

University at Albany, State University of New York Scholars Archive

Business/Business Administration

Honors College

5-2010

The Financial Crisis 2010: The role of the Shadow Banking System

John Grogan

University at Albany, State University of New York

Follow this and additional works at: https://scholarsarchive.library.albany.edu/honorscollege_business

 Part of the [Business Administration, Management, and Operations Commons](#)

Recommended Citation

Grogan, John, "The Financial Crisis 2010: The role of the Shadow Banking System" (2010). *Business/Business Administration*. 5. https://scholarsarchive.library.albany.edu/honorscollege_business/5

This Honors Thesis is brought to you for free and open access by the Honors College at Scholars Archive. It has been accepted for inclusion in Business/Business Administration by an authorized administrator of Scholars Archive. For more information, please contact scholarsarchive@albany.edu.

The Financial Crisis

May 1

2010

The financial crisis of 2008 was the result of a number of factors affecting the global economy. Although the problems originated with subprime borrowers and the fear of loan defaults, several other factors contributed to the crisis. The Federal Reserve, rating agencies and the shadow banking system played significant roles in the 2008 collapse. The shadow banking in particular affected the financial crisis in unprecedented ways that magnified the problem and created a global credit crisis. The government sponsored entities Fannie Mae and Freddie Mac made loan guarantees and involved themselves in other questionable practices that the American taxpayers have funded. At the same time the other side of the shadow banking system, namely Wall St., magnified problems through the securitization of mortgages and the use of repurchase agreements to fund investments.

The Role of the Shadow Banking System

John Grogan

University at Albany, State University of New York

Ingrid Fisher

Ph.D., University at Albany, 2002 M.S., University at Albany, 1982

Contents

INTRODUCTION	3
THE PRIMARY MORTGAGE MARKET.....	4
INTEREST RATES AND THE FED.....	5
LENDERS	6
THE SECONDARY MORTGAGE MARKET	9
FANNIE MAE AND FREDDIE MAC.....	9
<i>History</i>	<i>9</i>
<i>Role in the Financial Crisis</i>	<i>10</i>
WALL STREET.....	14
<i>Incentive Based Pay.....</i>	<i>15</i>
<i>The Repo Market.....</i>	<i>16</i>
CONCLUSION	22
BIBLIOGRAPHY.....	24

Introduction

Beginning roughly in 2007, the recent financial crisis has proven to be the worst financial disaster since the great depression. The collapse occurred following the burst of the housing bubble that began developing around 2001. Although initially one would believe that the effects of the housing bubble would be contained within the housing market, the effects have spread throughout the economy. Whether or not one was involved in the housing market, the effects have been widespread and felt by people across the globe.

As Americans and people across the globe began feeling the effects of the subprime mortgage crisis, many began to look for a scapegoat. This has been a somewhat difficult process because the events that led to the financial crisis are much more complex than a single problem created by a single group of people. Furthermore, several different entities and groups contributed to the problems created by subprime mortgages.

From an elementary standpoint, it is evident that the problem begins with borrowers who were unable to make their mortgage payments. However, if the loan defaults were the only contributing factor, the tribulations would have only affected the borrower and the lender. The effects conversely have been pervasive and have led to the loss of many jobs across the globe, difficulty obtaining credit as well as a drastic decrease in security prices across the markets.

As with any unfortunate event, many have sought to cast the blame in some direction although that direction is not always clear. Some of the prospective scapegoats have been the “lenders”, who extended loans to individuals who may not have been credit worthy. Others have pointed towards the “fat cats” on Wall Street, many of which had profited tremendously from the events that occurred leading up to the financial crisis. At the same time, others have cast the blame on the government or

security rating agencies such as Moody's. Each of these groups has likely contributed to the problem, but it is important to understand how each contributed to the problem and to identify the reasons for the financial disaster.

One element that contributed significantly to the financial crisis was the rise of the shadow or parallel banking system. The shadow banking system consists of financial intermediaries that facilitate credit across the global financial system but are not subject to regulatory oversight (Shadow Banking System, 2010). The companies and firms remained outside the boundaries of regulatory oversight because these institutions did not take traditional deposits. After a closer examination of the financial crisis, the role the shadow banking system plays has become more evident. Fannie Mae and Freddie Mac are also part of the parallel banking system, not in the same regulatory sense, but in the way in which these institutions operate. More specifically these two entities purchased large sums of mortgage loans, a practice that created a liquid secondary market for mortgages fueling the demand for subprime mortgages.

To illustrate the causes of the financial crisis and the role of the shadow banking system, this paper will focus on the originating causes, the economic environment and the role secondary market. Additionally this paper will discuss the complex practices involved in the securitization, sale and hedges involved in the mortgage backed securities as well as the implications these practices had on the overall economy.

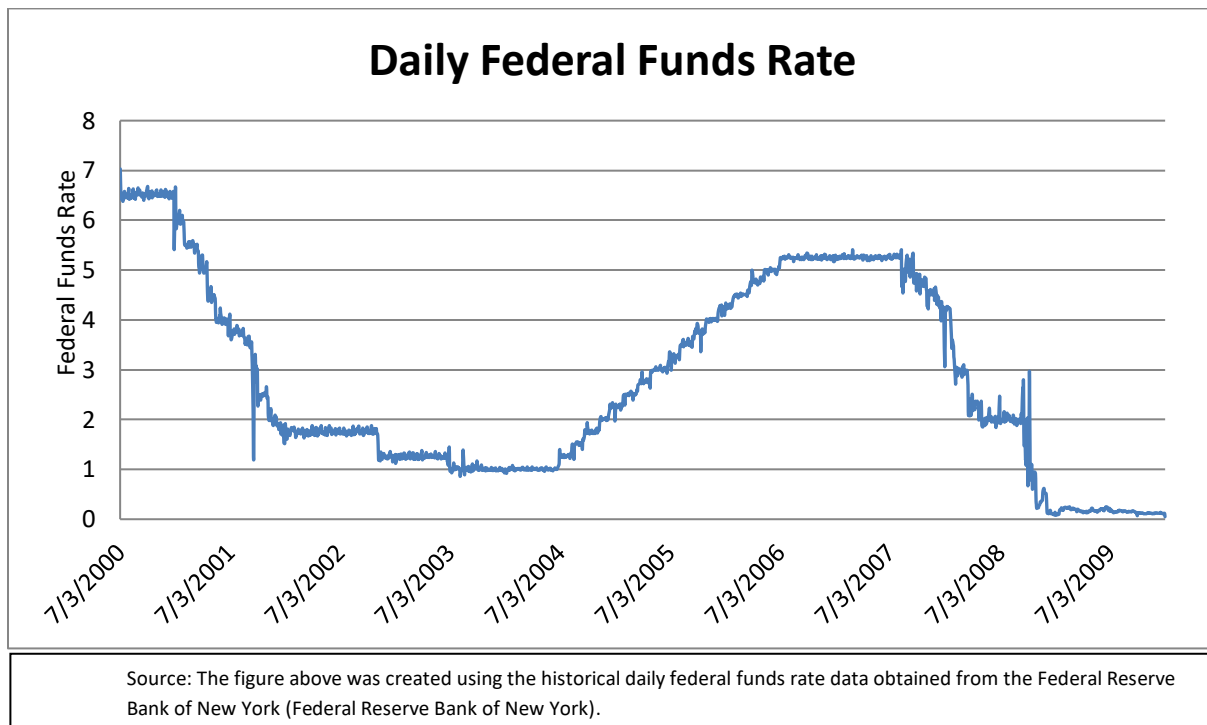
The Primary Mortgage Market

Common sense would suggest that in order for foreclosures and mortgage defaults to occur the lenders must first sell these mortgages. In the past mortgages were kept on the books of the institutions that sold the mortgages (Nielsen, 2009). The risk of default was contained within the bank and

consequently banks and lending institutions looked to sell safer, fixed rate mortgages to more credit worthy customers to lower their risk exposure to default. This system allowed the lending institutions to take on the desired level of risk the bank deemed appropriate and take any subsequent losses that resulted from risky mortgages.

Interest Rates and the Fed

Following the “dot com” bubble interest rates dropped and the demand for mortgages increased steadily. The drop in interest rates led to favorable terms for mortgage agreements and the American homebuyers actively took advantage of this opportunity. Alan Greenspan has since defended his use of low interest rates for nearly a decade; however, the fact remains that low interest rates make mortgages more attractive (Hilsenrath, 2010). The low interest rates during the early 2000s and late 1990s contributed to the increased demand for mortgages but certainly were not the only factor.



As the chart indicates, after 2000 the Fed drastically cut interest rates. These extremely low rates fueled the demand for mortgages and housing which consequently artificially inflated housing

prices. In 2004, the Fed began steadily increasing rates, which steadily decreased the demand for mortgages and led to the eventual decline in housing prices. A decrease in home values by itself is not enough to cause a financial crisis, however when the mortgages that underlie securities become questionable the effects can be widespread. In an attempt to ease the economy after a troubling “dot com” bubble the Fed actually increased the demand for mortgages and contributed to the inflation of housing prices.

Lenders

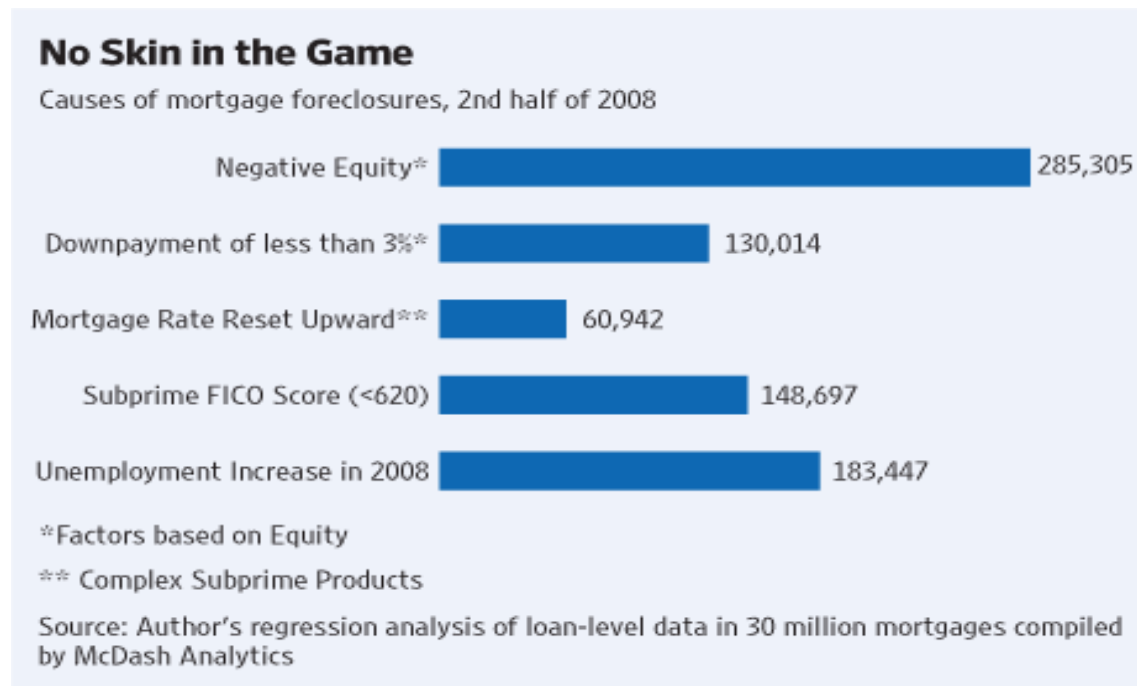
Under traditional banking, lenders, despite a dramatic increase in demand, would still be wary of the mortgages they created, keeping in mind that defaults on mortgages are a risk. However, as discussed later, there was a liquid market in which bankers could sell these mortgages, thus transferring the risk off the lending institutions’ books (Petroff, Who Is To Blame For The Subprime Crisis, 2009). Furthermore, the traditional banking practices of thorough checks and strict selection of mortgages became less important because banks were able to transfer the risk of mortgage default to the purchaser of the security. This concept soon became the basis for the creation of mortgages for less credit-worthy borrowers and the subsequent defaults.

In order for the lending institutions to create these mortgages, the terms, and process for mortgages had to evolve. In contrast to the past, lenders began accepting information from borrowers without proper documentation, such as stated incomes (CNBC, 2009). From this point forward, many lenders created exotic mortgage terms that would enable subprime borrowers to obtain mortgages. Adjustable rate mortgages lured borrowers in, who may have not otherwise considered a mortgage. From a lenders standpoint there were a number of incentives to sell these loans as brokers often received higher commissions for adjustable rate mortgages and with the ability to quickly sell these loans the risk became non-existent (Business Week, 2006).

In order to accommodate the demand for mortgages lenders began to offer an array of complex mortgages with unclear terms such as interest only, no down payment and negative-amortization mortgages (Tremblay, 2010). Interest only loans enabled buyers to pay only the interest owed on their mortgages rather than making traditional payments that include a portion of interest and principal. This type of loan encouraged buyers who were unable to make full mortgage payments to pay only the interest portion of the payment. This created problems in the years following the interest only terms as borrowers were exposed to several risks, which included rising interest rates and rising payments in the future. The negative-amortization mortgages by nature require payments that are less than the interest owed and add the deferred interest to the principal (Negative Amortizing Loan). Negative amortizing loans enticed borrowers in a similar way by offering low initial payments regardless of whether the borrowers would have the wherewithal to make full payments in the future. Balloon payments, another type of exotic loan, offered borrowers interest only or partially amortizing payments for a specified number of years and then required the borrower to pay off the balance within a short time period (Investopedia). All of these loans lured in borrowers in a similar way, by essentially luring in buyers with low initial payments and disregarding whether the borrowers would have the ability to make the higher payments in the future. Many subprime borrowers were unaware of these arrangements but the demand for these exotic type mortgages continued to grow.

The greed of the lenders was not the only factor that contributed to the loan defaults. Although many lenders created ill-advised mortgages to subprime borrowers, lenders also made several mortgage loans in good faith. With rising house prices many Americans looked to take advantage of the equity in their homes and took out second mortgages, which was a large part of consumer spending during the development of the housing bubble (Petroff, How Will the Subprime Mess Impact You, 2009). This situation however became problematic as housing prices began to fall drastically, leaving many

homeowners with loan balances on their mortgages that exceeded the value of their homes. This situation is known as negative equity and accounted for nearly half of the foreclosures (Liebowitz, 2009). Despite the fact that lenders made these mortgages in what appears to be good faith, the rising house prices led to an increase in second mortgages, which further increased the demand for mortgages and home values.



In order to understand the complexity involved in the securitization and sale of mortgages it is vital to understand the lending practices through which these mortgages originated. As one can ascertain from the information above the demand for these mortgages led the lenders to begin making subprime loans. As the demand for these mortgages grew, the housing prices consequently increased which caused more homeowners to take out second mortgages. This repeated cycle created a snowball effect that led to the inflated prices in the housing market. Many of these subprime mortgages included terms that allowed a three-year period before rates reset which allowed the bubble to grow for a longer period before the bottom fell out.

The Secondary Mortgage Market

In the discussion of the lending practice, it was evident that the lenders were unconcerned with the risk of default when creating mortgages because of the liquidity within the secondary mortgage market. This secondary mortgage market developed to help build a market in which lenders could sell mortgages, to free up capital and provide more mortgages to Americans. The creation and growth of this secondary mortgage market, which is part of the parallel banking system, had several effects on the subprime mortgage crisis. The effects that may have been contained within lending institutions now affect markets across the globe. A closer examination of this new and developing market will focus on some of the factors that contributed to the subprime collapse.

Fannie Mae and Freddie Mac

Fannie Mae and Freddie Mac are government-sponsored entities that purchase mortgages and have contributed significantly to the financial crisis. In order to understand the context in which these two entities influenced the financial crisis it is important to know the history surrounding these entities.

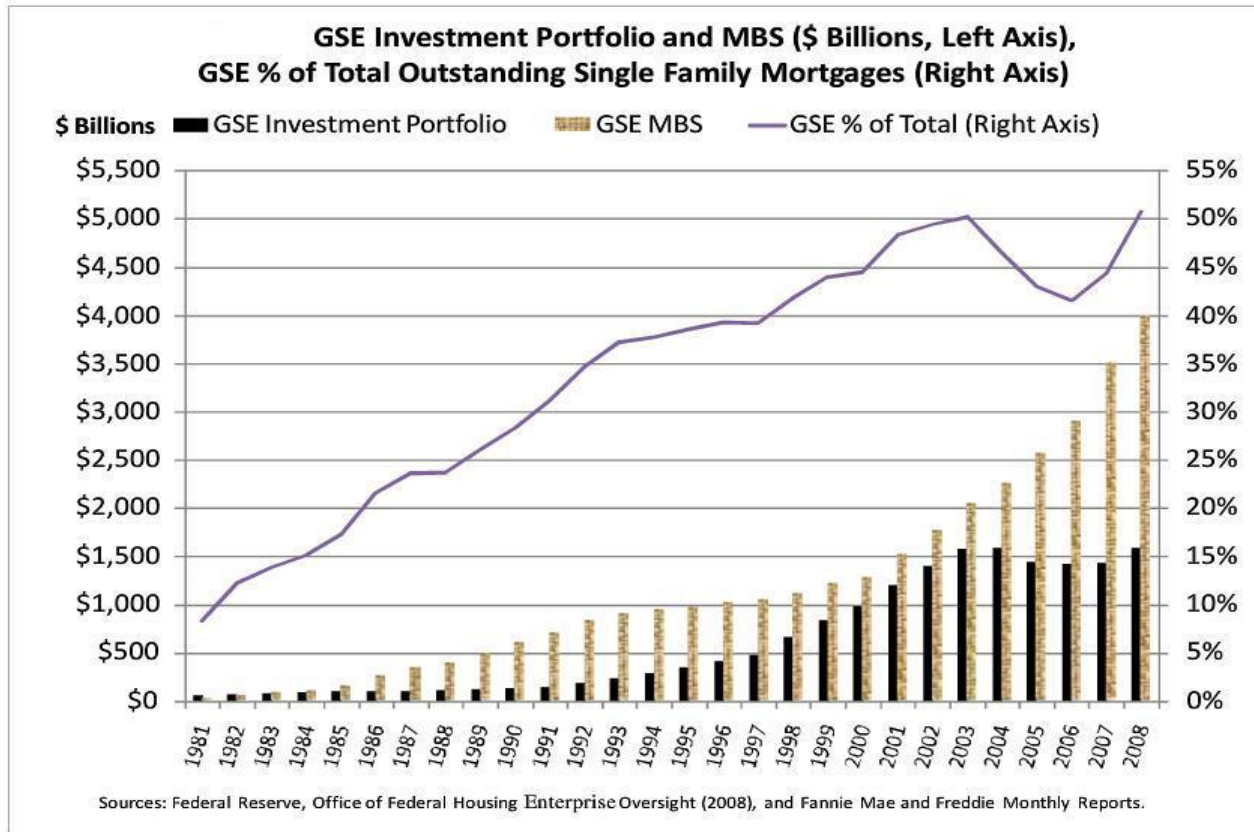
History

During the Great Depression, Franklin Delano Roosevelt set up the Federal National Mortgage Association, better known as Fannie Mae, to encourage home ownership for lower income families (About Us - Fannie Mae, 2010). In 1968 Fannie Mae became a private government-sponsored entity owned by shareholders (About Us - Fannie Mae, 2010). Two years later Congress chartered the Federal Home Loan Mortgage Corp, or Freddie Mac, to perform essentially the same role as Fannie Mae (Freddie Mac:Company Profile, 2010). These two entities are government-sponsored entities, which elicit an implicit impression that the U.S. government guarantees the operations of these entities. The primary operation of the entities is to purchase mortgages and mortgage backed securities, many of

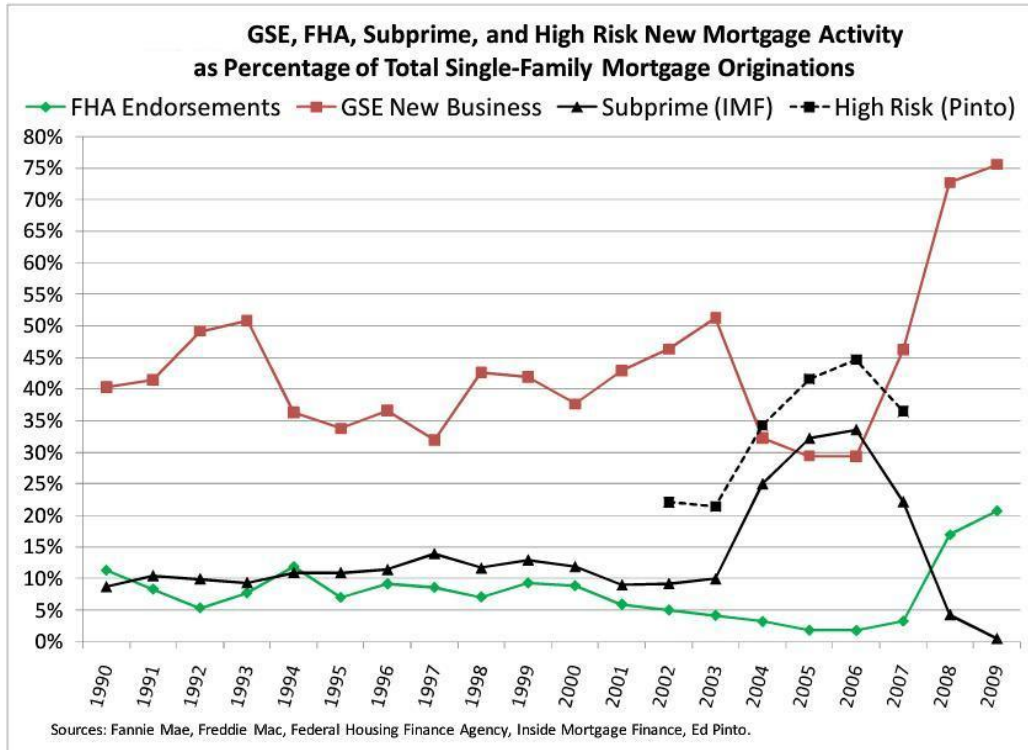
which they hold in portfolios that have lower capital requirements than regulated entities (Nielsen, 2009). The entity funded the investments with corporate debt issued at extremely low rates, which was largely possible due to the implicit government guarantee (Nielsen, 2009). Because of the abovementioned characteristics, the two entities grew out of control and maintained a monopoly on the secondary mortgage market for many years.

Role in the Financial Crisis

These two entities together make up the “older parts” of the shadow banking system. Bankers created the mortgages in the face of the consumer, but soon after sold them off into the secondary mortgage market. The existence of these two entities consequently set up a liquid market to sell mortgages and allowed banks to remove these mortgages from their balance sheets. The Government Sponsored Entities (GSEs) securitize the mortgages creating Mortgage-Backed Securities (MBS) and sell them to investors with a 100% guarantee against loss of interest or principal (Jaffee, 2010). To fund this guarantee the entities charged a “guarantee fee” somewhere between 15 and 25 basis points (Jaffee, 2010). These entities also retained a portfolio of these securities that increased immensely over the years, funded primarily through debt issued at extremely low yields resulting from the implicit government guarantee (Jaffee, 2010). These actions alone increased risk but when combined with extremely low capital requirements, .45% for loan guarantees and 2.5% for loan portfolios, the entities took on excessive amounts of risk.



Bankers on Wall Street saw the potential for profits in the market for mortgages and began expanding its market share in the mortgage market. In 2003, the GSEs’ market share was over 50% of the mortgage market as a whole, but had lost 20% of new business from 2003-2006 (Jaffee, 2010). The entities could not gain market share in prime mortgages because they had penetrated nearly 100% of the prime mortgage market. In an attempt to regain market share, these entities acquired a 20% increase in the subprime lending market share (Jaffee, 2010). By aggressively purchasing these subprime mortgages, the two large institutions spurred the demand for subprime mortgages, effectively increasing the risk of default for the securities that contained these mortgages. All of these factors as a whole created two GSEs that were susceptible to liquidity problems, large losses on retained portfolios, rising obligations from loan guarantees and a liquid secondary market for mortgages both prime and subprime.



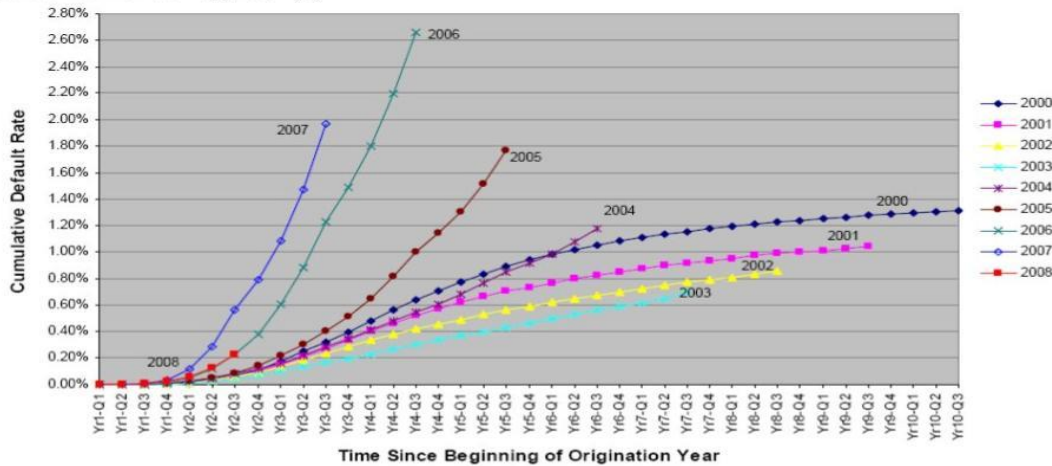
Around the turn of the century, Fannie Mae and Freddie Mac were involved in an accounting scandal that seriously brought into question the quality of its management. In Fannie Mae, management deferred expenses, presumably to smooth fluctuations in earnings and to provide maximum compensation for its management (Hilzenrath, 2004). The fraudulent accounting practices allowed executives to receive full annual bonuses and created a perception that Fannie Mae was a safe investment given its smooth growth in earnings. Fannie and Freddie also faced scrutiny for the way they valued the complex derivatives used for interest rates. The two mortgage giants valued these derivatives in controversial ways, which congress noticed particularly after the existing scandals in Fannie Mae.

Following the accounting scandals the entities committed to provide more “affordable housing” in an attempt to gain support from congress (Calomoris & Wallison, 2008). In order to achieve this commitment the GSEs began aggressively purchasing subprime mortgages and mortgage backed securities. The seemingly endless demand for these subprime mortgages by the GSEs created a revolving

door for subprime mortgages and consequently led to the creation of more mortgages. As one would expect, when there is an opportunity to create, market and sell mortgages while effectively eliminating risk, lenders are going to do so as long as the demand for these mortgages continued to exist. Despite the fact that many influential figures sought to regulate the entities, including Alan Greenspan, they still found support from congress so long as they stayed true to their mission of “affordable housing”, at least in appearance (Calomoris & Wallison, 2008). Fannie Mae and Freddie Mac did indeed buy large sums of subprime mortgages; however, the goal of reducing rates or providing affordable housing took a back shelf to the profits of the entity. They created opportunities for low-income families to obtain mortgages, but the complexity and exotic nature of the mortgages only made housing affordable in the short-term. In the end, the interest only loans and negative amortization loans were far from affordable for lower income families.

Fannie Mae and Freddie Mac essentially created the secondary market for mortgages. Instead of institutions that made affordable loans possible for low-income households the GSEs used their implied guarantees for the internal benefit of their respective entities. Fannie and Freddie then securitized these mortgages, creating mortgage-backed securities through which it earned fees by implicitly guaranteeing the recurring payments by the borrowers (Olsen, 2008). With the incentive to maximize profits, retain market share and appease the congressional desire for more affordable housing, the mortgage houses made risky decisions that created a liquid market for subprime mortgages. The number of loans that defaulted based on the year of origination clearly demonstrates how Fannie and Freddie created a liquid market for subprime mortgages (Jaffee, 2010). By generating large returns through their retained portfolio of mortgages, Fannie Mae and Freddie Mac acted with the greed found all Wall Street, while funding their endeavors with treasury funds. With these two dangerous practices Fannie Mae and Freddie Mac experienced unprecedented growth, \$4.5 Trillion in MBS either by selling or retaining the

Fannie Mae Cumulative Default Rates by Year of Origination
 (Source: Fannie Mae 10Q, 2009 Q3)



Note: Defaults include loan liquidations other than through voluntary pay-off or repurchase by lenders and include loan foreclosures, preforeclosure sales, sales to third parties and deeds in lieu of foreclosure. Cumulative Default Rate is the total number of single-family conventional loans in the guaranty book of business originated in the identified year that have defaulted, divided by the total number of single-family conventional loans in the guaranty book of business originated in the identified year.

securities within their portfolios (Nielsen, 2009). To put this figure into relative terms, the entire U.S Federal debt is roughly \$9.5 trillion and the U.S. GDP is roughly \$14 trillion (WSJ, 2008). As one can see, the impact these two entities had on the secondary mortgage market and the economy as a whole was tremendous. The financial experts on Wall Street were not going to sit idle as these entities maintained a monopoly on this extremely profitable industry. Fannie Mae and Freddie Mac paved the way for the innovation and the risk taken on by the Wall Street experts and were the pioneers of the secondary mortgage market and shadow banking system, which contributed to the mortgage crisis.

Wall Street

The shadow banking system, or parallel banking system, includes all of the financial intermediaries that are involved in facilitating credit across the global financial system but do not accept traditional bank deposits (Shadow Banking System, 2010). Some of the institutions within the shadow banking system include investment banks, hedge funds as well as Fannie Mae and Freddie Mac. The key attribute of the shadow banking system is the lack of regulation over the general practices of these

institutions. This lack of regulation allows for excessive risk taking which yield high returns but carry on the risk of default.

Incentive Based Pay

Many critics point to the incentive based pay criteria for many of these institutions as a major reason for the losses that occurred during the subprime meltdown. This notion however is a prime example of the “finger pointing” that occurs despite the fact that the financial crisis was a result of a combination of causes. Using conventional thinking, individuals receiving incentive based pay would be encouraged to take on additional risk to create larger returns. However, 93% of the mortgage-backed securities held by American banks were either, issued by Fannie Mae or Freddie Mac or received a AAA rating from the oligopoly of rating agencies (Friedman & Kraus, 2010). The securities issued by Fannie Mae or Freddie Mac contained an implicit guarantee that the U.S. congress would support the interest and principal guarantees that the entities promised. Subsequently the rating agencies viewed the securities as safe, investment grade securities although there is some debate to the valuation practices (CNBC, 2009). With that said it is evident that bankers did not purchase these securities because of excessive risk taking encouraged by incentive-based pay but on the contrary held these investments because of the low risk they believed they contained.

In contrast to popular belief, the capital regulation requirements created incentives for bankers to hold these risky mortgage-backed securities. In 2001, the Basel Accords, the rules that govern banks’ capital holdings, were amended by the Federal Reserve (Friedman & Kraus, 2010). Under the new recourse rule, \$2 of capital was required for every \$100 of mortgage-backed securities where as \$5 and \$10 of capital for every \$100 of mortgage and commercial loans respectively was required (Friedman & Kraus, 2010). Although the intent of the amendment was to encourage banks to invest in safe capital holdings, the flawed valuations of the mortgage-backed securities increased the problems. In the eyes of

the regulators, mortgage-backed securities were a safe investment, however by creating lower capital requirements for these securities, financial firms across the industry constructed the balance sheets in similar ways to free up capital.

As one can ascertain, it was not the incentive based pay practices that created the massive subprime holdings but rather faulty regulation. It is not to say that regulation was the cause of the financial crisis but that it did contribute to the large portfolios held by many American banks. At the core of capitalism, it is the decisions and valuations of different individuals that set apart businesses. Furthermore, if individuals disagree on the future returns of an investment their choices will offset each other creating a natural hedge for the economy as a whole. When individuals across the industry make uniformed decisions based on incentives offered by misguided regulation, as was the case with capital requirements, the entire system as a whole suffers where as misguided judgment by an individual institution can be contained within that institution.

The Repurchase Market

In the past, most financial failures have occurred because of a lack of confidence in the banking system, which would lead to a “run on the banks.” Depositors that were unsure of the banking system’s stability would quickly withdraw their deposits in fear of losing their money. Because the primary activity of traditional banking is to borrow short-term and lend long-term, rapid withdrawals cause great distress in the banks. After the FDIC began insuring deposits the aforementioned problem disappeared as investors were no longer concerned about losing their deposits.

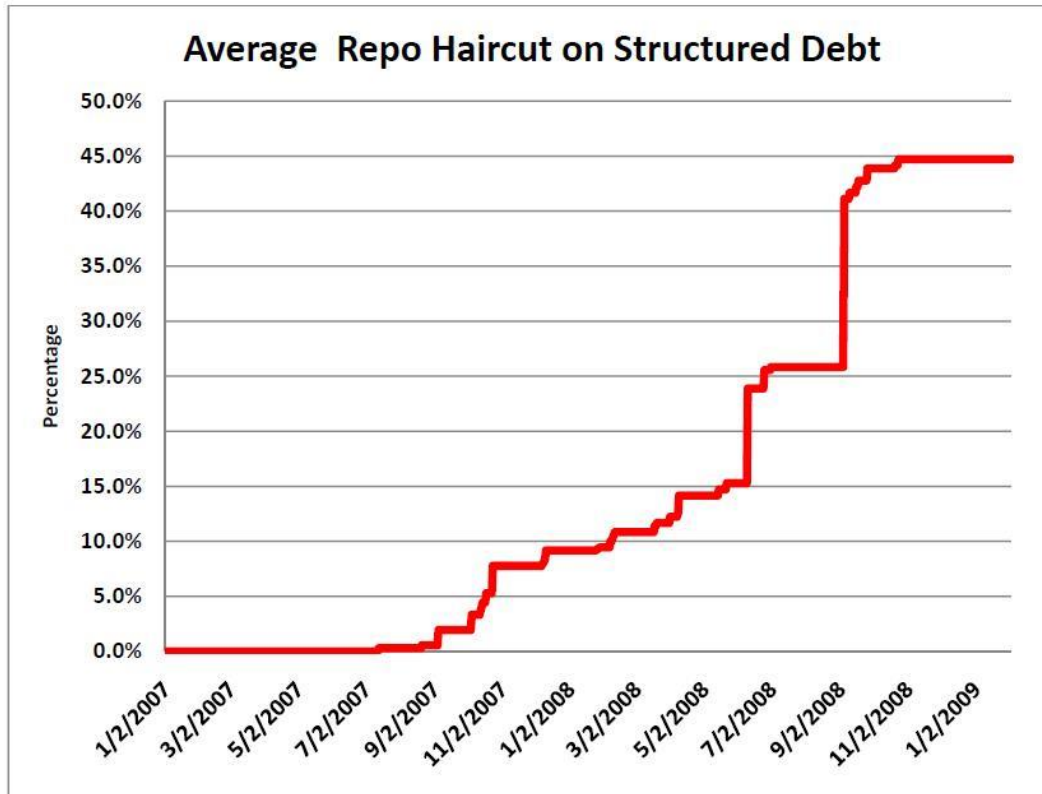
The same situations occur today however these problems arise within the parallel banking system rather than occurring within the traditional banking system, which the U.S. regulates and insures. Because the FDIC only insures accounts up to \$250 thousand, institutions with larger accounts must seek out other places to store cash and accumulate interest. This is where the parallel banking

system comes in. In many cases, institutions will lend money to financial institutions in exchange for securities, held as collateral for the money lent. The securities act as collateral in the sense that the institution may sell the security at market value if the financial institution is unable to repay the loan amount. The financial institution then initiates a repurchase agreement whereby it agrees to repurchase the security for a slightly higher price, thus providing interest to the lending institution. This situation parallels traditional banking in the sense that the financial institution is borrowing short-term (the lenders funds) and lending or investing long-term (holding securities). This transaction is known as a Repurchase Agreement or repo-transaction. As long as the money borrowed is equal to the market value of the security both parties benefit from the situation, the lending institution is able to earn short-term interest from the financial institution and the financial institution is able to earn a higher rate on its long-term security (Gorton, 2010).

To understand the situation more clearly lets use a numerical example. Suppose an institution, Lender Inc., wants to keep its \$100 million of funds liquid in case an investment opportunity arises however, they would like to earn interest in the mean time. The institution would lend the money to an investment bank overnight earning interest at 3% and the investment bank would transfer ownership of a mortgage-backed security(MBS) earning 6% annually with a market value of \$100 million to Lender Inc. At the start of the next business day, the investment bank would buy back the security at \$100 million plus the overnight interest of 3% or roll over the deposit if the lending institution decides to do so. The Repo market essentially creates a checking account for large institutions that is secured by fixed income instruments. The investment bank is able to use the borrowed funds to fund other projects or to fund the purchase of the MBS if it had previously borrowed money to do so. Both parties benefit from this situation because Lender Inc. was able to earn interest on its \$100 million without any long-term obligations, while the investment bank was able to use short-term funds borrowed at a low rate to

finance a long-term instrument that earned a higher rate of return than the overnight rate. This practice is a more complex version of traditional banking whereby banks borrow short-term and invest or lend long-term.

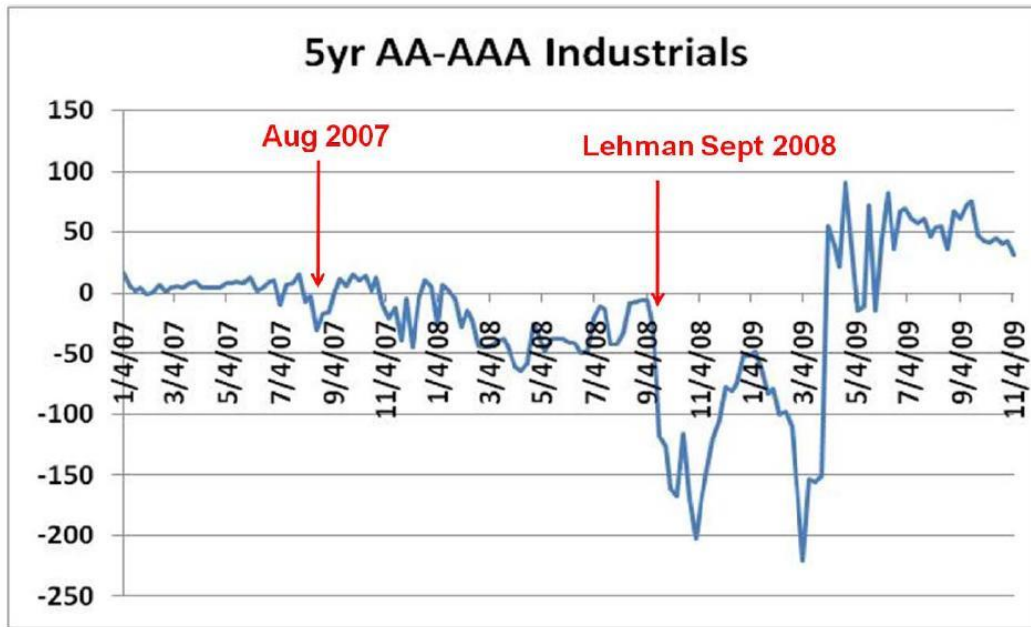
In the example above both parties are able to benefit from the arrangement, however when the lender questions the value of the collateral problems begin to occur. In the example, the lender lends the investment bank money and in return receives a security with a market value equal to the amount borrowed by the investment bank. If this scenario remained constant, the investment bank would be able to finance its long-term investments by constantly borrowing short-term from institutions. However, institutions began lending less than the market value of the security, which caused problems. Continuing with the above example, instead of Lender Inc. lending \$100 million in exchange for a \$100 million security, Lender Inc. only provided \$80 million in exchange for a \$100 million MBS. Under this arrangement, Lender Inc. protects itself against a 20% decline in the value of the security if the situation had occurred. The difference between the money loaned to the investment bank and the market value of the securities is known as a "haircut" (Gorton, 2010). The problem with haircuts occurs when the investment bank seeks to find additional funds to compensate for the haircut. In the example, the investment bank must find a way to finance the remaining \$20 million in an efficient way to make the investment profitable. If this was the only repo transaction the investment bank was involved in, the bank would be able to fund the additional \$20 million from another source. The problem occurs when a series of clients demand haircuts on their deposits. This puts a burden on the bank to find additional sources of capital to fund its investments and subsequently creates a "run on the bank."



Source: Gordon and Metrick (2009a) (Gorton, 2009).

The haircuts in an investment bank and withdrawals in a commercial bank are essentially the same action (Gorton, 2010). Haircuts require an investment bank to find additional funds to finance its long-term investments in the same way withdrawals from a checking account require banks to find additional funds to make loans. If many clients demand these haircuts on the repos transactions it creates what is essentially a “run on the banks” (Wessel, So What Exactly Caused the Financial Crisis?, 2010). As more and more lenders began to demand higher haircuts, investment banks struggled to find the additional funds to finance these investments. In traditional banking, the FDIC insurance acts as a safeguard, preventing banking institutions from massive withdrawals by insuring the first \$250 thousand in an account. The shadow banking system lacks the same insurance and is consequently subject to the risk of massive withdrawals. Haircuts on assets as a whole, were historically zero however by the end of

2008 some haircuts were as high as 45% of the market value of the security. As the average haircut rose, the market value of the securities declined, as many began to believe the level of risk in these mortgage backed securities had risen.



Source: Gorton and Metrick (2009a).

In order to compensate for the lack of capital caused by the haircuts investment banks looked for sources of capital to fund their investments. The rising withdrawals forced investment banks to sell assets to compensate for the haircuts. Many firms chose to sell highly rated AAA bonds to minimize losses as the investment firms believed that these bonds would not decline in value because the investment grade status and dissociation with mortgages (Gorton, 2010). By selling these highly rated bonds, the investment banks hoped the price of the bonds would stay stable and the bonds would sell near full price thus maximizing the capital. Because the volume of AAA bonds sold was so high the price on these bonds began to drop. The spread between AA and AAA bonds exemplifies the decline in price of AAA bonds. These “fire-sales” across the market increased the supply, which decreased the price and created losses for the investment banks.

Haircuts caused the problems associated with raising capital, however it was decline in housing prices that led to the haircuts. Investor confidence in the housing market as a whole declined as the housing prices fell and institutional investors soon demanded more security for their deposits. The fact that the housing prices fell is not a huge shock to the economy, but the impact on the shadow banking system caused large trickle down effects. As housing prices fell, it is reasonable to assume that there were consumers that had mortgages with loan balances greater than the market value of the house. Furthermore, it is also reasonable to assume that the likelihood that these particular consumers would default on their mortgages would increase as housing prices fell. If investment firms could assure the lenders that, the individual mortgages underlying the particular MBS they were receiving as collateral consisted of only high quality mortgages the lenders would probably not demand a haircut. In other words if the securities used as collateral were made up of only high-quality mortgages the lenders would feel that it was a relatively safe investment and a decline in the market value was unlikely thus eliminating the need for a haircut. Whether or not the investment firm holds a portfolio of risky investments is irrelevant to the lender as long as the particular security used in the repo-transaction is safe. As long as the individual security used as collateral was of high quality, the default of the investment firm has little impact on the lender as the lender can simply sell the security and recoup the funds because it is an investment grade security. However, when taking into consideration the number of mortgages involved in the complex mortgage backed securities, it was nearly impossible to determine the risk of default of any particular MBS. To avoid losses lenders avoided the use of MBS as collateral and the price of these securities fell drastically. The portfolios retained by these investment firms as well as those held by Fannie Mae and Freddie Mac experienced large decreases in values and caused large losses for the firms.

In essence, it was not the actual losses or defaults on sub-prime mortgages that caused the drain of capital. The perceived risk in the value of the mortgages that composed the MBS actually caused the demand for haircuts and the drain of capital. Actual foreclosures mortgage defaults did not lead to the initial losses associated with the securities. The foreclosures did however contribute to investor skepticism and fear that caused the retreat from these securities. As one would expect the firms that experienced the largest losses were those that utilized the MBS extensively without insuring them with credit swaps, a form of insurance for fixed income instruments. Other firms that may not have used MBS as extensively however still felt the impacts as other assets declined in value because of “fire sales” of quality assets by other large institutions. Overall it was the financing activities of the secondary mortgage markets that created an overreaction by the market.

Conclusion

The financial crisis was the result of a series of underlying issues within the economy. Despite the public’s demand for a scapegoat the fact remains that it was the decisions and actions of millions of people that led to the treacherous outcome. Extremely low interest rates for most of the decade fueled the demand for mortgages as a whole. These rates made both original and second mortgages attractive opportunities for many Americans. These opportunities in part seemed to be endless given the large demand for mortgages by the mortgage giants Fannie Mae and Freddie Mac. These two entities in an attempt to regain market share and appease those in congress purchased large amounts of subprime mortgages thus creating a liquid market for subprime mortgages and exposing the American taxpayer to large levels of risk. The unique characteristics allowed for uncontrolled growth and a number of implicit guarantees for investors from the U.S. government. As the prevalence of the securities developed, investment firms began using the MBS, created both internally and through the GSEs, as collateral for repurchase transactions. What started as high yielding short term funded investments soon became

depreciating securities, which destroyed the balance sheet of many companies. The inability to distinguish between quality and speculative grade mortgages within the complex mortgage-backed securities led to an overall decline in the price of all MBSs. Lending institutions soon demanded haircuts on the securities used as collateral, which drained the capital from the investment firms. To meet the demand for additional capital “fire sales” of investment grade bonds occurred drastically lowering the price of these bonds. From here the effects have trickled down from Wall Street to Main Street and Americans today are still feeling the impact.

Bibliography

- About Us - Fannie Mae.* (n.d.). Retrieved February 2010, from Fannie Mae:
<http://www.fanniemae.com/kb/index?page=home&c=aboutus>
- Business Week. (2006, September 11). Nightmare Mortgages. *Business Week* .
- Calomiris, C. W., & Wallison, P. J. (2008, September 23). Blame Fannie Mae and Congress For the Credit Mess. *Wall Street Journal* .
- CNBC (Director). (2009). *CNBC Originals: House of Cards* [Motion Picture].
- Federal Reserve Bank of New York. (n.d.). *Federal Funds Data Historical Search*. Retrieved April 1, 2010, from Federal Reserve Bank of New York:
<http://www.ny.frb.org/markets/omo/dmm/historical/fedfunds/ff.cfm>
- Freddie Mac: Company Profile.* (n.d.). Retrieved February 2010, from Freddie Mac:
http://freddiemac.com/corporate/company_profile/
- Friedman, J., & Kraus, W. (2010, January). A Silver Lining to the Financial Crisis: A More Realistic View of Capitalism. *Wall Street Journal* .
- Gorton, G. (2009). *Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007*. Yale School of Management.
- Gorton, G. (2010). *Questions and Answers about the Financial Crisis*.
- Hilsenrath, J. (2010, March 19). Greenspan Defends Low-Rate Policy . *Wall Street Journal* .
- Hilzenrath, D. S. (2004, September 23). Report Slams Fannie Mae. *Washington Post* .
- Jaffee, D. M. (2010). *The Role of GSEs and Housing Policy in the Financial Crisis*. Haas School of Business University of California, Berkeley.
- Liebowitz, S. (2009, July 3). New Evidence on the Foreclosure Crisis . *Wall Street Journal* .
- Negative Amortizing Loan.* (n.d.). Retrieved February 2010, from Wikipedia:
<http://www.investopedia.com/terms/n/negativelyamortizingloan.asp>
- Nielsen, B. (n.d.). Fannie Mae, Freddie Mac And The Credit Crisis Of 2008 . *Investopedia* .
- Olsen, E. (Director). (2008). *Fannie Mae and the Financial Crisis* [Motion Picture].
- Petroff, E. (n.d.). *How Will the Suprime Mess Impact You*. Retrieved February 2010, from Investopedia:
<http://www.investopedia.com/articles/pf/07/subprime-impact.asp>
- Petroff, E. (n.d.). Who Is To Blame For The Subprime Crisis. *Investopedia* .

Shadow Banking System. (n.d.). Retrieved from Investopedia :

<http://www.investopedia.com/terms/s/shadow-banking-system.asp>

Tremblay, R. (2010, March 22). Economic bubbles and financial crises, past and present. *Online Journal* .

Wessel, D. (2010, February 23). So What Exactly Caused the Financial Crisis? *Wall Street Journal* .

WSJ. (2008, July 10). The Price of Fannie Mae. *Wall Street Journal* , pp. 14-A.