The Economics of Housing Bubbles

By Mark Thornton[1]

In *America's Housing Crisis:*
A Case of Government Failure

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The Economics of Housing Bubbles

Nothing better illustrates government failure and the housing crisis than the housing bubble. Government policies make homes increasingly expensive and beyond the economic reach of first-time home buyers. Then as interest rates rise and housing prices fall, many home buyers find themselves with bad investments that they can no longer afford. What started as a government effort to improve the prospects for home ownership through a policy of "easy money" ends up having unintended consequences that will leave many Americans economically scarred for the rest of their lives.[2]

When an economic bubble pops many people suffer economic harm. In the case of a housing bubble, this includes home owners, particularly new home owners who buy homes during the peak phase of the housing bubble. However, the harm also spreads to labor because of unemployment, and creates a loss of value to owners of capital, particularly in housing-related industries. At the individual level many people are forced into bankruptcy. On the macroeconomic level the bursting of the housing bubble can send the overall economy into recession or depression. Housing bubbles concentrate their impact in the home building, materials and furnishings, real estate sales, and mortgage businesses.

On top of all that, people suffer psychological consequences as well. Before the bubble bursts, the people most involved in the bubble are confident, jubilant, and self-assured by their apparently successful decision making. When the bubble bursts they lose

[2] An easy money policy involves the central bank—the Fed—setting low interest rates and expanding the money supply so that it is easier to get credit (i.e. loans) and it also involves government-sponsored credit organizations like Fannie Mae and Freddie Mac who make getting home mortgages easier.

confidence, go into despair and lose confidence in their decision making. In fact, they lose confidence in the "system," which means they lose confidence in capitalism and become susceptible to new political "reforms" that offer structure and security in exchange for some of their autonomy and freedoms.

In this manner, great nations of people have given away their liberties in exchange for security. The Russians submitted to Communism and the Germans submitted to National Socialism because of economic chaos. In 20th century America, economic crises—and fear more generally—provided the justification for the adoption of "reforms" such as a central bank (i.e. the Federal Reserve, or "Fed"), the New Deal, the Cold War, and even fiat money during the economic crisis of the early 1970s.[3] Fear of terrorism after 9/11 resulted in a massive transfer of power to government at the expense of individual liberty.[4] Submission of liberty and individual autonomy in exchange for security and the "greater good" is now often referred to as choosing the dark side.[5]

The reason economic crises create fear and submission of liberty is that people do not generally understand what caused the bust or economic crisis and generally do not even know that there was a bubble in the first place. In fact, as the bubble is bursting many people will deny that there is a problem and believe that the whole situation will quickly return to what they consider normal. The average citizen thinks very little about what makes the economy work, but simply accepts the system for what it is, and tries to make the most of it.

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[3] Higgs (1987) shows how crisis (such as war or depression) lead to large increases in the size of government that were only partially offset by cutbacks after the crisis was over. On the final page of the book Higgs correctly predicted that future crises would include terrorism in addition to war and depression.
[4] Higgs (2005, p. 4) correctly predicted (in the days immediately after 9/11) that among other things that government would greatly expand its power "particularly surveillance of ordinary citizens."
[5] A crisis is a crossroad or turning point where the decision maker can make the correct or incorrect choice with the wrong, fear driven choice being the "dark side." See Thornton (2005b).

The purpose of this chapter is to show how the "system" works, why it generates bubbles, why they eventually burst, and the macroeconomic effects of bubbles. Here we apply the economic understanding of bubbles derived from the Austrian business cycle theory (ABC theory)[6] to the current case of the housing bubble and show that this aspect of the housing crisis is the result of government failure—the inevitable failure of a government bureaucracy (i.e. the Fed) to manage the money supply and interest rates in an economically rational manner.[7] However, the same reasoning can be applied to historical bubbles, from the Tulip mania in 17th century Holland (see French 2006) to the dot.com tech bubble of the late 1990s (see Callahan and Garrison 2003), and to future bubbles.

What Causes Housing Bubbles?

There are three basic views of bubbles that are held by economists and the general public. The dominant view among the general public and modern mainstream economists, including the Chicago school and proponents of Supply-Side economics, is to deny the existence of bubbles and to declare that what is thought to be "bubbles" is really the result of "real" factors. The second view, which is espoused by Keynesians and by proponents of Behavioral Finance, is that bubbles exist because of psychological factors

[6] The Austrian school of economics is based on the writings of Carl Menger. It was members of the German historical school who coined the term to derisively describe Menger and his students. Ludwig von Mises and F. A. Hayek developed the Austrian business cycle theory, which rests on the foundation laid by Richard Cantillon in his 1730 book (See Thornton forthcoming). Interestingly, former Fed chairman Alan Greenspan attended Ludwig von Mises's New York seminar and is thought to have been influenced by it, although as Fed chairman he has distanced himself from the Misesian approach.

[7] An important justification for stressing the ABC theory is the success of its practitioners in correctly predicting previous bubbles. See for example Thornton (2004d).

such as those captured by the phrase "irrational exuberance." The third view is that of the Austrian school, which sees bubbles as consisting of real and psychological changes caused by manipulations of monetary policy. This view has the advantages of being forward looking and identifying an economic cause of bubbles. By identifying an economic cause it also directs us to policy choices that would prevent future bubbles.

Most people agree with the majority of economists, that there is no such thing as a housing bubble—housing prices, they say, "never go down." Supply Siders and Chicago school economists seem to view the declaration of a bubble as an affront to *homo economicus*—rationally economic man—because they view it as an assertion of some psychological flaw in people that requires government intervention.[8] They note that if there were a rational cause or causes of housing bubbles, or any type of bubble for that matter, then even if only some people believed it was a bubble, they could profit by selling homes at inflated prices and deflate the bubble long before it ever became over-inflated and burst. Furthermore, if housing bubbles had irrational foundations, then certainly a rational economic man could profit enormously by shedding light on the erroneous psychological motivations that were causing the bubble.[9]

Although there is much diversity in this camp, it is well illustrated by two economists from the Federal Reserve Bank of New York who recently examined concerns about the existence of a speculative bubble in the U.S. housing market. While McCarty and Peach (2004, 2) did find that a housing bubble could have a severe impact

[8] *Homo Economicus* is the model of the rational economic person that economists use to build their models and theories about the economy. This assumption asserts that people are rational and will always attempt to maximize their utility. This is a source of contention and misunderstanding among economists and between economists and other social scientists.

[9] In the latest restatement of the ABC theory Hülsmann

on the economy—if it existed and were to burst—they ultimately concluded that such fears were unfounded:

> Our main conclusion is that the most widely cited evidence of a bubble is not persuasive because it fails to account for developments in the housing market over the past decade. In particular, significant declines in nominal mortgage interest rates and demographic forces have supported housing demand, home construction, and home values during this period. (2004, 2)

Furthermore they find "no basis for concern" for any severe drop in housing prices. In the past when the U.S. goes into recession or has experienced periods of high nominal interest rates, they found that any price declines have been "moderate" and that significant declines can only happen regionally so that they would not have "devastating effects on the national economy."

This is essentially the view of Alan Greenspan (former chairman of the Federal Reserve Bank, or Fed for short) and Ben Bernanke (current Chairman of the Fed). In particular, Greenspan was aware of the possibility of a housing bubble, but he offered many reasons to suggest that it did not exist, and that if one did exist it would not be a major problem. The Chairman is usually difficult to interpret and at times so incomprehensible as to be almost misleading that his testimony before Congress has been labeled "Greenspam" (Thornton 2004b). However, on the topic of the housing bubble he is clear and direct and worth quoting at length.

> The ongoing strength in the housing market has raised concerns about the possible emergence of a bubble in home prices. However, the analogy often made to the building and bursting of a stock price bubble is imperfect. First, unlike in the stock market, sales in the real estate market incur substantial transactions costs and, when most homes are sold, the seller must physically move out. Doing so often entails significant financial and emotional costs and is an obvious impediment to stimulating a bubble through speculative trading in homes. Thus, while stock market turnover is more than 100 percent annually, the turnover of home

> ownership is less than 10 percent annually—scarcely tinder for speculative conflagration. Second, arbitrage opportunities are much more limited in housing markets than in securities markets. A home in Portland, Oregon is not a close substitute for a home in Portland, Maine, and the "national" housing market is better understood as a collection of small, local housing markets. Even if a bubble were to develop in a local market, it would not necessarily have implications for the nation as a whole. (2002)

As the bubble was reaching its peak Greenspan (2005b) did admit that there was some "apparent froth" in some local housing markets, but overall he found that conditions in the housing market were "encouraging." In his first speech after leaving office Greenspan said that the "extraordinary boom" in the housing market was over, but that there was no danger and that home prices would not decrease (Bruno 2006). The new Fed chairman, Ben Bernanke (2006b), has admitted to the possibility of "slower growth in house prices," but confidently declared that if this did happen he would just lower interest rates. Bernanke (2006a) also believes that the mortgage market is more stable than in the past. Bernanke noted in particular that:

> Our examiners tell us that lending standards are generally sound and are not comparable to the standards that contributed to broad problems in the banking industry two decades ago. In particular, real estate appraisal practices have improved. (2006a)

A second view of housing bubbles and bubbles in general is that they exist, but that they are fundamentally caused by psychological factors. Many people and many important economists subscribe to this view of bubbles, including Keynesian economists and proponents of Behavioral Finance, such as Robert Shiller. From this perspective the business cycle is seen as the ebb and flow of mass consciousness and emotions. Real factors may play a role, but the important causal factors for deviations in the business cycle are psychological. Booms develop because people become confident and then

overconfident in the economy. Investors likewise are confident and increase their tolerance for taking risk. Rising profits and asset prices lead to "speculative" behavior where economic decisions are no longer based on old rules and procedures, but on the bravery instilled by a "new era."[10] As the investment mania sets in the bubble expands. Then, for whatever reason, people begin to lose faith and new investments are exposed as disappointing. Economic reports and statistics turn sour, and stories of scandal begin to appear in the press.[11] Many investors remain determined that this turn of events is only temporary, but results grow worse, prices continue to fall, and investment projects are postponed, halted or cancelled. The mood of the market is one of gloom or even doom. The economy enters a *depression*.

Representing the Behavioral Finance camp is Professor Robert Shiller of Yale University, who is the author of *Irrational Exuberance*, the first edition of which correctly predicted the stock market bubble; the second edition predicts the housing bubble, whose "ultimate causes are mostly psychological." Like the Keynesians to follow, Shiller (2004) does not deny the existence of real factors; he simply downplays them in order to emphasize psychological factors. With the case of the housing bubble he finds three important factors. First, the increased risk and chaos in the world since the technology bubble and the terrorist attacks of 9/11 have caused a flight of investment into

[10] All of our actions involve some speculation about the future. Here "speculative" behavior refers to actions that involve great risks which are unwarranted based on the normal or known fundamentals of the economy. For example, betting on a round of golf with your friend involves some speculation and uncertainty, but past experience provides some guidance to the risks you are taking. Here, betting on a round of golf with Tiger Woods would be "speculative."

[11] It is a common misconception that corporate scandal is the source of bubbles and that it was companies like Enron and WorldCom that tricked investors during the late 1990s to bid up the stock markets to such high levels. It is true that scandal is a common feature of bubbles, but scandal could never account for more than a small percentage of bubbles and in reality scandal is caused by the same source as the bubble itself—the existence of cheap and abundant credit which must be allocated to increasingly risky and suspect investments.

quality and safety—your own home. Second, the explosive growth in global communications has increased the glamour appeal of living in one of the world's leading cities such as Paris, London, New York, and San Francisco. The third psychological factor is "the speculative contagion that underlies any bubble." Here one higher price begets another and higher prices in one city lead to higher prices in another city, and the process of higher prices simply builds on itself. Shiller declared that the first two factors will remain in effect, but the third factor cannot last forever. Once prices begin to drop the contagion works in the downward direction and can last for years before the process is reversed again.

Representing the Keynesian camp is Paul Krugman, who is an economics professor at Princeton University and a writer for the *New York Times*. Krugman did not predict a housing bubble but he did finally realize that we were in one and that it presented a big problem for the U.S. economy. Commenting on the hectic pace of housing construction and the "absurd" housing prices Krugman (2005a) drew parallels to previous investment manias:

> In parts of the country there's a *speculative fever* among people who shouldn't be speculators that seem all too familiar from past bubbles—the shoeshine boys with stock tips in the 1920's, the beer-and-pizza joints showing CNBC, not ESPN, on the TV sets in the 1990s. (2005a)

It is also correct to connect the phenomenon of day traders of technology stocks in the late 1990s to the house flippers of the recent housing bubble. The real question is: what causes this irrational behavior? Krugman (2005b) suggested that, with the housing bubble, the bubble builds on expectations of capital gains.

> So when people become willing to spend more on houses, say because of a fall in mortgage rates, some houses get built, but the prices of existing

> houses also go up. And if people think prices will continue to rise, they become willing to spend even more, driving prices still higher, and so on…prices will keep rising rapidly, generating big capital gains. That's pretty much the definition of a bubble. (2005b)

Notice that Krugman places his emphasis on a supposedly unfounded change in taste or demand—"when people become willing to spend more on houses," but that the actual cause of the change in the demand for housing—"say because of a fall in mortgage rates"—is downplayed, as if anything might have ignited the bubble. The more Krugman tries to provide an *economic* rationale for the bubble the more he sounds like the Austrian economists who dominate the third and final view of the housing bubble.[12] In fact, Krugman (2005a) cites fellow Keynesian Paul McCulley, who did correctly predict the housing bubble and did so in the manner typical of Austrian economists, where interest rate cuts lead to higher home prices, a construction boom, and higher consumer spending all based on increased debt—and he explicitly placed the blame for the bubble on the Fed. The problem for Keynesians like Krugman and McCulley is that their cures—discretionary monetary and fiscal policy—usually make matters worse (See Gallaway and Vedder 2000). Even if they could be made to work perfectly it would create a conundrum for Keynesian economists because a highly stabilized economy desensitizes investors to risk and makes them "irrationally exuberant" and thus creates the prerequisite for bubbles. Even Alan Greenspan (2005a) has warned, in his own convoluted way, that "history has not dealt kindly with the aftermath of protracted periods of low risk premiums."

[12] Another possible example of this is Baker and Rosnick (2005) who demonstrate the case for a housing bubble and do so in a manner similar to Austrian economists. Even though they date the beginning of the bubble to 1997 they ignore the real factor that tax law changes in that year were a catalyst to housing and higher housing prices.

As you can see, the first view wishes to dismiss psychological reasons for bubbles to focus only on real factors while the second view wishes to downplay real factors in order to emphasize psychological causes. The third view believes that there are changes in both real factors and market psychology during bubbles and that both are driven by the cause of the business cycle—policy manipulations by the Federal Reserve. This view of bubbles is based on the Austrian business cycle theory (hereafter ABC theory). This is a minority view held by Austrian school economists and some "fellow travelers" of the school.[13]

According to the ABC theory, if the Fed does not pursue a loose monetary policy then bubbles like the technology stock bubble of the late 1990s or the one in housing that we are now experiencing would not develop. If the Fed does follow a loose monetary policy, then a bubble can develop somewhere in the economy, whether it be in tulip bulbs, stocks, or real estate. If the new money is directed toward housing, a bubble will develop in housing. Austrian economists further emphasize that the additional resources allocated to housing are resources that are not available elsewhere in an economy, so that while more resources than normal are allocated to housing construction, fewer resources are available to other areas of the economy such as manufacturing, which will experience higher costs for its inputs such as labor and materials and will produce a proportionately smaller output. It is this mismatching of resources across industries and sectors that has to be resolved—painfully—in the inevitable bust or correction.

In a real estate bubble the price of existing homes rises. The bubble also fuels the construction of new homes so that the wages of construction workers rises and labor

[13] A fellow traveler is someone who sympathizes with or supports various tenets of the Austrian school without being an acknowledged member or embracing all aspects of Austrian economics.

reallocates itself into construction and related industries. The bubble also increases the price of construction materials and land. Construction and construction-related industries is also where the most unemployment occurs and where the biggest price and wage declines occur in the inevitable bust.

A unique feature of the Austrian approach is that it does not see a need for prices to increase uniformly across markets, or for prices to increase to extreme levels in all markets. Many doubters of the housing bubble point to the smaller price increases in the center of the country compared to coastal regions, but price is only one dimension of bubbles—quantity can also increase beyond sustainable levels. In fact, one could conceptualize a bubble where prices stayed the same and all the bubble adjustment occurred only in the quantity dimension. If we doubled the number of houses and prices barely budged, we would be left with too many houses for the population and all the labor and materials that went into the production of those goods (i.e., houses) would be tied up and unavailable to serve more urgent needs after the bursting of the bubble revealed that the superfluous houses were bad investments.

Among the Austrians who identified the housing bubble is economist Frank Shostak (2003) who defined a bubble as any activity that "springs up" from loose monetary policies. "In other words, in the absence of monetary pumping these activities would not emerge." As a result of this pumping, a misallocation of resources develops whereby non-productive activities increase relative to productive activities—something that seems to clearly characterize the U.S. economy since he wrote in early 2003:

> The magnitude of the housing price bubble is depicted…in terms of the median price of new houses in relation to the historical trend between 1963 and 1979. In this regard the median price stood at 73% above the trend in December 2002. (2003)

The only “problem” with his warning is that it came too soon. A year later Shostak (2004) warned that there “is a strong likelihood that the U.S. housing market bubble has already reached dangerous dimensions.” While early warning maybe a problem for investors in home building stocks, the problems of predicting the timing and magnitude of bubbles and business cycles affects all forecasters, and Shostak’s warning was primarily for the purpose of judging public policy. In effect he was noting that policymakers have made a mistake that they should correct immediately and not make the situation in the housing market any worse.

Also from the Austrian camp is banker Christopher Meyer (2003), who noted that there is always a bubble in the making in a world of fractional reserve banking and fiat currency, and that housing has often been impacted by bubble conditions in the U.S. and elsewhere. In the summer of 2003 he identified the current housing bubble:

> The strong housing market has all the makings of being the next bubble—in particular high leverage and unsustainable price increases. While the larger economy seems to sputter along, the housing market continues to run a hot race. Low interest rates have propelled refinancing, freeing up $100 billion last year alone, according to the Wall Street Journal. Not surprisingly, the low interest rates have increased buying power and supported housing prices. (2003)

In early 2004 I pointed out to the on-going housing bubble to investors and specifically said that it might not be a good idea to increase your mortgage: “it might not be a good time for you to obtain a home equity loan to invest in hot tech stocks. We are going through a housing bubble” (2004b). I followed this up later that year (Thornton 2004c) with a more detailed examination of the housing bubble and found:

> Signs of a "new era" in housing are everywhere. Housing construction is taking place at record rates. New records for real estate prices are being set across the country, especially on the east and west coasts. Booming home prices and record low interest rates are allowing homeowners to refinance their mortgages, "extract equity" to increase their spending, and lower their monthly payment! As one loan officer explained to me: "It's almost too good to be true." In fact, it is too good to be true. (Thornton 2004c)

The problem with the “new era” diagnosis is that it ignores the historical fact that the housing market, and the construction of structures in general, has experienced regular cycles of boom and bust, with prices rising and falling for residential, commercial, industrial, and agricultural real estate. Likewise, occupancy and lease rates, new construction, and the fate of construction firms and land speculators point us to the history of real estate bubbles. In fact, statistically, housing starts are a leading indicator of the business cycle and home construction is procyclical (i.e. home construction is positively related to changes in the overall economy, but more volatile). The Skyscraper Indicator even shows that historically the building of a record-setting high skyscraper foreshadows severe negative changes in the economic (See Thornton

What Goes Up

The ABC theory demonstrates that monetary inflation has different effects depending on who receives the new money first and how it is spent. Is the new money introduced into the economy in the areas of banking and investment, consumer loans, or directly to a group of consumers or producers? Do the people who receive the money want to save it or spend it? If they save it interest rates will go down, and if they spend it interest rates will go up as entrepreneurs borrow money in order to increase production. If the money is

spent, it depends on who is spending it. The economy will experience different changes if the money is given to welfare recipients instead of military generals. If the money is saved the economy will experience different changes if it is invested in stocks rather than housing. The point here is that monetary inflation can cause bubbles and booms in the areas of the economy where it is first introduced. This foundation of the ABC theory comes down to us from Richard Cantillon (1755), the founder of economic theory, who wrote in the aftermath of the Mississippi Bubble (circa 1730). Tracking the flow of monetary inflation through the economy is very difficult and most mainstream economists just assume away the problem and declare that money is neutral on the economy.

By the end of the 18th century the world had converted from free banking to central banking, with the U.S. being the last major nation to establish a central bank in 1913. In the first treatise on monetary theory in the modern era, Ludwig von Mises (1912) produced the ABC theory. With central banks established for the purpose of producing monetary inflation, Mises could now establish a general theory of business cycles rather than the case-by-case basis of Cantillon. By integrating the contributions of Carl Menger, Eugen von Böhm-Bawerk, and Knut Wicksell he was able to show that when the central bank (e.g., the Fed) increases the supply of money, it causes the market rate of interest to fall below the natural rate of interest that would have existed in the absence of Fed intervention. This would cause investors to borrow more money, to expand their investments, and to undertake riskier projects and more roundabout production processes.[14] As these borrowers compete for assets, resources, and goods,

[14] More roundabout production processes are production processes that use advanced technology and require more time to complete, but are more productive. An example of a direct production process would

price inflation inevitably occurs and the rate of interest will increase. This in turn will negatively affect the economy and some of the riskier and more roundabout investment projects will be discovered to be bad investments. Bankruptcies can also impact previously existing investments and production processes that are caught in the wake of the bust. Mises's student F.A. Hayek expanded the ABC theory to include capital theory and its integration into the structure of production.

According to the ABC theory, when a central bank makes loans or purchases government bonds from banks it is injecting bank reserves into the economy. Banks now have excess reserves which they can loan, but the existence of excess loanable funds means that banks must reduce the interest rate they charge, reduce the credit quality requirements of borrowers, or both. The result is a greater quantity of borrowing and investing, particularly in projects that "pay off" over a long period of time. Lower interest rates also discourage savings because the return from savings is lower. In this manner the Federal Reserve drives the market rate of interest below the natural rate of interest that would have existed in the absence of Federal Reserve intervention.

Ever since the Depository Institutions Deregulation and Monetary Control Act of 1980 and Paul Volcker's (Chairman of the Fed from 1979 to 1987) war on inflation of the early 1980s, interest rates have been on a downward path. This culminated in the large reductions in the Federal Funds rate that followed in the aftermath of the 9/11 terrorists attack in 2001. Under Greenspan the rate was reduced from 6.5% in November of 2000 to 1% in July of 2003. The Federal Funds rate remained at 1% until June of 2004,

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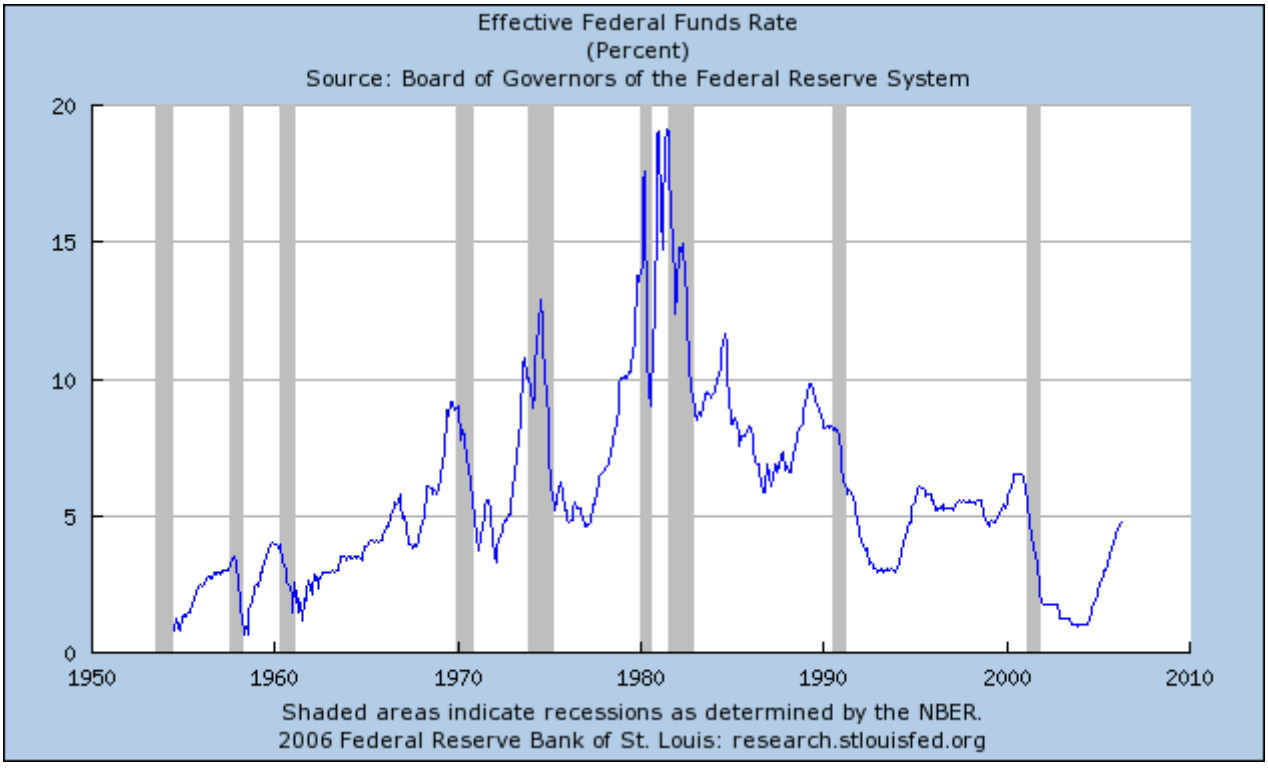
be a dairy farmer who produces milk, processes it and sells it to people in the vicinity of his farm. A more roundabout technique would be dairy farmers who sell their milk to a central processing facility (with advanced technology) of a national company with headquarters in a different state and who in turn sell to wholesalers and retailers all over the region.

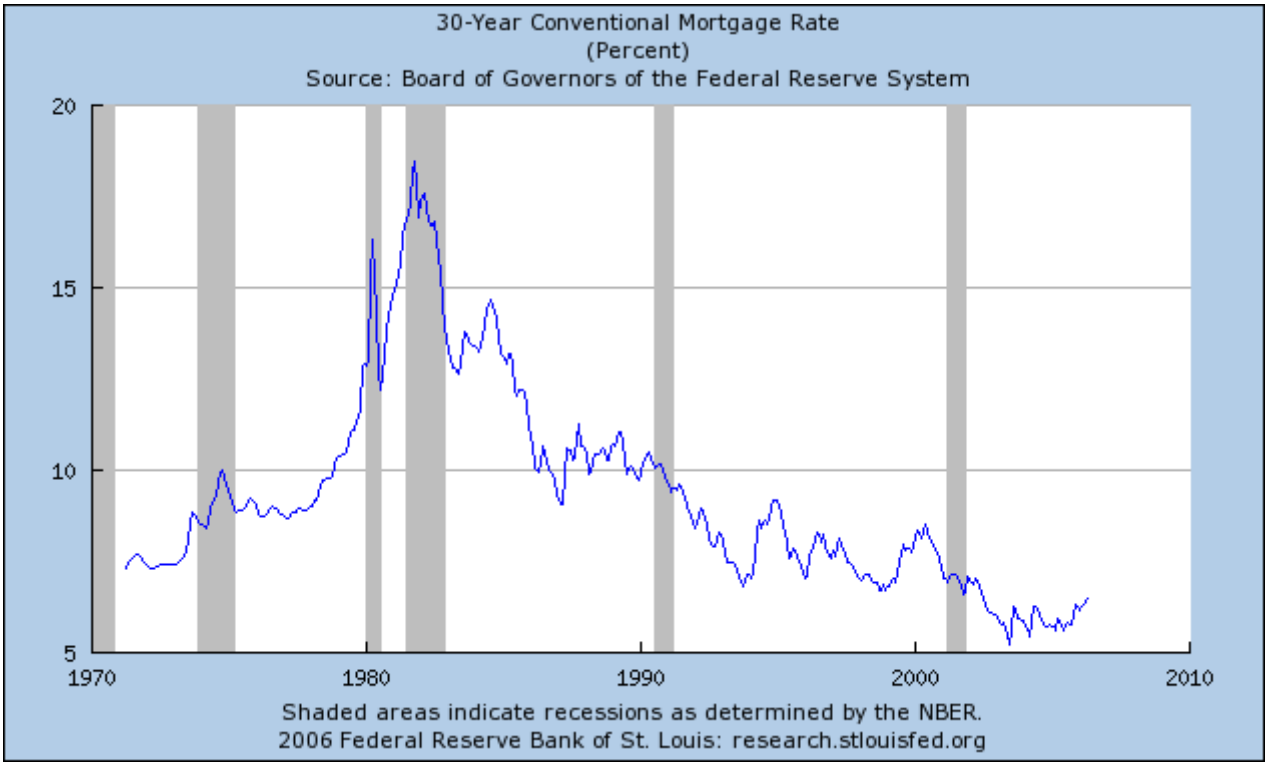
coinciding with the launching of the final phase of the housing bubble.[15] At this low level, interest rates were actually negative when price inflation is taken into account.

The graph below depicts the history of the Federal Funds rate, which is the rate that banks can borrow from other banks in order to meet their reserve requirements imposed by the Fed. The Fed "targets" this short-term rate and injects reserves into this market by purchasing government bonds from banks, thereby freeing up reserves in the banking system. This essentially is the engine of inflation because the Fed simply makes a bookkeeping entry in the bank's account with the Federal Reserve—modern inflation is essentially an electronic bookkeeping entry. In the graph below, the shaded areas represent periods that are considered to have been recessions in the economy. As you can see, the low rates of the 1960s resulted in no recession and a booming economy, but those low rates also caused the Stagflation of the 1970s, where both price inflation and unemployment were very high. This culminated in Volcker's war on inflation of the early 1980s. By greatly reducing expectation of price inflation and deregulating the banking system, the Fed has been able to reduce interest rates and ignite a giant boom in financial and asset markets throughout the 1980s and 1990s, as well as the housing bubble of the early 2000s when rates were pushed below their natural levels and when real rates were negative, when adjusted for inflation.

[15] The Philadelphia Housing Sector stock index apparently peaked at the end of August 2005.

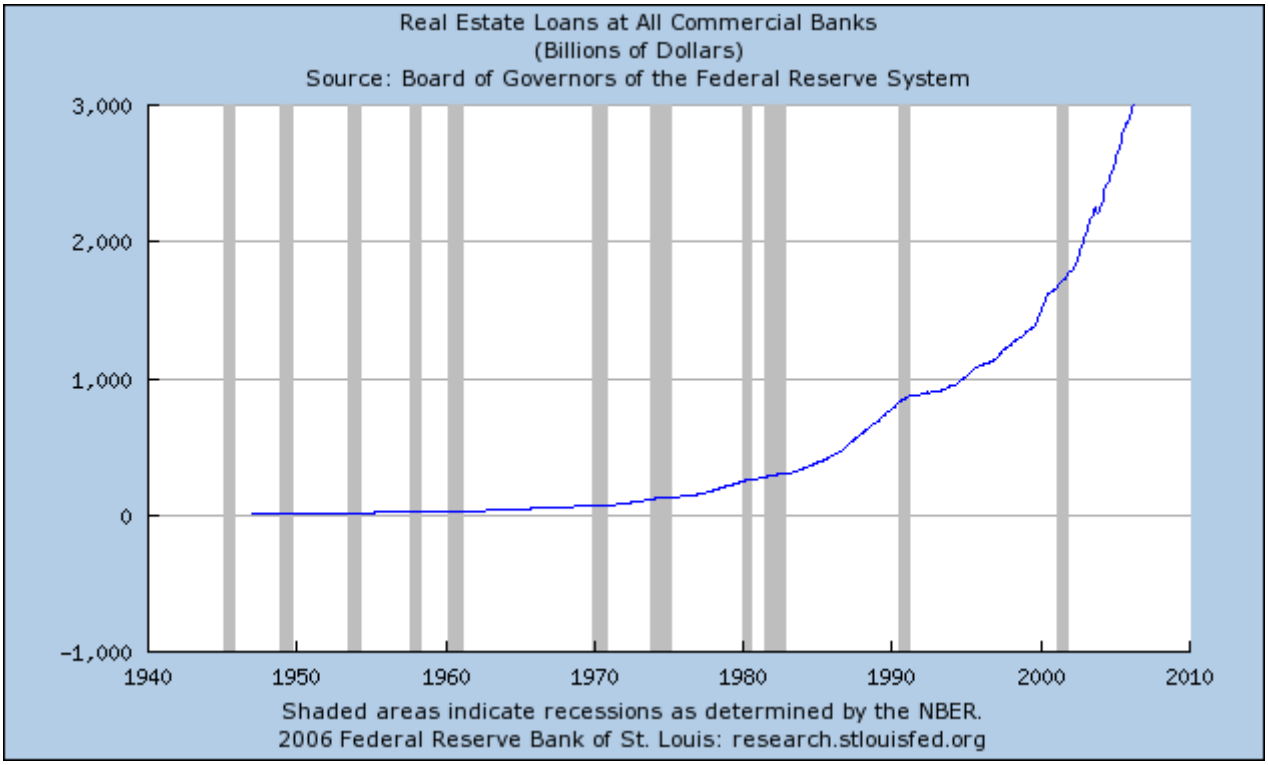


When banks have access to bank reserves from the Fed at low rates they can offer their customers lower rates on loans. The graph below shows the impact of changes in the Federal Funds rate on mortgage rates; increasing during the 1970s and peaking during Volcker's war on inflation at 18%, and then generally declining throughout the 1980s and 1990s and then reaching historical lows during the early 2000s. During the housing bubble interest rates on 30-year conventional mortgages were at their lowest levels ever during the post-gold standard era. When interest rates fall, asset prices and real estate prices tend to rise, and vice versa.



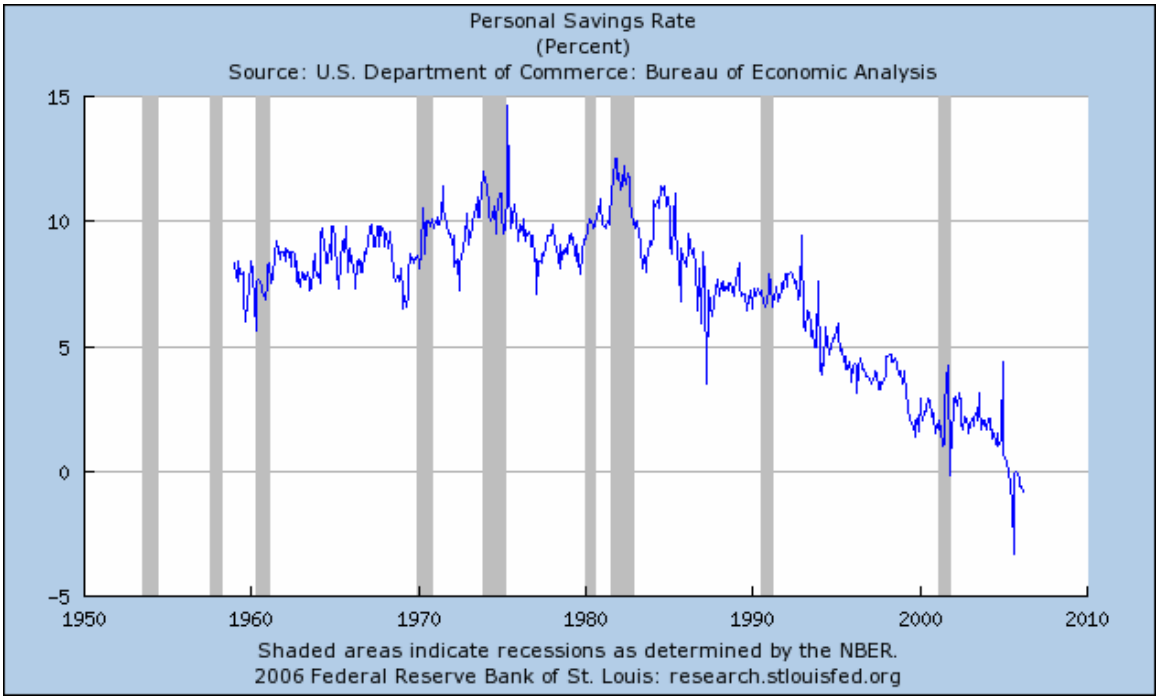
Naturally, lower rates for home mortgages have stimulated borrowing for real estate purposes. The chart below shows that the amount of real estate loans at commercial banks first exceeded $1 trillion in November 1994. In quick succession they then exceeded $2 trillion in November of 2002 and $3 trillion in May of 2006. In addition to the Fed, there are other factors that helped direct all this new credit money into real estate. First, in 1997 homeowners were given a $250,000 exemption ($500,000 for couples) for capital gains that resulted from the sale of their house, adding greatly to the tax benefits of home ownership. This tax break could be said to have lit the fuse of the housing bubble. Second, government-sponsored credit corporations such as Fannie Mae and Freddie Mac, who can acquire capital at a subsidized rate because of the implicit assumption that the Federal government will bail them out, began to collateralize home mortgage debt on a grand scale so that lenders could quickly and easily resell the loans

they make. These government-sponsored agencies have helped stimulate the flow of credit to riskier borrowers who might not otherwise have access to credit, and have therefore helped to lower the credit standards of lending institutions. The problem with these institutions is so large that even Alan Greenspan has publicly scolded them (Hays 2005). In truth, the original problem lies with Alan, not Fannie or Freddie.



The artificially low rates generated by the Fed also have the effect of discouraging people from saving money and encourages them to borrow more for consumption and speculation. The impact of monetary pumping by the Fed has driven down the personal savings rate (as depicted on the graph below) down throughout the 1980s and 1990s, and during the early 2000s it has driven the rate to zero—and even below—which means that on average people are spending more than they earn. Contributing to the problem of the

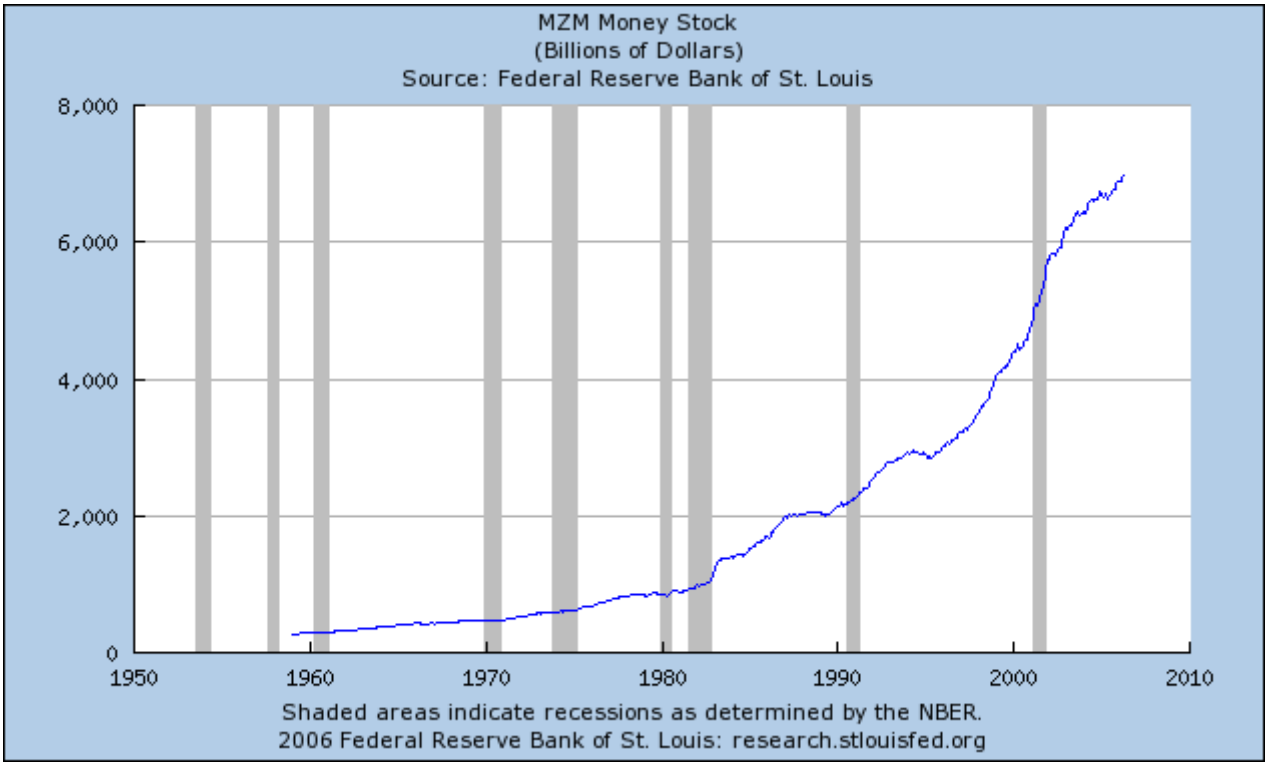
low personal savings rate are the artificially inflated asset and real estate prices which naturally make people feel wealthier and allow them to "cash out" equity from their homes when they refinance their home mortgages. During the housing bubble many Americans have used their homes as a kind of giant ATM to withdraw cash from the equity in their homes. Others have used the "magic checkbook" from second mortgages to spend the equity they have in their homes (Lloyd 2006).



At this point one should be wondering—how can borrowing be going up and savings going down? One answer to the question is that America is borrowing money from overseas in the form of the trade deficit, but the main answer is monetary pumping by the Fed. By artificially lowering rates via increases in the money supply the Fed has created a giant gap between borrowing and saving. In the graph below, the U.S. money

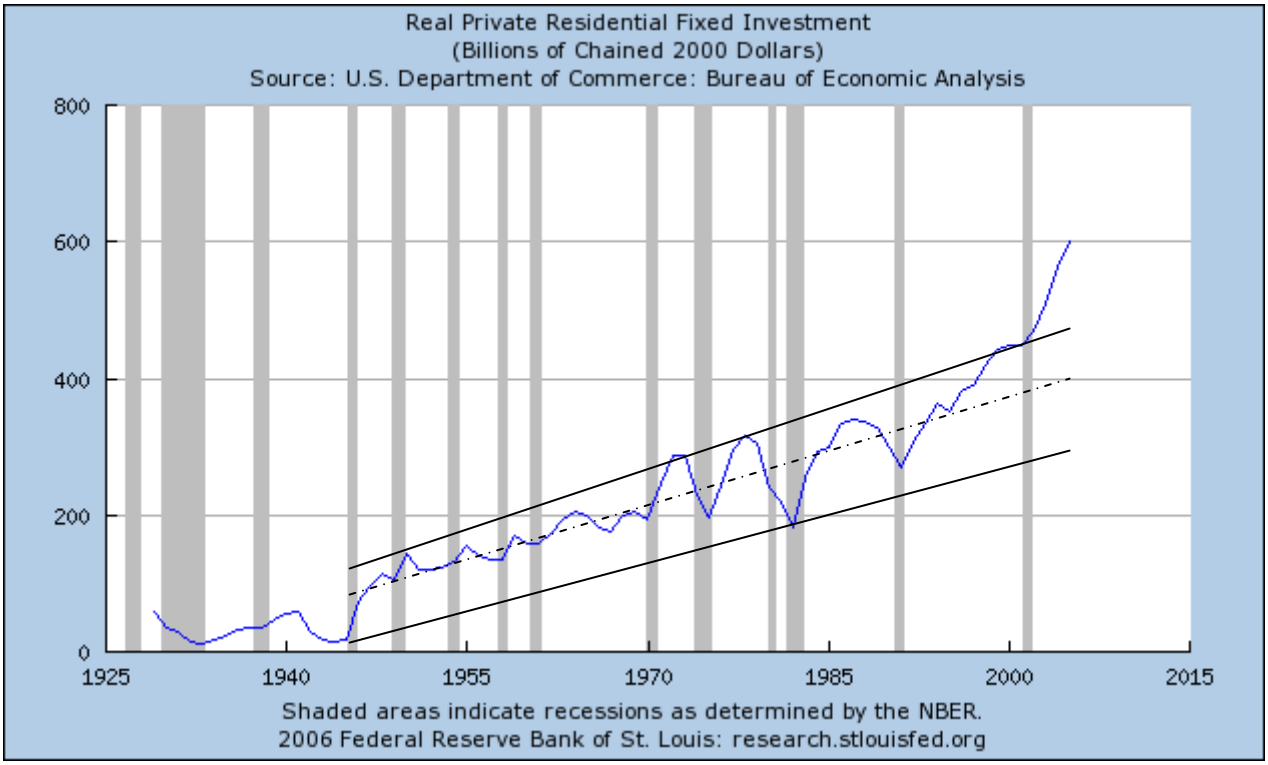
supply is given from 1959 to 2006 as measured by MZM (money of zero maturity).[16] During the period from January 1959 to August 1971 (11.7 years), when Nixon took the U.S. off the gold standard, the money supply grew by 82.2% for an average annual growth rate of 5.26%. Between August of 1971 and 1984, when complete decontrol was established in 1984 from the Depository Institutions Deregulation and Monetary Control Act of 1980 (13 years), the money supply increased by 180.4% for an average annual growth rate of 8.25%. Since 1984 (16.6 years) the money supply as measured by MZM has grown by 390.1%, or an average annual growth rate of 10%. It would seem that all this new money first went into the New York Stock Exchange, especially during the 1980s, then the NASDAQ stock market during the late 1990s, and finally into the housing market since the dot.com bust in 2000.

[16] MZM is a relatively new measure of the money supply and one that is close to the Austrian school definition of money, which is that "money" is immediately redeemable at par. MZM includes currency, demand deposits (checking accounts), traveler's checks, savings deposits, and deposits in money market mutual funds.



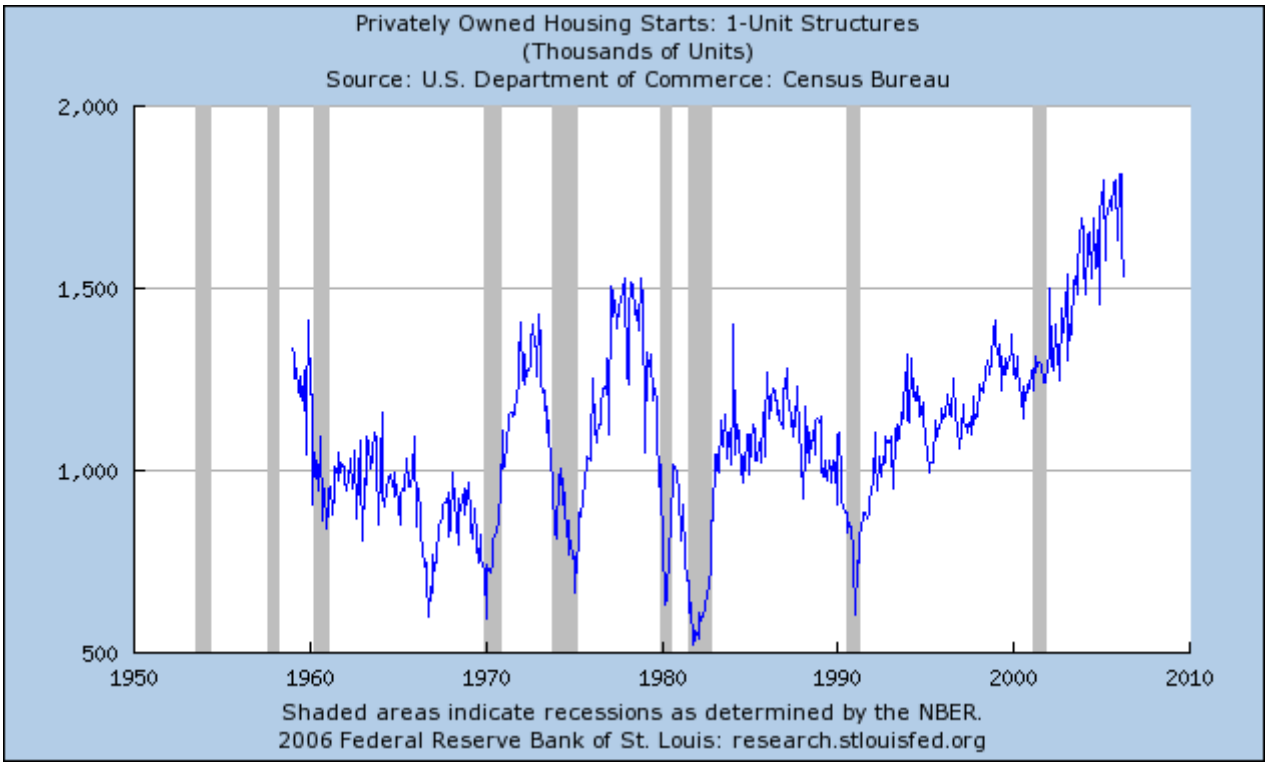
A large part of the increase in the money supply found its way into the market for home mortgages. Since the recession of 2001 the increase in mortgage debt is about equal to the increase in MZM. This one stylized fact probably best illustrates the housing bubble and its cause. Another measure of the housing bubble is the amount of real private residential fixed investment as presented in the graph below. Investment in housing was low during the Great Depression and WWII, but beginning in the mid-1940s investment in housing (adjusted for price inflation) has shown a positive trend, which is based on economic and population growth over that same period. Superimposed on the graph are upper and lower channel lines based on the period from the 1920s to the mid-1990s. This channel allows us to illustrate the normal booms and busts that occurred in the housing market. A dot-and-dash trend line is drawn over the basic trend in housing investment. This shows us that the cycle in housing investment was less severe before we went off the

gold standard, more severe on the fiat standard, and even more severe after monetary deregulation in 1980. Most noteworthy is that investment in housing hit a boom high during the dot.com bubble of the late 1990s and then "jumped the tracks" during the recession of 2001, when historically it would have retreated back toward recessionary levels. It therefore seems clear that in terms of *investment value* there has been a housing bubble since at least the recession of 2001.



The ABC theory does not rely on measuring the cycle or bubble, but such empirical measures do often help illustrate the approach. The next such measure is the number of homes built. The graph below presents the number of privately owned housing starts (apartments and other multiunit structures are not included here). Notice that sharp downturns in the number of housing starts often coincides with the beginnings of

recessions (shaded in gray) and that the sharper the drop the longer the recession. For example, in the late 1970s the number of housing starts fell from an annual rate of over 1.5 million to a rate of barely a half a million in the early 1980s, which was a severe recession. Since the recession of 1991 the trend in new housing starts has been steeply upward and there was no noticeable downturn in housing starts during the recession of 2001—the only recession on record where that did not occur. Instead housing starts continued to increase and have set several new records over the last few years. In terms of this *quantity dimension* the U.S. has been in a housing bubble since the early 2000s.



The final dimension of the housing bubble presented here is the price of houses. Doubters of the housing bubble claim that housing prices are rising on the east and west coasts, but are not rising by bubble proportions in much of the center of the country. Of

course housing prices have increased faster in the West and Northeast compared to the Midwest and South, but ABC theorists would be shocked if home prices were rising uniformly across the country. After all, the whole theory is based on changing relative prices, not uniform increases or decreases in a price level. There are microeconomic and public policy reasons why home prices rise more dramatically and are always at a higher level in, for example, in California than they are in Alabama. These issues are explored in many of the other contributions to this book. However, the same could be said about stock prices during the technology bubble—rare stocks in tight supply (e.g., dot.coms) did much better than widely held stocks (e.g., stocks in the DJIA). The same was true of tulip bulbs during the Tulip Mania that happened in 17th century Holland—rare species were affected more by monetary conditions than ordinary species, but they all went up in price (see French 2006).

The ABC theory expects prices in general to rise, but not to rise uniformly. The extent of the rise depends on both where the money is being injected and the flexibility of the supply side of the markets where the injections are taking place. However, if we consider the national price index for the typical 1996 one-family house between 1998 and 2005 we find that prices have increased by 45%, which is 1¼ times larger than the increase in the Consumer Price Index. According to the Bureau of the Census, the price of the average house, as opposed to the "typical" house, has been increasing even faster, which indicates that people are buying bigger more expensive homes as well. The price dimension—while muted somewhat by the economy's ability to produce greater quantities of housing—still indicates a large increase in the real price of housing. We should also remember that new housing is generally is built on lower-priced land, that

house-building technology has reduced building costs, and that the large influx of labor from Mexico has also helped hold down labor costs.

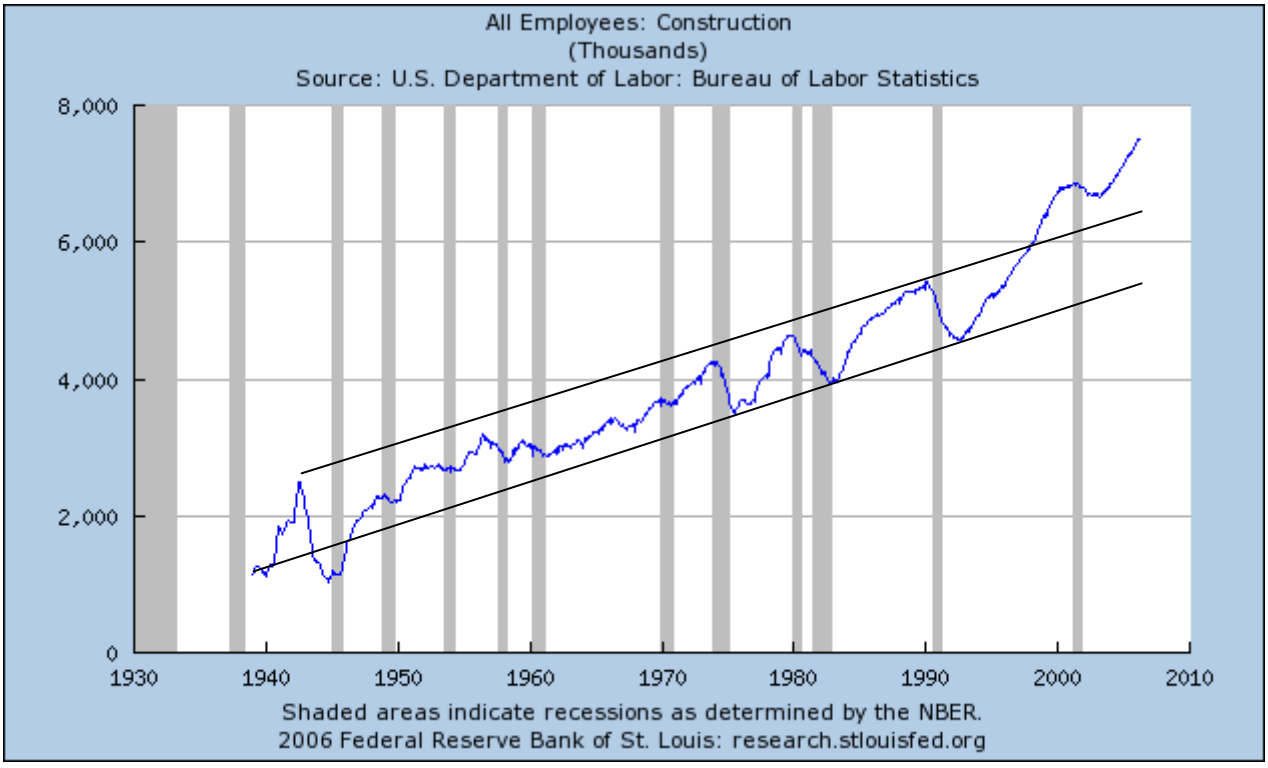
Must Come Down

The ABC theory shows that government failure is responsible for starting the housing bubble in the first place. The monetary policies of the Fed have caused resources to be allocated in an ultimately unsustainable fashion. In a housing bubble too many houses are built, houses of the wrong sort are built, and houses are built in the wrong locations based on the underlying fundamentals of the economy and people's real desires for housing not artificially stimulated by monetary inflation by the Fed. While most people are very happy during boom times, the Austrian economists view the boom as the real problem because this is where resources are misallocated. This is also when people become financially overextended and engage in excessive luxury spending (Kostigen 2006). Inflationary periods tend to be when the rich get richer and the poor get poorer.

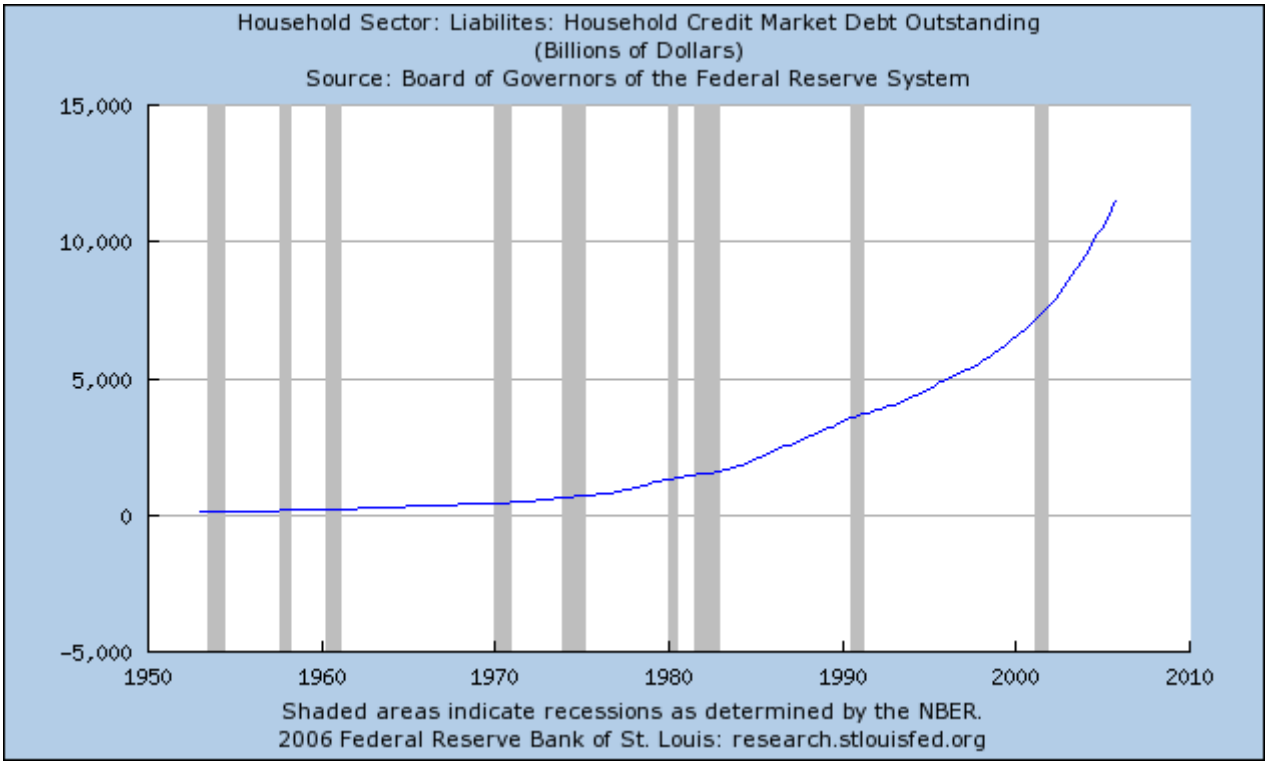
The bubble must come to an end because it is based on an irrational allocation of resources caused by the Fed's misleading interest rate policy. Money that is tied up in an asset bubble initially prevents monetary inflation from being revealed as price inflation as measured by the Consumer Price Index. However, if the monetary pumping is used to purchase assets like stocks, bonds, or real estate then the inflation is revealed in the price of those assets, which will rise even though the underlying earnings of the assets has not improved. When money begins to leak out of asset bubbles into consumption, then the price of goods that are used to construct the Consumer Price Index (CPI) will begin to

rise. The asset bubble is popped or deflated when interest rates rise. This can occur when either the market raises rates due to rising inflation premiums on loans or when the Fed tries to curtail increases in the CPI by preemptively raising rates.

The bursting of the bubble reveals the cluster of errors in the housing market and related industries and begins the process of reallocating resources to their best uses by changes in prices, buying and selling, relocation, bankruptcy, and unemployment. The macroeconomic effect of deflating the bubble is that it causes the economy to go into recession or depression. However, the effects of the bubble will also be concentrated as it is deflated. Notice in the graph below that the bubble (as described by employment in the construction industry) began in 1997 when it rose above the level of the channel, which dates back to the end of WWII. Notice too that the trend in construction employment has always been negative during recessionary periods—even the recession of 2001—and that the negative trends often begin prior to and extend beyond the periods identified as recession. Because the trends in construction employment have been so strong for so long during the housing bubble, it would not be surprising that the negative impact of the bubble would take on a similar, but negative effect on construction employment and spending, and that these effects would spread beyond to the construction materials industry, mortgage lending, real estate sales, furniture, appliances, and household goods items.



Another natural concern about the bursting of the housing bubble is the indebtedness of the average American. As we previously have shown, the personal savings rate of Americans has been declining for many years, in part due to the fact that Americans have felt wealthier due to the rising price of their real estate properties. This is then coupled with the rising debt of the average American household. As shown in the graph below, total household debt was less than $500 when the U.S. went off the gold standard in 1971, first exceeded $5 trillion in 1996 and $10 trillion in 2004. In October of 2005, the last reported period, total debt exceeded $11.5 trillion. Certainly these figures should be adjusted for inflation, population, and economic growth, but that does not reverse the fact that many Americans have taken on a large amount of debt and have not set aside a similar amount of saving to offset this debt or to insulate themselves from periods of economic distress.



As the economy goes into recession and unemployment increases, homeowners with large mortgages will have a difficult time making their monthly payments and may face the possibility of bankruptcy. This "squeeze" will be compounded by the fact that many homeowners have taken equity out of their homes in recent years, increasing the size of their mortgage. Further difficulties are presented by the fact that a large percentage of borrowers have taken out variable-rate mortgages rather than fixed rate mortgages, which means that their monthly payment will rise substantially when interest rates increase. With some variable rate mortgages the monthly payment stays the same, but then the principal on the loan increases when rates rise, which could place these borrowers "upside down" on the homes – which means the mortgage would be much larger than the value of the home. Lenders have also been providing mortgage loans based on much smaller down payments (in percentage terms) with some lenders even

providing loans that exceed 100% of the price of the house. All of this points to the likelihood of a large number of foreclosures and bankruptcies. This in turn points our attention to the stability of the banking and mortgage lending industries and the likelihood of a taxpayer bailout of banks and government-sponsored institutions like Freddie Mac that buy mortgage loans from lenders.

Summary and Conclusions

There are three views of the housing bubble. The mainstream view does not believe in bubbles and attributes such changes in the economy to real factors such as technology shocks, and believes there is nothing the government can do to solve such real problems. The Keynesian view is that bubbles exist because of psychological instabilities in the economy, not real factors, and that countercyclical policies of the government should be used to tame the business cycle. The Austrian business cycle (i.e., ABC) theory incorporates real and psychological changes into a view where bubbles are caused by the policy manipulation of the Federal Reserve.

The housing bubble that began in the late 1990s is a classic example of government failure as applied to the housing crisis. Inflation of the money supply that accompanied the Fed's cheap credit policy led to a borrowing and building binge of an unprecedented scale. The number of new homes built, the price of new and existing homes, and the total amount of real estate investment all indicate that the Fed's policy, combined with a favorable tax policy and taxpayer-subsidized lending practices, created the housing bubble.

The bubble is not just a bunch of hot air. Real resources are involved, which have been misdirected during the bubble and which will have to make painful adjustments in the aftermath of the bubble. This will involve unemployment, foreclosure, and bankruptcy for many people, especially those in the construction and construction-related industries. The macro economy will be sent into a recession or depression, which could be of a lengthy duration because of the slowness of the housing market as compared to the stock market, which can process very large changes in value within the period of one market day.

The lesson of the housing bubble is that what at first appeared to be the government trying to help improve home ownership for Americans has been a giant government failure and will have the unintended effect of economically scaring many homeowners, particularly those who bought houses at the peak of the bubble. Others have been fooled into extracting equity from their homes, increasing their mortgages and taking loans, such as variable-rate loans, which they believed were necessary to qualify to buy houses at inflated prices. Similar trends in housing have occurred in countries around the world as many of the world's central banks have been engaged in monetary pumping that has been injected into their housing sectors.

The policy lesson of the housing bubble, as provided by the ABC theory, is that the Fed is responsible for the housing bubble as well as the normal booms and busts in the economy, and that as long as it retains its authority to set what are in effect price controls on interests rates, such bubbles will periodically appear in the economy. Federal

policy toward housing should be guided by the principles neutrality, laissez faire, and do no harm.[17]

[17] For recent statements concerning Austrian recommendations for reform regarding the money and the business cycles see Herbener (2002) and Cochran (2004).

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