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# Comments on “Housing, Monetary Policy, and the Recovery” by Michael Feroli, Ethan Harris, Amir Sufi, and Kenneth West

**James Bullard\***

*President and CEO*

Federal Reserve Bank of St. Louis

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## **Abstract**

This is a discussion of the paper “Housing, Monetary Policy, and the Recovery,” by Michael Feroli, Ethan Harris, Amir Sufi, and Kenneth West. The paper is part of the 2012 U.S. Monetary Policy Forum.

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\* This version: 23 February 2012. I appreciate helpful comments from the St. Louis Fed research staff, especially Bill Emmons, Carlos Garriga, and Rajdeep Sengupta. Any views expressed are my own and do not necessarily reflect the views of the Federal Open Market Committee.

# 1 Two trend lines

I am pleased to be here at the U.S. Monetary Policy Forum to comment on this very nice paper by Michael Feroli, Ethan Harris, Amir Sufi, and Ken West. It represents the best of what this Forum is about. In particular, it brings together judgments from academia, the private sector, and the policy world to better inform all of us on a key issue. I certainly learned a lot from this paper and I recommend it to all of you if you have not already read it.

Let me first lay out a big picture issue as I see it and then turn to a few more specific comments on the paper.

It has become commonplace in the past several years to refer to the mid-2000s as a real estate price “bubble” that has burst.<sup>1</sup> This metaphor is, in fact, so commonplace that it has ceased to be controversial. In this paper, for instance, the authors lament (p. 14), “What started as a localized bubble and bust has been transformed into a national problem.” Housing prices now seem to have been far too high in the middle part of the past decade, driven in large part by the widespread belief that “house prices never fall.”

If households and businesses had viewed the high prices as mere noise, and therefore not changed their economic decision making very much, the fall in housing prices would not have been such a critical event. But that is not what happened.

Instead, the high real estate prices were taken very seriously. Households consumed more and borrowed more than they otherwise would have; developers built homes at an aggressive pace; Wall Street developed new financially engineered products to feed the boom; and ancillary industries thrived. When house prices fell by 30 percent and remained low, the widespread belief that “house prices never fall” was shattered. Households were left with debt levels much higher than they intended to take on, housing con-

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<sup>1</sup>For economists, I prefer the language “sunspot” equilibrium to refer to a sustainable, market-clearing situation in which the real allocation of resources is driven by beliefs alone. In the macroeconomics literature, “bubble” equilibria are often socially desirable, as for instance in much of monetary theory, while “sunspot” equilibria are often socially undesirable, as they involve excess volatility. However, in common parlance the bubble language overwhelms all attempts at distinctions.

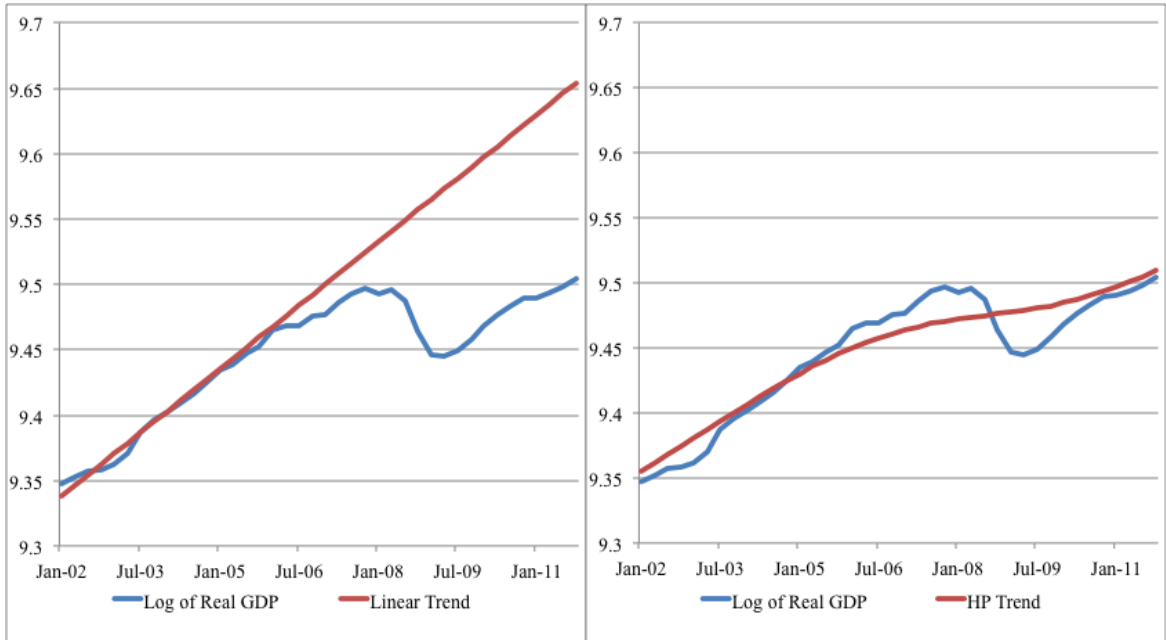


Figure 1: Decomposing Real GDP.

struction fell dramatically, Wall Street was nearly destroyed, and abetting industries had to scale back aggressively. The size of the shock severely disrupted labor market relationships, pushing unemployment to exceptionally high levels. It takes a long time for those displaced by the shock to find new working relationships.

The belief that drove the bubble cannot be reconstituted, and therefore we say that the bubble has collapsed.<sup>2</sup> It is neither feasible nor desirable to reinflate such a damaging bubble. The authors explicitly (p. 13) “... make no presumption that it would be socially optimal to have a booming housing market” and state that “... we expect ... and probably want ... relatively low investment post-boom.”

A simple way to view what is at stake is to consider Figure 1, which simply plots two decompositions of real GDP.<sup>3</sup> On the left hand side is a linear trend

<sup>2</sup>See also Bullard (2012a, 2012b).

<sup>3</sup>For additional discussion, see Thoma (2012).

computed from 1947 to the present, and on the right hand side is a Hodrick-Prescott (HP) filter computed over the same time period.<sup>4</sup> In order to see the implications for recent GDP movements, only the past ten years are plotted here. On the left, the current level of GDP is far below trend. On the right, the current level of GDP is at or even above the trend line. Both trend lines are atheoretical, statistical constructs: At best, they can give us only a rough notion of where we think the macroeconomy should be if it was behaving normally. Still, the policy messages are very different from the two graphs. Pictures like the one on the left suggest that, three-and-a-half years after Lehman-AIG, we remain in crisis mode. Actual output is far from normal, and we must maintain emergency measures into the distant future. Pictures like the one on the right give a different message. They suggest that the business cycle adjustment dynamics are already complete. While the current level of output is unsatisfactory, it is because of the trend, not because of inadequate business cycle adjustment. Policy should be focused on improving the trend line, because attempts to push the economy “back to trend” through conventional business cycle stabilization policies will not be very effective.

Because the HP filter is atheoretical, it cannot really substitute for a careful theory that can tell us how to decompose trend from cycle.<sup>5</sup> But the filter does attempt to isolate business cycle frequency movements in key macroeconomic variables. If the adjustment is taking a long time, the filter ascribes more and more of the data movement to the trend component.

I interpret much of the analysis in the current paper as consistent with the second view. The authors describe a variety of evidence consistent with a collapsed real estate bubble. They provide estimates that suggest that the actual stock of housing may be much larger than the desired stock. They

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<sup>4</sup>The smoothing parameter for the HP filter was set to 1,600.

<sup>5</sup>New Keynesian theory as described by Woodford (2003) is an example of a theory that provides such a decomposition. In that theory, the gap that matters for monetary policy is the distance between actual output under sticky prices and the flexible price level of output. The flexible price level of output would fluctuate continuously in response to shocks hitting the economy.

describe an economy that is not returning to a simple trend line with the vigor that might have been expected given past experience. They give good explanations as to why this has happened. And they describe additional adjustment processes that are likely to take years to unfold. All of this sounds like medium- and long-term adjustment as described by the HP trend in Figure 1.

## **2 The state of the economy and the housing market**

One of the more striking figures presented in the paper is Chart 6, which describes real household debt. The chart (see Figure 2) shows that, unlike all other recovery periods, this one has been marked by a reduction in real household levels of indebtedness. This is commonly called deleveraging, and it makes sense since the bubble story describes a household sector that borrowed too much based on an optimistic assessment of future house prices. One of the fundamental tensions in current U.S. macroeconomic policy is the tendency to push against the need to reduce household debt levels. I believe that this is because we—collectively as economists and policymakers—are not used to recessions in which debt levels were too high. It has never happened before according to the chart. Consequently, we get seemingly paradoxical policy. Monetary policy has kept interest rates low to encourage borrowing—in the context of an economy with too much borrowing. Fiscal policy has loaded on debt—in effect borrowing on behalf of households who are already overindebted.

Chart 9 in the paper (Figure 3 here) shows the developments in multi-family versus single family housing starts. This will surely continue to be one of the key stories in housing during the coming years. My sense is that the housing debacle of the past five years may have scared off a generation of potential homeowners. The current cohorts of new home buyers likely see homeownership as a fundamentally riskier proposition than earlier cohorts and therefore may be far more likely to rent rather than own. It seems

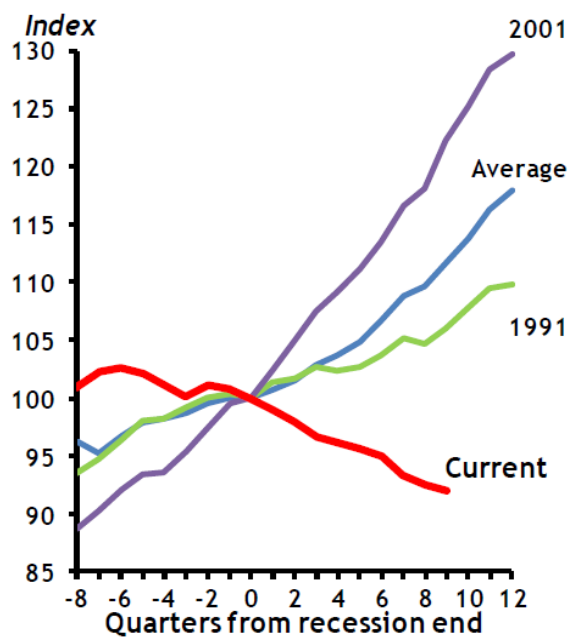


Figure 2: Real Household Debt.  
 Chart 6 in Feroli et al. (2012).

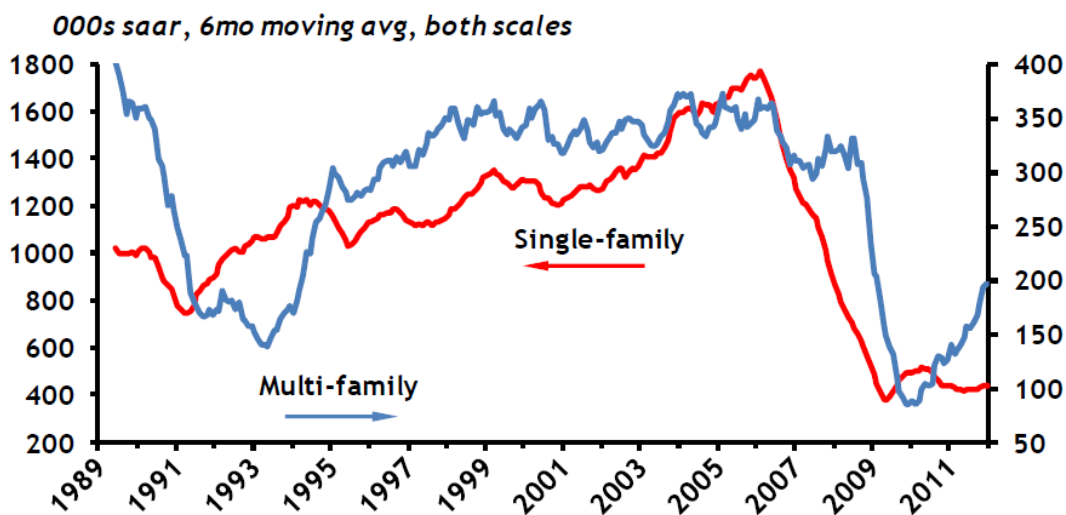


Figure 3: Housing starts, single-family and multifamily.  
 Chart 9 in Feroli et al. (2012).

possible to write down models that would predict such a shift in the wake of a crisis that revealed a far riskier price landscape than previously understood. Such a theory might suggest a more permanent shift to renting than described in this paper.

As for the ugly part of the housing situation, Figure 4 provides an additional perspective.<sup>6</sup> According to estimates by my staff, there are about 75.3 million homeowners in the U.S. as of the third quarter of 2011. About two-thirds of these, 49.4 million, had some mortgage debt outstanding on the house. These households collectively had \$712 billion of equity to support \$9,882 billion of mortgage debt as of the third quarter of 2011. Figure 4 shows the average loan-to-value (LTV) ratio from 1970 to the present. The LTV averaged 58.4 percent between 1970 and 2005, but shot up to 90 percent during the crisis and has remained there. This picture makes it particularly clear that homeowners were borrowing during the bubble phase not expecting house prices to fall appreciably. If we think of the 58.4 percent LTV as being the desired steady state, homeowners would have to pay down mort-

<sup>6</sup>These estimates are due to Bill Emmons at the St. Louis Fed.

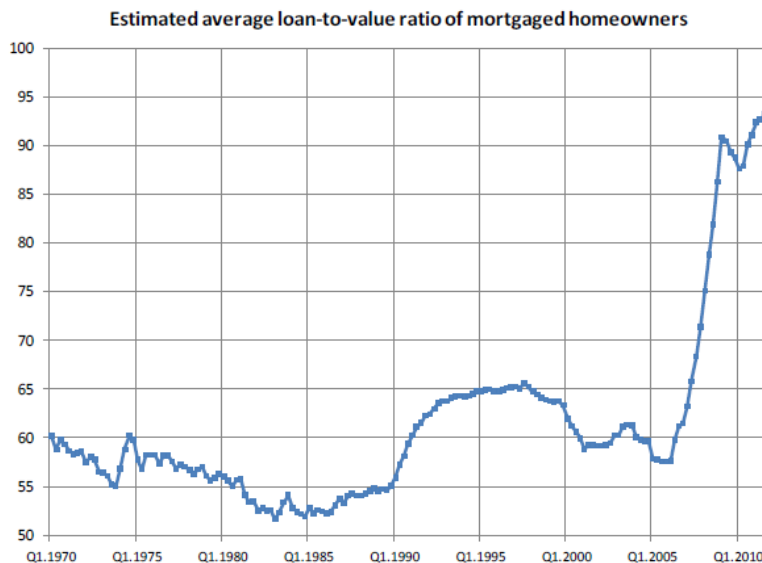


Figure 4: Estimated average loan-to-value ratio of mortgaged homeowners. Latest data point: Q3.2011.

gage debt collectively by \$3,695 billion, about one-quarter of one year’s GDP. As the authors suggest via other means, it will take a long time to get back to that type of steady-state situation. Figure 4 shows just how badly households have been knocked off of their historical norms. This picture suggests a persistent shift, not simply an ordinary business cycle dynamic around an unchanged trend line.

### 3 Housing and monetary transmission

The authors argue that monetary policy is less effective in the current situation than it might otherwise be. Their argument is based on the idea that borrowing constraints play an important role in the economy and that fluctuating housing valuations alter collateral constraints. Monetary policy can have effects on agents in the economy that are not constrained, but it will have more difficulty reaching—or may not be able to reach at all—those households that are sharply constrained. This is an interesting hypothesis



because of a subtle difference from earlier arguments concerning monetary policy impotence. Earlier arguments sometimes emphasized the idea that once the central bank encounters the zero lower bound, its ability to affect interest rates is lost. However, QE has generally been viewed as effective both in the U.S. and abroad during the past several years, and the authors post no quibble with the ability of the central bank to continue to drive real interest rates lower through unconventional policy actions. Indeed, according to the TIPS market, the real yield on 5-year securities is about minus 110 basis points, and the real yield on 10-year securities is about minus 25 basis points. These are exceptionally low yields over very long time horizons.<sup>7</sup>

The authors instead argue that, while the central bank can influence yields, those that can respond to the lower yields have done so already and those that cannot will not be influenced by further policy actions because they are backed up against sharply binding collateral constraints. I think this is an interesting and plausible hypothesis.

Wealth effects could influence the economy not only through collateral constraints but also through distributional effects. I want to mention one paper that has tried to quantify the consequences of severe declines in housing and other asset values of the magnitude observed during 2008-2009 across age cohorts in the economy.<sup>8</sup> The paper is by Andrew Glover, Jonathan Heathcote, Dirk Krueger, and Víctor Ríos-Rull, and is entitled “Intergenerational Redistribution and the Great Recession.” The basic idea is to use a calibrated stochastic general equilibrium overlapping generations model to quantify the effects. In the model, as in the data, asset-holders tend to be older and suffer greatly when the shock disrupts the economy. Younger households benefit from the lower prices of assets, including housing assets, but this effect is largely swamped by the effects on the older households. According to the paper, a recession of the magnitude observed during 2008-2009 is nearly welfare-neutral for the younger generations, but causes a large

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<sup>7</sup>For more on the effectiveness of quantitative easing, see the papers from the St. Louis Fed conference, “Quantitative Easing,” June 30, 2011, available at the St. Louis Fed web site: <http://research.stlouisfed.org/conferences/qe/>.

<sup>8</sup>See Glover et al. (2011).

welfare loss for older generations, equivalent to about 10% of consumption for households over 70. This paper suggests that distributional consequences are probably more important than commonly appreciated.

Feroli et al. (2012) present fascinating evidence from U.S. states to get at the idea that areas with more intense housing busts also face problems that inhibit a rebound in economic activity (e.g., see Figure 5). I found this evidence very interesting and informative. It seems clear that the states with the largest house price declines are also the states with the slowest recoveries. In the earlier stages of the housing debacle, regionalism in house prices was widely cited in a sort of virtuous way. Former Chairman Greenspan, for instance, at one point described certain housing markets as “frothy.” But now, with the data in hand, the authors are able to demonstrate with much more clarity the differing impact of the housing bubble collapse across locations.

## 4 Summary

The bottom line of the paper is in some ways unsurprising: The situation in U.S. housing markets represents a quantitatively significant headwind. Still, I think the paper provides one of the better statements that I have seen describing the nature of the likely problems and the magnitudes involved. The authors counsel that improvement is likely to be very slow and that, in any case, there is no presumption that a booming housing market would be desirable in the aftermath of the collapse of the bubble. The desired physical housing stock is lower than the actual stock, according to the estimates in the paper, and likely by a substantial margin. Taken literally, this means that households would like to reduce square footage and remove amenities in exchange for lower levels of debt. The only realistic way for that to happen is to allow the natural depreciation in the housing capital stock to catch up with household desires. Unfortunately, that is a long process.

Thank-you for listening and thanks for the opportunity to comment on this interesting paper.

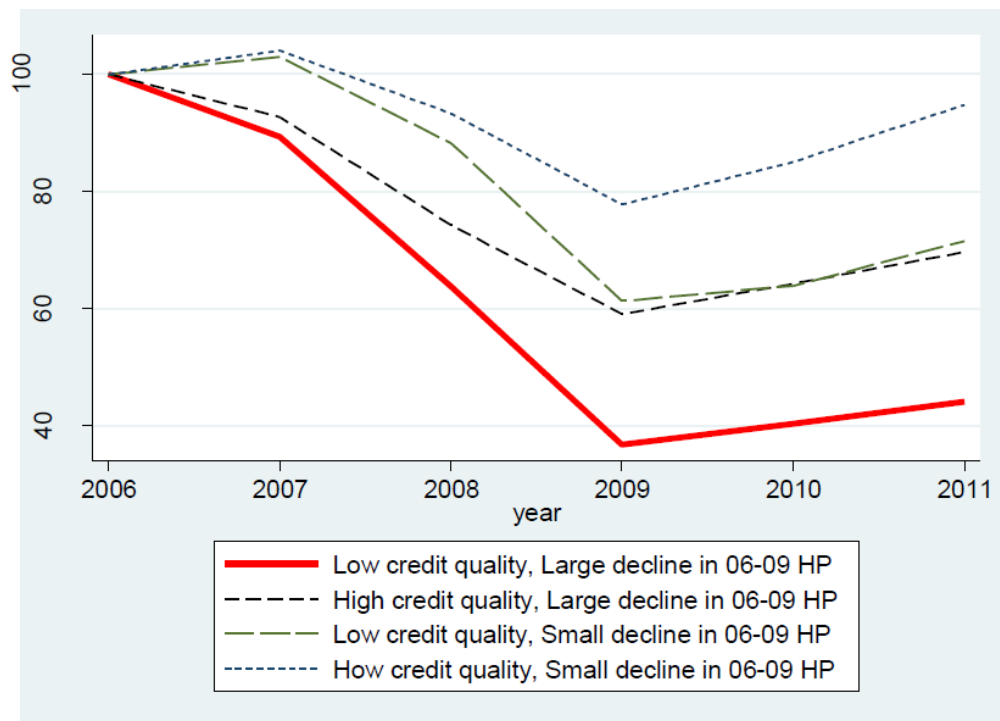


Figure 5: Auto sales for high and low credit quality within large and small house price decline states.

Chart 22 in Feroli et al. (2012).

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