The Role of Policy in the Housing Bubble[1]

These notes examine the effects of regulatory, fiscal, and monetary policies on the housing bubble. Keep in mind that not every example will neatly fit into one of these three categories.

Before looking at specific examples, it is useful to think about the role of government in promoting home ownership. Since at least the Great Depression, the U.S. Federal government has generally taken the position that increasing home ownership is a worthy stand alone policy objective. This means that it is desirable to increase home ownership rates even if doing so has no effect on other policy objectives such as stabilizing the economy. Consider the following quotes from two recent U.S. Presidents, one a Republican (George W. Bush) and one a Democrat (Bill Clinton):

> We can put light where there's darkness, and hope where there's despondency in this country. And part of it is working together as a nation to encourage folks to own their own home.

- George W. Bush, 10/15/02

> Two years ago, I met a couple having their own first home dream come true. They're here today. Patty and Matt Murray had just bought a home in Frederick, Maryland, where I was visiting, promoting my economic plan along with the realtors to bring down the deficit, to bring down interest rates, to bring down home mortgage rates so people can afford to buy their own home. Now they have a stake in a better life, and I'm glad that they're here today.

- Bill Clinton, 6/5/95

Despite the relatively bipartisan push for increasing home ownership, it is not clear that this is a socially worthwhile goal. The main argument for promoting home ownership is that it provides a positive externality because homeowners are more likely to "have a stake" in the fate of their neighborhoods than renters.[2] We may therefore expect higher home ownership to lead to such attributes as lower crime. In addition, home ownership may allow for increased economic mobility if ownership

[1] These are undergraduate lecture notes. They do not represent academic work. Expect typos, sloppy formatting, and occasional (possibly stupefying) errors.

[2] The idea that only property owners have a stake in society is very old. Only property owners had the right to vote in parts of the United States until well into the nineteenth century for this reason.

is economically preferable to renting on a microeconomic level. This remains the stated position of most policymakers.

I would guess (I have not seen a poll) that most economists disagree.[3] The following summarizes some of the common counterarguments that I have heard:

1. Renters have about as much of a stake in their neighborhoods as owners. The argument that ownership yields a positive externality is largely unsupported by evidence.

2. Owning may not be more desirable on the microeconomic level than renting. And if it is, it is only because of policies (such as the mortgage interest deduction) that make it so.

3. Artificially increasing home ownership rates requires that lenders make loans to riskier households. Many economists believe that this was a major catalyst to the recent housing bubble and subsequent recession. This represents a negative externality that may be more important than the positive externality previously discussed.

Some microeconomic work attempts to quantify the effect of the positive homeownership externality. DiPasquale and Glaeser (1999) find that homeownership does seem to increase investment in 'social capital." Most of this effect comes from homeowenership causing households to become less mobile and hence to benefit more from investing in their neighborhoods. It is far from clear, however, that the scope of this effect is large enough to justify major government intervention in promoting homeownership.[4]

This issue is far from settled. But it is worth taking some time to think about whether you think home ownership is a worthy stand alone policy goal. Your answer will be relevant throughout the semester as we talk about various policies that affect the housing market.

Freddie Mac and Fannie Mae

In 1938, Congress created Fannie Mae, a government sponsored enterprise (GSE). Its purpose was to increase home ownership among low-middle income Americans. The creation of Fannie Mac was intended both as a short term boost to the economy and to promote the long-term stand alone goal of greater homeownership.

[3] A former colleague of mine enjoyed sarcastically telling his students how he was a better person than them because he owned his home while they (largely) rented.

[4] See DiPasquale, D. and E,. Glaeser. 1999. "Incentives and Social Capital: Are Homeowners Better Citizens?" *Journal of Urban Economics*, Vol. 45: 354-384.

In 1968, Congress privatized Fannie Mac and it become a publicly traded corporation. In 1970, Congress created Freddie Mac, a similar government sponsored enterprise to compete with Fannie Mae. Both GSEs are chartered by the government to extend credit to households that could not otherwise obtain it, stabilize the housing market, and make a profit. As chartered companies, the GSEs are subject to heightened Federal regulation (historically by the Department of Housing and Urban Development, then later by the Office of Federal Housing Enterprise Oversight, and now by the Federal Housing Finance Agency (FHFA)). Like private firms, the GSEs issue stock, can lobby Congress, and attempt to make a profit. Importantly, however, many investors correctly believed that the federal government would intervene to prevent either firm's collapse in the event of economic distress. This last feature made them quasi-public institutions despite the appearance of being private firms.

There is another GSE, Ginnie Mae. This entity is similar, but does not make loans to the general public. Instead it participates in special programs, such as those for military veterans. It performed much better during the crises than either Fannie or Freddie.

The GSEs most important role in the mortgage market is to buy loans from mortgage lenders using the following illustrative process:

1. A commercial bank provides a home loan to a household.

2. A GSE may then purchase that loan from the commercial bank. By doing this, the GSE provides an incentive for commercial lenders to extend credit to households who otherwise would not qualify. The commercial lender is then able to make additional loans. GSEs operate in the secondary mortgage market, they do not directly extend credit but instead facilitate lending by acquiring existing loans.

3. The GSEs may then bundle these loans into mortgage backed securities, which provide the holder with the rights to the cash flow from a set of loans. MBSs are often sorted into tranches by their riskiness. For example, the least risky tranche consists of the first cash flow originating from a set of loans. The holder of the next riskiest tranche is only paid if the first tranche is paid in full. The riskiest tranche pays if and only if all other tranches are paid in full.

4. The GSE kept some MBSs in their own portfolio and sold others to investors. The purchasing of MBSs by major investment banks is the main channel by which the crisis in housing spread to other sectors of the economy.

5. The GSEs also, for a fee, guaranteed payment of some MBSs. By doing this, they assumed the financial risk of large scale default.

The fourth step is of particular importance. By creating mortgage backed securities and selling them on open financial markets, risk from the housing market was able to spread into other sectors of the economy. This step is crucial to understanding how the crisis in housing spread to the entire economy. It is important to note, however, that private firms also created mortgage backed securities, including those that performed worst during the financial crisis. (We will discuss this in greater detail in a few weeks)

The Federal Housing Finance Agency (FHFA) sets guidelines for which types of loans (known as conforming loans) the GSEs will purchase on the secondary mortgage market. In 2017, for example, the loan for a single family house cannot exceed $424,000 in most of the United States, but it can be as much as $954,225 in some high-cost areas. Likewise, the GSEs require that a borrower must have a credit score of at least 620-680, depending on the other details of the loan. Because the GSEs were quasi-public, policy makers were able to influence these guidelines. These policy makers have been blamed for lowering the GSEs standards and thus helping fuel the housing bubble.

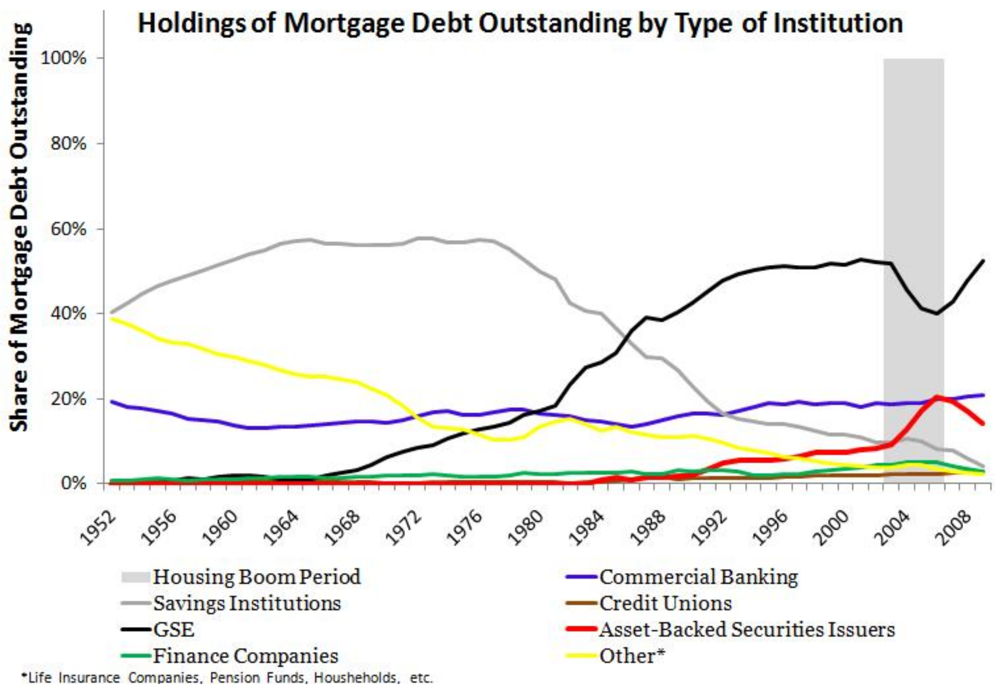
GSEs' guidelines for conforming loans have had an enormous effect on the U.S. housing market. The 30 year, fixed interest rate mortgage, now a staple of the housing market, was a deliberate creation of the GSE through setting requirements for which types of loans they would buy. Because their market share is so large, these types of loans spread into the private mortgage market as well.

Although the GSEs only created MBSs from conforming loans, they did purchase private-label MBSs that mostly consisted of non-conforming loans. These were the primary source of the GSEs' financial difficulties during the housing crash. GSE (also known as "agency") MBSs never experienced comparable losses to those from riskier, private label MBSs.

In 1977, Congress passed the Community Reinvestment Act to alleviate racial and other types of discrimination in the housing market. This bill, among other things, outlawed "redlining," a practice where lenders refused to issue loans in certain (usually poor, and often urban) geographic areas. Additional legislation and enhanced enforcement later required the GSE's portfolio to include 30% loans to low and moderate income households by 1992 and 55% by 2007.

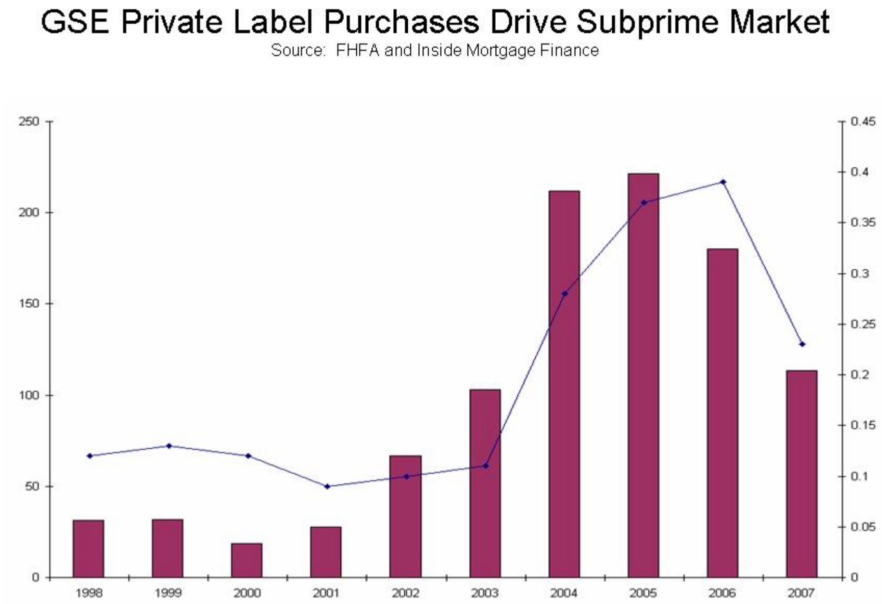
The GSEs share of mortgage debt began to climb dramatically around 1980, mostly due to the decline of Savings and Loans (a type of banking cooperative that issues small mortgages). Around 2000, the GSE share of outstanding mortgage debt was near $\frac{1}{2}$. In 2011, the Federal Housing Finance Agency estimated that the GSEs held, 29.9 million mortgages, over 2 million of which were delinquent. The total value of mortgages held or guaranteed by the GSEs was about $6 trillion. This amount includes MBSs created and owned by the GSEs, MBSs created and guaranteed by the MBSs (but owned by a third party), and private label MBSs purchased by the MBSs (not created by them).

The following graph[5] breaks down the holders of mortgage debt into various groups:



Note that the GSE share peaks in about 2000. After that time, they begin to lose market share to private firms that were creating (often subprime) mortgage backed securities. Defenders of the GSEs often cite these data as evidence that private lenders and not the GSEs were responsible for the reckless lending that fueled the housing bubble. Critics of the GSEs, however, counter that they were major buyers of subprime MBSs issued by the private sector. They may thus be to blame because, even if they did not create these loans, they created the market for them.

[5]Taken from: Beckworth, David. 7/5/11. "Market Share of Mortgage Debt Outstanding." *http://macromarketmusings.blogspot.com*.



This graph[6] shows (blue line), that the GSEs were buying about 40% of private label MBSs during the peak of the bubble.

As the housing crisis spread from subprime mortgages to near-prime mortgages (less risky than subprime, riskier than prime, and often secured by Fannie or Freddie), the GSEs began to suffer from the decreased value of the MBSs that they held and others that they guaranteed payment on. Losses approached $15 billion by Fall 2008, and both Fannie and Freddie faced bankruptcy. A debate ensued about whether the Federal government should place Fannie and Freddie into conservatorship, a temporary nationalization.

1. By failing to act, the Federal government risked the collapse of both firms. In this case, access to credit would be further restricted worsening the increasing credit crisis and threatening to make the ensuing recession even worse.

2. There were two major downsides to bailing out Fannie and Freddie. First, the government would have to incur the losses of each firm. Second, by bailing these firms out, the government risked further moral hazard. In the future, these firms would be tempted to engage in more risky lending

[6]Taken from: Calabria, Mark. 6/4/2010. "Krugmans Fannie Mae Fantasyland." *http://www.cato-at-liberty.org*.

because they would expect to keep the profits if things went well but would expect the government to bear the losses if things went poorly.

On 9/7/08, the Bush administration decided to bail out both Fannie and Freddie. This action was supported by both Treasury Secretary Paulson and Fed Chairman Bernanke. Formally, the GSEs were placed into conservatorship (a kind of temporary nationalization) run by the newly created Federal Housing Finance Agency. As a result:

1. The government still owns about 80% of the GSEs. As the economy recovered, however, both returned to profitability. The Federal government broke even on the bailout by early 2014[7] and by March 2017 had made about a $68 billion profit.[8]

Ex-post, the GSE bailout has thus been profitable for the Federal government. This does not necessarily mean that bailing them out was the right decision. Evaluating that requires looking at the ex-ante expected profits or losses from the bailout (what would have happened had their been another recession?) and weighing this along with the other costs and benefits of the policy.

2. Fannie Mae and Freddie Mac's retained MBS (the amount they hold, not issue) portfolio will be gradually reduced from nearly $1 trillion to about $250 billion each. This process is well under way.

3. The GSEs are no longer allowed to engage in political lobbying or donations. It has been alleged that GSE political contributions contributed to lax Congressional oversight.

4. GSE stock has been de-listed from the New York Stock Exchange. Their stock is currently traded over the counter.

5. The GSEs continue to pay dividends. Because the U.S. Treasury owns most of the GSEs, it is essentially paying itself.

6. Managerial decisions are made by the FHFA.

As of December 2018, there is no specific plan on when or how the GSEs will leave conservatorship and there is surprisingly little interest in crafting a plan for doing so. They seem to now be a semi-permanent part of the Federal government. The GSEs are much smaller than in 2007, but still

[7]See ElBoghdady, D. 2/21/2014. "Fannie Mae payments to U.S. to exceed bailout." *Washington Post*.

[8]This was unexpected. When I first taught this class at Bates, it still seemed very likely that the government would incur a loss.

account for about 40% of the U.S. residential mortgage market. Although they are now profitable, recent stress tests (required by the Dodd-Frank) reform suggest they would require about $100 billion in Federal help to survive a severe recession.

There is currently a very complicated debate over whether or not Fannie and Freddie should bear a significant portion of the blame for the housing boom and bust. Here are a few of the factors often cited:

1. Some critics of the GSEs cite the Community Reinvestment Act of 1977 as catalyst for risky lending. This act required banks to issue more loans in distressed urban areas. In the 1990's Congress and the Clinton administration compelled the GSEs to secure more mortgages in these areas. Others point out, however, that the GSEs never engaged in the riskiest type of lending. The housing crisis began with large numbers of defaults in the subprime mortgage market, which by definition do not meet the definition of a conforming loan.

2. The GSEs did increasingly relax their standards during the housing bubble. These loans were often described as "near prime," but in practice were often similar to subprime (and were classified as subprime using other definitions of prime and subprime that are unconnected with the GSEs). The GSEs also did buy many private label MBSs that did not meet their conforming loan standards. This issue remains murky. The GSEs cleatly participated in the relaxation of lending standards. But there remains disagreement whether they, or private sector lenders, deserve more of the blame.

3. It is also pointed out that the riskiest loans were made by the private sector and not the GSEs. Although this is true, we will see that, at peak, GSEs were buying up about 40% of the riskiest loans made by the private sector.

Fiscal Policy

Others have found a role for bad fiscal policy in encouraging the housing bubble. Much of this criticism comes from the Federal government's efforts to use the tax code to try to encourage home ownership.

Homeowners can currently deduct interest payments on home loans (for their first house) up to $750,000 million (it was $1,000,000). Suppose that a homeowner has a mortgage worth $1 million, is in the 33% tax bracket, and has a fixed rate mortgage at 5%. the annual value of this deduction equals:

$$\$1,000,000 * .05 * .33 = \$16,500$$

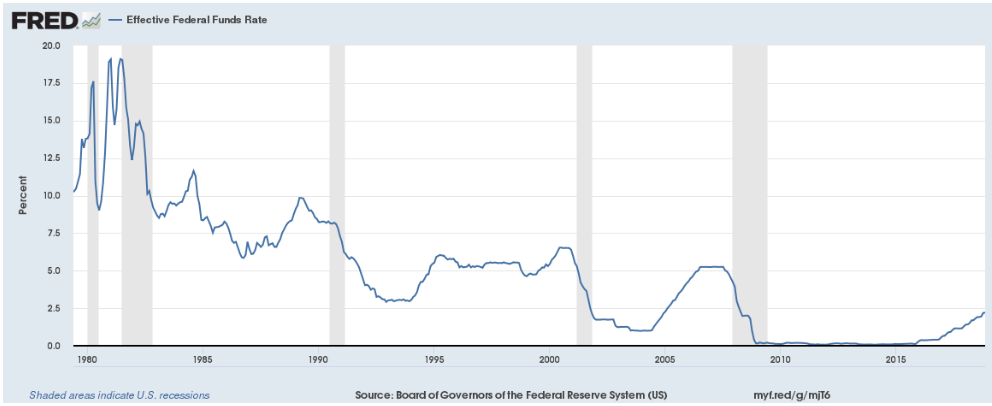
While this deduction certainly increases home values, it has been law since 1913, and it is therefore difficult to argue that it is major cause of the recent bubble. At most, it creates an environment where the housing sector may be more prone to housing bubbles that are caused by other factors. The Federal government has continued, however, to provide additional incentives for home ownership relative to renting. in 2002, President Bush signed the Single-Family Affordable Housing Tax Credit Act which provided over $2 billion in tax incentives to suppliers of housing in low income areas. This likely played a (probably small) role in the subsequent bubble.

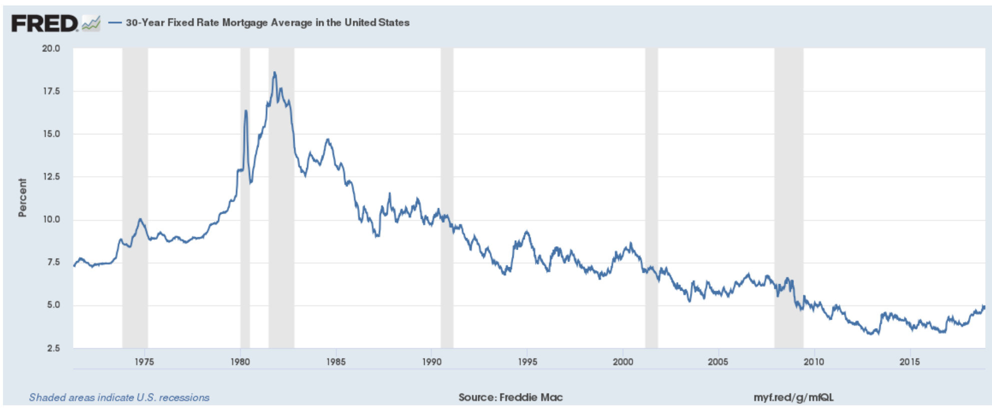
The tax bill that President Trump signed into law for 2018 and beyond has greatly weakened the mortgage interest deductions. Although it is still law, by eliminating many other tax deductions and doubling teh standard deduction (which taxpayer s can choose to take instead of itemizing), the bill is expected to reduce the share of taxpayers who itemize deductions to under 5%. The mortgage interest deduction is thus effectively gone for most taxpayers. The impact of this change on housing prices and the stability of the housing market remains to be seen.

Monetary Policy

The *user cost of housing* refers to the monthly payment associated with a mortgage. It is a function not just of the home's price, but also of the structure of the loan (i.e. the timeframe and type of interest rate), and the interest rate as well. Consider a $200,000 home financed using a 30 year fixed rate mortgage with no downpayment. If the interest rate is 4% (very low), then the associated monthly payment equals $955. If the interest rate is 7% (very high), however, then the monthly payment becomes $1331.

The Federal Reserve targets the the Federal Funds Rate, an overnight interest rate at which banks lend reserves to each other. Long term mortgage rates depend on not only the current short-term rate, but also expected future interest rates, regulatory costs, and the expected cost of default. Sustained periods of loose monetary policy (*i.e.* low Federal Funds Rate targets) do, however, tend to reduce mortgage rates. The following charts use data from the St. Louis Fed to display the relationship between the Federal Funds Rate and a measure of long term mortgage rates.





In response to the recession of 2002, the Fed lowered its interest rate target to (then) historically low levels. Eventually, this caused long term mortgage rates to also fall to very low levels. This lowered the user cost of housing, boosted demand, and likely pushed housing prices up.

The criticism of the Fed is straightforward. By keeping interest rates too low for too long the Fed created the demand that led to the bubble. Some of the Fed's own research does suggest that interest rates were lower than normal for the prevailing levels of unemployment and inflation. Critics argue that the Fed should have recognized the developing bubble in housing and raised interest rates in response.

Fed Chairman Ben Bernanke summarized the counterargument in a 2002 speech:[9]

> If we could accurately and painlessly rid asset markets of bubbles, of course we would want to do so. But as a practical matter, this is easier said than done, particularly if we intend to use monetary policy as the instrument, for two main reasons. First, the Fed cannot reliably identify bubbles in asset prices. Second, even if it could identify bubbles, monetary policy is far too blunt a tool for effective use against them.

[9]Remarks by Governor Ben S. Bernanke Before the New York Chapter of the National Association for Business Economics, New York, New York October 15, 2002.

Bernanke's first point is that most asset price increases are either the result of fundamentals, or a combination of fundamentals and bubbles. So while current fundamentals (dividends, rents, etc.) may be readily observable, the expected stream of future fundamentals probably is not. The Fed worries that mistakes in identifying bubbles might lead to more instability than the bubbles themselves. His second point is that general interest rate decreases are not a good response to market specific bubbles. While higher interest rates may have helped ameliorate the housing bubble, they may also have discouraged lending in other types of markets unaffected by the bubble.

Loose monetary policy did very likely help increase housing prices. But it is less clear that it was an important factor. Quantifying the effect is challenging because it involves a counter-factual: we need to compare actual housing prices to what they would have been had interest rates been higher in the 2000s. My sense is that the profession increasingly views loose monetary policy as only a minor factor. Instead, the relaxation of lending standards and overly-optimistic expectations about the future price of housing seem much more critical. But the argument is not yet fully settled.[10]

Policy in Response to the Housing Bubble

Most of the policy response to the current macroeconomic downturn goes beyond the housing market (*e.g.* the stimulus package, TARP, the automotive bailout, etc.). This reflects the belief that although the downturn began in the housing market, its worst effects result from its propagation into the general economy. It is also probably beyond the reach of policy to undo the decline in real estate prices. There have, however, been a few policy debates aimed at stabilizing real estate prices and limiting the negative effects of foreclosures. In addition to the welfare loss incurred by victims of foreclosure, foreclosures may have undesirable microeconomic effects on local property values, and they may amplify decelins in GDP or increases in unemployment There are also anecdotes of vacant homes serving as havens for squatters and criminals, or abandoned swimming pools serving as breeding grounds for mosquitoes. We consider three proposals, one that has been enacted and two that have not been.

1. Foreclosure moratorium. The simplest way to limit foreclosures is to ban them. During the 2008 Democratic presidential primary, Hillary Clinton advocated for a temporary moratorium on foreclosures. It did not become law at the national level. There are two major concerns with this policy. First, it would adversely distort the mortgage market. When a household obtains a mortgage,

[10]The following paper provides a good discussion of this debate and offers some evidence that keeping "interest rates too low for too long" was not a major factor: Gelain, P. Lansing, K. and G. Natvik. 2015. "Explaining the Boom-Bust Cycle in the U.S. Housing Market: A Reverse Engineering Approach." *Journal of Money, Credit, and Banking*, Vol. 50(8): 1751-1783.

it pays a risk premium above the risk free interest rate. The risk premium depends on both the probability of default and the cost to the lender of default. By limiting lenders' ability to recover collateral through foreclosure, the cost of default and risk premiums increase. All borrowers could thus expect to pay higher interest rates. Second, much of the public viewed this proposal as unfairly rewarding borrowers who did not make their payments as opposed to the majority of mortgage holders who were not in default.

2. Loan modification. Lenders do not automatically foreclose when the borrower defaults. At times, it may be in both parties interest to modify a loan so that the lender avoids paying the often significant costs associated with foreclosure. This occurs more frequently when a loan is *under water*, that is the value of the asset is less than the balance of the loan. In March 2009, the Obama administration committed $75 billion in Federal incentives for the Home Affordable Modification Program (HAMP) where lenders are incentivized to modify additional loans. This program appears to have had only a small effect on foreclosure rates.

3. Predatory Lending. Predatory lending refers to cases where lenders mislead potential borrowers into accepting unfavorable loans. The extent of predatory lending in the housing bubble is very debatable. Many politicians have advocated cracking down on predatory lending but this rhetoric has not generally resulted in specific laws. Part of the problm is that the definition of predatory lending has never been clear.

Housing Policy, Post Recession

There is little disagreement that the single greatest cause of the Great Recession was the housing bubble. It is thus of interest to examine whether the Great Recession has changed the U.S. Federal government's push for home ownership. Consider the following comment, released by the Obama administration in January 2015:[11]

> In Phoenix today, President Obama explained that homeownership was a dream that should be open to all Americans. Not only will the Presidents actions help numerous families realize the American Dream and get a place they can finally call home, but millions of families will save billions of dollars in mortgage payments in the coming years, helping to support and stabilize the housing market recovery.

[11] Brayton, J. 1/8/15. "President Obama Announces Plans to Save Americans Money on Homeownership." *www.whitehouse.gov*

The rhetoric is notable and its worth taking literally for just a few moments, If you are a renter, keep in mind that you are not realizing the American Dream and you have no place to call home. At least in his rhetoric, the President still felt compelled to push home ownership.

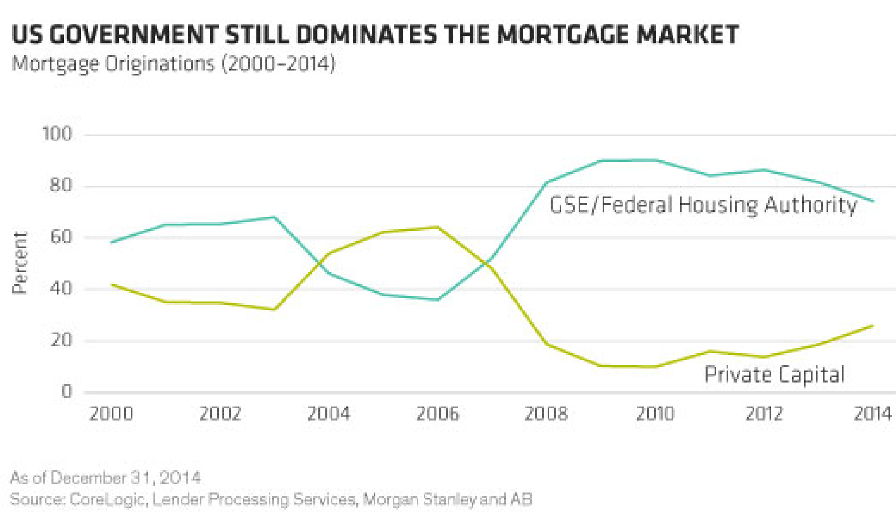
And more recently, President Donald Trump issued a proclamation declaring June 2017 as National Homeownership Month. It begins:

> During National Homeownership Month, we recognize the many benefits of homeownership to our families, our communities, and our Nation. For generations of Americans, owning a home has been an essential element in achieving the American Dream. Homeownership is often the foundation of security and prosperity for families and communities and an enduring symbol of American freedom. This month, we recommit to ensuring that hard-working Americans enjoy a fair chance at becoming homeowners.

- Donald Trump, 5/31/17

As of December 2018, The Fed is currently in the process of re-raising (*a.k.a.* normalizing) the Federal Funds Rate by raising it from the near-zero levels that prevailed until December 2015. The experience of having kept rates low prior to the bubble does not seem to be a major driver in its current decision making.

There does, however, continue to be a case that Fannie and Freddie need to be "wound down." Mostly, this comes from the belief that they had become too large and that private capital should play a more prominent role in the housing market. But how to wind them down, and when to do it, is not agreed upon. To see why the timing is tricky, note that after the financial panic of 2008, the GSE share of new mortgages increased dramatically:



That the GSE share has exceeded 80% does not reflect a further relaxation of their standards. Rather, it shows that after the financial crisis, the private sector sought to shed debt and became very reluctant to lend. This suggests, but does not prove, that absent the GSEs, mortgage credit would have been much tighter, possibly making the downturn even worse. One may thus want to eliminate or reduce the size of the GSEs while also thinking that 2009 was not the right time to do it. As of August 2017, GSE market share is about 40%.

A Final Comment

This lecture has only discussed a fraction of the policy issues related to the current macroeconomic situation. Notably absent is any discussion of how policy affects the financial sector aside from housing. These issues will be explored when the class examines how the crisis in housing spread to other sectors of the economy.