

The Subprime Crisis: An Analysis of New England in 2006

The Honors Program
Senior Capstone Project

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April, 2008

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ABSTRACT

This paper examines the potential causes of the subprime loan crisis and discusses its impact in the United States. The root causes of the crisis include unethical practices by brokers and lenders, a lack of corrective action by credit rating agencies, lax regulation by the Federal Government of independent mortgage companies and the role of Wall Street. First, I examine the lax lending practices over this time period by comparing the performance of mortgage pools by three well known high-priced lenders over a two year period (2005 – 2006). I find strong evidence of poorer underwriting in the latter year. Second, using the 2006 Home Mortgage Disclosure Data (HMDA), I further analyze the lending patterns and the prevalence of higher-priced loans in New England to assess the extent of potential problems. I find that in 2006 African Americans and Hispanics were significantly more likely to get a higher cost loan compared to white individuals in New England despite similar income and loan amounts. Finally, I conclude by summarizing existing flaws in the system and proposing some solutions to help better educate mortgage consumers.

INTRODUCTION

Over the past decade the United States mortgage market has been transformed by the boom in subprime lending activity. Home prices skyrocketed as the Federal Reserve kept interest rates low and credit became easily available to borrowers by mortgage companies looking to originate and securitize loans in order to satisfy riskier appetites of mortgage backed security investors. The democratization of credit, due to lower rates and looser underwriting, led to an increase in demand for home loans as the opportunity to own a nicer home became available to those who could not previously afford one.

Figure 1 shows that subprime lending was a major driver in the increase in homeownership between 2001 and 2005. The subprime lending boom included a big increase in the number of no or low documentation loans, which rose from 18 percent in 2001 to 49 percent in 2006 and increasing average loan-to-value ratios accepted by lenders. The lax upfront financial commitment to these loans attracted an increasing number of borrowers obtaining higher-priced, no or low documentation loans in order to afford the dream house they have always wanted. A segment of the subprime loan expansion, however, included “predatory loans” originated by brokers, who took advantage of the loose lending terms and the borrowers’ lack of knowledge of loan stipulations in order to secure higher sales compensation and fit borrowers with unsuitable loans.

Subprime lending between 1998-2006

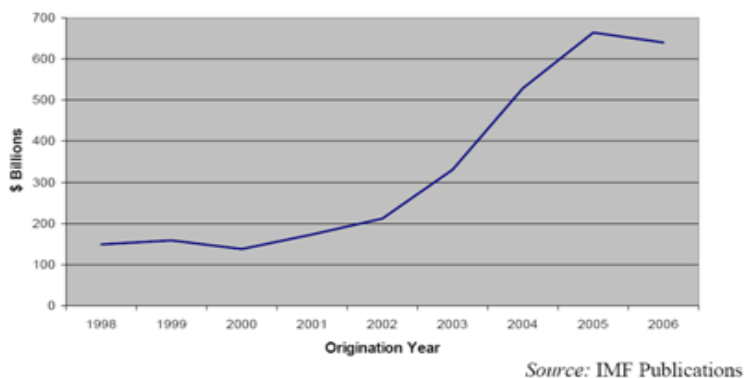


Figure 1 – Subprime lending from 1998 – 2006

The initial growth and leniency in underwriting subprime loans was not a problem at first because homeowners could easily refinance their teaser loans as home prices were reaching historic highs, which resulted in an equity cushion for lenders. Presently, as home prices continue to decline, however, borrowers face delinquencies and foreclosures as refinancing or selling their home at a profit is no longer a viable option. Investors of mortgage backed securities are also under stress.

Subprime lenders, mortgage brokers, federal and state regulators, homeowners and even consumers are all coming under fire as a result of the collapse of the mortgage industry. Not only are people losing their homes in foreclosures, but credit availability has been tightened in an attempt by lenders to minimize their damages. Investors have lost their appetite for mortgage backed instruments due to increased credit risk and lack of liquidity.

The government is scrambling to find ways to minimize, fix and eventually reverse this problem in fear of a trickle down effect of the mortgage market into the economy. The Federal government's recommendations reflect the consensus of the Working Group, which

includes the heads of the Federal Reserve Board, the Federal Reserve Bank of New York, the Securities and Exchange Commission and the Commodity Futures Trading Commission (Paletta).

The remainder of the paper is structured as follows. In section II, I review the existing literature on subprime lending. This section analyzes the contributing factors to the crisis including the role of the Fed, credit rating agencies, lenders, and flaws in the securitization process as well as examining some of the proposed solutions. In section III, I compare the performance of six total mortgage pools securitized by Countrywide, New Century and Ameriquest across two vintage years (2005 and 2006) to assess if there was a decline in underwriting over this time period. In section IV, I describe the Home Mortgage Disclosure Act (hereafter, HMDA) data employed in this study. I provide descriptive information on the prevalence of higher cost lending in the New England states during 2006. This analysis sheds light on potential discriminatory and possible predatory lending in New England. In section V, using multivariate logistic regression, I analyze the characteristics of borrowers more likely to obtain a higher cost loan. Finally, in section VI, I provide conclusions and policy implications.

LITERATURE REVIEW

What is Subprime?

Borrowers obtaining a subprime loan to purchase a home typically have a poor or blemished credit history. They are considered a higher credit risk to lenders because of their questionable credit history.

Considering the lack of a universal definition of subprime lending, the Federal Bank issued the *2001 Interagency Expanded Guidance for Subprime Lending Programs*, which defines the

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subprime borrower as one who generally displays one or more of the following credit risk characteristics:

- Two or more 30-day delinquencies in the last 12 months, or one or more 60-day delinquencies in the last 24 month;
- Judgment, foreclosure, repossession, or charge-off in the prior 24 months;
- Bankruptcy in the last 5 years;
- Relatively high default probability as evidenced by, for example, a credit bureau risk score (FICO) of 660 or below (depending on the product/collateral), or other bureau or proprietary scores with an equivalent default probability likelihood; and/or,
- Debt service-to-income ratio of 50 percent or greater; or, otherwise limited ability to cover family living expenses after deducting total debt-service requirements from monthly income (Ashcraft & Schuermann)

Borrower FICO scores are typically used to segment borrowers into three distinct risk classifications: prime, Alt-A, and subprime. Prime borrowers are in good credit standing, usually with a credit score of 720 or higher. Prime borrowers typically make a down payment and are willing to document their income and therefore are rewarded with a lower rate. Alt-A is a category for borrowers with a credit score between 620 and 720. It is known as a “catch-all” category which includes many nontraditional loans such as option adjustable-rate mortgages (ARMS) and mortgages that carry little, if any, documentation of income or assets. Subprime loans are made to those individuals who have weak credit or excessive debt in relation to their normal income.

Securitization of Subprime

Until the 1980s, home owners traditionally financed their homes with fixed-rate mortgages from banks and thrifts. The banks financed the loans through low-cost federally insured deposits and typically retained these mortgages on their books. Commercial banks are closely overseen by federal and state banking regulators whose sole purpose is to ensure bank safety

and soundness to protect the deposit insurance from reckless lending (Ip & Paletta). As access to non-depository sources for residential mortgages expanded and a private label (non-GSE) secondary mortgage market was created, there was a rapid growth of independent mortgage companies offering subprime loans (Apgar, Bendimerad & Essene). Figure 2 shows the significant increase in the amount subprime mortgages as a percentage of all mortgages between 2003 and 2006.

Subprime Share of All Mortgages by Origination Year

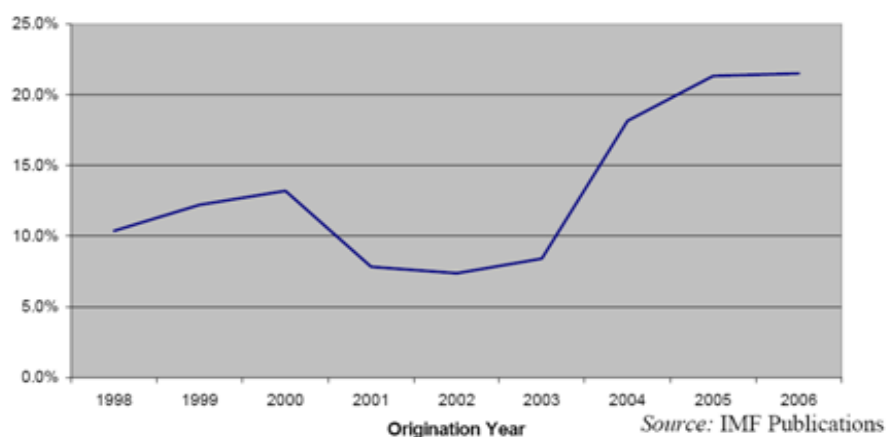


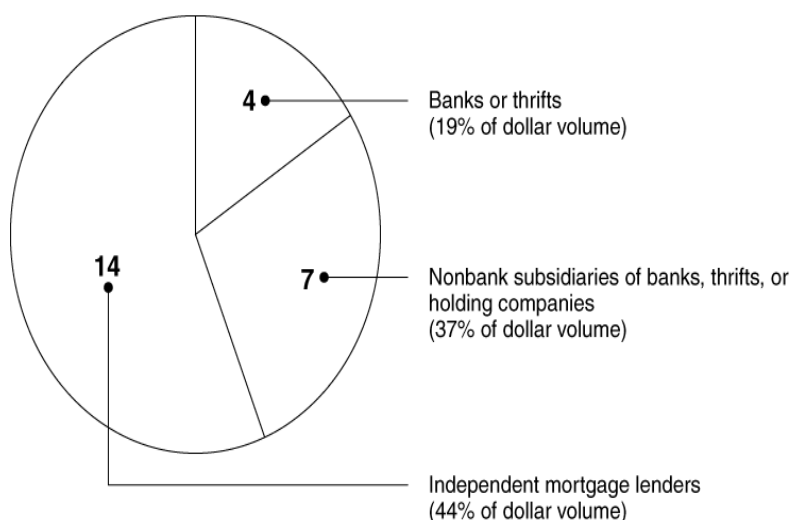
Figure 2 – Subprime share of mortgage originations 1998 - 2006

The rapid growth of these secondary market players has been matched by an equally dramatic consolidation of mortgage banking organizations. In 1990, the top 25 mortgage lenders accounted for 28.4 percent of the total home mortgages with a volume of less than \$500 billion. In 2005, the top 25 lenders accounted for 85 percent of the 3.1 trillion dollar mortgage market (Apgar, Bendimerad & Essene). Since there was only a handful of lenders that dominated all mortgage originations in the United States, borrowers were led to believe that

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because of the pure size and of a popularity of a company, their lending practices must be a safe option.

Until fairly recently, the origination of mortgages and issuance of mortgage-backed securities (MBS) were dominated by loans to prime borrowers conforming to underwriting standards set by the government sponsored agencies (GSEs) (Ashcraft & Schuermann). The addition of nontraditional mortgage companies in the past twenty years has caused a bulk of MBSs to shift from prime mortgages to subprime mortgages as investor appetites grew hungry for riskier investments for hedge and pension funds. Figure 3 shows that 14 of the top 25 originators of subprime or Alt-A loans in 2006 were independent mortgage lenders, which accounted for 44 percent of the total dollar volume of subprime originations. The other 54 percent of subprime loans were originated by banks, thrifts and their subsidiaries.



Source: GAO analysis of data from Inside Mortgage Finance and the Federal Reserve.

Figure 3 – Top 25 subprime originators in 2006

The Federal government has little effective control over the nontraditional mortgage companies. With home prices reaching the highest levels in over ten years, as shown in figure 4, there was an increased demand for more affordable loans. Between lax government regulation and an increased demand for subprime loans, companies began to specialize in subprime mortgages instead of offering them as part of a menu of products. With independent companies having virtually limitless origination capabilities, subprime mortgages began to flood the housing market.

National Home Prices 1989-2007

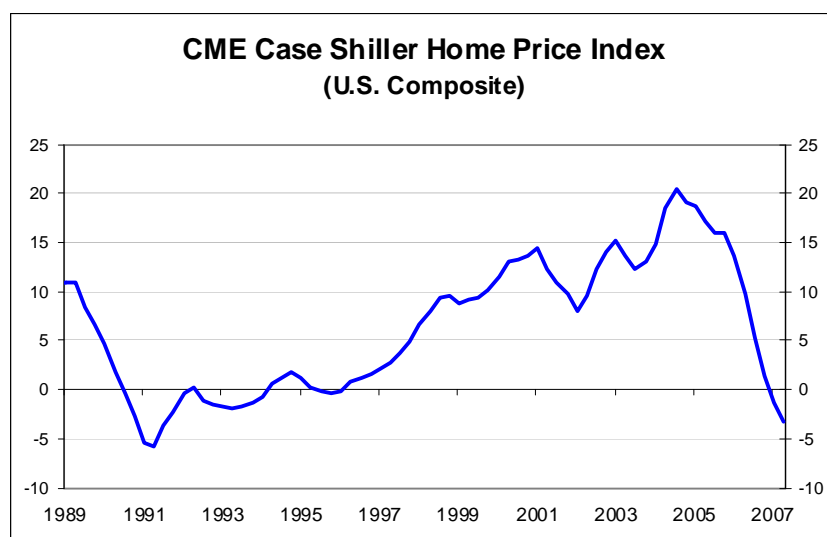


Figure 4 – National home prices from 1989 - 2007

A reduction in long-term interest rates through the end of 2003 caused a sharp increase in the amount of loan originations in all segments; subprime, Alt-A, jumbo and agency. Figure 5 shows that interest rate were declining since 2000, eventually hitting the lowest point since 1970.

Mortgage Rates Remain Near Historical Lows

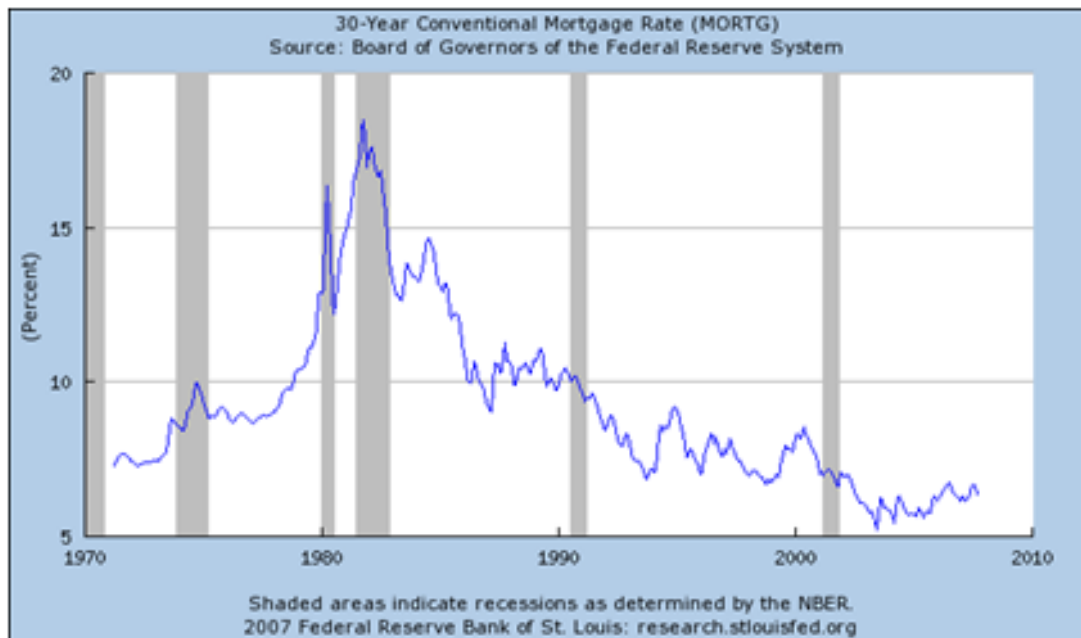


Figure 5 – Mortgage rate movement

Figure 6 shows that while the agency loan originations peaked in 2003, the non-agency segments (subprime, Alt-A and jumbo) continued to grow rapidly until 2005. One particular trend to notice is the increasing percentage of subprime loans issued between 2001 and 2005 (Ashcraft & Schuermann).

The amount of subprime loan originations increased three-fold between 2001 and 2006. More significantly, however, is the increasing percentage of subprime loans issued into pools to be securitized. Figure 6 shows that in 2001, 46 percent of all subprime loans originated were pooled into MBSs, compared to 74 percent in 2005 and 75 percent in 2006, respectively. This is important because when lenders securitize loans they get rid of the risk (credit and interest rate risk) while generating fees based incomes. To have such a dramatic increase in

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originations within a relatively short time period shows that companies were concentrating their efforts towards the quantity of loans securitized rather than focusing on the ability of the borrowers to afford the payments.

| YEAR | Subprime | | | Alt-A | | | Jumbo | | | Agency | | |
|------|-------------|----------|-------|-------------|----------|-------|-------------|----------|-------|-------------|------------|-------|
| | Origination | Issuance | Ratio | Origination | Issuance | Ratio | Origination | Issuance | Ratio | Origination | Issuance | Ratio |
| 2001 | \$190.00 | \$87.10 | 46% | \$60.00 | \$11.40 | 19% | \$430.00 | \$142.20 | 33% | \$1,433.00 | \$1,087.60 | 76% |
| 2002 | \$231.00 | \$122.70 | 53% | \$68.00 | \$53.50 | 79% | \$576.00 | \$171.50 | 30% | \$1,898.00 | \$1,442.60 | 76% |
| 2003 | \$335.00 | \$195.00 | 58% | \$85.00 | \$74.10 | 87% | \$655.00 | \$237.50 | 36% | \$2,690.00 | \$2,130.90 | 79% |
| 2004 | \$540.00 | \$362.63 | 67% | \$200.00 | \$158.60 | 79% | \$515.00 | \$233.40 | 45% | \$1,345.00 | \$1,018.60 | 76% |
| 2005 | \$625.00 | \$465.00 | 74% | \$380.00 | \$332.30 | 87% | \$570.00 | \$280.70 | 49% | \$1,180.00 | \$964.80 | 82% |
| 2006 | \$600.00 | \$448.60 | 75% | \$400.00 | \$365.70 | 91% | \$480.00 | \$219.00 | 46% | \$1,040.00 | \$904.60 | 87% |

Source: Inside Mortgage Finance (2007).

Notes: Jumbo origination includes non-agency prime. Agency origination includes conventional/conforming and FHA/VA loans. Agency issuance GNMA, FHLMC, and FNMA. Figures are in billions of USD.

Figure 6 – Mortgage originations/issuance from 2001 – 2006

There are numerous fundamental problems embedded in the process of securitizing mortgages. Predatory lending, asymmetric information, adverse selection, and principal-agent relationships are difficult to control and monitor because of the complexity of human behavior and self-interest of the players, which is innately tied into the process.

Predatory lending has been a major, and possibly the largest contributor to the current subprime crisis. Predatory lending occurs when the originator of a loan, or a broker working on behalf of the originator, suggests a loan to a borrower, knowing that they will not be able to afford the payments as the mortgage matures and the interest rate changes. Often times the borrower is unsophisticated and unaware of all of the loan stipulations or other options they may have to finance a home due to the complex nature of the mortgage process. In an attempt to receive higher sales compensation, brokers may try to place mortgages with borrowers at higher prices than the borrower can realistically afford or alternatively steer them into a less

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suitable product if it generates higher fees. Under the notion, “let the buyer beware,” overcharging a borrower is generally legal (Apgar, Bendimerad & Essene). Borrowers commonly have a false sense of security because they believe that a broker or loan originator is acting in their best interest and would not take advantage of them. Standards often tend to be tougher for borrowers purchasing investment properties, since the loans are considered riskier, but brokers and agents were willing to take that gamble or at least tolerate the risk in order to make more money on the sale (Simon & Corkery). Originators are also looking to write as many loans as possible in order to pool them together and sell them off to investment institutions. Profit driven motivation made lenders focus on the quantity of loans rather than the quality since this is how they made money. Underwriting standards for originators declined as they took on more loans regardless of risk, in an attempt to fatten their bottom line.

A pool of mortgages is usually purchased from a loan originator by a financial institution, also known as an arranger. The arranger must conduct due diligence on the originator such as checking financial statements, underwriting guidelines, discussing with management and checking backgrounds in order to accurately assess the risk and quality of the mortgages (Ashcraft & Schuermann). An underlying problem in this process is asymmetric information. This occurs when one party has more information about the mortgages and borrowers than the other party or parties involved. When an arranger purchases the mortgages from the originator, they are often unaware of the quality of loans they are buying if the proper research is not adequately performed. A substantial percentage of the loans purchased by arrangers have been of poor quality because of predatory lending and loosened underwriting standards by brokers and lenders.

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After an arranger purchases a pool of loans, they typically sell the pool to a bankruptcy-remote trust. This trust protects investors against the possibility of the arranger or originator going bankrupt. Again, asymmetric information problem exists. The arranger or the asset manager employed on behalf of the arranger has more information about the mortgages than does the ultimate investor. The arrangers have the ability to “cherry pick” - securitize bad loans and keep the good ones or securitize them somewhere else; this process is called adverse selection (Ashcraft & Schuermann).

Asymmetric information affects the relationship between an investor and their agent, or investment manager, who is aiding them in their investment strategy, which is also known as the principal-agent problem. Similar to predatory lending, an investor can be unsophisticated and unaware of how to formulate an investment strategy. In order to achieve higher compensation and fees, once again, the manager may suggest riskier or expensive products that are not suitable for the investor’s needs or desires.

Interactions and exchanges during the securitization process of subprime mortgage-backed securities are loosely regulated. Currently, the system is fundamentally flawed because of the complexity of judging human behavior. For example, whether or not a broker, underwriter, or investment agent is truly acting in the borrower’s or in the investor’s best interest, or are simply trying to secure higher fee-based compensation? Before subprime lending became popular, such a problem was minimal because prime mortgage-backed securities carried little risk because a borrower’s ability to make payments on a conventional mortgage. Mortgages were generally plain vanilla products with easily estimated cash flows. Now, with the possibility for so many people to profit from the securitization of subprime loans, unsuitable

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and unethical practices have become common place in the industry because of increased uncertainty about borrowers' ability to make the appropriate payments.

Borrowers are not the only ones feeling the negative effects of the built-in inadequacies of subprime mortgage securitization in recent years; the loan originators and ultimately the investors have also been victimized. Mortgage companies are continuing to have their reputations destroyed as the subprime crisis unfolds.

According to www.thetruthaboutmortgage.com, as of February 7, 2008, there are approximately 485 U.S. mortgage companies that have closed, merged, been bought out, or had a significant number of layoffs due to the crisis. Such companies include Wells Fargo, Washington Mutual, Wachovia, New Century, Citigroup, and Countrywide.

New Century Financial Corporation was once the nation's largest subprime mortgage lender and real estate investment trust (REIT). After getting too caught up in a wave of defaults brought on by the 2006 housing bust, New Century stopped making loans and was forced to file for Chapter 11 bankruptcy. The SEC believes that the company had lost track of borrowers who missed mortgage payments causing a surge in their portfolios by not taking defaults into account (Hoovers).

Countrywide Financial Corp, one of the largest mortgage originators in the United States, was recently bought out by Bank of America for \$4 billion in an all-stock deal. Countrywide's fall and rescue is just one example of the far-reaching effects of the subprime crisis. A Countrywide failure posed a huge risk to the U.S. economy since they service approximately one in every six loans in the country. The company finds itself in this situation because of their aggressive push of adjustable-rate-mortgages (ARMs) during the housing boom in recent years and their exposure to past subprime and risky mortgages (Paletta, Bauerlein & Hagerty).

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On Sunday March 15, 2008 Bear Stearns sold to J.P. Morgan Chase & Co at \$2 a share in stock, or about \$236 million. Bear was pushed to the brink of collapse by the mortgage crisis and caused the Fed to take swift action in fear of a potential collapse of a major Wall Street institution for the first time in a decade. It is believed that the concerted efforts of Wall Street and Washington can head off a recession (Sidel, Berman & Kelly). The major concern with a potential Bear collapse was the degree to which the other major financial institutions are intertwined between loans, credit lines, derivatives and swaps (Kelly, Ip & Sidel). Realizing the seriousness of the situation, for the first time since the Great Depression, the Federal Reserve supplied a nonbank with funds in order to secure a take over. Specifically, the Fed supplied J.P. Morgan with \$30 billion in exchange for hard-to-trade securities on Bear's books in which the government took upon the risk of both profit and loss. Although taxpayers could ultimately be on the hook for losses, the political response has been fairly positive (despite concerns of mortal hazard) as it shows true concern about the crisis from the government aside from cutting interest rates.

Investors in mortgage backed securities are also subject to the effects of the crisis. The sale of securitized loans by Wall Street was originally intended to distribute risk broadly. The ease of buying complex securities with the eventual owner having no true idea of the actual risk may have been a virus that started to cause the crisis to unfold into the market. With delinquencies and foreclosures on the rise with no end in sight, the investments that the mortgages were tied to are performing poorly, (including the good ones due to lack of liquidity) causing investors to lose a substantial amount of money. Angry investors have also been forcing originators to buy back dud loans, which aids the closure of several smaller subprime lenders (Hagerty & Simon).

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The public has grown weary as they learn of the reckless lending techniques that have been applied by companies to uneducated borrowers in recent years. The financial institutions and investors purchasing these MBSs have also taken a hit. Initially, financial institutions bought up pools of MBSs in order to diversify risk more broadly. The final owner of the investment, however, often had no idea what his or her investment was actually worth or how much risk he or she carried because of inadequate or unreliable information.

Credit Rating Agencies

The three major credit rating agencies, Moody's, Standard and Poor's, and Fitch have also been major contributors to the subprime crisis. These rating firms have come under fire for giving overly favorable ratings to MBSs and for being slow to downgrade them (Scannell & Solomon). A credit rating agency (CRA) has the responsibility of assessing an obligor's creditworthiness in order for investors to get a better feel of the level of credit or default risk (Ashcraft & Schuermann). Rating companies often differ in their strategies for assessing the riskiness of MBSs issued by financial institutions. Some companies, such as Fitch and Standard & Poor's (S&P), focus on the obligor's overall capacity to meet its financial obligations and use the probability of default as a rating device, while other companies such as Moody's concentrate on an obligor's ability to recover funds in the event of a loss (Ashcraft & Schuermann).

A confusing aspect in the credit rating arena is the difference between a corporate bond obligator rating versus that of asset-backed securities (ABS). For a corporate bond rating, CRAs concentrate on firm-specific risk, which is simply the overall financial strength and integrity of the company. For ABSs, the rating is based off the cash flows from a portfolio of underlying assets and is, therefore, rated based of systematic risk in the market, such as

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economic conditions (Ashcraft & Schuermann). As economic conditions deteriorate, it is the responsibility of the CRA to adjust its ratings accordingly by increasing the amount of needed credit to keep the ratings as accurate as possible.

Although CRAs did downgrade MBSs, they did not do so in relation to economic signs as they occurred. For example, in June 2007 S&P finally started to downgrade a portion of the residential mortgage-backed securities (RMBS). The company put 612 classes of RMBS on CreditWatch with negative implications. The total value of securities affected was approximately \$12.078 billion, which represented 2.13% of the \$565.3 billion in U.S. RMBS rated by S&P between the fourth quarter of 2005 and the fourth quarter of 2006. S&P reported that a significant number of securities showed evidence of delinquency, default, and loss trend lines that are indicative to a weak future credit performance (Standard & Poor's). In the same week, Moody's Investor Service downgraded 399 securities backed by first-lien subprime mortgage loans with an original face value of more than \$5.2 billion. Sixty percent of the securities were backed by loans from Fremont Investment & Loan, Long Beach Mortgage Co., New Century Mortgage Corp, and WMC Mortgage Corp. Fitch Ratings also downgraded 170 securities backed by subprime mortgages valued at \$7.1 billion (www.inman.com). Even within one week it became apparent that CRAs were realizing that they gave too favorable ratings to subprime MBSs. If the credit rating agencies had done a more adequate job in assessing the risk of these securities, such sudden and abrupt downgrades of such significant values would have not occurred.

CRAs are receiving the bulk of the blame for the subprime crisis for not responding fast enough to reevaluate the risk of these investments when there were signs that housing delinquencies and foreclosures were rising. McGraw Hill, the parent company of S&P, argues

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that the, “key point is those securities that have been impacted the most are those that were originally told the market carried a higher level of risk. When we saw loosened underwriting standards and started to see the poor performance of individual loans, we adjusted our rating criteria and required issuers of riskier subprime mortgages to add collateral enhancement to the details” (Scannell & Solomon). Others defending the CRAs reiterate that rating is both an art and a science due to level of interpretation of economic conditions that is necessary. Still, many believe the CRAs were slow to respond in reevaluating the risk carried with the subprime mortgage securities, which caused investors to be unaware of the real risk associated with their purchases.

The fundamental problems of subprime securitization and the shortcomings of CRAs played a leading role in the subprime crisis. In short, the riskier appetites of MBSs investors led to a surge of subprime lending in the United States. With originators offering generous lines of credit for home loans to uneducated borrowers, the word spread that everybody could afford big beautiful homes, or even second and third homes, with virtually no money down and no evidence of income. As the loans reached rate reset dates, more and more people realized they had dug themselves into a hole with no escape. With delinquencies and foreclosures on the rise, the securities they were tied into started to perform poorly. The United States finds itself in a situation where millions of people have lost or are in danger of losing their homes and the economic impact of the mortgage market could be a frontrunner into a recession in the near future.

The Unfolding Crisis

Foreclosures occur when people cannot afford to make the necessary payments, often accompanied with insufficient equity to cure the default by selling the home. Foreclosure

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rates have a natural flow dependent on economic and housing market conditions. Rapid increases in foreclosure rates are typically rare events. Poor economic conditions, such as recession and the accompanying higher unemployment rates and lower and personal income, often cause people to default on their mortgage payments (Edmiston & Zalneraitis).

Another problem with a majority of subprime loans is that they are ARMs – adjustable rate mortgages that typically have a low “teaser rate,” which are repriced as the loan seasons. As the rates on these loans reset and increase, borrowers experience payment shock and are suddenly unable to afford the inflated payments. They are lured into the loan because of appealing low interest rate, but they do not take into consideration that the rate will eventually increase. With the opportunity to afford their dream home many borrowers chose to ignore the eventual rate increase, ultimately leading to increased foreclosures and delinquencies.

Figure 7 provides an example of borrower payment shock. With the low introductory teaser rate, the borrower’s monthly payment was \$1,966 with a post tax debt-to-income of 61 percent. Even assuming no change in market interest rate, when rate is fully indexed the payment soars to \$2,921 with a post tax debt-to-income of 90 percent. With monthly payments making huge increases in such a short period of time, it is apparent why more and more borrowers cannot keep up with their mortgage payments.

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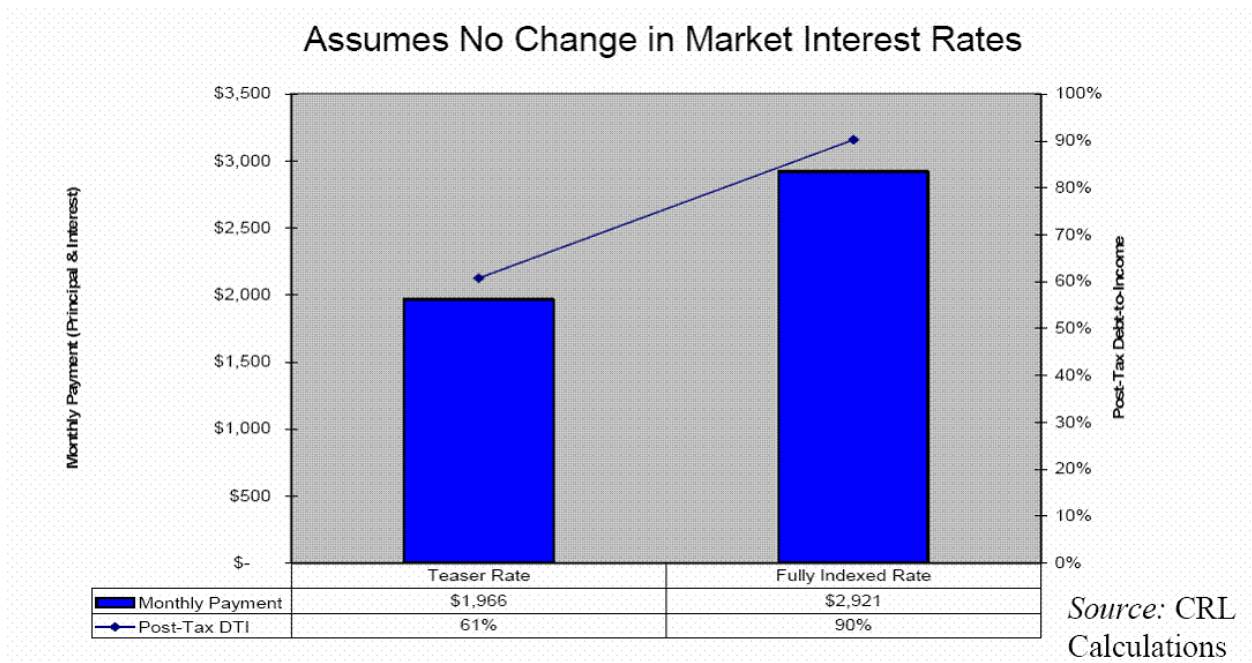


Figure 7 – Payment shock

Figure 8 shows the foreclosures between the second quarters of 2005 and 2007. Subprime foreclosures grew at a significantly higher rate compared to government-insured and prime loans.

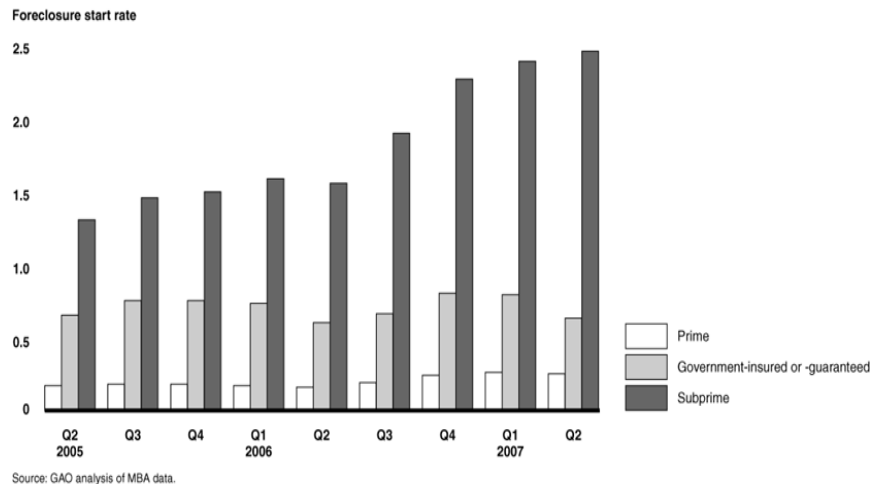


Figure 8 – Foreclosure start rates from 2005 – 2007

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Figure 9 shows that subprime loans accounted for nearly 54 percent of all foreclosures in the United States by the end of 2006, while only comprising 20 percent of all originations. Again, the majority of this increase can be attributed to increasing number of independent mortgage companies with generous credit availability, loose lending terms and declining underwriting standards.

Subprime Share of Foreclosures

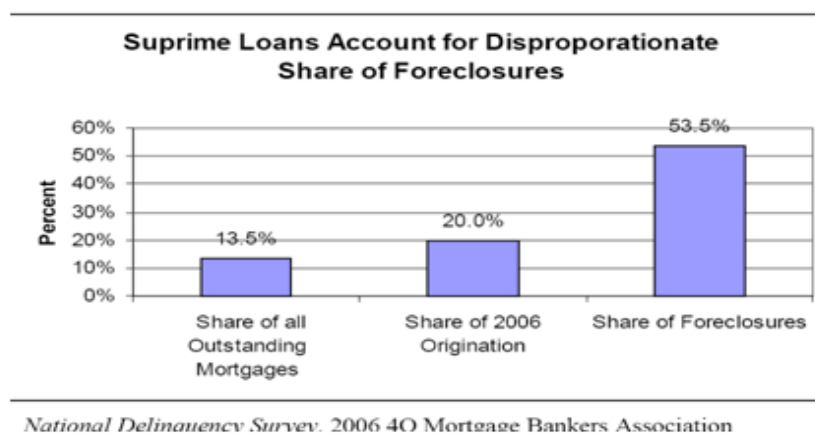


Figure 9 – Subprime share of foreclosures in 2006

Figure 10 gives an illustrative summary of prime vs. subprime defaults and foreclosures in 2006. Subprime loans have a significantly higher percentage of defaults and foreclosures compared to prime mortgages. Subprime defaults increased 65.4 percent while prime loan defaults accounted for 34.6 percent of defaults. Foreclosures on subprime increased 70.7 percent and prime accounted for 29.3 percent.

Prime and subprime portions of default and foreclosure increases

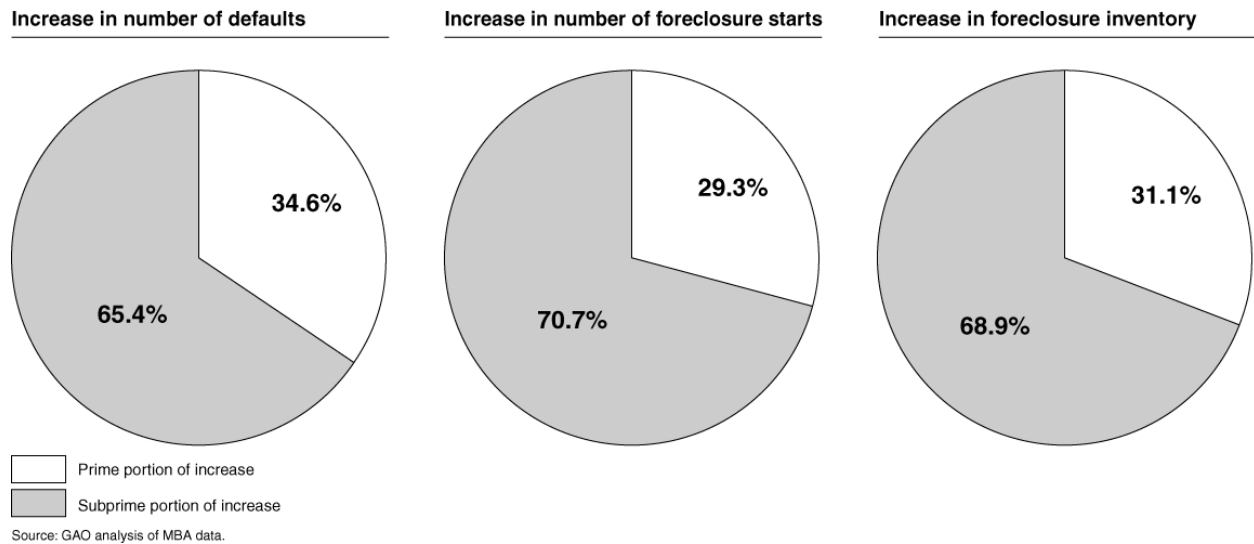


Figure 10 – Prime and subprime portions of default and foreclosure in 2006

Figure 11 shows a map of the United States as well as a bar graph of the percentage change in foreclosure rates between 2005 and 2007. The white states on the map have a less than 10 percent or no change in foreclosure rates, the light gray states had between a 10 percent and 50 percent increase, the dark gray states had a 50 percent to 100 percent increase, and the black states had more than a 100 percent increase. The states hardest hit with increased foreclosure start rates include Massachusetts and Rhode Island.

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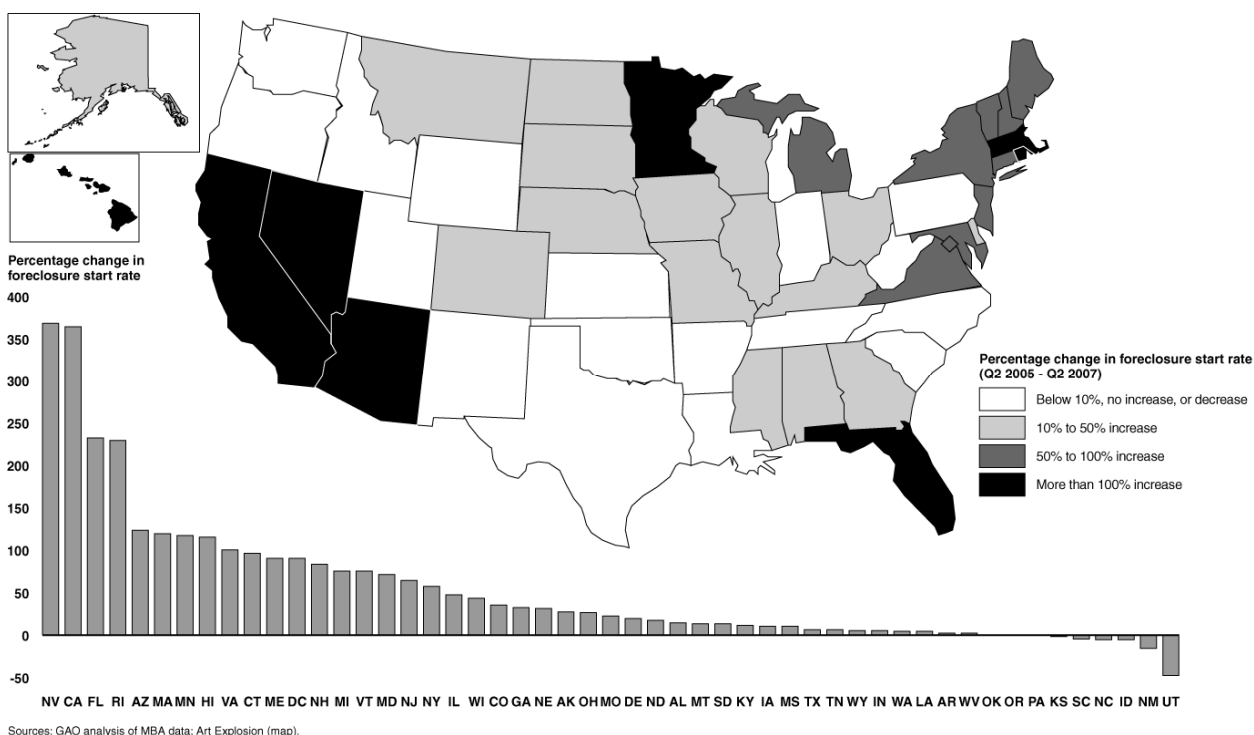


Figure 11 – Percentage foreclosure start rate for each state from 2005 - 2007

When subprime lending became a popular option for borrowers to obtain a loan, delinquencies remained relatively low because home prices were on the rise, which made refinancing or selling at a profit a reasonable and realistic option if mortgage payments became too burdensome to the homeowner. As home prices peaked in most markets in 2006, however, refinancing was no longer a realistic escape; therefore, homeowners who obtained subprime financing started to fall behind on payments, resulting in increasing foreclosures (Timiroas).

Figure 12 shows the dramatic annual increase in the percent of adjustable subprime mortgage delinquencies between the third quarter of 2005 and the second quarter of 2007. Fixed rate subprime loans remained relatively steady as did prime fixed and prime adjustable rate mortgages.

The Increase in Mortgage Delinquency Rates

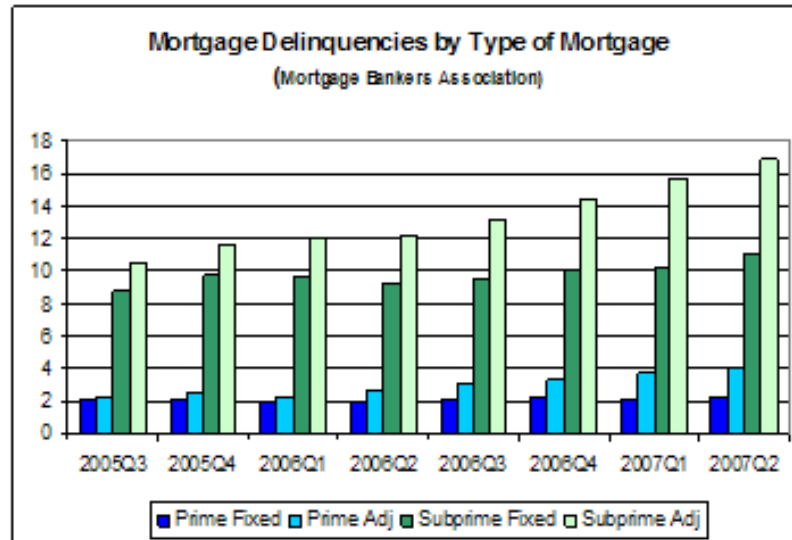


Figure 12 – Increase in delinquency rates

As a result of increasing delinquencies and foreclosures, mortgage lenders are shutting their doors to many borrowers looking to obtain subprime loans. Lenders have begun raising rates and eliminating no-money down loans for subprime borrowers and are now adamant in seeing evidence of income. With fewer borrowers having the ability to afford a home in the aftermath of this crisis, demand for homes will decrease causing home prices to also decline (Laperriere).

Proposed Solutions

The Federal government is continuing to search for ways to stop the bleeding and contain or limit the subprime crisis. As of the first few months in 2008, the Fed has been forced into action. The President's Working Group on Financial Markets has been making leads in order to improve the current situation. Recommendations include strengthening the state and federal

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oversight of mortgage lenders and brokers, implementing strong nationwide licensing standards for mortgage brokers, directing credit-rating firms and regulators to differentiate between ratings on complex structured products and conventional bonds, encouraging rating firms to disclose conflicts of interest and details of their reviews, and pushing issuers of mortgage-backed securities to disclose more about the level and scope of due diligence and to call for financial institutions – not only banks but also government-sponsored mortgage giants Fannie Mae and Freddie Mac – to raise more capital and to revisit dividend policies (Paletta). It is difficult to come up with a concrete course of action considering that the far reaching effects of this crisis are yet to be realized. Home prices continue on a steady decline and delinquencies and foreclosure rates are predicted to increase in the years to come. As shown in the figure 13, when home prices decrease dramatically, it has more often than not been a predecessor to a recession.

**Housing Declines of This Magnitude
Have Often Preceded a Recession**

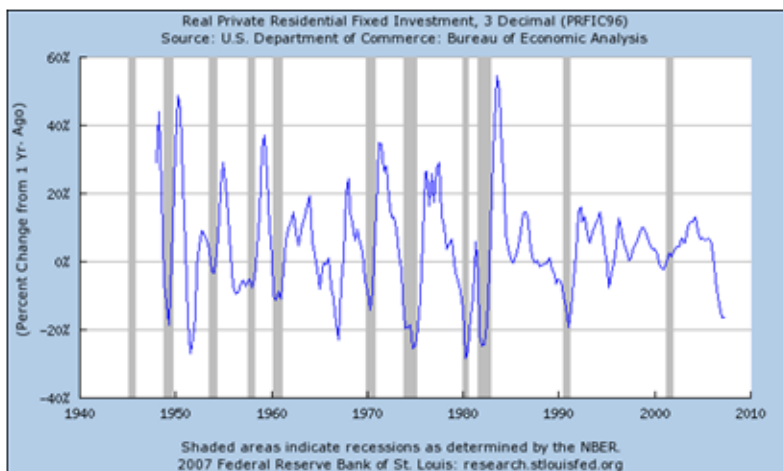


Figure 13 – Relationship between home prices and recession

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Much of the discussion to this point has been to improve existing regulations concerning best practices and standards of the industry. A majority of the focus has been on broker licensing and monitoring, SEC regulations, the role of government sponsored entities (GSEs), and extending the reach industry regulations such as the Interagency Guidance on Nontraditional Mortgage Product Risk (Guidance).

In April 2007, Senator Charles Schumer called for a government “bailout,” which would cost “hundreds of millions.” Lawmakers declined to outline how the proposed bailout would actually work, but it was reported the bailout would cost lenders and local governments about \$80,000 per foreclosure. They, however, did say a bailout is just a part of a multipronged strategy that includes pushing for anti-predatory lending legislation and for a bill creating federal standards for mortgage brokers (Kaper).

Congress is looking into mortgage lending practices due to pressure from consumer groups who want to impose suitability standards on lenders. The Mortgage Banking Association is working on voluntary disclosure standards for its members in an effort to make it easier for borrowers to understand the pros and cons of various loans (Simon).

Federal legislators are attempting to make investors of mortgages more responsible for their actions by eliminating or modifying existing legislation that limits investor liability. Such actions are done in hopes of making investors more aware of the risk they are taking on when investing in subprime mortgage-backed securities (Apgar, Bendimerad & Essene).

President Bush asked Treasury Secretary Henry Paulson, head of the President’s Working Group on Financial Markets, to look into ratings firms. The working group consists of Treasury, the Fed, the SEC, and the Commodity Futures Trading Commission. The group will

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also be looking into how “securitization and the repackaging and selling of assets have changed the mortgage industry and related business practices” (Scannell & Solomon).

A recent proposal from the Bush Administration called for six of the nation’s largest financial institutions to contact homeowners who are ninety or more days past overdue and give them the opportunity to put the foreclosure process off for thirty days while they work out ways to make their mortgage more affordable. Treasury Secretary Henry Paulson believes it will give borrowers valuable time to work out refinancing terms, but lenders would not be required to offer any more favorable financing terms that they are already offering. Critics, such as AFL-CIO President John Sweeney, believe much more assistance will be needed to prevent the foreclosure tidal wave that is closing in on the United States in the next two years. Sweeney said, “A month long moratorium on mortgage foreclosure is like a Band-Aid when the patient really needs surgery” (Crutsinger).

In addition to working with consumer groups, Congress is debating a series of government-sponsored entities (GSE) reform measures in hopes of the GSEs taking on a more active role in the acquisition of subprime loans. Congress hopes that the GSEs will establish a series of industry best practices that would govern the subprime mortgage-backed securities portion of the industry. Congress believes that because of the extensive regulatory rules already governing GSEs, they could be an example of how other secondary market participants should run in order to promote safety and soundness within the industry (Apgar, Bendimerad & Essene). On March 19, 2008 Federal regulators affirmed that Fannie Mae and Freddie Mac will enjoy loosened capital requirements, allowing them to pile more mortgage securities onto their balance sheets. Both could purchase an additional \$200 billion in mortgage securities, equivalent to about 10 percent of expected U.S. home-mortgage lending in 2008 (Paletta &

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Hagerty). The move was made in hopes of keeping interest rates low for home buyers.

Congress is also allowing Fannie and Freddie to buy mortgages up to \$729,750 – depending on the region of the country – through the end of the year. This allowance was intended to reduce the gap between rates on jumbo and conforming loans by creating a category of what some are calling “superconforming” loans (Opdyke).

Despite self denied shortcomings of CRAs, representatives from Moody’s, S&P and Fitch have agreed to work with lawmakers and regulators in hope of cleaning up the mess and preventing a similar crisis from reoccurring. For example, Moody’s is considering major changes in how it rates mortgage-related bonds and other securities. These possible changes include creating labels that would make it easier for investors to understand the differences between structured finance investments such as collateralized debt obligations and corporate bonds from Treasury securities. Moody’s is also considering a 21-point numerical scale to rate structure securities rather than assigning letter grades. All efforts are directed at making their ratings easily understandable for investors (Lucchetti). McGraw-Hill Cos. is also making changes for the better. S&P announced on February 7, 2008 that they will rotate lead rating analysts after five years to follow the same company, government bond issuer, or structured-finance arranger. This new practice is aimed at preventing professional or personal relationships from affecting ratings. Rating analysts will also be required to undergo more training, adding additional surveillance tools to track structured-finance performance, and an audit or governance expert will be brought in to review processes (Lucchetti).

Documents such as the Interagency Guidance on Nontraditional Mortgage Product Risks (Guidance) issued in 2006 were designed to promote safety and soundness of market participants, specifically deposit-taking institutions, loan officers, and mortgage brokers. The

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Guidance was created by the “Agencies” (OCC, Board of Governors of the Federal Reserve, FDIC, OTS and NCUA), with the intent to clarify how institutions can offer nontraditional mortgage products in a safe and sound manner that would clearly disclose all the risks associated with loans that borrowers might assume. Since the guidance provides suggestions, which is distinct from regulations, most members involved in the origination and securitization of nontraditional loans often ignore them. Extending the reach of the Guidance would offer better consumer protection and limit the potential adverse consequences arising from the differences across market participants, which create the competitive dynamics of the mortgage industry. As of February 2007, the Conference of State Bank Supervisors (CSBS) and the American Association of Residential Mortgage Regulators (AARMR) have announced that twenty-six states and the District of Columbia have agreed to work to adopt the Guidance and to make state regulated non-bank and mortgage brokers subject to the same best practices that now only apply to federally-regulated entities (Apgar, Bendimerad & Essene). Although this will be a lengthy process, the long term effects would be substantial in beginning to turn this subprime crisis around.

On March 11, 2008 the Federal Government took a major step in the right direction by providing liquidity and stability into the financial market. Government officials made a promise to lend up to \$200 billion in Treasury bonds to invest in Wall Street firms for 28 days. In return, the Treasury would obtain mortgage-backed securities whose uncertain values played a role in sparking the current crisis. The first swap is scheduled for March 27 (Sidel, Ip, Phillips & Kelly).

One obstacle standing in the way of proposed solutions is the underlying belief, mainly by the Bush administration, that too much regulation would stifle credit for low-income families,

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capital markets and well-educated consumers. Taxpayers, however, are angered by proposed solutions such as government bailouts since higher taxes will be necessary to fix the mistakes made by uneducated buyers and reckless practices by lenders. Opposition to the elimination, modification, and creation of new regulations and legislation will only dig a deeper hole and make it more difficult to enact concrete solutions in order to turn this crisis around and prevent it from reoccurring.

The future is uncertain for the mortgage industry. Some analysts believe that the crisis will be over within a year or two while others believe that it will take much longer. Although the development of this crisis is now well documented, it is still an unknown if the worst is behind us. Standard & Poor's recently downgraded or threatened to downgrade more than 8,000 mortgage investments and projected that a wide array of financial institutions could ultimately face losses up to \$265 billion dollars. Analysts say total losses could eventually reach upwards of \$400 billion. It is estimated that by the end of 2008, national home-price declines could reach 13 percent and that the housing market would not bottom out until 2009 (Lucchetti & Ng). As of early February 2008, more than 30 percent of borrowers with subprime or Alt-A, who represent 365,000 of the 1.1 million delinquent loans – are already at least 30 days past due even though they have not yet faced their first reset date. One report claims that nearly 45 percent of the subprime and Alt-A loans that will not reset until the fourth quarter of 2008 are currently at least 30 days delinquent (Simon). Foreclosures create a ripple effect in neighborhoods, pushing down prices and making it tougher for people who live in those communities to refinance or sell their homes if they cannot make their mortgage payments (Simon & Corkery). It appears that in order for this crisis to be turned around, the situation will get worse before it gets any better. New legislation and regulation will not

create immediate solutions. The only way for this crisis to cease is to let it play out to the end while creating a foundation to help rebuild the industry as soon it stabilizes.

HIGH-PRICED MORTGAGE POOL COMPARISONS

Considering the significant increase in the number of high-cost loans since 2001, in this section I examine borrower performance trends over the 2005-2006 time period for three major subprime lenders to assess whether there was a weakening of underwriting at three different securitizers, as well as to assess the relative performance across two corresponding years.

I examine the loan performance of three major subprime lenders: Countrywide, New Century and Ameriquest. This analysis includes two loan pools from each lender – one in 2005 and one from 2006. The representative pools names and assigned graph reference names are as follows:

- Countrywide 2005-bc2 (CW 05)
- Countrywide Alternative Loan Trust 2006-OC10 (CW 06)
- New Century Home Equity Loan Trust 2005-3 (NC 05)
- New Century Home Equity Loan Trust 2006-1 (NC 06)
- Asset-Backed-Pass-Through Certificates, Series 2005-R6 (AQ 05)
- Ameriquest Mortgage Securities Trust 2006-R2 (AQ 06)

| | CW 05 | CW 06 | NC 05 | NC 06 | AQ 05 | AQ 06 |
|-------------------------|---------------------|---------------|----------------------|------------------------|----------------------|----------------------|
| Number of Loans | 2,663 | - | - | 6,256 | 5,933 | 7,099 |
| Agg Principle Balance | \$750,000,000 | \$808,234,514 | \$2,900,967,526 | \$1,366,333,806 | \$1,200,000,912 | \$1,000,003,712 |
| Avg Principle Balance | \$159,414 | - | \$195,338 | \$218,404 | \$177,578 | \$183,534 |
| Range Principle Balance | \$8,029 - \$498,297 | - | \$20,000 - \$899,202 | \$15,000 - \$1,500,000 | \$59,672 - \$805,786 | \$59,247 - \$621,154 |
| Range of Rates | 4.7% - 11.25% | 5% - 10.13% | 4.99% - 13.05% | 5.45% - 14.15% | 6.1% - 14.12% | 5.5% - 25.8% |
| Weight Avg Rate | 7.11% | 7.24% | 7.13% | 8.02% | 8.52% | 8.52% |
| Range of Original LTV | 9.92% - 100% | - | 11.86% - 100% | 13.56% - 100% | 8.665% - 97.5% | 14.13% - 95.0% |
| Avg Original LTV | 77.19% | 76.65% | 80.74% | 81.40% | - | 78.42% |
| FICO | 610 | 683 | 630 | 627 | 600 | 604 |

All available pool information was obtained from each company's respective prospectus.

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All pools have an average FICO score below 660, which is one characteristic of a subprime loan. It is immediately understood that the mortgages in all pools are significantly riskier because of their average FICO score. For all pools considered, the average LTV ratios are all in the high seventies and low eighties range. This means that on average, borrowers were able to make a down payment of around 20 percent on the loan. Interestingly enough, investors taking the LTV ratio into consideration may consider the mortgages as a relatively safe investment. Despite having an average LTV ratio in the high seventies and low eighties, the ratios ranged from as low as 8.65% to 100%. These lower LTV ratios were outliers that may have resulted for the entire pools performance to suffer despite having a relatively safe LTV ratio. As it turns out, the originator pools performed poorly and actually declined over the 2005 to 2006 time period.

Both Countrywide and New Century experienced increases in 30 day delinquency balances from their respective pools from 2005 to 2006. In general, the percentage increases at the three, six, nine and twelve month points show substantial growth in 30 day delinquencies when examining the 2005-2006 cohorts. The only exception to this trend was Ameriquest. From 2005 to 2006 the percentage of 30 day delinquent mortgages actually decreased at the three and six month points. The nine and twelve month points showed an increase in delinquencies from on year to the other (Appendix C). The same trend continues for the 60 day delinquency balance for each company, again with the biggest differences occurring for Countrywide (Appendix D).

The bankruptcy balance for both Countrywide and New Century increased at the twelve month points from 2005 to 2006. The only exception was Ameriquest, which at the twelve month point from 2005 to 2006 actually had decreased its bankruptcy balance (Appendix E).

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Both New Century and Ameriquest pools had increased net rate losses between 2005 and 2006. Most notably, New Century had a substantial increase at the twelve month point with a 0.5 percent difference (Appendix F).

All three companies experienced an increase in the percentage of their loans reaching foreclosure from 2005 to 2006. New Century had the largest total foreclosure balance in their pools, a telling sign of why they failed (Appendix G).

All three companies were forced to buy back failed mortgages, most notably around twelve months after the pool was created. The rate and volume of mortgages bought back by these lenders should have been a key indicator that they would soon, if not already, be over their head because of reckless lending (Appendix H).

New Century's ending pool balance decreased tremendously between 2005 and 2006. Ameriquest also decreased as well, although not a much in comparison. Countrywide's ending balance actually increased between 2005 and 2006. Since Countrywide was a very popular lender across the entire country, the geographic diversification aided their performance. The decline of Ameriquest is reflective areas in which the company was popular such as New England.

HOME MORTGAGE DISCLOSURE ACT

Given the documented poor performance of the subprime loan pools, what types of borrowers obtained these loans? The Home Mortgage Disclosure Act (HMDA) is an excellent source of this type of information. HMDA was implemented in 1975 with the intent to help the public determine whether or not institutions were adequately serving the communities' housing finance needs, to facilitate the enforcement of the nation's fair lending laws and to guide public- and private-sectors investment activities. As of 2006, there was approximately 8,900

lenders subject HMDA, which made up an estimated 80 percent of home lending across the country (Avery, Brevoort & Canner).

From the beginning, HMDA disclosures were limited to summary totals which covered types of loans for each census tract, but included no information on pricing or applications which were denied. In 2002, the Federal Reserve Board revised Regulation C and increased the type and amount of public information available from the HMDA reports beginning in 2004. The most significant change was the requirement that lenders must identify and disclose information about APRs above set thresholds, or “high-priced loans” (Avery, Brevoort & Canner). Other improvements included disclosure of lien status and whether the loan is secured by a manufactured home or subject to protection of the Home Ownership and Equity Protection Act.

The recent improvements of HMDA have aided market transparency by making it fairly easy to identify lenders who are highly active in originating higher-priced loans. As a result, concerns have been raised about the fairness of the lending practices (Avery, Brevoort & Canner).

In this section, I examine the prevalence of high-priced loans in New England. Specifically, I examine over three million loan applications during 2006 and provide information on loan amount, borrower income, and APR spread for each race and ethnicity by state. It is common place in the mortgage industry that a borrower’s loan amount and income with is a significant predictor to whether or not they receive a higher rate. As was the case in New England for 2006, both income and loan amount were not significant characteristics, but rather race/ethnicity was the determining factor.

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Figure 14 shows the percentage of each race obtaining a loan within the specific loan amount bands. On average across all races and states, 20.6 percent of all loans were under \$50,000, 15.6 percent fell within the \$50,000 - \$100,000 range, 13 percent were between \$100,000 and \$150,000, 14.9 percent between \$150,000 and \$200,000, 13.4 percent between \$200,000 and \$250,000, 8.7 percent between \$250,000 and \$300,000, and 13.3 percent exceeded \$300,000. Accordingly, the three most common loan amount ranges were under \$50,000, between \$50,000 and \$100,000, and between \$150,000 and \$200,000.

In the top two most common ranges (under \$50,000 and between \$50,000 and \$100,000), American Indians had the largest average percentage of all races across New England to obtain these loans with 27.3 percent and 21.09 percent respectively. Asians accounted for the smallest percentage of all races to obtain a loan under \$50,000 with a total of 17.58 percent and Native Hawaiians accounted for the smallest percentage to attain a loan between \$50,000 and \$100,000 with 13.65 percent. African Americans accounted for the highest collective percentage of individuals attaining a loan from the third most common range of between \$150,000 and \$200,000 with 17.11 percent. Native Hawaiians accounted for the smallest average percent of individuals obtaining a loan between \$150,000 and \$200,000 with an average of 12.42 percent of their total population across all New England states in 2006. There were no significant discrepancies between and borrower's race and the loan amount.

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| Loan Amount for 2006 | | | | | | | |
|----------------------|-------------------|-------------|--------|---------------|---------------|--------------|---------|
| | | Connecticut | Maine | Massachusetts | New Hampshire | Rhode Island | Vermont |
| American Indian | < 50,000 | 24.85% | 36.60% | 19.71% | 32.49% | 21.09% | 29.03% |
| | 50,000 - 100,000 | 18.05% | 21.65% | 17.47% | 18.78% | 26.95% | 23.66% |
| | 100,000 - 150,000 | 13.61% | 14.95% | 10.30% | 15.23% | 7.81% | 26.88% |
| | 150,000 - 200,000 | 14.94% | 17.53% | 9.77% | 10.66% | 13.28% | 9.68% |
| | 200,000 - 250,000 | 10.50% | 3.09% | 10.39% | 11.68% | 14.06% | 2.32% |
| | 250,000 - 300,000 | 6.51% | 2.06% | 9.77% | 3.55% | 10.16% | 4.30% |
| > 300,000 | 11.54% | 4.12% | 22.58% | 7.61% | 6.64% | 3.23% | |
| Asian | < 50,000 | 15.29% | 19.89% | 13.78% | 19.24% | 18.70% | 18.59% |
| | 50,000 - 100,000 | 12.47% | 11.88% | 12.36% | 13.67% | 11.86% | 13.57% |
| | 100,000 - 150,000 | 11.45% | 14.09% | 7.39% | 9.62% | 8.68% | 11.06% |
| | 150,000 - 200,000 | 14.34% | 24.03% | 8,28% | 15.19% | 15.65% | 28.14% |
| | 200,000 - 250,000 | 12.13% | 13.54% | 10.67% | 14.94% | 19.19% | 13.07% |
| | 250,000 - 300,000 | 8.45% | 7.46% | 12.02% | 9.11% | 13.20% | 5.03% |
| > 300,000 | 25.86% | 9.12% | 35.49% | 18.23% | 12.71% | 10.55% | |
| African American | < 50,000 | 19.18% | 20.00% | 14.22% | 19.29% | 16.56% | 19.85% |
| | 50,000 - 100,000 | 13.08% | 15.47% | 16.92% | 14.84% | 12.59% | 17.65% |
| | 100,000 - 150,000 | 15.56% | 16.23% | 9.48% | 8.16% | 8.06% | 16.91% |
| | 150,000 - 200,000 | 20.46% | 20.00% | 9.96% | 16.88% | 17.70% | 17.65% |
| | 200,000 - 250,000 | 14.92% | 16.60% | 10.70% | 15.58% | 21.64% | 12.50% |
| | 250,000 - 300,000 | 7.66% | 5.28% | 11.72% | 12.24% | 14.54% | 6.62% |
| > 300,000 | 9.15% | 6.42% | 27.00% | 12.99% | 8.91% | 8.82% | |
| Native Hawaiian | < 50,000 | 22.12% | 18.31% | 18.92% | 17.53% | 16.73% | 21.43% |
| | 50,000 - 100,000 | 14.45% | 15.49% | 16.61% | 17.53% | 10.68% | 7.14% |
| | 100,000 - 150,000 | 12.24% | 33.80% | 8.03% | 8.25% | 5.69% | 14.29% |
| | 150,000 - 200,000 | 17.11% | 14.08% | 9.57% | 11.34% | 15.30% | 7.14% |
| | 200,000 - 250,000 | 13.27% | 11.27% | 10.56% | 19.59% | 21.35% | 21.43% |
| | 250,000 - 300,000 | 5.75% | 2.82% | 11.22% | 14.43% | 17.44% | 3.57% |
| > 300,000 | 15.04% | 4.23% | 25.08% | 11.34% | 12.81% | 25.00% | |
| White | < 50,000 | 20.51% | 25.73% | 17.90% | 22.98% | 22.37% | 22.63% |
| | 50,000 - 100,000 | 13.62% | 19.28% | 13.89% | 15.31% | 13.98% | 16.85% |
| | 100,000 - 150,000 | 12.45% | 20.14% | 9.54% | 13.48% | 8.95% | 22.11% |
| | 150,000 - 200,000 | 15.61% | 16.03% | 11.37% | 16.30% | 14.92% | 17.67% |
| | 200,000 - 250,000 | 11.87% | 8.19% | 11.56% | 13.58% | 16.29% | 8.90% |
| | 250,000 - 300,000 | 7.40% | 4.06% | 10.59% | 8.13% | 10.46% | 4.58% |
| > 300,000 | 18.53% | 6.58% | 25.16% | 10.23% | 13.03% | | |
| Hispanic or Latino | < 50,000 | 19.50% | 22.93% | 15.29% | 21.74% | 14.64% | 22.71% |
| | 50,000 - 100,000 | 14.30% | 16.59% | 16.94% | 15.83% | 15.68% | 14.01% |
| | 100,000 - 150,000 | 12.69% | 20.00% | 10.75% | 8.43% | 6.03% | 16.91% |
| | 150,000 - 200,000 | 17.83% | 17.32% | 10.69% | 15.57% | 15.55% | 17.87% |
| | 200,000 - 250,000 | 14.12% | 10.73% | 10.35% | 15.83% | 22.77% | 12.56% |
| | 250,000 - 300,000 | 8.10% | 6.59% | 11.01% | 12.35% | 17.10% | 6.28% |
| > 300,000 | 13.47% | 5.85% | 24.67% | 10.26% | 8.23% | 9.66% | |

Figure 14 – Loan Amount for each race in 2006

Figure 15 shows the income ranges for each race across New England in 2006. The most common income range between all races is between \$50,000 and \$100,000. On average, across all six New England states, 43.03 percent of American Indians have an income between \$50,000 and \$100,000, 46.54 percent of Asians, 51.66 percent of African Americans, 49.16 percent of Native Hawaiians, 46.52 percent of Whites and 51.39 percent of Hispanics. Although African Americans and Hispanics have the largest percentage of their population

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falling within the most common range, each race has over 40 percent of their population within the same range. Considering all races are relatively proportionate in their loan amount and income, we can conclude that all races should have an equal opportunity in attaining a similar APR spread.

| Income for 2006 | | | | | | | |
|--------------------|-------------------|-------------|--------|---------------|---------------|--------------|---------|
| | | Connecticut | Maine | Massachusetts | New Hampshire | Rhode Island | Vermont |
| American Indian | < 50,000 | 22.38% | 45.00% | 25.54% | 30.58% | 34.96% | 51.55% |
| | 50,000 - 100,000 | 46.88% | 41.50% | 48.23% | 48.54% | 46.99% | 36.08% |
| | 100,000 - 150,000 | 14.59% | 7.50% | 16.97% | 14.56% | 13.53% | 9.28% |
| | > 150,000 | 16.15% | 6.00% | 9.26% | 6.31% | 4.51% | 3.09% |
| Asian | < 50,000 | 16.17% | 28.95% | 15.28% | 15.94% | 21.51% | 30.84% |
| | 50,000 - 100,000 | 41.64% | 46.92% | 41.52% | 50.30% | 52.63% | 46.26% |
| | 100,000 - 150,000 | 23.30% | 12.33% | 24.43% | 19.60% | 15.33% | 12.15% |
| | > 150,000 | 18.88% | 11.80% | 19.71% | 14.17% | 10.53% | 10.75% |
| African American | < 50,000 | 25.01% | 32.34% | 20.50% | 21.82% | 24.35% | 27.86% |
| | 50,000 - 100,000 | 54.73% | 44.98% | 51.26% | 50.36% | 58.67% | 50.00% |
| | 100,000 - 150,000 | 14.20% | 14.13% | 20.53% | 19.09% | 11.66% | 14.29% |
| | > 150,000 | 6.06% | 8.55% | 7.70% | 8.73% | 5.33% | 7.86% |
| Native Hawaiian | < 50,000 | 22.72% | 41.03% | 19.96% | 15.53% | 30.10% | 13.79% |
| | 50,000 - 100,000 | 49.51% | 38.49% | 48.83% | 41.75% | 50.87% | 65.52% |
| | 100,000 - 150,000 | 16.69% | 8.97% | 20.28% | 31.07% | 14.19% | 10.34% |
| | > 150,000 | 11.08% | 11.54% | 10.93% | 11.65% | 4.84% | 10.34% |
| White | < 50,000 | 18.80% | 36.36% | 18.72% | 22.36% | 22.12% | 32.14% |
| | 50,000 - 100,000 | 45.45% | 43.99% | 44.75% | 48.96% | 50.86% | 45.12% |
| | 100,000 - 150,000 | 19.78% | 11.44% | 21.28% | 18.29% | 16.64% | 12.14% |
| | > 150,000 | 15.99% | 8.20% | 15.26% | 10.39% | 10.38% | 10.60% |
| Hispanic or Latino | < 50,000 | 25.37% | 37.24% | 24.91% | 23.14% | 27.34% | 28.64% |
| | 50,000 - 100,000 | 51.41% | 45.43% | 50.29% | 55.34% | 60.45% | 45.45% |
| | 100,000 - 150,000 | 15.09% | 10.77% | 17.84% | 13.39% | 9.03% | 10.91% |
| | > 150,000 | 8.13% | 6.56% | 6.96% | 8.14% | 3.18% | 15.00% |

Figure 15 – Income by race in 2006

Figure 16 shows APR rate spread breakdowns by race for each New England state in 2006. The two most common APR ranges for all races was between 5-6.99 percent and 7-8.99 percent. The average percent of African Americans across all six New England states having a rate spread between 5-6.99 percent was 50.12 percent. In both of the two most common ranges, African Americans populated the highest average percentage having the APR spreads. On the lower end of the spectrum, American Indians accounted for 44.54 percent of the 5-6.99 percent APR spread range and Hispanics/Latinos accounted for 14.80 percent of the 7-

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8.99 percent APR spread range. This evidence suggests that African Americans are more likely to be victims of higher cost lending and likely predatory lending across New England in 2006.

| APR Spread for 2006 | | | | | | | |
|---------------------|-----------|-------------|--------|---------------|---------------|--------------|---------|
| | | Connecticut | Maine | Massachusetts | New Hampshire | Rhode Island | Vermont |
| American Indian | 3-3.99 | 15.15% | 24.56% | 17.86% | 24.56% | 15.94% | 31.82% |
| | 4-4.99 | 11.52% | 12.28% | 9.89% | 13.21% | 13.04% | 4.55% |
| | 5-6.99 | 50.30% | 45.61% | 52.47% | 39.62% | 56.52% | 22.73% |
| | 7-8.99 | 18.79% | 15.79% | 19.23% | 15.06% | 13.04% | 27.27% |
| | 9 or more | 4.24% | 1.75% | 0.55% | 7.55% | 1.45% | 13.64% |
| Asian | 3-3.99 | 23.20% | 15.00% | 20.07% | 22.48% | 18.22% | 26.83% |
| | 4-4.99 | 11.37% | 8.75% | 9.25% | 10.85% | 9.32% | 7.32% |
| | 5-6.99 | 39.94% | 58.75% | 52.35% | 46.51% | 50.42% | 51.22% |
| | 7-8.99 | 18.59% | 12.50% | 16.35% | 17.83% | 17.37% | 12.20% |
| | 9 or more | 6.91% | 5.00% | 1.98% | 2.33% | 4.66% | 2.44% |
| African American | 3-3.99 | 15.41% | 19.57% | 12.93% | 19.49% | 12.68% | 17.95% |
| | 4-4.99 | 9.64% | 10.87% | 9.31% | 8.72% | 10.47% | 15.38% |
| | 5-6.99 | 50.71% | 46.74% | 56.92% | 46.15% | 54.09% | 46.15% |
| | 7-8.99 | 21.19% | 21.74% | 19.44% | 21.03% | 18.58% | 20.51% |
| | 9 or more | 3.05% | 1.09% | 1.40% | 4.62% | 4.17% | 0.00% |
| Native Hawaiian | 3-3.99 | 17.31% | 13.64% | 17.23% | 31.58% | 14.55% | 20.00% |
| | 4-4.99 | 7.05% | 22.73% | 9.24% | 47.37% | 7.27% | 0.00% |
| | 5-6.99 | 52.56% | 45.45% | 51.68% | 5.26% | 54.55% | 80.00% |
| | 7-8.99 | 20.51% | 13.64% | 21.01% | 15.79% | 21.82% | 0.00% |
| | 9 or more | 2.56% | 4.55% | 0.84% | 0.00% | 1.82% | 0.00% |
| White | 3-3.99 | 20.90% | 25.68% | 20.12% | 22.30% | 16.93% | 24.47% |
| | 4-4.99 | 9.76% | 12.19% | 9.56% | 10.23% | 9.67% | 13.74% |
| | 5-6.99 | 48.45% | 42.63% | 52.33% | 45.07% | 53.70% | 42.74% |
| | 7-8.99 | 18.16% | 16.21% | 16.74% | 18.56% | 16.77% | 16.99% |
| | 9 or more | 2.56% | 4.55% | 0.84% | 0.00% | 1.82% | 0.00% |
| Hispanic or Latino | 3-3.99 | 15.30% | 21.71% | 15.88% | 15.78% | 15.13% | 26.76% |
| | 4-4.99 | 16.24% | 14.34% | 17.46% | 17.81% | 18.85% | 18.31% |
| | 5-6.99 | 49.81% | 46.12% | 49.79% | 47.96% | 47.20% | 42.25% |
| | 7-8.99 | 16.48% | 15.12% | 16.03% | 15.14% | 16.19% | 9.86% |
| | 9 or more | 2.17% | 2.71% | 0.84% | 3.31% | 2.63% | 2.82% |

Figure 16 – APR spread by race in New England states for 2006

Figure 17 shows the percentage of state population composition and the percentage of high-priced loans received by each race in 2006. Across every New England state for 2006, African Americans received a majority the higher-priced loans. The biggest difference between population compositions vs. percent receiving high-priced loans was between Whites and African Americans, the difference being most apparent in Maine and New Hampshire

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(Appendices A & B). In Maine, African Americans made up 0.41 percent of the entire population, yet they received 34.20 percent of all high-priced loans. Whites made up 87.02 percent of the population and received 21.29 percent of all higher-priced loans. The findings are similar in New Hampshire. Whites comprised of 85.45 percent of the population and received a total of 19.39 percent of high-priced loans, while African Americans made up 0.76 percent of the population and received 34.45 percent of higher-priced loans. There is clearly a gross discrepancy between the amount of people from each race and the percentage of them receiving higher-priced loans. With APR spread, loan amount and income being relatively proportionate across all races in New England in 2006, African Americans, accounting for 3.34 percent of each states population, have a 18.24 percent greater chance of receiving a high priced loan compared to whites, who on average, comprise of 81 percent of each states population.

| | | Connecticut | Maine | Massachusetts | New Hampshire | Rhode Island | Vermont |
|--------------------|-------------------------------|-------------|--------|---------------|---------------|--------------|---------|
| American Indian | % of population | 0.37% | 0.31% | 0.35% | 0.28% | 0.43% | 0.37% |
| | % receiving high-priced loans | 23.37% | 28.50% | 31.25% | 25.73% | 25.94% | 22.68% |
| Asian | % of population | 2.33% | 0.58% | 2.89% | 1.17% | 1.40% | 0.81% |
| | % receiving high-priced loans | 14.58% | 21.45% | 12.61% | 15.23% | 27.00% | 19.16% |
| African American | % of population | 8.18% | 0.41% | 5.69% | 0.76% | 4.48% | 0.53% |
| | % receiving high-priced loans | 40.84% | 34.20% | 40.51% | 35.45% | 43.69% | 27.86% |
| Native Hawaiian | % of population | 0.37% | 0.12% | 0.28% | 0.14% | 0.46% | 0.11% |
| | % receiving high-priced loans | 22.02% | 28.21% | 25.27% | 18.45% | 19.03% | 17.24% |
| White | % of population | 74.75% | 87.02% | 77.87% | 85.45% | 78.47% | 82.19% |
| | % receiving high-priced loans | 17.85% | 21.29% | 17.85% | 19.39% | 20.79% | 15.92% |
| Hispanic or Latino | % of population | 8.42% | 0.73% | 6.38% | 1.62% | 8.86% | 0.85% |
| | % receiving high-priced loans | 45.17% | 29.02% | 48.06% | 35.52% | 53.17% | 17.03% |

Figure 17 – Comparison between race population and percent of higher-priced loans

MULTIVARIATE LOGISTIC REGRESSION

Although the previous section provides useful univariate (by race, income, etc) measures on the prevalence of high cost loans, in this section I estimate a multivariate logistic regression using the 2006 HMDA data to assess whether or not a borrower is more likely to get a high cost loan controlling for all these factors simultaneously. The control variables in logistic regression were state, income level, loan amount and race/ethnicity. The sample size for the regression was over 1.4 million observations.

To assess the impact of borrower state, the prevalence of a high cost origination in each state was compared relative to Massachusetts (the omitted state). The results conclude that borrowers from Rhode Island, Connecticut, Maine and New Hampshire that obtained a loan were more likely to receive a high-priced loan relative to borrowers in Massachusetts.

Statistically, borrowers from Rhode Island are the most likely to receive a high-priced loan with a coefficient of 0.2832 at a 95 percent confidence level and an odds ratio of 1.32:1, or a 32% chance of receiving a high-priced loan simply for being a resident of Rhode Island.

Household income level was analyzed in relation to borrowers who had an income of over \$150,000. Borrowers with an income between \$50,000 and \$100,000 and between \$100,000 and \$150,000 were more likely to receive a high-priced loan. There was no significance of borrowers with under \$50,000 to be subject to high-priced loans. Those borrowers with income between \$50,000 and \$100,000 were statistically the most likely to receive a high-priced loan with a coefficient of 0.5062 at a 95 percent confidence level and an odds ratio of 1.66:1, or a 66% chance of receiving a high-priced loan simply for making between \$50,000 and \$100,000.

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Loan amounts were analyzed in relation to loan above \$417,000. All loan ranges under the \$417,000 were found to be significant, in that any borrower obtaining a loan under \$417,000 was more likely to receive a high-priced loan. Statistically, the most prominent category of borrowers to receive high-priced loans was those who obtained loans under \$175,000, having a coefficient of 0.4766 at a 95 percent confidence level and an odds ratio of 1.61:1, or a 61% chance of receiving a high-priced loan simply for obtaining a loan under \$175,000.

The most telling characteristic of borrowers to receive a high-priced loan was if they were a minority; either African American or Hispanic/Latino. African Americans and Hispanic/Latinos were analyzed in relation to white borrowers. Statistically, minority borrowers were more likely to receive a high-priced loan with a coefficient of 1.2272 at a 95 percent confidence level in relation to white borrowers in addition to an odds ratio of 3.412:1, meaning that minorities are three times as likely to receive a high-priced loan. Furthermore, African Americans were slightly more likely to be subject to high-priced loans with a coefficient of 1.2432 compared to Hispanics/Latinos, having a coefficient of 1.2078. These findings are in direct opposition to Regulation B as previously discussed. The purpose of Regulation B is to promote the availability of credit to all creditworthy applicants without regard to race, color, religion, national origin, sex marital status or age ... the regulation prohibits creditor practices that discriminate on the basis of any of these factors. Clearly race was a determinant as to whether a borrower obtained a high-priced loan in across New England in 2006.

As Figure 14 shows, African Americans and Hispanics/Latinos comprise of a small percentage of each New England states population, yet according to the regression, are more likely to be subject to high-priced loans compared to whites, who comprised of a large

percentage of each state's population. The evidence suggests that predatory lending against African American's and Hispanics/Latinos occurred in New England in 2006.

CONCLUSIONS AND POLICY IMPLICATIONS

Numerous factors contributed to the current subprime mortgage crisis. First, investor's appetites for riskier investments combine with the Fed lowering and keeping interest rates at historical lows. Second, predatory lending loosened underwriting standards and inaction on behalf of credit rating agencies provided fuel for reckless subprime lending to run rampant. Currently, foreclosures and delinquencies are on the rise, lenders and investors are facing hard times due to the weak performance of the subprime MBSs. Most importantly, however, is the impact on borrowers of these higher priced loans.

I document the increase in risk by analyzing three major subprime lenders mortgage pool performance over the 2005 to 2006 time period. I show that the pools originated by Countrywide, New Century and Ameriquest performance deteriorated from 2005 to 2006. Given the decline in credit quality, I also assess who was getting these loans. By analyzing the HMDA data from 2006, I find African Americans were more likely to receive higher-priced loans when compared to whites, despite African Americans comprising of a significantly much smaller percent of the overall population in each New England state. In a multivariate regression using the 2006 HMDA data, I conclude that race and ethnicity were the most statistically significant characteristics of a New England borrower in obtaining a higher-price loan.

The Federal government is contemplating solutions to minimize the impact of the crisis and to ensure such a crisis does not reoccur. Such propositions include stricter broker licensing and monitoring, improving SEC regulation, and increasing GSE influence. Government bailouts

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are unlikely as the public has voiced displeasure about using taxpayer money to fix the mistakes of uneducated borrowers.

I believe the crisis will turn around once the market hits rock bottom. With changes in the lending practice and all the negative publicity, borrowers will be better educated in the future when applying for mortgages. Investors will be more careful in the future when investing in riskier products such as mortgage backed securities and lenders will no longer originate loans with the sole intention of securitization as they have seen the failure of multiple companies such as New Century and Bear Stearns. Although millions have been victimized and millions of more have yet felt the far reaching effects of this crisis, the foundation currently being implemented by the Federal government will prevent such a disaster in the future.

APPENDICES

Appendix A – African American Population vs. Percentage receiving high-priced loans

Appendix B White Population vs. Percentage receiving high-priced loans

Appendix C – 30 Day Delinquency Balance

Appendix D – 60 Day Delinquency Balance

Appendix E – Bankruptcy Balance

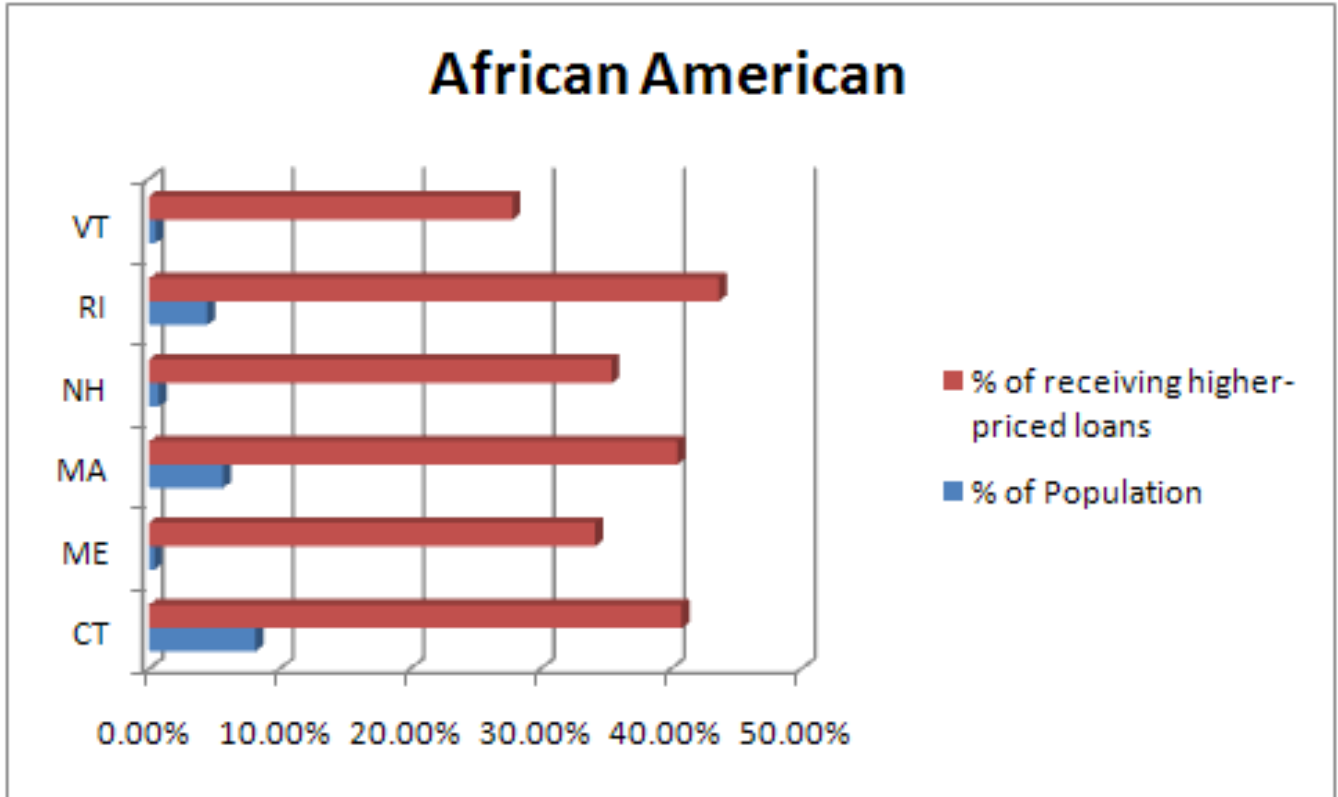
Appendix F – Cumulative Net Rate Loss

Appendix G – Foreclosure Balance

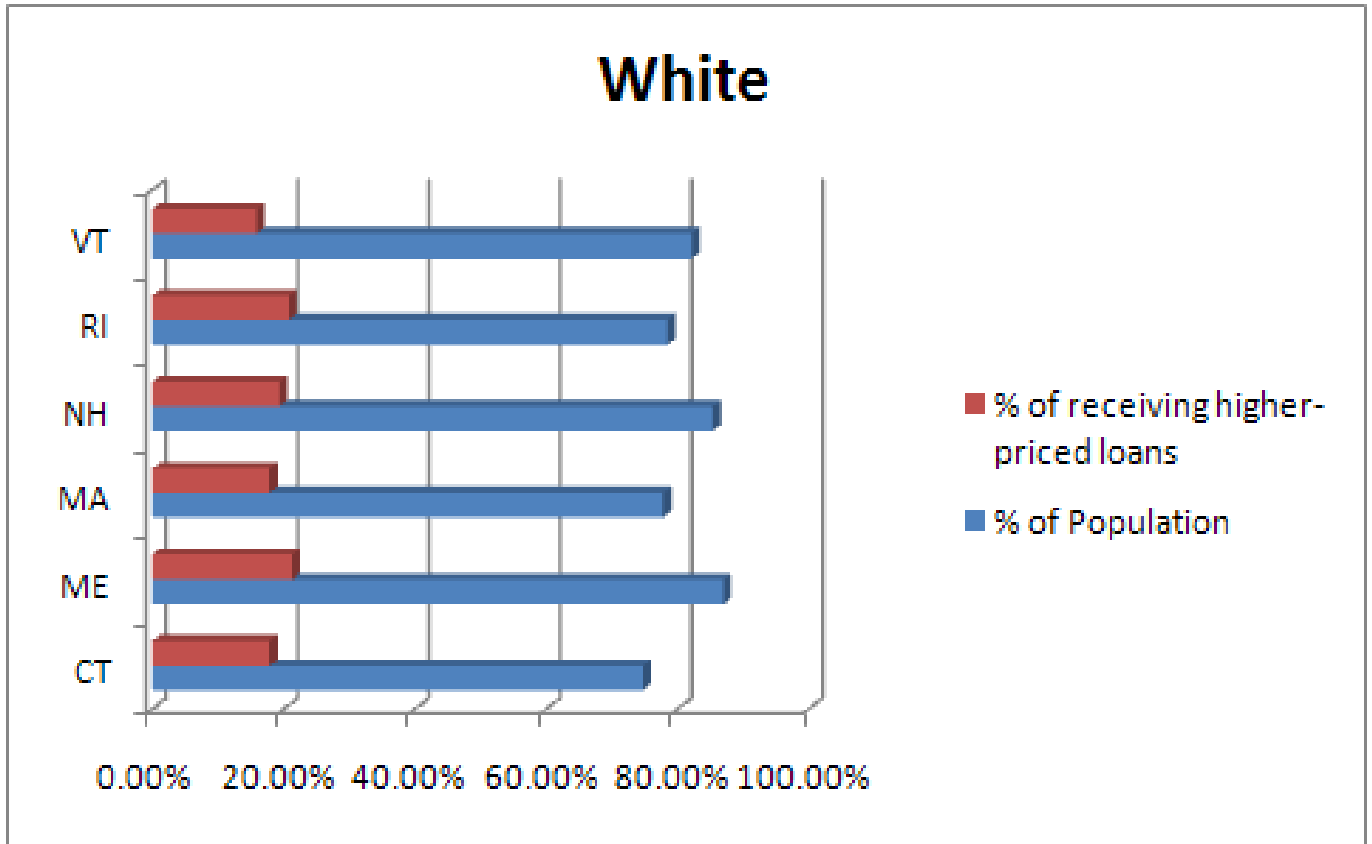
Appendix H – REO (Real Estate Owned)

Appendix I – Ending Pool Balance

Appendix A – (African American Population vs. Percentage receiving high-priced loans)

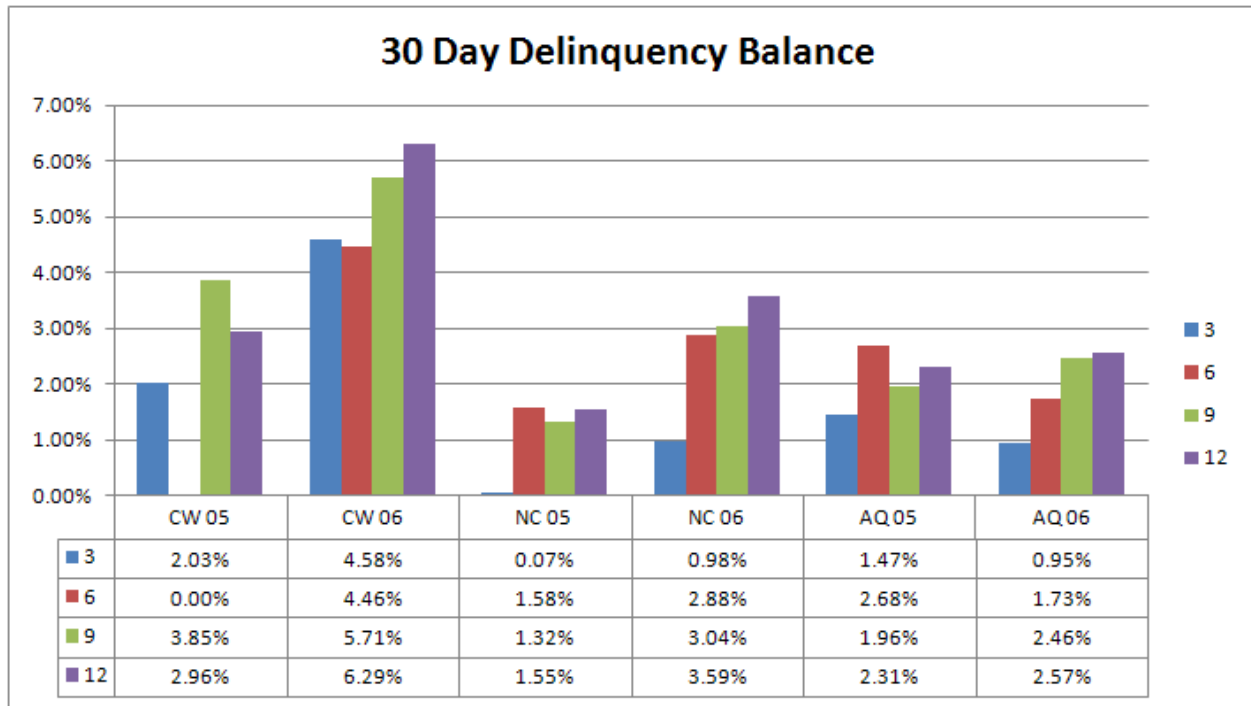


Appendix B – (White Population vs. Percentage receiving high-priced loans)



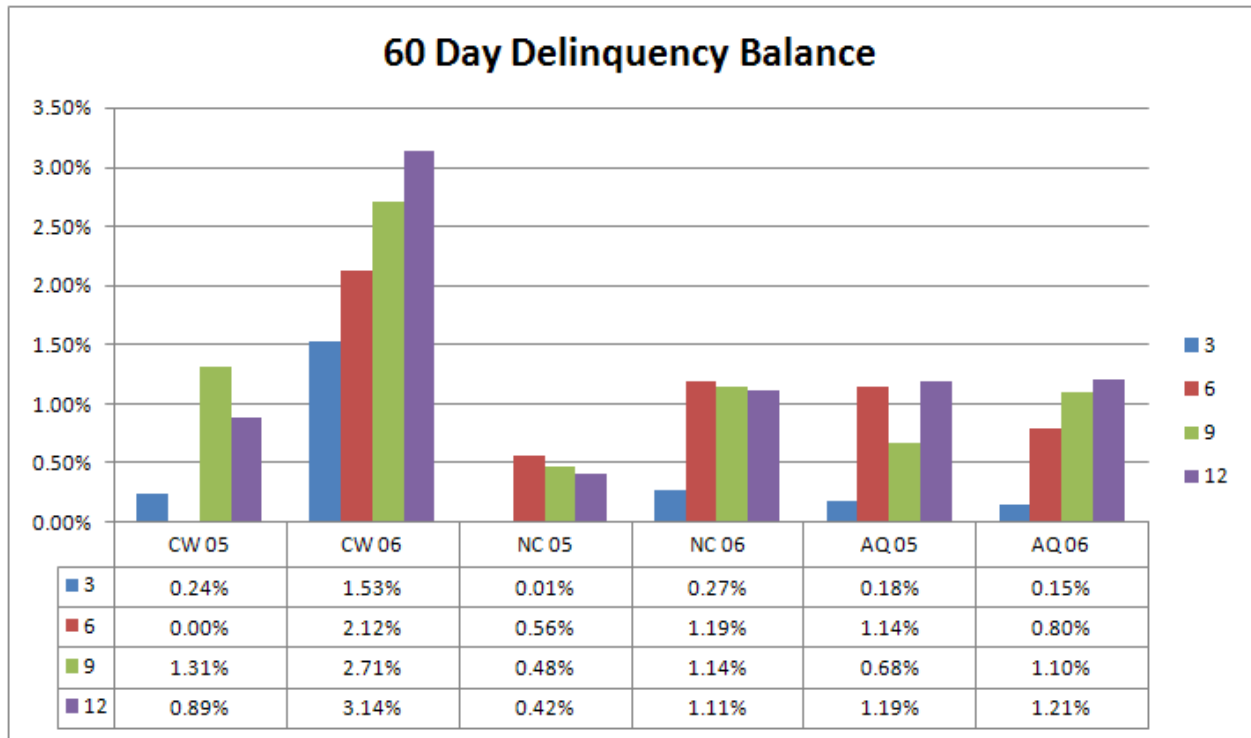
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Appendix C – (30 Day Delinquency Balance)



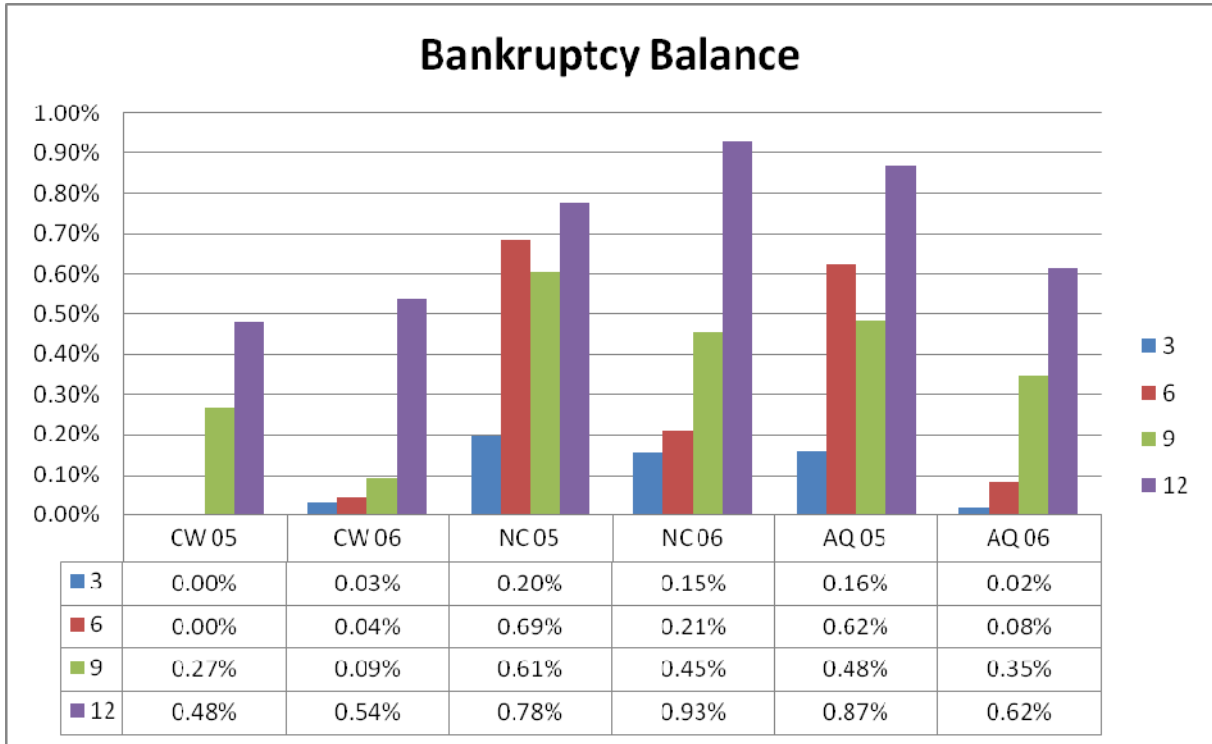
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Appendix D – (60 Day Delinquency Balance)



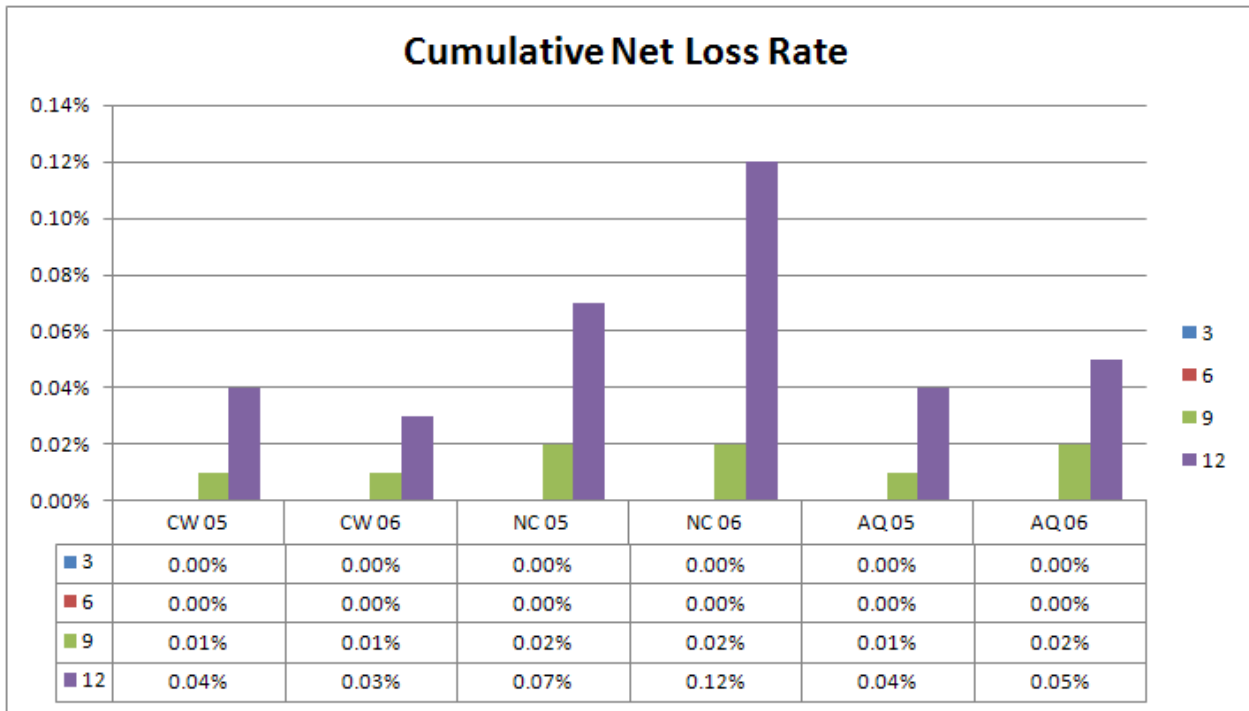
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Appendix E – (Bankruptcy Balance)



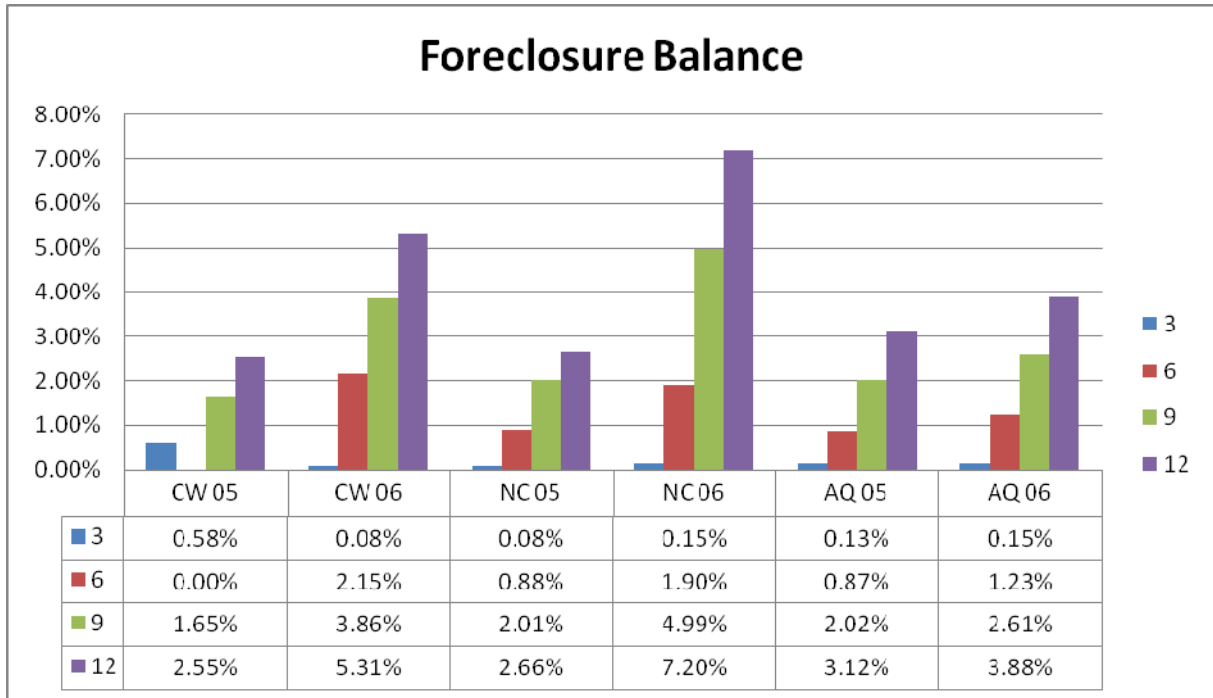
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Appendix F – (Cumulative Net Rate Loss)



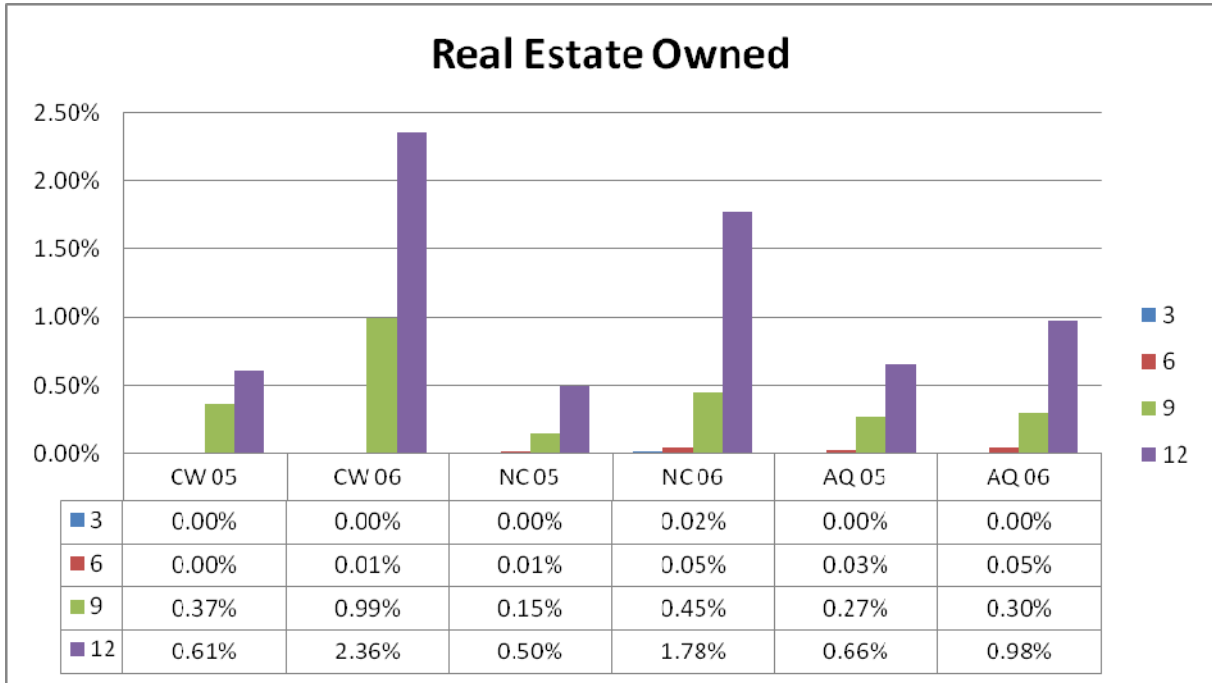
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Appendix G – (Foreclosure Balance)



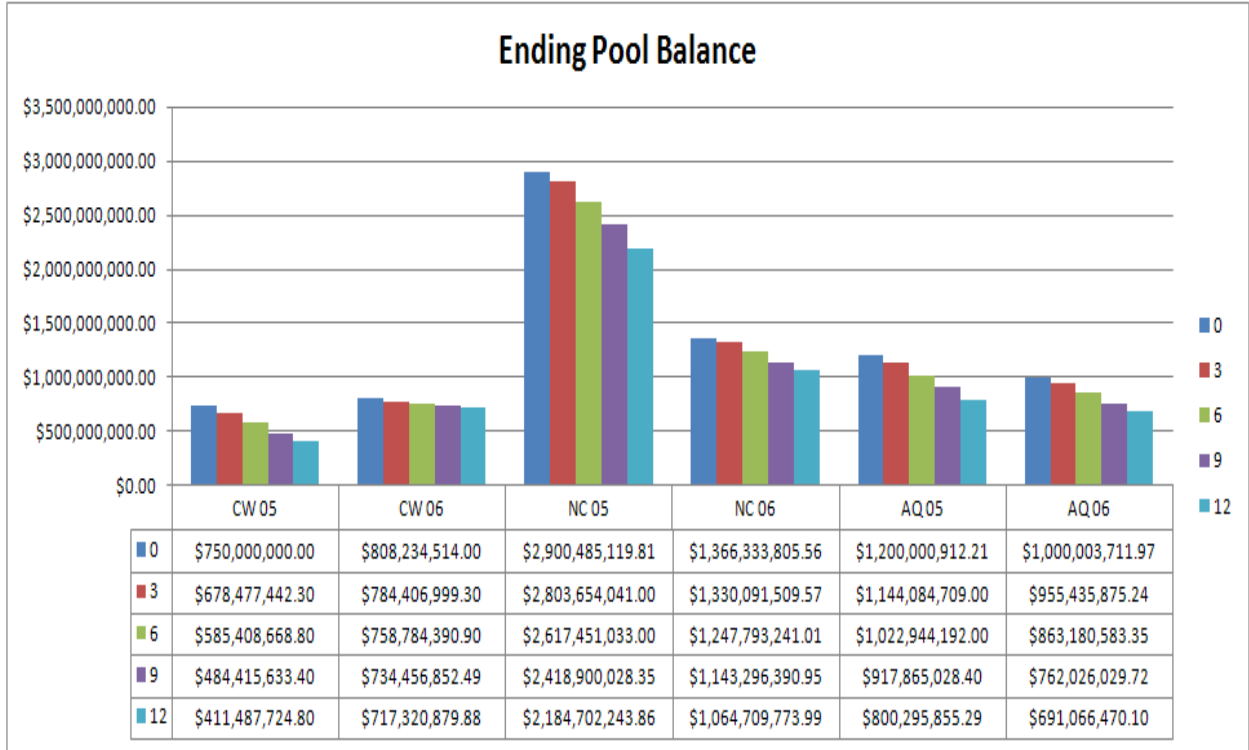
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Appendix H – (Real Estate Owned)



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Appendix I – (Ending Pool Balance)



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