

Monetary Policy and Real Estate Bubbles

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Introduction

By the end of summer 2008, and in the wake of the collapse of the U.S. housing bubble that got underway in 2006, the U.S. found itself in the midst of what became a global credit crisis. A wide range of extraordinary global measures were taken to avoid systemic failure of the world's major financial institutions. The substantial adverse impact of the fallout from the housing bubble raised anew the issue of whether monetary policy should be deployed to combat rising asset bubbles.

On October 15, 2008, Federal Reserve Chairman Ben Bernanke told the New York Economic Club that the Fed might reexamine the role monetary policy could play in fighting asset bubbles.¹ “Obviously, the last decade has shown that bursting bubbles can be an extraordinarily dangerous and costly phenomenon for the U.S. economy,” he told his audience.² “And” he pledged, “there’s no doubt as we emerge at the current crisis we’re all going to be looking very hard at that issue and what to do about it.”³

Should the Federal Reserve add fighting asset bubbles to its monetary policy objectives, that move would represent a significant departure from past policy. Traditionally, the Federal Reserve has avoided attempting to identify or target asset bubbles, even though the collapse of asset bubbles can have a substantial adverse impact on the economy.⁴ Former Federal Reserve Chairman Alan Greenspan was concerned that asset bubbles were “very difficult to definitively identify” and that a monetary policy response to such bubbles could precipitate “a substantial contraction in economic activity.”⁵ His successor, Ben Bernanke, shared the belief that identifying asset bubbles is “intrinsically difficult” and that ‘leaning against the bubble’ would not likely be “productive in practice.”⁶ As a result of such concerns, the Fed focused on seeking to “mitigate” the aftermath of the collapse of asset bubbles and “ease the transition” to a renewed economic expansion afterward.⁷

Moral suasion would offer an alternative to using monetary policy to combat rising asset bubbles. However, historic experience of the effectiveness of moral suasion in fighting asset bubbles has been dismal. In most cases, crises followed warnings that had been intended to preempt those crises.⁸

On February 7, 1929, the Federal Reserve called for banks to limit indirect use of credit available to them from the Federal Reserve to make loans for the purchase of stocks. The effort failed.⁹ Later, President Herbert Hoover encouraged leading newspapers to publish “strong” editorials warning against ongoing stock market speculation, Treasury Secretary Andrew Mellon issued repeated statements concerning stock market speculation, and President Hoover had Henry Robinson, President of the First Security National Bank of Los Angeles issue a statement in the President’s name encouraging banks to exercise restraint in stock market-related lending. Those efforts also failed.¹⁰ Stock prices marched ever higher. The Dow Jones Industrials peaked at 381.17 on September 3, 1929, 27.1% above its closing figure at the end of 1928.¹¹

More recently, on the evening of December 5, 1996, in the midst of an ongoing bull market that saw stock prices nearly double in just four years, Federal Reserve Chairman Alan Greenspan raised the issue of asset bubbles in an address before the American Enterprise Institute. “But how do we know when irrational exuberance has unduly escalated asset values, which then become subject to unexpected and prolonged contractions as they have in Japan over the past decade?” Greenspan asked.¹² He added that “we should not underestimate or become complacent about the complexity of the interactions of asset markets and the economy.”¹³ Stock prices continued to rise. Although the Dow Jones Industrials fell 0.9% on the first trading day following

Greenspan's remarks, it was 2.0% higher a month later and 7.9% higher 3 months later.¹⁴

The rally continued to gain steam. A year later, the Dow Jones Industrials stood 26.6% above its close on the evening of Greenspan's address.¹⁵

Can the Fed Adopt a New Approach to Asset Bubbles?

If the Federal Reserve is to make a decisive shift to its longstanding approach to asset bubbles, it would need to address three major issues:

- Should all asset bubbles be treated alike?
- Can emergent asset bubbles be identified on a sufficiently timely basis so as to be addressed proactively?
- What new or existing tools or approaches would be required to address such asset bubbles while mitigating possible damage to the broader economy?

Should All Asset Bubbles Be Treated Alike? All asset bubbles are not alike. In general, the adverse impact of housing bubbles is more severe and longer-lasting than that of equity or stock market bubbles. The body of literature on post-World War II financial crises highlights a “significant run-up in housing prices” prior to the onset of those crises.¹⁶ Research published by the International Monetary Fund found that housing busts lasted approximately twice as long as stock market busts and resulted in output losses that were twice as large.¹⁷ In addition, the worst-case impact of housing busts on economic output “exceeded those of equity price busts by a substantial margin.”¹⁸ Housing market crashes also have an adverse impact on private consumption, residential investment, credit growth, and asset prices.¹⁹ During housing busts, private consumption falls much more sharply than during equity busts.²⁰ Given the larger amount of leverage involved in the housing market, a general decline in home prices has a larger and faster adverse impact on the nation’s financial system and on the willingness of financial institutions to provide credit.²¹

In recent years, the impact of the housing sector on the real economy has deepened. Increased use of homes as collateral for securing credit and larger, more

flexible mortgage markets, have led to home prices having a larger effect on consumer spending and economic output than in the past.²² Consequently, a decoupling of home prices from economic fundamentals presents the risk of a larger shock when real estate bubbles responsible for that decoupling collapse. Therefore, it would make sense for monetary policy to give priority to addressing housing bubbles.

Can Real Estate Bubbles Be Identified on a Timely Basis? If the Federal Reserve is to develop a successful monetary policy approach to combating formative real estate bubbles, it will need to identify such bubbles with a reasonable degree of confidence. To be most effective, it would have to develop an objective approach that would function in a fashion similar to the Taylor Rule. The Taylor Rule involves setting the federal funds rate in response to the extent inflation deviates from the desired level and economic output deviates from its natural rate.²³ Empirical research has found that Taylor-type rules, under which real interest rates are hiked in response to rising inflation, can be effective in helping meet monetary policy objectives.²⁴

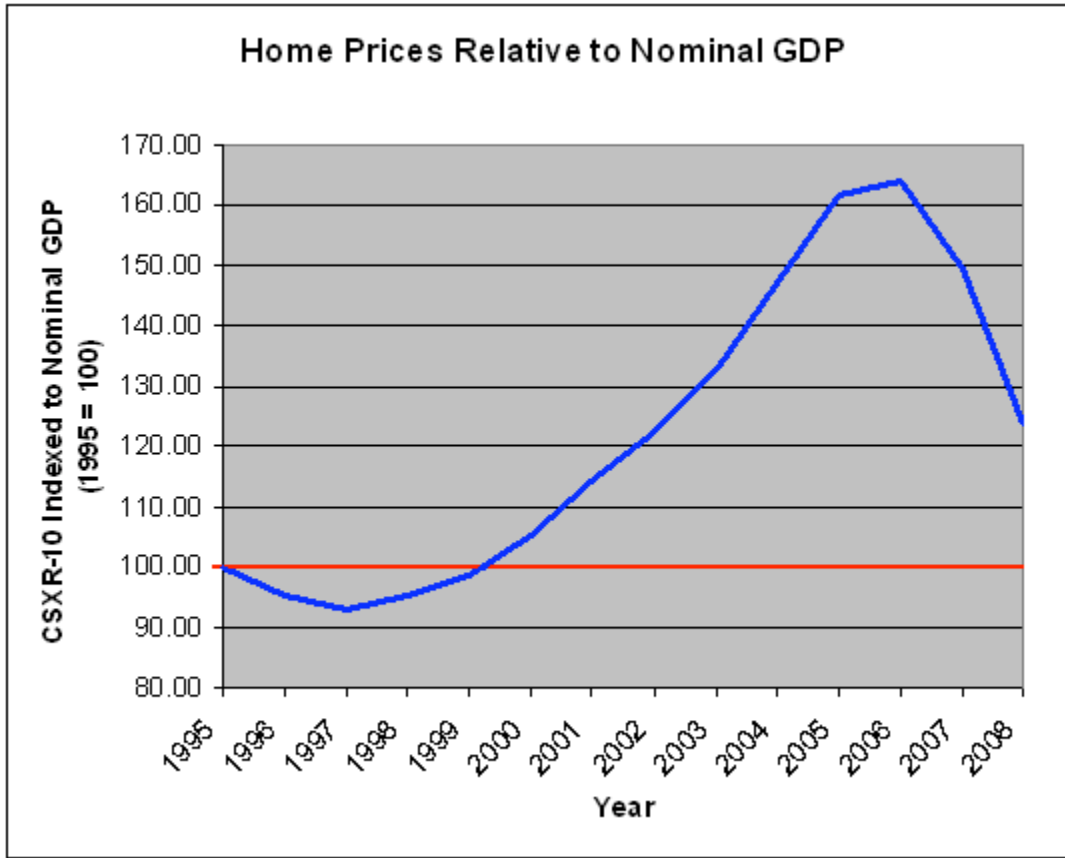
In establishing objective criteria for preempting the development of housing bubbles, the Federal Reserve could rely on a range of measures. Three such measures are: (1) Home price trends relative to nominal GDP growth; (2) Mortgage debt as a percentage of nominal GDP; and, (3) Residential construction expenditures as a share of nominal GDP.

First, considering that home buyers must ultimately save a share of their income to purchase their home and then pay off their mortgage, longer-term home price appreciation should not exceed long-run economic growth on which personal income

growth depends. In fact, from 1890 through 2004, after-inflation home prices rose an average of just 0.4% per year in the U.S.²⁵ During much of that timeframe, real home prices were actually flat or falling slightly, perhaps on account of its becoming relatively less expensive to build new homes.²⁶ That all changed as the recent housing bubble blossomed to enormous proportions, and more recent change has been much more rapid. Between 1997 and the 2006 peak, real (after-inflation) home prices soared 85%.²⁷ The extraordinary increase in home prices following the 1989-94 housing bust became quite apparent when such prices were indexed to nominal GDP growth. Using 1995 as the base year and the S&P/Case-Shiller composite home price index for 10 cities²⁸ to measure home prices, the indexed figure for home prices first exceeded cumulative nominal economic growth in 2000. Afterward, home prices rose rapidly relative to nominal GDP.

Home Prices (CSXR-10) Indexed to Nominal GDP²⁹:

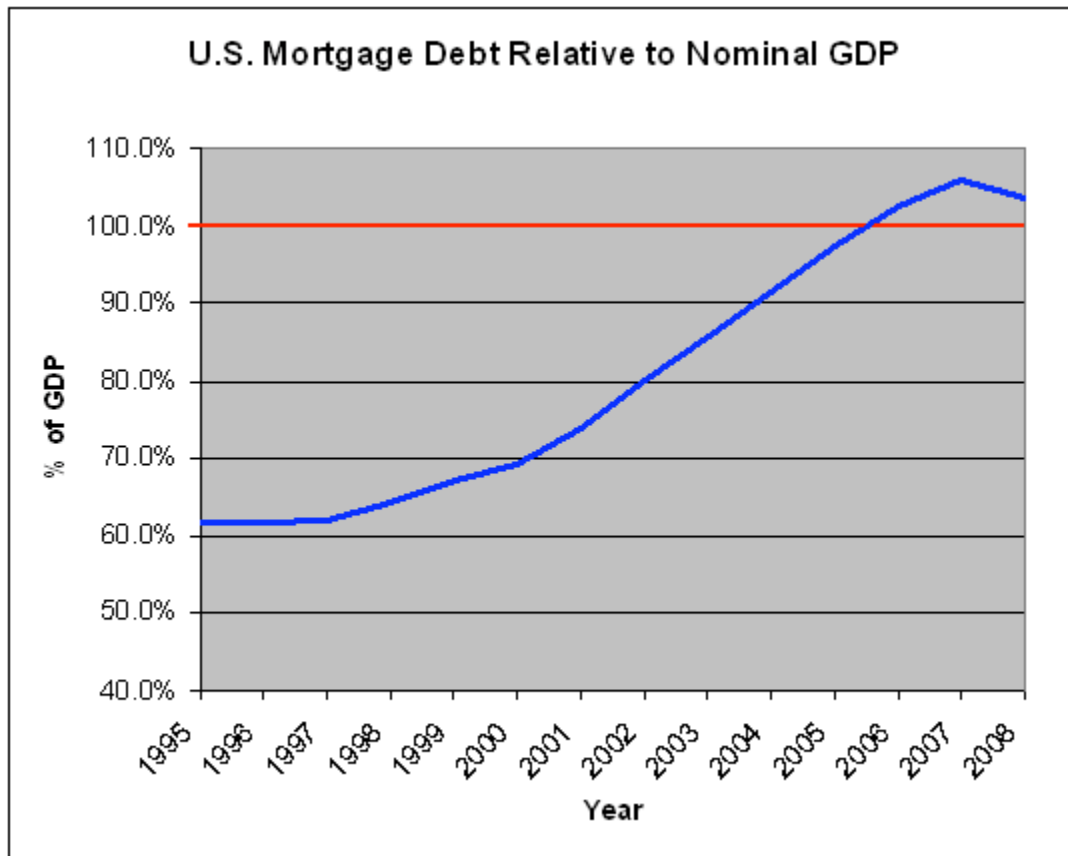
Year	CSXR-10 Indexed for Nominal GDP
1995	100.00
1996	95.48
1997	92.94
1998	95.62
1999	98.75
2000	105.24
2001	114.01
2002	122.48
2003	132.76
2004	147.27
2005	161.98
2006	163.93
2007	149.53
2008 (through August)	123.98



Second, highlighting the role credit booms often play in facilitating the growth of asset bubbles³⁰, U.S. mortgage debt rose rapidly in relation to nominal GDP. During the nation’s rapid leveraging, mortgage debt soared beyond its previous high-water mark of 65.9% of GDP in 1991 and then soared to more than 100% of GDP by 2006.³¹ Afterward, even as housing prices fell, mortgage debt peaked in 2007 at 105.8% of nominal GDP and then held above 100% of nominal GDP through the second quarter of 2008.³²

Mortgage Debt as a Percentage of Nominal GDP³³:

Year	Year-end Mortgage Debt as a Percentage of Nominal GDP
1995	61.5%
1996	61.6%
1997	61.8%
1998	64.2%
1999	67.2%
2000	69.2%
2001	74.0%
2002	80.2%
2003	85.8%
2004	91.3%
2005	97.5%
2006	102.6%
2007	105.8%
2008 (through 2008 Q3)	103.6%



All said, when both home prices and mortgage debt were indexed to nominal GDP, the rise in mortgage debt led the way in fueling the rise in home prices. Only toward the peak of the housing bubble did the run-up in home prices exceed the rise in mortgage debt. Afterward, once home prices began to fall, the overhang of heavy mortgage debt persisted, creating a need for gradual national deleveraging.³⁴



Third, during the housing boom, homebuilding activity increased markedly. Yale University professor of economics Robert Shiller explained, “High home prices made it profitable to build homes, and the share of residential investment in U.S. gross domestic product (GDP) rose to 6.3% in the fourth quarter of 2005, the highest level since the pre-Korean War housing boom of 1950-51.”³⁵ At some point, once home price appreciation began slowing, the increasing quantity of new homes supplied to the market would

combine with the slowing turnover of existing homes to set the stage for a decline in home prices.

When all three data were taken together, the data presented a classic signature of a rising asset bubble. Home prices and homebuilding activity were rising at a rate not justified by economic fundamentals. At the same time, as has often been the case during the development of asset bubbles, this divergence of housing activity from economic fundamentals coincided with a massive credit boom.

What Tools Could the Federal Reserve Deploy to Address Rising Asset Bubbles? The Federal Reserve could use at least two approaches to target housing bubbles. First, it could engage in transactions in the housing futures market. Second, it could seek and obtain enactment of a law under which it would attach an interest rate surcharge to all new mortgages. Both approaches would allow the Fed to take a targeted approach to housing bubbles without exacerbating risks to the overall economy through its traditional monetary policy mechanism of hiking interest rates.

Open Market Operations:

At present, the Chicago Mercantile Exchange (CME) tracks real estate futures and options on futures contracts. When it comes to home prices, the CME provides futures contracts using the S&P/Case-Shiller home price indices for Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York, San Diego, San Francisco, and Washington, DC.³⁶ Market participants include property and real estate developers, financial institutions, home suppliers, and hedge funds.³⁷ Although these contracts are settled in

cash, they allow market participants to signal expectations concerning home prices, and even simulate the short-selling of real estate.³⁸

In order to influence expectations concerning real estate price trends, the Federal Reserve could engage in open market activity to buy or sell futures contracts on the CME.³⁹ During times when home prices are rising faster than justified by economic fundamentals, the Fed could sell such futures contracts to push down expected home prices. As there is a close two-way relationship between housing price inflation and housing construction⁴⁰, falling futures prices could help alleviate some of the excesses associated with rapidly rising home prices such as construction booms.⁴¹

In fact, since they were first introduced in May 2006, the futures contracts were suggesting a large decline in U.S. home prices.⁴² Nonetheless, before the Fed could expand its open market operations to real estate futures, the CME's real estate futures market would need to become more liquid than it presently is.⁴³

Mortgage Interest Surcharge:

A law could be enacted that would authorize the Federal Reserve to attach an interest rate surcharge ("Federal Reserve Mortgage Premium" or FRMP) to every mortgage. The Fed would maintain an FRMP much as it establishes the target Federal Funds rate. The FRMP would be added to the interest rate borne by the mortgage at the date of origination, and the revenue stream from the FRMP would accrue to the Federal Reserve. Hence, if a home buyer obtained a 30-year 6% fixed-rate mortgage and the Federal Reserve had been maintaining an FRMP of 0.50% on the date the mortgage was originated, the total interest rate on the mortgage would come to 6.50%.

The Federal Reserve would then be in a position to specifically target mortgage rates when the housing market is becoming overheated without risking the collateral damage to the broader economy that might occur if the Federal Reserve raised the Federal Funds rate. As the FRMP would only be attached to mortgages on the date of origination, the increased FRMP would not affect mortgages originated prior to the Fed's increasing the FRMP. For example, if a mortgage were originated on June 1 with an FRMP of 0.50% and the Fed increased the FRMP to 0.75% on September 1, the mortgage originated on June 1 would retain its 0.50% FRMP. Only the mortgages originated on September 1 or later would bear the new 0.75% FRMP. As a result, existing mortgage holders would not be affected by the Fed's having increased the FRMP. Only new home purchasers would pay the higher rate.

In short, the FRMP would give the Federal Reserve a new tool by which it could directly address housing market conditions, so as to ensure that prices do not rise faster than what is justified by objective criteria such as those mentioned. With such a tool, the Federal Reserve could intervene proactively to reduce the risk of a rising housing market bubble. At the same time, it could reduce the FRMP to soften downturns in the housing market.

Summary of Major Monetary Policy Tools for Addressing Housing Bubbles:

Tool	Description
Federal Funds Rate	<ul style="list-style-type: none"> • Interest rate changes impact the cost of credit; hikes could slow housing activity. • The Federal Funds rate has broad macroeconomic effects; it would be an overly blunt approach for addressing housing market excesses.
CME Real Estate Futures	<ul style="list-style-type: none"> • The Fed could engage in open market operations to influence real estate price expectations. • These futures markets would allow the Fed to target commercial or residential real estate prices in major real estate markets. • The CME real estate futures markets are not highly liquid; improved liquidity would be needed to increase the effectiveness of open market operations in those markets.
Mortgage Interest Surcharge	<ul style="list-style-type: none"> • The Federal Reserve Mortgage Premium (FRMP) would allow the Federal Reserve to target mortgage interest rates. • Asset bubbles often occur in the midst of credit booms; targeting mortgage rates would allow the Fed to reduce the risk of an excessive supply of credit for the real estate industry. • The FRMP's spillover effects into the broader economy would be modest and indirect. • Changes in the FRMP would not affect mortgages that were originated prior to those changes. • A new law would need to be enacted to authorize the Federal Reserve to deploy such a tool.

Conclusion

The collapse of real estate bubbles typically has a more severe and longer-lasting economic impact than the collapse of other speculative booms. A combination of relationships between home price appreciation relative to nominal GDP, outstanding mortgage debt as a share of GDP, and residential investment as a share of GDP (among other things) can identify the divergence of real estate prices from economic fundamentals.

Currently, the Federal Reserve's monetary policy toolkit offers no practical approaches that can be used to target the housing market. However, the ongoing evolution of a Chicago Mercantile Exchange real estate futures market could provide an opportunity for the Fed to utilize open market operations to influence real estate price expectations. In addition, the Federal Reserve could develop an interest rate tool that targets mortgage rates and avoids the broader macroeconomic consequences associated with adjusting the Federal Funds rate.

Endnotes

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