experienced systemic banking crises; and
- Those that had milder borderline problems in their financial sector (which does not preclude them from having other serious 'varieties' of crises, notably fiscal in this case).⁷

This applies the same criteria as Reinhart and Rogoff (2008). Figure 3 presents the evolution of per capita GDP normalized to equal 100 in 2007. The inset in the chart indicates which countries are included in the averages for the systemic and borderline episodes.

Figure 3. Real per capita GDP (levels): 2007-2011 systemic and borderline crises in advanced economies



Sources: Laeven and Valencia (June 2012), Reinhart and Rogoff (2009), GDP per capita from Total Economy Database, Conference Board. Notes: Total GDP per capita in 1990 US dollars (converted at Geary Khamis PPPs). For further details on the numerous dimensions of the systemic-borderline distinction since 2007, see Laeven and Valencia (2012). Italy and Portugal post the weakest output performance among the borderline cases, as these countries face additional concerns about their

sovereign debt sustainability. For Austria, Germany, The Netherlands and Switzerland, peak per capita GDP was 2008. For all others the peak was 2007.

The pattern described in Reinhart and Rogoff (2008) for 1946-2006 crises is replicated in the cross-country performance in the recent (2007-2011) crises: the systemic crises are associated with deeper more protracted recessions than the borderline cases--notwithstanding the fact that some of the borderline banking crises cases (to-date⁸) involve serious fiscal crises as well, including for example Portugal and Italy where growth and employment performance has been miserable.

Note that the US per capita GDP contraction since 2007 shows a comparable initial decline as that recorded in the European countries (since 2007) undergoing *systemic* financial crises but a faster recovery in the subsequent years.

Summary and concluding remarks

While no two crises are identical, there are some robust recurring features of crises that cut across time as well as across national borders. Common patterns as regards the nature of the long boom-bust cycles in debt and their relationship to economic activity emerge as a common thread across very diverse institutional settings. This, in fact, is precisely a key, if surprising, takeaway from our 2009 book.

The most recent US crisis appears to fit the more general pattern that the recovery process from severe financial crisis is more protracted than from a normal recession or from milder forms of financial distress. There is certainly little evidence to suggest that this time was worse.

Of course this does not mean policy is irrelevant. Quite the contrary, in the heat of the recent financial crises, there was almost certainly a palpable risk of a Second Great Depression. However, although it is clear that the challenges in recovering from a financial crises are daunting, an early recognition of the likely depth and duration of the problem would certainly have been helpful. It would have been helpful in assessing various options and their attendant risks. It is not our intention here to closely analyse policy responses that, frankly, may take years of analysis to sort out.

Rather, our aim is to clear the air that somehow the US is different. The latest US financial crisis, yet again, proved it is not.

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1 See Claessens, Kose and Terrones, (2011) Papell and Prodan (2011), and Reinhart and Reinhart (2010). Jorda, Schularick and Taylor (2012) study of credit over 1870-present in 14 advanced economies and document the differences in recession-recovery patterns between regular business cycles and crises of different severity.

2 See Caprio and Klingbiel (1996), Kaminsky and Reinhart (1999), and Reinhart and Rogoff (2009) as well as several contributions from Laeven and Valencia, the latest dated June 2012.

3 The interested reader is referred to a longer version of our note which discusses and defines these crises concepts along the lines conventionally accepted in both academic and policy circles for further clarification and definition.

4 See Chapter 14 on the Aftermath of Financial Crises.

5 Papell and Prodan (2011) make the point it takes even longer to return to trend (or potential) GDP levels.

6 We do note that for the cases of Italy and Portugal, which experienced not only borderline financial crises but full-on fiscal crises, the performance has been steadily worsening as well. The typical borderline banking crisis has seldom been accompanied by an incipient sovereign debt crisis.

7 See Laeven and Valencia (2012) for further details.

8 Borderline crises can and often deepen into systemic ones.