The Interwar Housing Cycle in the Light of 2001-2011:
A Comparative Historical Approach

by

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ABSTRACT

This paper examines the interwar housing cycle in comparison to what transpired in the United States between 2001 and 2011. The 1920s experienced a boom in construction and prolonged retardation in building in the 1930s, resulting in a swing in residential construction’s share of GDP, and its absolute volume, that was much larger than what has taken place in the 2000s. In contrast, there was relatively little sustained movement in the real price of housing between 1919 and 1941, and the up and down price movements were remarkably modest, certainly in comparison with more recent experience. The paper documents the higher degree of housing leverage in 2001-2011, and considers its implications for understanding price movements and the different mechanisms whereby housing busts can and have contributed to inducing or prolonging an economic downturn.
The Interwar Housing Cycle in the Light of 2001-2011: A Comparative Historical Approach

The financial crisis of 2008-2009 and the Great Recession it precipitated forced, or should force a major rethinking among macroeconomists about the origin, prevention, and potential mitigation of such events. One of the conclusions that emerges from a considered examination of the run up to and the fallout from the event is the limitations of framing the policy issues solely in terms of whether Chairman Bernanke and the Federal Reserve System did the right thing when the crisis hit. Most observers believe that the response to the immediate crisis was correct in the sense that the appropriate remedy, once the seizing up of credit markets began, was indeed large scale fiscal and monetary stimulus.

As the Fed reduced short term rates close to the zero lower bound, it almost tripled the size of its balance sheet, and this ongoing monetary accommodation was augmented by the Treasury’s Troubled Asset Relief Program (TARP, October 2008) and, beginning in February of 2009, the fiscal stimulus associated with the American Recovery and Reinvestment Act. The Republican takeover of the House of Representatives in the November 2010 midterm elections ended prospects for additional fiscal stimulus, at least from the expenditure side, but the Fed’s expansionary monetary stance continued as it sustained its expanded balance sheet, purchasing, through its programs of quantitative easing, longer term securities as some of the troubled assets acquired at the height of the crisis matured.
Analysis of the appropriate response to the crisis undoubtedly drew inspiration from the experience of the country during the Great Depression. Two of the key policymakers, Christina Romer and Ben Bernanke were and are both serious students of the Great Depression. Bernanke is famous for saying, at a 2002 conference honoring Milton Friedman on his 90th birthday, “Regarding the Great Depression, you're right, we did it. We're very sorry…. we won't do it again” (Bernanke 2002). Or to put it slightly more accurately, we won’t not do it again, since Friedman and Schwartz’s (1963) brief against the Fed was not their action, but their inaction in the face of bank failures and the consequent shrinkage in the country’s money supply.

But this approach to thinking about the lessons of either the Great Recession or the Great Depression, by focusing only on the policy response once the crisis emerged full blown, discourages us from examining the process whereby balance sheets became increasingly levered and increasingly risky over time, in other words the process, which may extend over several years or even decades, whereby an economy can become increasingly financially fragile. Ignoring this aspect of the run up to the most recent episode makes it difficult to understand why or how the collapse of an asset price bubble in housing, and the consequent reduction of spending in an overbuilt sector could have threatened such catastrophic consequences for the U.S. and world economy. To be sure, residential construction is an important component of gross private domestic investment, but it still contributes a small portion of overall planned spending. Even allowing for a
generous multiplier, it is hard to see on the face of it how this relatively small tail could have had the potential to bring down a much larger economic dog.

The answer, as I think many of us appreciate more today than we did before 2008, is the significance of balance sheets, and in particular the ways in which high leverage in both the financial and household sector generates tight interconnections and the potential for domino effects (systemic failure). To focus only on Fed action or inaction once the crisis hit draws attention away from the multiple acts of legislative and regulatory commission and omission that can allow financial fragility to grow in the first place. It is much clearer now that balance sheets, debt, and leverage can make a big difference in how an economy responds to an asset price and/or spending shock. The financial fragility of an economy can spell the difference between whether the system shrugs off the shock or potentially goes into a tailspin.

If the history of the Great Depression enriched our understanding of and influenced the policy response to the Great Recession, it is also true that the reverse can and is happening. In particular, post-mortems on policy issues associated with the Great Recession should cause us to reexamine the shared beliefs among many (aside from real business cycle proponents) that the Great Depression was indeed principally caused by the failure of adequate Federal Reserve response. That may well have been a contributory factor but the idea that massive monetary accommodation in the early 1930s could have almost entirely eliminated the output cost of the Great Depression needs to be reconsidered. Balance sheet considerations were likely also implicated in the long and
drawn out recovery. After all, in the Great Recession, the Fed has driven short rates close to the zero lower bound, and has also engaged, in sustaining a balance sheet that increased almost by a factor of three, in buying large amounts of longer term Treasury Securities. It is not clear how much more monetary accommodation could have been applied. And yet, in the (April 27, 2011) Fed release, unemployment is forecast in 2013, a full five years after the worst months of the crisis, to still be in the 6.8 to 7.2 percent range (central tendency), with some within the Fed projecting an unemployment rate of 8.4 percent (Federal Reserve Board, 2011a).

If massive monetary accommodation could not avoid a very large output loss in 2008-2013, we must reconsider whether in fact, as conventional wisdom seems to hold, massive monetary accommodation in 1929-33 could have avoided most of the output loss associated with those worst years of the recession. I am not disputing that the more recent monetary accommodation made a big difference and that without it things would have been much worse. Similarly, I am not disputing that more Fed accommodation in the early 1930s would not have made a difference, perhaps a big difference. What I am saying is that to suggest that that was all that was needed is probably wrong.

Carmen Reinhardt and Kenneth Rogoff (2009) provide compelling historical evidence that recessions associated with financial crises require significantly longer for recovery than those that don’t. We need to accept the lessons of recent history, and of those documented by Reinhart and Rogoff, and of Richard Koo’s (2009) analysis of Japan, and appreciate that highly leveraged balance sheets in the financial, nonfinancial,
and/or household sectors can make a big difference both in the resilience of an economy when faced with an asset price or spending shock, and on the effectiveness of monetary policy in avoiding a large output loss. If balance sheet issues hindered recovery in the 1930s, however, we need to ask whether housing was implicated in the same ways and to the same degree as has been true in 2007-2011.

There are many similarities between the Great Depression and Great Recession, not least of which is that each was preceded by asset price bubbles (boom and bust) in both equities and real estate. But there were also important differences. The timelines are roughly inverted. In the 1920s a residential real estate boom peaked in 1926, although it was followed by a boom in apartment building and one in central business construction that extended into the early 1930s. The stock market boom was particularly strong in 1928 and 1929, and the crash in equity values is often taken as symbolic of the start of the Great Depression. Although the casual link has been questioned – people point to the fact that industrial production began to decline in the summer of 1929, or that stock ownership was concentrated among a small portion of the population, it remains a central part of the chronology.

In the Great Recession, the sequence was roughly reversed. The boom in equities, particularly Tech based securities, began to collapse in 2000. This was followed, however, by a major boom in the prices and construction of residential housing, which peaked in early 2006. A commercial construction boom followed, as had been the case in the 1920s.
But whereas the real economy appears to have largely shrugged off the end of the residential real estate bubble in 1926, that does not appear to have been the case with the collapse in equity prices in 1929. And whereas the real economy appears to have largely shrugged off the collapse of the tech stock bubble in 2000-2001, that does not appear to have been the case with the real estate collapse that began in early 2006 and continues to the present. This asymmetrical real economy response to asset price deflation is associated with almost diametrically opposed opportunities for leveraged asset acquisition in housing and equities during the run ups to the two crises.

During the 1920s, most mortgages required 50 percent down payments, were nonamortized, and were for relatively short periods (five years). Sometimes it was possible to get a second mortgage and increase leverage through this mechanism but that was not the norm. In stocks, however, the situation was almost exactly the reverse. One could easily buy stocks for 10 percent down, with the remainder borrowed through the call money market.

Following the Great Depression, margin requirements on stocks were, by regulatory fiat, raised to 50 percent and that has remained true to this day. The consequence was that when the Tech bubble collapsed, many investors saw their balance sheets shrink. Nevertheless, because the acquisition of stocks had, to a much lower degree than in the 1920s, been financed with borrowed money, the collapse of the price bubble had much lower potential to transmit distress to other entities (financial institutions) that, indirectly
or directly, held equities on the left hand side of their balance sheets. And, since household stock acquisition had not involved high leverage, the collapse of the NASDAQ did not typically affect household financial survival, and pushed few units into insolvency. There were, to be sure, modest wealth effects on consumption. And the end of the tech boom meant some retardation in the acquisition of IT equipment which, through multiplier effects, also influenced consumption spending and the retardation of GDP growth. From a comparative perspective, however, the 2001 recession saw few financial failures and was of mild severity and duration. Only in the quarterly data (2001:1) do we see a slight one quarter decline in real GDP (see http://www.bea.gov, NIPA Table 1.1.6).

In contrast, the collapse of the real estate bubble starting in 2006 set in motion rows of falling dominoes that threatened to bring the U.S. and world economy to its knees.

These observations suggest that, contrary to our pre 2008 complacency about how real estate is financed, we should have been much more concerned. From the standpoint of the individual house buyer, the old mantra in real estate was that three things mattered: location, location, and location. From the standpoint of the threats posed to the macro economy, one could perhaps alter this to read leverage, leverage, and leverage. This is a matter of continuing and more general concern. In spite of the passage of the Dodd-Frank bill in July of 2010, there has to date been very little movement to alter the incentives that even bigger and more interconnected financial institutions have to make risky bets with borrowed money. As a consequence the likelihood that the U.S. economy
will face a larger and potentially even more catastrophic financial crisis in the next fifteen years is probably similar to the likelihood that the Bay Area will experience a major earthquake in that time period. When that new financial crisis hits, once again the government and taxpayers will be over the barrel in terms of a choice between allowing a catastrophic depression or coming up with relief in a magnitude that will likely approach a third or more of GDP. Unless politics pushes us over a cliff, taxpayer funds will again be used to bail out financial institutions in one way or another. Indeed, this prospect may pose as much threat to the long run fiscal solvency of the U.S. government as do the more frequently talked about needs to increase taxes and control the rise of spending on medical care or in other areas.

As we try to parse the lessons from the most recent cycle, there is much to be learned by going back and reexamining the history of housing during the interwar period. In particular, it would be useful to understand better why the end of the residential real estate boom in 1926 appears to have had such a limited adverse effect on the real economy, as compared to what happened in the 2000s. At the same time, we need to consider why private sector construction remained so depressed for such a long time during the 1930s. Twenty years ago I argued that this was principally due to the physical and legal detritus of premature subdivision in the 1920s (Field 1992), and that in the postwar period, housing booms have created fewer obstacles to recovery from this source, due to the development of zoning and land use regulation. That is likely to be true as well for the most recent boom, since land use regulation, unlike that applicable to
financial institutions, was less affected by the deregulatory enthusiasms of the 1980s and 1990s (see also Field 2011, chs. 10 and 11).

On the other hand, leverage, debt overhang, and foreclosure played and continue to play a major role in magnifying the impact of the housing bust in the 2006-2011 period, and continue to pose obstacles to full economic recovery (Financial Crisis Inquiry Commission, 2011). An open question historically is how much the debt overhang of the real estate booms of the 1920s, as compared to the direct legacy of premature subdivision contributed to slow recovery during the 1930s. Looking at the two booms using a comparative approach can give us some perspective on this.

Irving Fisher’s debt deflation mechanism (1933), insofar as it applied to mortgage borrowing, was certainly relevant in the Great Depression. And bad debt contributed directly to failures of savings and loans and mutual savings bank, the main providers of mortgages during this period. What happened in the 2000s was, however, quite different in a number of respects. The epicenter of the problems causing the initial downturn was clearly housing, which was not the case in the Depression. And the problems in housing were caused only marginally by increasing burdens due to debt deflation. Although Bernanke and other policy makers feared more severe deflation, in part as a result of their actions the rate of change of the CPI for all urban consumers went negative only in 2009, declining at .37 percent per year, as compared with 3.8 percent growth in 2008, and returning to positive territory (1.6 percent ruse) in 2010. This is to be compared with the 8 percent per year deflation that characterized 1929-33.
Foreclosures were a real phenomenon during the Depression, but it was more the case, particularly after 1929, that people were in trouble not because housing prices had fallen per se, but because income had fallen as the result of other causes. Housing prices did decline in the early 1930s, but only in line with the general deflation. And deflation raised the real burden of nominally fixed mortgage payments, which contributed to foreclosure. But this was not associated with a big drop in the average real value of a house.

As part of the research for his book *Irrational Exuberance* (2006), Robert Shiller assembled series on real and nominal house prices going back to 1890. His source for nominal house prices for 1890-1934 is Grebler, Blank and Winnick (1956), whose data is based on a survey of homeowners in 22 cities who were asked to report the value of their house in 1934 and what they originally paid for it and when. Since the index tracks prices for the same housing units at different times, it is not subject to the compositional bias that can bedevil comparisons of median house prices over time (see Shiller, 2006, p. 234).

Shiller’s data for 1934-41 are based on advertised home prices in newspapers in five cities: Chicago, Los Angeles, New Orleans, New York, and Washington D.C.. His students collected about thirty house prices for each city for each year, except that the Washington data are based on a median price series from Fisher (1951). Data for those years may therefore be partially affected by the upward bias characteristic of median
sales price data, which can in part reflect improvements in house quality. Given the relatively low level of house construction during the 1930s, however, the bias is probably small. Shiller uses the Consumer Price Index to deflate nominal house values both pre- and post- 1934 to get a series on real house prices, which appear in his book as part of figure 2.1.

For most readers of *Irrational Exuberance*, particularly the first two editions, the principal takeaway from the long time series on real housing prices was the strikingly dramatic run up in real estate prices between 2002 and 2006. In percentage terms the increase in the real price of a house was larger during this four year period than during any comparable period going back to 1890. The increase in house prices following the Second World War (measuring from 1944 to 1953) came close in percentage terms, but it took place over a larger number of years and, in contrast with the 2002-2006 period, the new higher level of real house prices was sustained for half a century.

As Shiller has updated his numbers (Shiller, 2011), they have revealed a staggering fall in the value of an asset that conventional wisdom held should and could never decline nationally. According to his quarterly data, nominal prices through 2011:1 declined 34 percent from their peak in 2006:2. We have also had mild inflation over this period. Data on real housing values indicate that they have now declined 40 percent from their peak in 2006:1. In a 2005 interview with New York Times correspondent David Leonhardt, Shiller predicted house prices could fall 40 percent in inflation adjusted terms (Leonhardt, 2005).
That kind of loss is what investors are taught they must be prepared to take if they are to enjoy the upside potential of assets such as stocks. But it is not what individuals expected from housing, certainly in the postwar period. The expectation that houses would hold and possibly increase their value helped justify and reinforce institutional changes that allowed lower down payments (higher leverage) in house purchases starting in the 1930s. New norms and mechanisms of housing finance originating in the 1930s established an institutional regime that helped real house prices remain basically stable for fifty years, from the early 1950s through 2001. Boomlets marked the last part of the 1970s and, associated with the Savings and Loan Crisis, 1988 through 1990. But in both cases the price rises, which look modest compared to what we’ve recently experienced, quickly subsided.

Looking at Shiller’s entire series since 1890, it is clear that the degree of house price decline between 2006 and 2011 in the United States does have precedent. But if we study the series closely we discover something else which is quite remarkable: no such decline took place during the interwar years. It is true, according to Shiller’s index data, that a house purchaser buying at the peak in 1907 and selling in the trough of 1921 would have experienced a 40 percent decline in real value, similar to that experienced since 2006. And a house purchaser buying at the peak in 1894 and selling at the trough in 1921 would have lost 47 percent of the value of the house in real terms. Both 1893 and 1907 are associated with financial panics that ended NBER business cycle expansions. Indeed, the 1907 crisis required the personal intervention of J.P. Morgan to end it and it set in
train forces that would lead to the creation of the Federal Reserve System in 1913. These house price losses, however, would have been experienced over twenty-seven and fifteen year holding periods, not a five year period.

Figure 1
Nominal House Prices, United States, 1919-41


In contrast with evidence of large declines in the real price of housing prior to the 1920s, or in 2006-11, what is striking for a student of the interwar period is the relative tameness of price movements during the 1920s and 1930s. There was indeed a real estate boom during the 1920s, one whose details have been seared into the memories of economic historians by the lurid descriptions of it contained in J.K. Galbraith’s The Great Crash (1955). In terms of overall construction activity, there were, as noted, actually three consecutive booms, a boom in single family residences that peaked in 1926, an apartment building boom that peaked a year later, and a central business building boom.
that extended into the early 1930s (because of semicompleted projects such as the Empire State building). And, looking at residential prices, there was appreciation and depreciation prior to and following the construction peak. But the magnitudes of these price swings, compared with 2001-2011, are almost unbelievably mild.

Let’s look first at nominal prices (figure 1). We can certainly see house prices increasing from 1919 through a peak in 1925, then declining to about the 1919 level in 1930 and then continuing to fall along with the general deflation in the economy before beginning to increase again in 1934. But figure 1 exaggerates the magnitude of the increase and decreases by truncating the y axis to bracket the range of the index. If we look at the index with 0 as the origin of the graph (figure 2), the fluctuations look less dramatic:

![Nominal House Prices, United States, 1919-41](http://www.econ.yale.edu/~shiller/data.htm)

The modesty of the increases and decreases are now much more apparent, with the peak to trough 1925-1933 decline of 30 percent roughly in line with the movement of the general price level over that period.

The relative tameness of house price movements in the interwar period is even more apparent when we look at real price movements, first with a truncated y axis (figure 3) and then with 0 as the origin (figure 4). Comparing figure 3 with figure 1, the main effect of moving to a real index is to moderate the decline evident in the early 1930s. As for the 1920s, after 1922, the nominal and real indexes move very closely with each other, because the CPI was basically stable between 1922 and 1929.

Examining the real house price series with the untruncated y axis (figure 4), one cannot help but be struck by the almost complete absence of a 2001-2011 style price bubble and collapse. True, if you had been able to buy a national portfolio of real estate in 1921 and managed to sell in 1925, you would have enjoyed a 19 percent real gain, and if you bought in 1932 and sold in 1940, you would have gained 19.6 percent real. With 50 percent down you could have walked away with gains of almost 40 percent. But this is chump change compared to what real estate speculators actually made in the United States between 2002 and 2006. Looking at this graph, one almost feels we need Greg Clark to tell us provocatively that “nothing happened” Clark is famous for arguing that, at least with respect to the standard of living, nothing happened in 800 years of British economic growth, let alone 100,000 years of world economic history prior to 1800.

Figure 4
Real House Price Index, United States, 1919-41

That’s of course, a little bit of an exaggeration, as it was in Clark’s case. There’s actually a slight upward trend in real housing prices, comparing the 1930s with the 1920s, which might or might not be due to the change in the data source post 1934. Of course even if the real decline in house prices between 1925 and 1932 was only 12.6 percent (as compared with a real decline of 40 percent between 2006 and 2011), the nominal decline in the context of mortgages with fixed nominal interest payments did have the potential to contribute to debt deflation and persisting problems with debt overhang and contagion in the 1930s.

As already mentioned, I argue that the difficulties construction had in recovering in the 1930s had more to do with the legacy of premature subdivision (see Field 1992) than with debt overhang from real estate. This view is strengthened by looking at the interwar housing cycle in the light of 2001-2011. Assuming we are at a trough in house prices in 2011, a matter about which there remains some uncertainty, the 2006-2011 peak to trough decline in real housing prices of 40 percent is more than triple the 1925-1932 decline in percentage points. And, as I will show below, housing was much more highly leveraged in the more recent episode, which enabled it to pose more of a systemic threat.

There is thus a big difference between the house price rise and decline associated with the housing boom of the 1920s and that associated with the 2000s. There are of course at least two dimensions to a housing boom – price and quantity – and so one might expect from the modest price movements between 1919 and 1941 that the boom and collapse of construction was also more moderate in the interwar period than it was in the
2000s. And one would be quite wrong. From a construction standpoint the interwar boom was in fact the greatest in terms of the fluctuations of construction activity, both in absolute terms and as a proportion of GDP, that the U.S. economy has ever experienced. In 1924, 1925, 1926, and 1927, housing construction comprised more than eight percent of GDP, a figure subsequently approached but never again exceeded. In the 2001-2005 boom, the share of residential construction rose from 4.6 percent in 2000 to 6.2 percent in 2005 (the year that housing prices peaked nationally) before falling to 3.4 percent in 2008 and 2.5 percent in 2009. By 2011:1 it had declined further to 2.2 percent (NIPA Table 1.1.5).

![Figure 5: Residential Construction, United States, 1919-41](Figure5.png)


In comparison, by 1929 the housing construction share of GDP had fallen to 3.9 percent and by 1933 to 1 percent of a greatly reduced GDP [http://www.bea.gov](http://www.bea.gov), NIPA
Table 1.15). So in terms of GDP shares, housing construction went from 8 percent to 1 percent of GDP between 1927 and 1933, and from 6.2 percent to 2.2 percent from 2005 to 2011. If we look at the absolute decline in inflation adjusted residential construction, the drop is even more dramatic in the interwar period, as figure 5 indicates.

1926 to 1933 witnessed an 89 percent decline in real construction activity. In comparison, assuming that the housing construction cycle has now bottomed out (I am writing in August of 2011), we see a peak to trough decline of 57 percent in real construction activity between 2006 and 2011. From the standpoint of construction activity, the 1920s boom and bust was clearly proportionately larger. Yet the price movements associated with that housing cycle were very modest.

The absence of big real house price movements in the interwar period means that the mechanisms whereby housing contributed to recession/depression were different in the two cycles. In the 1930s, the collapse of construction spending and its weak recovery contributed to a slow revival in private sector aggregate demand primarily through standard multiplier mechanisms. Since the collapse of the building boom was associated with very modest movements in the real price of housing, however, the impact of the housing bust on household balance sheets was more modest. In comparison with the wealth effect on consumption of collapsing stock prices (Mishkin, 1978), the influence of the end of the housing boom on consumption expenditures through this mechanism was weaker.
Between 2006 and 2011, in contrast, the collapse of the housing boom was associated with an approximately $7 trillion hit to household balance sheets. To get a sense of how large this is, consider that the flow of U.S. GDP flow is today running at about $15 trillion per year. This decline in home equity was the result of a pincer movement: nominal mortgage debt continued to increase through 2007 and then declined only modestly, while nominal house prices fell sharply. The consequence was a big reduction in household real estate wealth. Given the uneven distribution of mortgage debt this pushed millions of homeowners underwater, in the sense that they owed more than their homes were worth. The 2006-2008 American Community Survey showed that of approximately 75.4 million owner occupied U.S. housing units, 51.4 million had a mortgage (U.S. Bureau of the Census, 2011, series B25087). Of these, more than one in four were underwater in May of 2011. Even though there were tens, indeed hundreds of thousands of foreclosures during the Depression, there is little evidence that this phenomenon was as widespread. During the Depression the problem was not typically that people owed more on the house than it was worth. The problem was simply that they couldn’t make the mortgage payments, because their nominal income had fallen.

Case, Quigley and Shiller (2005) estimate that a 10 percent decline in household wealth has somewhere between a .4 and a 1.1 percent effect on consumption (although see Calomiris, Longhofer and Miles (2009) for a more skeptical view of the size of this coefficient). Whatever the number we agree on, we are dealing here with a drop in owner’s equity of more than 50 percent, from $13.1 trillion in 2005 to $6.3 trillion in 2010. Nothing comparable happened with respect to real estate wealth in the interwar
period. In contrast, the contractionary effect of lower construction expenditures was relatively more significant during the interwar housing boom.

**Figure 6**

Index of Real Residential Construction, United States, 2000-2010

Source: [http://www.bea.gov](http://www.bea.gov), NIPA Table 1.1.3.

Why were the price movements and wealth effects so much more muted during the interwar period than in 2001-2011? The most compelling answer is simply that residential housing was much less leveraged in the 1920s than it became in the 2000s. Mortgage “innovations” such as option ARMs, no documentation loans, and no money down loans magnified the upward price movements during the boom, as they did the downward movements in the bust. These institutional innovations helped upend an institutional equilibrium that, by and large, had kept real house prices relatively stable for half a century.
Another way to look at this question is to ask why housing leverage was so low in the 1920s when, as evidenced by the stock market, the financial system was clearly capable of financing highly leveraged asset acquisition. Why was it that mortgage lenders in the 1920s were so stingy with down payment and maturity terms? Again, standard terms were fifty percent down, five year mortgage with a balloon payment at the end. This conservatism was not because government regulators had mandated higher down payments. One suspects that it had something to do with expectations based upon a prior history of land and real estate speculation, in which lending standards had been at times less conservative, leading to sometimes extreme cycles of boom and bust in house prices prior to the 1920s.

To be sure, by the last years of the 1920s, there was plenty of excess in real estate lending. Declines in lending standards (see Saulnier, 1956), self-dealing, fraud, all of this was evident in absolute terms. But not in comparison with what took place between 2001 and 2008. My hypothesis is that decades of experience of real estate in the nineteenth and early twentieth centuries had persuaded lenders that real estate was a very risky asset, by no means certain or even expected to appreciate, and one for which lenders should take moderate and short lived stakes, and ensure that borrowers had plenty of skin in the game.

An implication of this is that although the failure of housing construction to revive during the 1930s helps explain the duration of the depression, balance sheet aspects of
housing sector finance were less important in obstructing recovery than has been true in the Great Recession. As has been noted, there are several distinct mechanisms whereby housing can affect a downturn. A decline in construction can, amplified by multiplier effects, lead directly to a decline in equilibrium output, associated with drops in both consumption and gross private domestic investment. In the 1920s the decline in residential construction was, from an aggregate demand perspective, compensated for by the apartment building boom followed by CBD construction which extended into the 1930s. Strong exports helped as well. But when construction went south big time in the 1930s, this mechanism became very important in accounting for the prolonged downturn and the failure to recover.

A second depression-inducing housing related mechanism involves borrowers on real estate who can’t service their mortgages, become delinquent, and eventually face foreclosure. As they struggle to meet their mortgage obligations, non-housing consumptions is adversely impacted. Foreclosures were an important feature of the early 1930s (see Wheelock, 2008), but they weren’t primarily produced by the cessation of increases and then actual declines in house prices, which was the main driver after 2006. Rather, during the early years of the 1930s, it was declines in income (among those unemployed, for example), that had their source elsewhere, that generated foreclosure. Of course as deflation set in during the early 1930s, the real value of debt service obligations fixed in nominal terms did increase, aggravating the pressure on borrowers in difficult positions. Because of lower leverage, bad mortgage debt from housing did not
play as significant a role in transmitting a financial shock to lending institutions as was the case in 2007-2009.

Foreclosures during the 1930s, although a very real, significant, and personally painful phenomenon, were proportionately less common than has been true in the years since 2006. To make this case we begin with interwar data for nonfarm housing units, over three fourths of the occupied housing units in 1930, for which the statistical information is better. The number of foreclosures for nonfarm occupied housing units, 68,100 in 1926, rose to 134,900 by 1929, and peaked in 1933 at 252,400, before gradually subsiding to 58,559 by 1941 (Historical Statistics, Millennial edition, Series Dc1255). The 1930 census reported 23,235,982 occupied nonfarm housing units (Historical Statistics, Millennial edition, Series Dc697-698). Using the 1930 occupied housing number as a denominator, and the peak 1933 foreclosure number as numerator, we can conclude that 1.08 percent of the nonfarm occupied housing stock was foreclosed upon in the worst year of the Depression. This number is probably biased slightly upwards because we have not attempted to correct for the possible growth in occupied housing units between 1930 and 1933.

In contrast, RealtyTrac (2011) reported that in 2010, 2,871,891 housing units in the United States experienced a foreclosure filing. This represented 2.23 percent of all U.S. housing units. The fact that more than twice the proportion of all housing units were foreclosed upon in 2010 as compared with the proportion of nonfarm units foreclosed
upon in 1933 is indicative of the substantially higher degree of leverage and the much
greater decline in real housing prices that have marked the more recent cycle.

The data for the 1930s in the above calculations are of course for the nonfarm
housing sector. Adding in data on farm occupied housing units might increase our
estimate of the rate for all occupied units. The 1930 census shows only about a third the
number of occupied farm housing units (6,668,881) as compared with nonfarm units
(there were 29,904,663 total units). So the rate of foreclosure on farm housing would
have had to have been substantially higher than on nonfarm housing to yield a foreclosure
rate on the entire occupied housing stock approaching that experienced in 2010. I
calculate that 424,473 farm housing foreclosures – 6.2 percent - or one of every 16 farm
housing units would have had to have been foreclosed upon in 1933 in order to make the
overall foreclosure rate on residential housing equal to what it was in 2010.

The rate of foreclosure on farm housing is almost inextricably entangled with the
rate of foreclosures on farms, which is not exactly the same. Nevertheless, they are
closely related, and we do have some data on the latter. Alston (1983, p. 886) reports that
in 1933, the worst year of the Depression, over 200,000 farms were foreclosed – 3.88
percent of all farm units. This is significantly below the 6.2 percent rate that I calculated
would have been needed to equate the overall 1933 foreclosure rate to that experienced in
2010. I am confident that, even if we were able to take into account all occupied housing
units, we will conclude that the foreclosure rate in 2010 was higher than it was even in
the worst year of the Depression. Considering that this substantially higher foreclosure
rate has been generated in an environment in which the unemployment rate did not break 10 percent (as opposed to 25 percent in 1933), we gain additional appreciation for how fragile the housing finance situation had become by 2006.

Figure 7
Nominal Housing Value and Mortgage Debt, United States, 1925-41


In the 1930s, and under the aegis of the Federal Housing Authority, institutional changes ushered in an era of higher leverage in housing than had prevailed in the 1920s. These changes were associated with a one time permanent upward moving in real housing prices in the years immediately after the war. Because of organizational and procedural controls on the quality of lending, however, this rise was sustained, and leading to a half century of relative stability in real housing prices, from the early 1950s through 2001. Prior to the twenty-first century, this was disrupted at the national level
only by boomlets in the late 1970s and again during the S and L fueled 1988-1990 period, but each of these subsided relatively quickly.

Beginning in the 1980s under Reagan and gathering steam under Clinton in the 1990s, financial deregulation and changes in the financial services industry destroyed the previous institutional equilibrium. Out of this witches brew (much more than simply the low interest rates of the early 2000s, on which it is often blamed), emerged the housing boom and the near catastrophic financial meltdown that followed.

![Figure 8](image)

**Figure 8**
Nominal Value of Housing Stock and Mortgage Debt, United States, 1995-2010


Figures 7 and 8 illustrate dramatically the very different degrees of housing leverage in the interwar cycle as compared with 2001-2011. Figure 7 shows the nominal
value of the net housing stock along with the nominal value of residential mortgage debt from 1926 through 1941. The debt to asset ratio never rose above 25 percent during these years (see figure 9), starting at 10.9 percent in 1925, ending at 12.5 percent in 1941, and peaking in 1932 at 22.6 percent under the influence of temporarily declining nominal house prices, and a relatively stable nominal debt burden. It is certainly true that in homeowners 1932 were stressed.

![Figure 9](image)

**Figure 9**
Debt to Asset Ratios in Housing, United States, 1925-1941 and 1995-2010


But the degree of leverage is dwarfed by what transpired in the first decade of the twenty first century. The debt to asset ratio was at over 40 percent during the run up to the housing price explosion, and then jumped to over 60 percent starting in 2006 in the face of rapidly declining house prices and a nominal debt burden that continued to
increase through 2007 and then fell off only slightly. It has remained at that level through 2011.

The comparative trends in housing debt to asset ratios, comparing 1925-41 with 1999-2010 are illustrated in figure 9.

**Conclusion**

Using a comparative historical approach, this paper has established several important differences in the housing sector’s characteristics and contributions to macroeconomic instability in the 1930s and 2001-2011. First, the interwar housing cycle was considerably more severe than 2001-2011 in terms of the volatility of residential construction activity, whether measured in absolute terms or as a share of GDP. Second, the interwar cycle was much *less* severe in terms of fluctuations in the real price of housing. Finally, housing was substantially more leveraged in 2001-2011 than was true during the interwar period.

The paper argues that there is a connection between the second and third of these differences. During the 1920s, the historical experience of housing booms and busts had disciplined lenders to treat housing as a quite risky asset, and made them at least initially unwilling to lend liberally on it, with the standard for “liberalism” being what transpired between 2001 and 2008. Although these inhibitions weakened as the decade of the 1920s proceeded, the overall result was still a housing sector that was much less levered than in 2001-2011. In contrast, between 2001 and 2006 institutional restraints on lending that had
for the most part obtained for half a century broke down under the banner of “innovative” ways to finance housing.

This analysis has important implications. The impact of the housing bust in the 1930s was felt particularly strongly through its effect on real gross private domestic investment, and, through multiplier mechanisms, indirectly on consumption. In the housing bust of the 2000s, this mechanism was weaker. On the other hand, the relative stability of housing values in the interwar period meant that the effect of the end of the boom on consumption through a direct wealth effect was weaker, certainly in comparison to the effect on consumption of the collapse of stock prices and household balance sheets (Mishkin, 1978).

In contrast, in 2001-2011, with an almost $7 trillion drop in house values, this effect was stronger. Because of the much higher degree of leverage in 2001-2011, the problem of debt overhang and underwater homeowners has been more severe than was true in the interwar period. Moreover, because of the interconnections between high leverage in households and highly leveraged and interconnected financial institutions, the ability of real estate lending to pose a systemic threat to U.S. and world financial institutions was higher in the first decade of the twenty-first century than was true in the interwar period. The mechanisms and interconnections that allowed this to happen are well documented elsewhere, for example in the final report of the Financial Crisis Inquiry Commission (2011).
When New Deal reformers set their minds to mitigating the likelihood of a recurrence of the Great Depression, they placed more emphasis on the travails of the stock market than on real estate. They insisted on separating commercial and investment banking (which back then actually meant firms that channeled loanable funds to corporations through new equity and bond offerings, as opposed to organizations that derived the bulk of their profits from trading on their own account). In the Depression, commercial banking had been involved to only a limited degree in housing finance, and although investment banking activities did include placements of some mortgage backed securities, these tended to be for the purposes of financing commercial and other nonresidential structures (Goetzmann and Newmann, 2010). In the Securities Act of 1933 and the Securities and Exchange Act of 1934 Congress demanded new transparency in security issues and corporate reporting.

New Deal legislation, including acts establishing the Home Owners’ Loan Corporation (1933), the Federal Housing Administration (1934), and the Federal National Mortgage Association (1938) did address issues in the housing sector. While these organizations did aim at alleviating depression era problems, their mandates do not suggest that housing and its financing per se was perceived as a locus of the origins of the economic downturn. The HOLC engaged in remedial intervention, and indeed stopped making new loans after 1935. The FHA pioneered in establishing the viability of the 30 year fixed term fully amortized mortgage, and promulgating better designs for residential subdivisions, and the Federal National Mortgage Association, chartered in 1938, established a secondary market for home mortgages. These changes helped usher in a
half century of relative stability in real house prices. But these changes in the institutional mechanisms of residential finance were not primarily oriented towards mitigating a systemic risk that lending on real estate might have generated during the 1920s. Remedial efforts to mitigate such risk focused much more on stock market, focusing on the purchase, sale, and financing of equities, with the twin objectives of increasing transparency and limiting leverage. Unlike real estate, which declined in nominal terms by 30 percent but in real terms relatively little, the 89 percent nominal decline in the Dow Jones index reflected a drop in the value of the highly levered stock market that had more severe consequences, at least initially. This emphasis on the market for stocks rather than real estate as ground zero for the unfolding Great Depression stand in sharp contrast to the diagnoses of the locus of the onset of the 2008-2009 financial crisis and economic recession. The differential legislative attention during the New Deal is consistent with the basic narrative developed in this paper.


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