Report to Congress on the Root Causes of the Foreclosure Crisis

U.S. Department of Housing and Urban Development
Office of Policy Development and Research

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Office of Policy Development and Research
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[1] Based on a draft report prepared by Christopher E. Herbert and William C. Apgar, Jr., of Abt Associates Inc. under contract with the Office of Policy Development and Research of the U.S. Department of Housing and Urban Development.

Foreword

Section 1517 of the Housing and Economic Recovery Act of 2008 (P.L. 110-289) mandated preliminary and final reports to Congress on the root causes of the foreclosure crisis. This final report responds to that mandate by analyzing data and trends in the residential housing market and reviewing the academic literature and industry press on the root causes of the current foreclosure crisis. The report also provides a review of policy responses and recommended actions to mitigate the crisis and help prevent similar crises from occurring in the future.

As we move forward, better understanding of the root causes of this crisis will support informed choices among the many policy options available to address the laws and institutions that will govern the origination of residential mortgages in the future. As we have seen from the current crisis, successful outcomes from these policy debates are critical to the health of the overall economy and to the well-being of American families.

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Executive Summary

This study of the root causes of the current extremely high levels of defaults and foreclosures among residential mortgages represents the final report to Congress by the Secretary of the Department of Housing and Urban Development (HUD) pursuant to Section 1517 of the Housing and Economic Recovery Act (HERA) of 2008 (P.L. 110-289). The problems in the mortgage market are routinely referred to as a "foreclosure crisis" because the level of defaults and foreclosures greatly exceed previous peak levels in the post-war era and, as a result, have drawn comparisons to the levels of distress experienced in the Great Depression. This report contains a review of the academic literature and industry press on the root causes of the current foreclosure crisis, data and analysis of trends in the market, and policy responses and recommended actions to mitigate the current crisis and help prevent similar crises from occurring in the future.

Trends in Delinquencies and Foreclosures

To help define the nature of the foreclosure crisis, the report begins by presenting basic information on trends in mortgage delinquencies and foreclosure starts, relying largely on data from the Mortgage Bankers Association *National Delinquency Survey*. According to this survey, between late 2006 and mid-2007, the share of loans that were seriously delinquent or beginning the foreclosure process reached their highest levels since the survey was begun in the late 1970s. Since then, these rates have continued to rise sharply, and, by mid-2008, had more than doubled the previous record highs. Most of the initial increase in foreclosures was driven by subprime loans, both due to the fact that these inherently risky loans had come to account for a much larger share of the mortgage market in recent years and because the foreclosure rates among these loans were rising rapidly. In addition, "Alt-A" loans, another fast-growing segment of the market, began experiencing higher delinquency and foreclosure rates.[1] In both the subprime and Alt-A market segments, foreclosures have grown most rapidly among adjustable-rate loans. But, as the economy deteriorated in 2008 and into 2009, the level of foreclosures among prime fixed-rate loans also rose, further exacerbating the crisis.

Given the magnitude of this crisis, it is perhaps not surprising that the increase in foreclosures is evident across the country, affecting most areas. Nonetheless, there are significant differences in the extent of the foreclosure crisis across market areas. The report analyzes the regional patterns comparing the most recent year's foreclosure start rates and increases in foreclosure start rates since the start of the crisis by state.

Consistent with popular press accounts, one group of states stands out as having been most severely impacted by the crisis—these states not only had the highest rates of foreclosure starts in 2008, they also experienced the highest increase in foreclosure starts since 2005. This group has been referred to in the press as the "sand states" as it includes Arizona, California, Florida, and Nevada. The sand states all had a high incidence of high-cost (subprime) lending in 2006, coupled with a much larger run-up in home prices before the crisis hit. Perhaps because of this robust house price growth, these states enjoyed some of the lowest foreclosure start rates in the nation in 2005. However, the fall in house prices from 2005 to 2008 was most dramatic in the sand states. Further exacerbating problems in these four states has been a sharp rise in unemployment since 2005, with unemployment rates rising from below the national average to among the highest rates in the country.

[1] The term "Alt-A" refers to loans made to borrowers that require little or no documentation of borrowers' income or assets and entail other features that may expose borrowers to large increases in loan payments over time.

It is noteworthy to contrast the experience of the sand states with a second group of states that were also severely impacted by the crisis, but in a different way. This second grouping comprises states that had relatively high foreclosure rates even before the crisis began due to weaknesses in local economies, although the gain in foreclosure rates was less dramatic than in the sand states. Prominent among these states are the industrial states from the Midwest, including Illinois, Indiana, Michigan, and Ohio. House prices fell in these states after 2005, but not by as much as in states that experienced higher price increases prior to the crisis. In 2005, the industrial states had much higher unemployment rates than other states. Since 2005, economic conditions have deteriorated further, with falling housing prices and rising unemployment contributing to foreclosure rates in 2008 and 2009 nearly as high as those in the sand states.

Literature Review

The literature review begins by assessing the factors that have most commonly been associated with rising delinquencies and foreclosures in the past. There is a rich economics literature examining the cause of mortgage foreclosures, generally referred to as "default" in the literature.[2] Since the 1980s, this literature has been dominated by an option-based theory of mortgage default, where the mortgage contract is viewed as giving homeowners an option to "put" the home back to lenders by defaulting on their mortgage.[3] In an option-theoretic view, the primary factor driving defaults is the value of the home relative to the value of the outstanding mortgage; when the home value falls substantially below the mortgage debt, owners are better off by ceding the home to the lender (a so-called "ruthless" default). However, while a lack of equity in a home is strongly associated with foreclosures, most borrowers become delinquent due to a change in their financial circumstances that makes them no longer able to meet their monthly mortgage obligations. These so called "trigger events" commonly include job loss or other income curtailment, health problems, or divorce. As a result, foreclosures are most accurately thought of as being driven by a two-stage process: first a trigger event reduces the borrower's financial liquidity, and then a lack of home equity makes it impossible for the borrower to either sell their home to meet their mortgage obligation or refinance into a mortgage that is affordable given their change in financial circumstances. In this view, a lack of home equity is an important determinant of foreclosures as it precludes other means that borrowers can take to resolve an inability to meet their mortgage obligations, but defaults are most commonly triggered by some other event that makes borrowers financially illiquid.

But, while softening housing prices were clearly an important precipitating factor in the present crisis, it seems clear from the literature that the sharp rise in mortgage delinquencies and foreclosures is fundamentally the result of rapid growth in loans with a high risk of default—due both to the terms of these loans and to loosening underwriting controls and standards.[4] Mortgage industry participants appear to have been drawn to encourage borrowers to take on these riskier loans due to the high profits associated with originating these loans and packaging them for sale to investors. While systematic information on borrowers' motivations in obtaining

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2 Generally, mortgage "default" occurs when a borrower has missed three payments and a fourth is due. The default leads lenders to initiate the foreclosure process, but historically a majority of defaults are resolved without a foreclosure occurring.

3 Quercia and Stegman (1992) and Vandell (1995) provide detailed reviews of the literature researching the option-based theory of mortgage defaults.

4 Reeder and Comeau (2008) and Demyanyk and Van Hemert (2008) provide evidence of weakening credit quality of loan originations. Other research finds denial rates declined in recent years at the metropolitan-area level (Dell'Ariccia, Igan, and Laeven, 2008) and at the ZIP-Code level (Mian and Sufi, 2008).

these loans is not available, existing evidence suggests that some borrowers did not understand the true costs and risks of these loans while others were willing to take on these risks to tap accumulated home equity or to obtain larger homes.

The current crisis is unusual in that general economic weakness did not play a significant role in producing delinquencies and foreclosures in most market areas—at least not initially. Instead, it was a slowdown in house price growth that removed the primary safety valve for the high volume of unaffordable mortgages that had been made. These loans had allowed borrowers to take advantage of robust house price growth to avoid foreclosure by refinancing into a new loan or selling the property for a profit. In fact, several studies have found an association between increases in high-cost lending that enabled borrowers to obtain larger mortgages than they could otherwise afford and more rapid house price growth than would be predicted by other fundamental measures of housing demand. Thus, the slowdown and then decline in house price growth that precipitated the foreclosure crisis is itself a product of the inevitable end of the ability of lenders to keep extending more credit to borrowers.

Given the significant role that an increase in risky lending appears to have played in causing this crisis, a key question is what were the factors that made it possible for the mortgage market to make so many risky loans in recent years? McCoy and Renuart (2008) outline a variety of developments in the mortgage markets during the 1980s and 1990s that helped set the stage for the rapid growth of subprime lending after 2003. These include legislative changes that removed interest rate ceilings on mortgages and allowed lenders to offer loans with variable interest rates, balloon terms, and negative amortization. The authors suggest that, when used in appropriate circumstances, these nontraditional loan terms can be useful for both lenders and borrowers to provide loans that address borrower needs or market circumstances. But, as recent experience has shown, when used inappropriately, these loan terms can significantly raise the risk of borrower default.

While these legislative changes enabled the risk-based pricing that lies at the heart of subprime lending, this type of lending was given a substantial spur by technological developments in the 1990s that allowed lenders to use statistical models and credit scores to create more fine-grained estimates of borrower risk. Another important development over this period was the growth of the asset-backed securities market, which shifted the primary source of mortgage finance from federally regulated institutions to mortgage banking institutions that acquired funds through the broader capital markets and were subject to much less regulatory oversight.

Numerous authors have argued that the regulatory structure may not have changed rapidly enough to keep up with the pace of fundamental change that was transforming the mortgage market.[5] Borrowers' protections largely consisted of disclosure rules, which proved to be insufficient protection against consumers making poor choices given the new market's much greater variation both in loan costs and in loan terms.[6] The Home Ownership and Equity Protection Act (HOEPA) of 1994 was intended to provide greater consumer protection against predatory loan terms, but, in practice, applied to less than 1 percent of all loans and so protected very few borrowers. In the absence of more stringent federal regulations, a large majority of states passed their own versions of HOEPA. But the Office of Thrift Supervision and the Office of the Comptroller of the Currency, the primary regulators of federal depository institutions, issued regulations preempting these state laws from

[5] For example, Gramlich (2007), Essene and Apgar (2007), McCoy and Renaurt (2008), and Barr (2008).

[6] GAO (2004) also describes the inadequacy of the mortgage lending disclosure system.

applying to the institutions these agencies regulated. Importantly, this preemption also applied to the mortgage banking operating subsidiaries of these institutions, which greatly reduced the number of lenders covered by these state laws. While federal regulators' concern with the safety and soundness of banking institutions provides a check against risky lending activities by these institutions, an increasing number of mortgage loans were made by independent mortgage banking institutions subject to less federal oversight than depository institutions and their mortgage banking subsidiaries.

Another important hole in the regulatory framework was the lack of significant federal oversight of the rating agencies.[7] These agencies played a key role in opening the markets for mortgage-backed securities and collateralized debt obligations to a wide range of institutional investors and regulated financial firms seeking AA- or AAA-rated investments. In hindsight, it is clear that the rating agencies were excessively optimistic in their assessment of the risks associated with subprime mortgages and the securities built on these loans. The ratings compensation structure—under which the agencies were paid by the very firms that sold the securities to investors—likely played an important role in the agencies' failure to more soundly assess these securities.

The factors cited previously helped set the stage for the mortgage market problems that developed in recent years, but several other factors precipitated the rapid growth of subprime and Alt-A lending and the substantial deterioration in underwriting controls that began around 2003. One commonly cited factor is the increasing demand for high-yield, investment-grade securities from both domestic and foreign investors.[8] The strong demand for these securities was evident in the shrinking risk premiums demanded by investors in asset-backed securities through 2006. In part, the willingness of investors to purchase risky mortgages with relatively little risk premium also reflects the belief that innovations in financial market instruments were shielding them from default risk.

The surge in subprime lending was also driven by the high profits participants earned at each stage of the process from loan origination through bond issuance. As housing affordability worsened after 2003, lenders began offering new mortgage products intended to stretch borrowers' ability to afford ever more expensive homes as a means of keeping loan origination volumes high. Efforts to keep origination volumes high also appear to have contributed to loosened underwriting standards during this period.

The final—and perhaps most important—ingredient that fostered the surge in risky lending was the rapid increase in housing prices in large swaths of the country through 2006. The quickening pace of house price appreciation papered over the increasing risks of mortgage origination in the years leading up to the emergence of the foreclosure crisis in 2007. In fact, the growth in risky lending seems likely to have fueled the dramatic rise in house prices. In short, market developments since 2000 helped create a self-perpetuating cycle. In pursuit of high profits, lenders and investors poured capital into ever riskier loans, particularly after 2003. This flood of capital helped to spur rising home prices that masked the riskiness of the loans being made, leading to continued loosening of underwriting standards. When house price growth finally slowed in late 2006, the true nature of these risky loans was exposed and the "house of cards" came tumbling down.

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7 Rating agencies only began registering with the Securities and Exchange Commission in September 2007 as mandated under the Credit Agency Reform Act of 2006.

8 Zandi (2008) discusses how the U.S. trade deficit left international investors with a flood of dollars to invest.

There is a general recognition that fraud on the part of mortgage brokers and borrowers may have made a significant contribution to the foreclosure crisis.[9] Ultimately, examinations of the growing incidence of fraud conclude that the fundamental cause can be traced back to the lack of adequate underwriting controls by lenders to oversee brokers' activities. The most commonly cited information on trends in mortgage fraud is derived from Suspicious Activity Reports (SARs), which are filed by financial institutions, including federally insured depository institutions, and are utilized by several federal agencies, including the Federal Bureau of Investigation (FBI), the Financial Crimes Enforcement Network, and HUD, amongst others, in their efforts against mortgage fraud. Importantly, with significant shares of loans made by institutions not regulated or insured by the federal government, this reporting system leaves out a significant portion of the mortgage industry. Even with a large segment of the market excluded from this system and with strong housing price growth potentially masking many cases of fraud, the number of SARs grew sharply beginning in 2004. In 2003 a total of 6,939 SARs were filed; by 2007, this number had increased nearly sevenfold to 46,717. Nonetheless, the number of SARs was still fairly small relative to the number of loans originated annually. However, the low share undoubtedly reflects both the difficulty of identifying fraud as well as the limited scope of institutions reporting SARS. BasePoint Analytics, a private firm specializing in detecting mortgage fraud, has estimated that 9 percent of loan delinquencies are associated with some form of fraud. Thus, while mortgage fraud is certainly not a trivial issue, it is estimated to account for only about 1 in 10 delinquencies.

In terms of the nature of fraud, the FBI distinguishes between two types of fraud: (1) "for profit," mostly perpetrated by brokers and others to generate profits, and (2) "for housing," perpetrated by homebuyers with the goal of purchasing or retaining a home. The FBI estimates that roughly 80 percent of fraud is "for profit" and conducted by brokers and other professional parties to the transaction. Consistent with this conclusion, BasePoint Analytics has concluded that most fraud is driven by mortgage brokers in their efforts to earn profits by originating loans. Existing information further suggests that the vast majority of fraud involves the misrepresentation of information on loan applications related to income, employment, or occupancy of the home by the borrower. The growth in no- and low-documentation loans appears to be highly related to the growth in fraud. Another significant share of cases of fraud involve appraisal misrepresentations, where property conditions are materially different than presented in the appraisal or information that is typically outside of accepted parameters is used to derive the property value.

Another common factor alleged in the popular press to have contributed to the foreclosure crisis is the Community Reinvestment Act (CRA).[10] CRA was passed by Congress in 1977 with the goal of encouraging banks to meet the credit needs of the communities in which they have branches, with a specific emphasis on low- and moderate-income neighborhoods. Some critics of CRA claim that the wave of risky lending was generated in no small part by banks having been pushed into making these loans to meet their CRA requirements. However, a variety of empirical evidence supports the view that CRA's requirements played little or no role in producing the foreclosure crisis. To begin with, only a very small share of the high-priced loans that have been a key driver of the crisis can be linked to efforts to meet CRA's lending requirements. Furthermore, while CRA lending requirements have been in force for over three decades, the foreclosure crisis is a recent phenomenon. In fact, the rise of the foreclosure crisis came after a period of sustained decline in the share of mortgage lending

[9] See Bitner (2008); BasePoint Analytics (2006); Mortgage Asset Research Institute (2008); and Pendley, Costello, and Kelsch (2007).

[10] One source of this claim is in *The New York Times* by Husock (2008). Counter editorials include *The New York Times* (October 15, 2008) and *The Los Angeles Times* (October 25, 2008).

activity covered under the CRA. Finally, there is also some evidence that loans made to low- and moderate-income homebuyers as part of banks' efforts to meet their CRA obligations have actually performed better than subprime loans. CRA loans were about half as likely to go into foreclosure as loans made by independent mortgage companies not covered by CRA, suggesting that CRA may have helped to ensure responsible lending even during a period of overall declines in underwriting standards.

Many of the same voices raising questions about CRA's role in producing the foreclosure crisis have also argued that federal regulations requiring the government-sponsored enterprises (Fannie Mae and Freddie Mac, or the GSEs) to devote a sizeable share of their lending to low- and moderate-income homeowners also played a significant role in fostering the growth of risky lending. The serious financial troubles of the GSEs that led to their being placed into conservatorship by the federal government provides strong testament to the fact that the GSEs were indeed overexposed to unduly risky mortgage investments. However, the evidence suggests that the GSEs' decisions to purchase or guarantee nonprime loans was motivated more by efforts to chase market share and profits than by the need to satisfy federal regulators. Another argument is that the GSEs helped fuel the growth of subprime lending by purchasing a significant share of subprime mortgage-backed securities to meet their low- and moderate-income housing goals. While the GSEs did purchase just under one-half of all subprime securities in 2004, and were allowed by federal regulators to count qualifying loans in these securities toward their goals, their purchases of these securities dropped sharply in subsequent years even as the growth in the subprime market took off. In short, while the GSEs certainly contributed to the growth of the subprime market, there was clearly substantial demand for these securities from a wide variety of investors.

Potential Policy Changes for Addressing Rising Foreclosures

One important category of policy options are those options designed to address problems associated with rising foreclosure. Rising mortgage delinquency and foreclosure rates exact a tremendous toll on individual borrowers and their communities. Foreclosures also exert downward pressure on home prices, further exacerbating problems in the housing market and the broader economy. Concerns about the impacts of rising foreclosures have led to a variety of efforts aimed at helping owners to remain in their homes, including substantial support for foreclosure prevention counseling and expanded loan modification and refinancing options.

One prominent early effort launched in late 2007 by HUD's Federal Housing Administration (FHA) was the FHASecure program, which was intended to use FHA insurance to replace risky subprime and high-cost loans, including those that became delinquent due to a payment reset, with fixed-rate, long-term financing. However, there was limited use of this program in part due to eligibility criteria that prevented participation for many borrowers. In July 2008, Congress authorized FHA, under the Housing and Economic Recovery Act of 2008, to insure up to $300 billion in loans via a new program: HOPE for Homeowners. Although some lenders have expressed interest in the program, as of July 2009 the program had insured only one loan. Amendments have been made to increase program participation, including a reduction in the amount of principal lenders are required to write down in order to place a borrower in the program. Additional legislative changes that were enacted in May 2009 further modify HOPE for Homeowners with the goal of helping additional families.

Another prominent effort is the HOPE NOW Alliance, formed in 2007 to help keep borrowers in their homes by increasing their access to counseling and information and creating a unified private industry plan to facilitate loan workouts. Initially, the majority of these workouts consisted of repayment plans, accounting for more than two-thirds of all workouts in the first year of operations. While workouts can help some households meet their mortgage payment obligations, for many subprime borrowers repayment plans offer limited relief as they place

additional debt repayment obligations on households already struggling to make mortgage payments. Given continued increases in foreclosures and deepening economic distress, public pressure has been rising on investors and servicers to engage in more aggressive loan modifications through interest rate and principal reductions in order to keep more borrowers in their homes. Since mid-2008, HOPE NOW has reported an increasing number of loan modifications by its participating servicers. From July through December 2008, nearly one-half of the loan workouts reported were loan modifications rather than repayment plans.

Even as the number of modifications increases, larger numbers of recently modified loans are now redefaulting. In large part, this performance reflects the fact that most loan modifications to date do not reduce monthly payments. White (2008) found that voluntary loan modifications of subprime borrowers completed through August 2008 typically increased a borrower's principal debt and virtually none involved a reduction in principal owed. While servicers did seem willing to lower mortgage interest rates, a recent assessment of the HOPE NOW Alliance program by the Center for Responsible Lending estimated that only one in five of all subprime workout plans actually lowered monthly mortgage payments for financially distressed borrowers.

Most recently, the federal government announced a new effort to encourage loan modifications as part of its Making Home Affordable plan on February 18, 2009.[11] This plan is designed to offer assistance to 7 to 9 million homeowners making good-faith efforts to stay current on their mortgage payments. It provides access to low-cost refinancing that will reduce monthly payments for homeowners who owe more than 80 percent of their home value and whose mortgages are owned or guaranteed by Fannie Mae or Freddie Mac. The plan also commits $75 billion through the Treasury Department, working with the GSEs, FHA, the Federal Deposit Insurance Corporation, and other agencies, to undertake a comprehensive multipart strategy to achieve loan modifications for 3 to 4 million at-risk homeowners to help them stay in their homes.

This homeowner stability initiative aims to reduce mortgage payments to 31 percent of income to help those borrowers in imminent danger of default. The Home Affordable Modification Program aims to achieve this goal primarily through subsidizing interest rate reductions, although the program does provide servicers and investors with the option of reducing outstanding principal balance as a means of achieving the 31-percent payment-to-income target. To date, many servicers have been reluctant to offer interest rate and principal write-downs even when such modifications could avoid lengthy and costly foreclosure costs. In part this reflects concerns that existing pooling and servicing agreements (PSAs, or the legal agreements that govern the servicer's authority to engage in loan modifications on behalf of the collection of investors with interests in any single mortgage-backed security pool) may limit ability of servicers to engage in loan modification activities. Yet, at the same time, many of these agreements contain inconsistent, and arguably not enforceable, language as to what actions are permissible under the contract. The expectation is that the Home Affordable Modification Program will encourage wider use of loan modification tools because it offers substantial interest rate subsidies, offers bonus success payments to borrowers and servicers, and creates clear industrywide standards on how best to interpret these PSAs.

Some question whether the Home Affordable Modification Program approach is sufficient to address all situations. For some borrowers, the subsidies provided through the program will not be sufficient to allow them to stay in their homes. Some of these borrowers may be helped through the improved HOPE for Homeowners

[11] The February 18, 2009, announcement was originally entitled the Homeowner Affordability and Stability Plan and has since become known as Making Home Affordable.

Program. But many have argued that bankruptcy reform is needed to allow bankruptcy judges to modify mortgages for families who have run out of other options.

Potential Policy Changes To Reduce the Risk of Future Foreclosure Crises

A fundamental cause of the foreclosure crisis was the substantial increase in loans made to borrowers with insufficient willingness or ability to meet their payment obligations. As a result, there is a growing consensus regarding the need for policy changes to improve the functioning of both the primary and secondary mortgage markets to help reduce the number of foreclosure-prone loans before they are made. A June 2009 report by the Treasury Department presenting a comprehensive plan for reform of regulatory oversight of the financial system has identified a series of detailed proposals that has provided a framework for this ongoing policy debate (U.S. Department of the Treasury, 2009).

To begin with, there is a clear need to enhance the ability of consumers to make appropriate choices in the mortgage market. Recent research on consumer behavior provides growing evidence that many consumers took out mortgages that they did not understand or that were not suitable for their needs. In particular, there is ample evidence that consumers are often overwhelmed by aggressive mortgage sales and marketing efforts that exploit various consumer decision making weaknesses.

One potential approach to aide consumers is to expand consumer awareness campaigns to warn against abusive lending practices. Unfortunately, even the best-designed education and outreach efforts can be easily swamped in a marketplace characterized by aggressive marketing by lenders. In the face of this marketing onslaught, many community groups and counseling organizations are expanding their capacity to act as a "buyer's broker" to help clients search for the best mortgages while earning a small fee for offering this service like any other mortgage broker. Building on this concept, there have been calls for the government to help establish a national network of "trusted advisors," independent of mortgage providers who are available on demand to review loan documents, educate borrowers, and advise them of the suitability of their loan to their circumstances.

Another potential approach to help consumers make better choices is to apply the "opt-in/opt-out" principle identified in the consumer behavior literature to structure more effective mortgage marketing of "good loans"; that is, loans that are fairly priced and that consumers understand and can afford to repay over the life of the loan.[12] For example, many programs first offer a prospective consumer a "safe," level-payment fixed-rate mortgage priced in an affordable manner. By starting with the default option of offering a simple and safe product, this approach builds on the observation that consumers often latch onto the first option for which they qualify.

While expanding the range of consumer counseling and assistance efforts is likely to be helpful, it may also be important to more forcefully counteract aggressive marketing practices and to consider banning inherently deceptive loan features. Moreover, since the mortgage market will continue to create new products, efforts to ban specific loan terms or mortgage products may not keep pace with these innovations. A number of initiatives have been enacted or proposed to enhance existing consumer protections, including recently released protections for subprime borrowers under the Truth in Lending Act, which requires lenders to evaluate both a borrower's income and ability to repay prior to originating a subprime loan, and 2008 HUD revisions to the Real Estate Settlement Procedures Act regulations.

[12] A detailed discussion of opt-in/opt-out loans is provided in Barr, Mullainathan, and Shafir (2008).

But even while applauding these initial efforts, many consumer advocates argue that additional reform is needed. They recommend limiting or banning yield spread premiums, which provide brokers and loan officers with incentives to sell borrowers higher priced loans, and prepayment penalties, which lock borrowers into high-priced loans and expose them to high fees if they need to refinance or sell their homes. A proposed revision to Regulation Z, the regulation which implements the Truth In Lending Act, would ban yield spread premiums and lender loan officer compensation related to loan terms. There are also proposals to develop new standards for truth in lending so that mortgage brokers and lenders do not have incentives to get around disclosure rules. Under this approach, federal regulators would evaluate whether a creditor's disclosure was objectively unreasonable, in that the disclosure would fail to communicate effectively the key terms and risks of the mortgage to the typical borrower.

Finally, the recent mortgage crisis has exposed a range of shortcomings with the approaches that have been used in the past by many mortgage servicers, including the tendency to push less costly (to the servicer) repayment plans and short-term modifications rather than aggressively pursue options that may benefit both borrowers (by helping them stay in their homes with an affordable monthly payment) and investors (by finding resolutions that have a higher expected return than a foreclosure). This has led to proposals, such as the federal government's Making Home Affordable plan, that seek to better align mortgage servicer incentives with those of both consumers and investors and set standards for loan modifications. Some have also called for imposing a duty to engage in loss mitigation efforts before initiating foreclosure actions.

A key aspect of the Treasury Department's proposals with regard to consumer protections include the establishment of a new Consumer Financial Protection Agency, which would have broad jurisdiction to protect consumers across the financial sector from unfair, deceptive or abusive practices. In addition, the Treasury Department recommends that this new agency develop stronger regulations governing consumer disclosures to ensure that they are transparent, simple, and fair.

In addition to greater consumer protections, many also argue that improvements are needed in the general regulatory structure overseeing the origination and financing of mortgages. The failure of federal regulation to adapt to the rapid changes in both the primary and secondary market was a key element in the explosion of high-risk lending and resulting surge in mortgage delinquency and default.

In the primary market, federal oversight has largely focused on federally insured depository institutions. But since the boom and bust of the subprime market was led by nonbank institutions and less fully regulated affiliates and subsidiaries of banks, in large measure, the nation's regulatory mechanisms have been focused on the wrong parts of the system. To realign regulation with today's organization of financial services, uniformity of regulation is needed across the lending practices of all segments of the mortgage industry and its regulators.[13] Reforms could reduce the incidence of nonbanks or affiliates and subsidiaries of banks playing by different rules, and they could encourage hands-on oversight to improve fair lending enforcement and improve compliance monitoring. An example of harmonizing the rules for all loan originators could be reform of the CRA. Such reform applied to CRA would involve expanding the current onsite reviews and detailed file checks now performed on assessment area lending of CRA-regulated entities to all mortgage lending activities. Most importantly, CRA could be expanded to cover independent mortgage banking operations and other newly emerging nonbank lenders.

[13] Uneven regulation and supervision left what one former governor of the Federal Reserve Board described as a "gigantic hole in the supervisory safety net" (Gramlich, 2007).

The Treasury Department's recommendations address these concerns by calling for the Federal Reserve to oversee and set stronger capital requirements for all financial firms even if they do not own banks. In addition, these recommendations also call for the creation of a single National Bank Supervisor to oversee all federally chartered banks as well as the elimination of loopholes that allow some depositories to avoid bank holding company regulation by the Federal Reserve.

Lack of uniformity is also a problem in the regulation of secondary market participants. The two housing GSEs, Fannie Mae and Freddie Mac, are subject to extensive federal oversight; however, most of the funds flowing into the subprime market come through the lightly regulated private-label mortgage-backed securities markets. Although the U.S. Securities and Exchange Commission is charged with the responsibility of monitoring the wide range of security transactions linked to the subprime sector, the degree of due diligence in this sector falls short of the oversight review of the GSEs. The development of a new and comprehensive regulatory structure for the non-GSE segment of the market will represent a critical piece of the coming mortgage market reforms. With regard to the secondary markets, the Treasury Department's recommendations call for enhanced regulation of securitization markets, including greater oversight of credit rating agencies and a requirement that originators and security issuers retain a financial interest in securitized loans.

In considering how best to regulate the GSEs or other secondary market participants, it is important to place these issues in the broader context of how the capital markets channel investment dollars into the subprime mortgage market. Just as is the case in the primary market, the development of detailed secondary market regulations that apply to only one segment of the marketplace can be both counterproductive and unfair. Considering how best to reduce the tendency for capital used to fund higher priced mortgages to flow through less-regulated capital market channels is a worthy addition to the current debate on GSE reform in particular, and capital markets in general.

Introduction

This study of the root causes of the current extremely high levels of defaults and foreclosures among residential mortgages represents the final report to Congress by the Secretary of the Department of Housing and Urban Development (HUD) pursuant to Section 1517 of the Housing and Economic Recovery Act (HERA) of 2008 (P.L. 110-289). The problems in the mortgage market are routinely referred to as a "foreclosure crisis" because the level of defaults and foreclosures greatly exceed previous peak levels in the post-war era and, as a result, have drawn comparisons to the levels of distress experienced in the Great Depression. This report contains a review of the academic literature and popular and industry press on the root causes of the current foreclosure crisis and a discussion of initial federal policy responses to the crisis. The report expands upon the earlier interim report submitted to Congress on this subject with additional data and analysis of trends in the market as well as an updated review of policy responses and recommended actions to mitigate the current crisis and help prevent similar crises from occurring in the future.

Since HERA was passed in July 2008, the problems in the mortgage market have triggered a more general crisis in global financial markets as first the securitization market for broad classes of assets seized up and then a broader credit crunch ensued as a shortage of capital held by banks and other lenders cut off lending generally (Gorton, 2008). Although the broader financial crisis has roots in the mortgage market turmoil, there are many aspects of the financial market problems that go beyond issues in the mortgage markets. Thus, while this report will touch on some of the causes of problems in the broader financial markets, much of this broader topic is beyond the scope of this report.

To help define the nature of the foreclosure crisis, section 1 presents basic information on trends in mortgage delinquencies and foreclosure starts based on the Mortgage Bankers Association's (MBA's) *National Delinquency Survey*.

Section 2 then presents a detailed review of the literature on the causes of the foreclosure crisis. This section is divided into three parts. First, it reviews the general academic literature over the last two decades analyzing the general causes of mortgage delinquencies and foreclosures. Second, it reviews studies that have specifically examined the causes of the recent spike in delinquencies and foreclosures to levels not seen since the Great Depression. Finally, section 2 concludes by reviewing both the academic literature and articles in the popular press that shed light on factors that fostered significant growth in the origination of the highly risky loans that were the root cause of the current crisis.

Section 3 then focuses on potential policy responses to the crisis. This section draws upon articles and reports by academics and advocacy groups. There are three main parts to this section. The first part discusses potential efforts to remedy the high levels of delinquencies and foreclosures among current homeowners. The second part then presents policy options to help reduce the risk of high foreclosure rates in the future. The last part outlines potential approaches for more comprehensive reform of regulation of the primary and secondary mortgage markets.

1. Trends in Delinquencies and Foreclosures

Arguably, the first tremors of the national mortgage crisis were felt in early December 2006 when two sizeable subprime lenders, Ownit Mortgage Solutions and Sebring Capital, failed. *The Wall Street Journal* described the closing of these firms as "sending shock waves" through the mortgage-bond market.[14] The failure of these firms was triggered by high levels of early payment defaults—newly originated loans on which borrowers quickly miss several payments. Under the terms of sales agreements with investors, lenders can be forced to buy back loans with early payment defaults. Since mortgage banking firms are not highly capitalized, a significant number of forced mortgage buybacks can quickly lead to insolvency. By late 2006, the volume of early payment defaults was rising rapidly, spurring a spike in the volume of mortgage buybacks and pushing more and more subprime lenders into untenable financial positions.[15]

Yet, when the MBA released the results of its *National Delinquency Survey* for the third quarter of 2006 on December 14, 2006, there was not yet a sense of panic (see Exhibit 1). While the survey showed that delinquency and foreclosure start rates were rising, particularly among subprime borrowers, the tone surrounding this news was still cautiously optimistic, with the MBA predicting that there would only be a "modest increase" in delinquencies over the next several quarters as the housing market bottomed.[16] At the same time, a very different assessment was presented in a report released on December 19 by the Center for Responsible Lending (CRL), which estimated that more than 1 million subprime loans originated in recent years would end in foreclosure, producing the worse foreclosure crisis in the modern mortgage era (Schloemer et al., 2006). CRL's foreclosure outlook was based on forecasts by Moody's Economy.com showing that house prices were likely to fall in many market areas in the wake of recent record levels of housing price growth.

By late February 2007, when the number of subprime lenders shuttering their doors had reached 22, one of the first headlines announcing the onset of a "mortgage crisis" appeared in *The Daily Telegrap*h of London.[17] By March, it was clear that a mortgage crisis had begun and was worsening.[18] When the MBA released the results of its delinquency survey for the fourth quarter of 2006 in March 2007, the foreclosure start rate was found to have hit a record level.[19]

Exhibit 1 presents trends in two key measures of mortgage distress from the MBA's *National Delinquency Survey*: the share of mortgages that were 90 or more days behind in their payments and the share that started the foreclosure process. As shown, the foreclosure start rate for all mortgages exhibited a fairly sizeable increase of 0.08 percentage points in the fourth quarter of 2006, pushing the rate to the new record high of 0.54 percent. While the 90-day delinquency rate was also trending strongly upward at this point, it would not reach a new record high until two quarters later, in mid-2007. The fact that the rate of foreclosure starts was already at

[14] "Mortgage Sector Withstands Subprime's Fallout," Danielle Reed and Anusha Shrivastava, *The Wall Street Journal*, December 9, 2006.

[15] "Tremors at the Door," Vikas Bajaj and Christine Haughney, *The New York Times*, January 26, 2007.

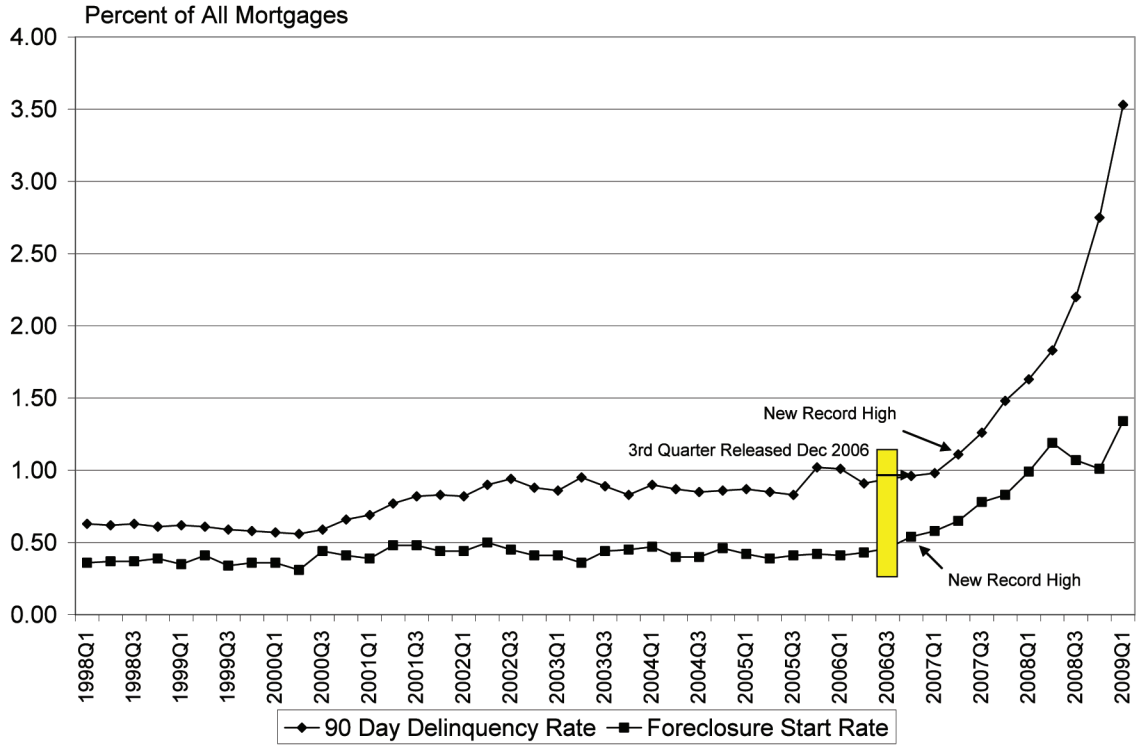
[16] "Late Mortgage Payments and Foreclosures Rise," *The New York Times*, December 14, 2006.

[17] "US Mortgage Crisis Goes into Meltdown," *The Daily Telegraph*, February 24, 2007.

[18] "Mortgage Crisis Spirals, and Casualties Mount," Julie Creswell and Vikas Bajaj, *The New York Times*, March 5, 2007.

[19] "Record Foreclosures Hit Mortgage Lenders," *USA Today*, March 13, 2007.

Exhibit 1: 90-Day Delinquency and Foreclosure Start Rates



Source: Mortgage Bankers Association, National Delinquency Survey

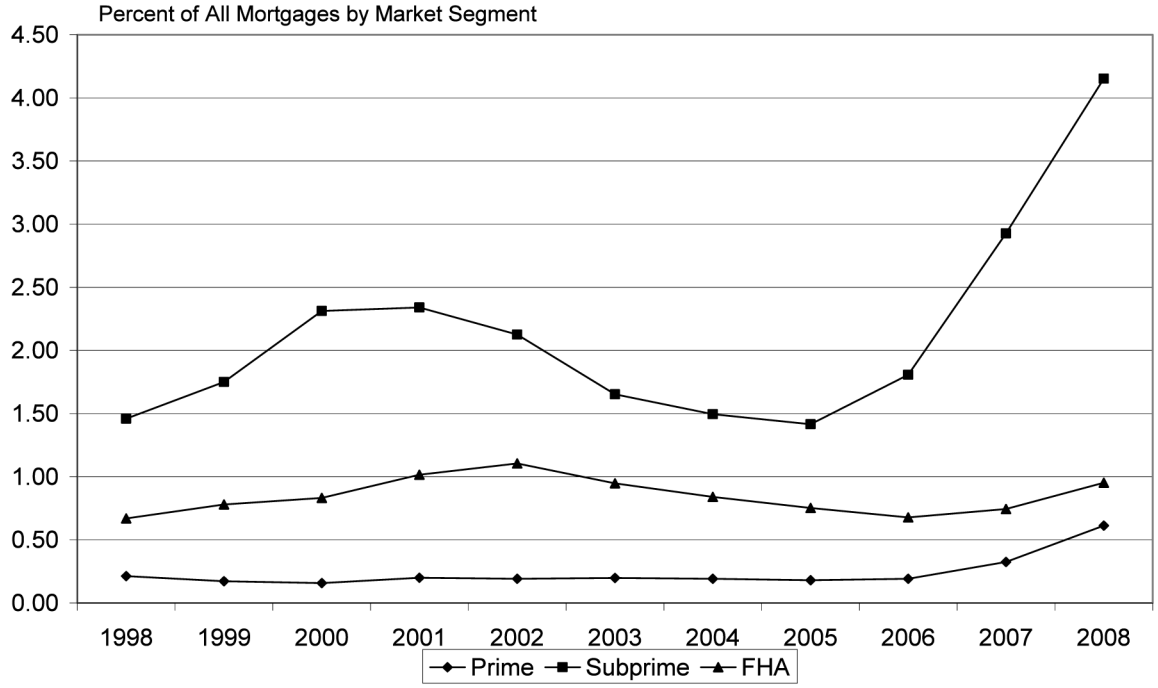
record levels 6 months ahead of when the 90-day delinquency rate would set a new record is an indication of the importance of early payment defaults in the early stages of the crisis, with many loans going straight from delinquency to the start of foreclosure proceedings.

In hindsight, the increases in delinquency and foreclosure rates experienced in early 2007 were still somewhat mild compared to what was to come. Both of these measures of distress experienced large and steady increases into 2008, shattering previous records for both. Prior to 2006, the highest rate of foreclosure starts had been 0.50 percent, reached in the aftermath of the economic recession that started the decade. By the second quarter of 2008, this rate was more than twice as high, at 1.08 percent. Similarly, the 90-day delinquency rate, which had reached a new record of 1.00 percent in 2005, had more than doubled to 2.09 percent by the third quarter of 2008. Most recently, foreclosure starts declined in the third quarter of 2008, but the MBA speculated that this reflected some lenders' temporary moratoria on foreclosures and increased efforts by lenders to increase the volume of workouts with borrowers short of foreclosure.[20] But, with serious delinquencies continuing to surge into new records each quarter, there does not appear to be any sense that the growth in the magnitude of the crisis is slowing. Indeed, foreclosure starts increased sharply in the first quarter of 2009 to reach yet a new high.

The MBA data provide a number of useful insights into the nature of the mortgage crisis. As is well known, subprime loans have accounted for a significant share of troubled loans during the current crisis. Exhibit 2 shows trends in foreclosure starts by major market segment as categorized in the MBA data—prime, subprime,

[20] "Mortgage Troubles Rise to Record Levels," Renae Merle, *The Washington Post*, December 6, 2008.

Exhibit 2: Foreclosure Start Rate by Mortgage Market Segment



Source: Mortgage Bankers Association, National Delinquency Survey
Note: Annual figures are average of quarterly data.

and Federal Housing Administration (FHA)-insured loans. Since 1998, when the MBA first began reporting separately on the prime and subprime sectors, foreclosures rates in the subprime sector had been many multiples the rate of foreclosure starts in other market segments—roughly nine times the rate of prime loans and two-and-a-half times the rate in the FHA-insured sector. As shown in Exhibit 2, since 2006, when the foreclosure start rate began to rise sharply, the increase in the rate in the subprime sector has been particularly dramatic.

The much higher risk of foreclosure among subprime loans is also made evident when 90-day delinquency rates are compared across market segments (Exhibit 3). While subprime loans have always had a much higher foreclosure start rate than other segments, there was little difference in the 90-day delinquency rates between subprime and FHA-insured loans—until these trends diverged drastically in 2007. The much larger difference in foreclosure start rates among subprime loans relative to differences in 90-day delinquency rates reflects the fact that once subprime loans became delinquent, they were much more likely to enter foreclosure than other market segments.

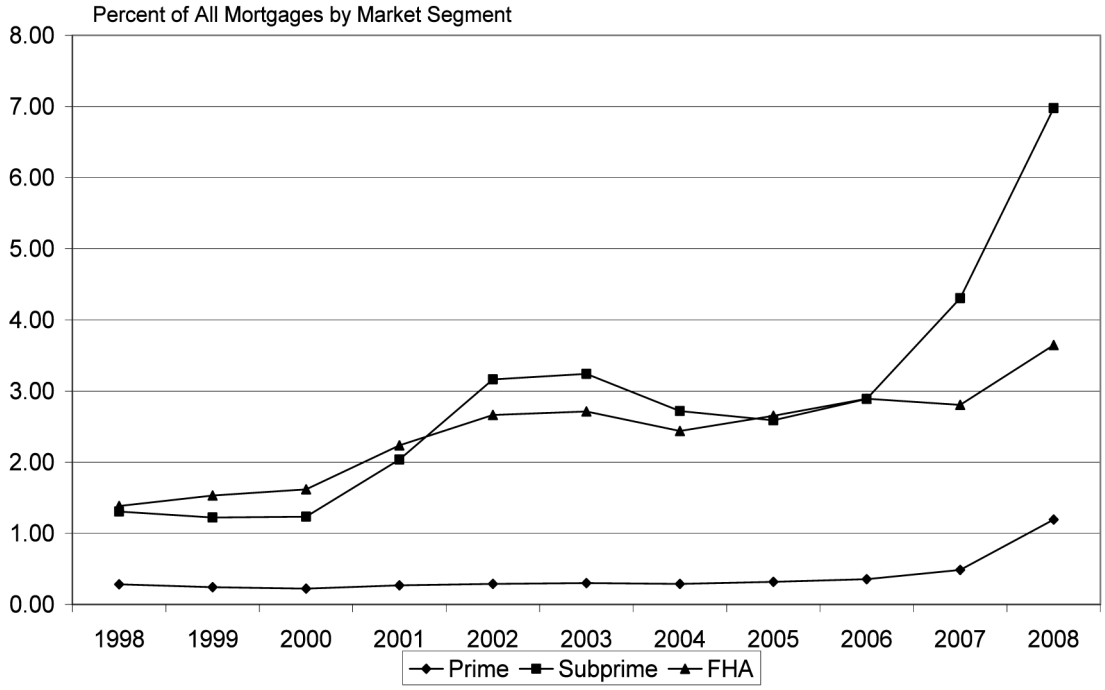
The high foreclosure risk among subprime loans was no secret even before 2006. As early as 1998, the National Training and Information Center (NTIC) in Chicago highlighted a sharp rise in foreclosures in minority neighborhoods in Chicago and linked these increases to the growth of subprime lending in these areas (NTIC, 1998). In the wake of NTIC's work, a number of other studies revealed similar trends in other market areas around the country (Bunce et al., 2000). As will be discussed in more detail at the end of this section, historically high foreclosure rates were evident among 20 states in 2002 in the wake of the 2001 recession.

But, while the subprime foreclosure risk was well documented, the overall market share of subprime loans was still low enough that the high rates of foreclosure starts were not pushing up overall foreclosure rates to record

levels. As shown in Exhibit 3, the foreclosure start rate among subprime loans was higher in 2001 at the time of the last recession than it was in 2006, when the current foreclosure crisis began. But whereas subprime loans only accounted for 2.6 percent of all loans in MBA's survey in 2001, by 2006 this share had increased more than fivefold to 13.5 percent (see Exhibit 4).[21]

In fact, because the MBA data show the share of all *outstanding* mortgages by market segment, these data do not adequately illustrate the growing importance of subprime and other riskier loan segments among loans *originated* during this period. Using data from *Inside Mortgage Finance*, Exhibit 5 shows the share of mortgage originations in dollars accounted for by subprime, Alt-A, and home equity loans from 2001 through 2006. The Alt-A market segment consists of loans made to borrowers with prime credit histories, but incorporates other loan terms that make these loans riskier than standard prime mortgages—most commonly entailing the use of limited or no documentation requirements for borrowers' income and/or assets as well as interest-only or optional monthly payment levels.[22] Home equity loans are second mortgages, most commonly originated

Exhibit 3: 90-Day Delinquency Rate by Mortgage Market Segment

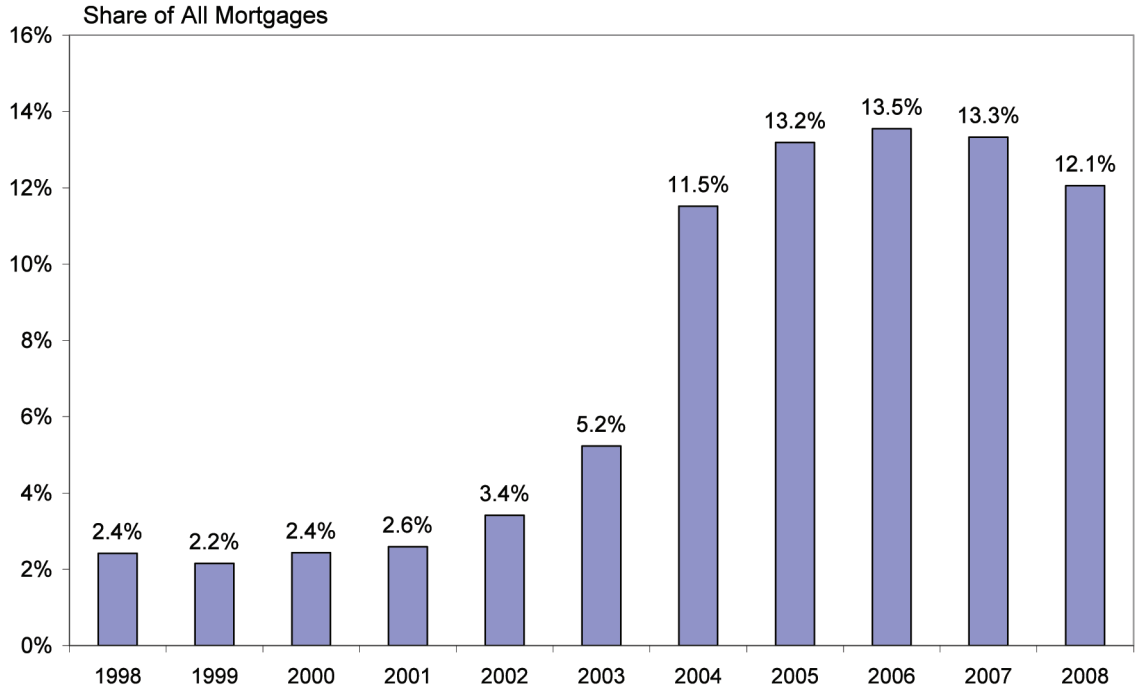


Source: Mortgage Bankers Association, National Delinquency Survey
Note: Annual figures are average of quarterly data.

[21] In part, the sharp rise in the subprime market share reported in the Mortgage Bankers Association data may reflect changes in reporting practices among lenders participating in the *National Delinquency Survey* to include more subprime loans that were previously excluded from the survey. Nonetheless, the sharp rise in market share from 2003 to 2005 is consistent with data from *Inside Mortgage Finance* showing the subprime market's share of mortgage originations more than doubling to 20 percent over this period. When this high share of new originations is coupled with a huge wave of refinancing in 2003 due to historically low mortgage rates, it is not improbable that the subprime share of all outstanding mortgages could have doubled over this period.

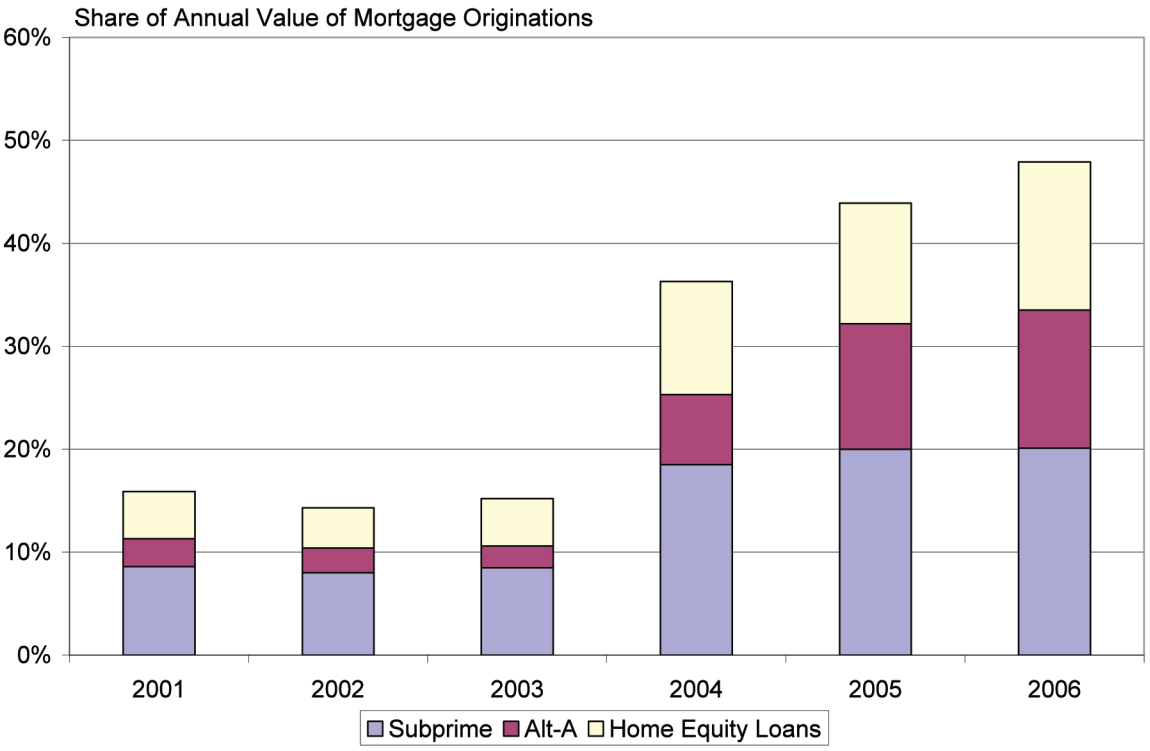
[22] "Option" adjustable-rate mortgages give the borrower several options for each monthly payment during the early years of the loan: a fully amortizing payment, an interest-only payment, or a payment that is less than the interest owed that month, leading to an increase in the outstanding loan balance.

Exhibit 4: Subprime Share of Mortgages in Mortgage Bankers Association National Delinquency



Source: Mortgage Bankers Association, National Delinquency Survey
Note: Annual figures are average of quarterly data.

Exhibit 5: Subprime, Alt-A, and Home Equity Loan Share of All Mortgage Originations



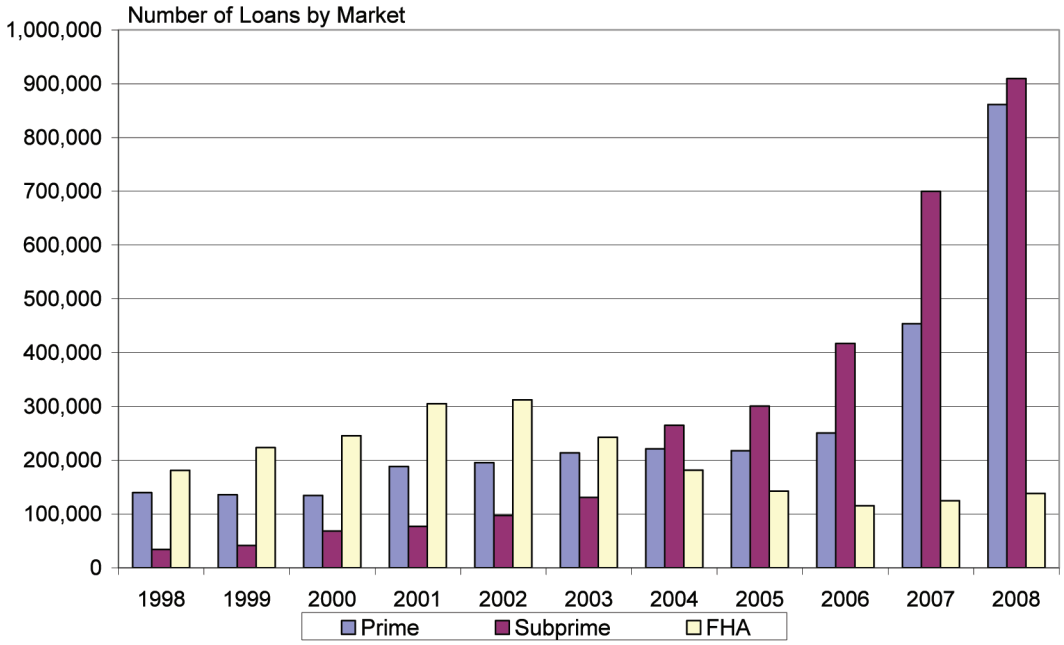
Source: Inside Mortgage Finance

during this period in tandem with a first mortgage for 80 percent of the home's value. These simultaneous home equity loans, known as "piggy-back" loans, would be for up to 20 percent of the home value, allowing the borrower to obtain a prime first mortgage without mortgage insurance while paying much higher interest rates on the home equity loan. Between 2001 and 2003, these three segments together accounted for about 15 percent of all mortgage originations. Beginning in 2004, all three of these market segments grew rapidly, achieving a combined market share of 48 percent in 2006. In reviewing data from the MBA's *National Delinquency Survey*, it is important to bear in mind that the Alt-A segment is likely to be reported in the prime market segment while home equity loans are not covered by the MBA survey.

With subprime mortgages accounting for such a large share of outstanding loans, the relatively modest rise in the foreclosure starts rate among subprime loans in 2006 had a much larger impact on the market than the spike in foreclosure rates in 2001. Exhibit 6 shows the trends in the number of loans starting foreclosure by market segment from 1998 through 2008. In 2006, as the foreclosure crisis first became evident, the volume of subprime foreclosures increased by more than 100,000, accounting for much of the increase of about 120,000 in foreclosure starts in the overall market. This sharp increase in the volume of foreclosure starts occurred even though the subprime foreclosure start rate was still below peak levels from 2001 (see Exhibit 2). In 2007, the volume of subprime foreclosure starts increased by nearly 300,000, accounting for more than one-half of the overall increase—even though subprime loans only accounted for about one in eight of all outstanding mortgages. In part, the sharp increase in 2007 reflects the much higher foreclosure start rate—up more than a full percentage point from 2006—as well as the fact that the number of subprime loans reported in the MBA survey was nearly seven times the volume reported in 2001.

However, in 2007 and 2008, the volume of prime foreclosure starts also increased sharply. In 2007, the number of prime loans entering foreclosure nearly doubled to about 500,000. The increase in prime foreclosure starts was even larger in 2008, reaching more than 850,000 loans. While still less than the roughly 900,000 foreclosure

Exhibit 6: Numbers of Loans Starting Foreclosure by Market Segment



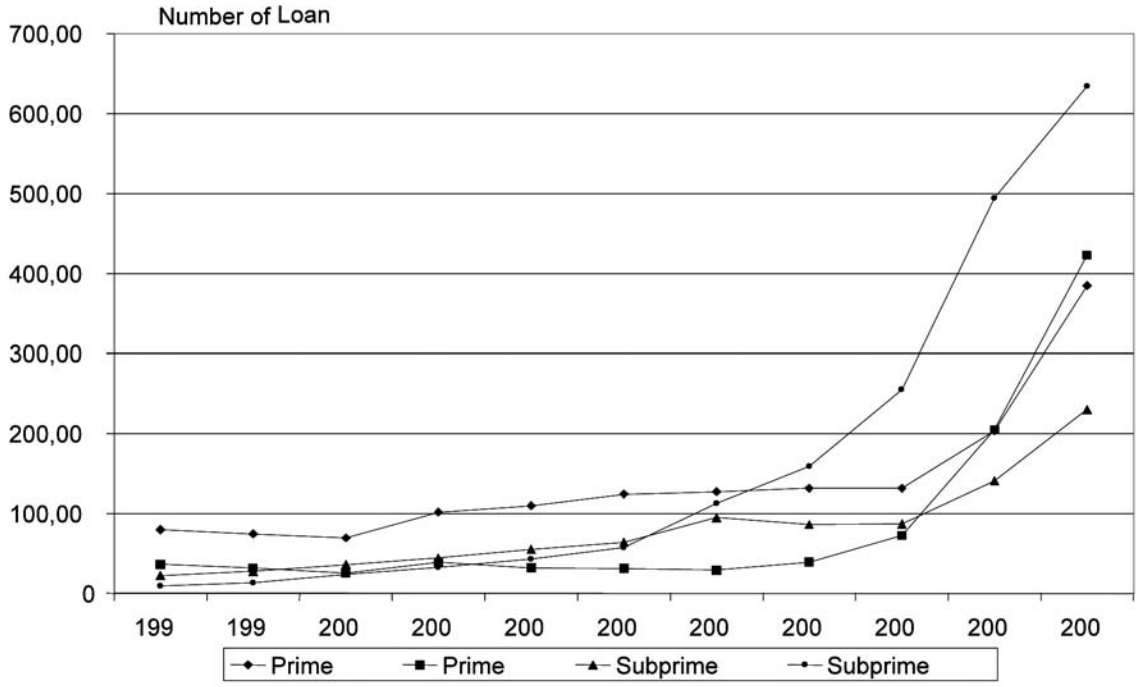
Source: Mortgage Bankers Association, National Delinquency Survey
Note: Annual figures are average of quarterly data.

starts among subprime loans, in 2008 the prime market has come to account for an increasingly large share of all foreclosures. Across all market segments, foreclosure starts reached nearly 2 million loans in 2008—greatly exceeding the levels predicted by CRL in 2006 as representing the worst mortgage crisis in the modern era.[23]

While the MBA data do not identify subsegments of the prime market, based on information from other sources, much of the increase in prime market foreclosures is occurring among "Alt-A" loans.[24] The MBA data also highlight the fact that much of the foreclosure crisis can be linked to adjustable-rate mortgages (ARMs) in both the prime and subprime sectors. Exhibit 7 shows annual trends in the number of prime and subprime mortgages starting foreclosure by whether the loan has a fixed or adjustable rate. At the start of the mortgage crisis in 2006, the rise in foreclosure starts occurred only among adjustable-rate prime and subprime mortgages. There have continued to be sharp increases in foreclosures among both subprime and prime ARMs; in 2008, these two categories of loans accounted for a large majority of all foreclosure starts. However, foreclosure starts have also increased substantially among fixed-rate loans, particularly in 2008 as economic conditions have deteriorated.

The high percentage of prime foreclosures accounted for by ARMs is out of proportion to the share of all prime loans that are ARMs. While ARMs only accounted for 18 percent of prime loans reported in the MBA data in 2008, these loans accounted for 52 percent of all prime foreclosure starts. The disparity is also evident among

Exhibit 7: Number of Loans Starting Foreclosure by Loan Type and Market Segment



Source: Mortgage Bankers Association, National Delinquency Survey
Note: Annual figures are sums of quarterly

[23] "Delinquencies Increase, Foreclosure Starts Flat in Latest MBA National Delinquency Survey," Mortgage Bankers Association, December 5, 2008.

[24] See, for example, "Alt-A Credit: The Other Shoe Drops," David Liu, Shumin Li, *The MarketPulse*, December 2006, LoanPerformance; "Mortgage Crisis Spreads Past Subprime Loans," *The New York Times*, February 12, 2008; and "Fannie Having Debt Woes," *National Mortgage News*, November 17, 2008.

subprime loans, although it is not as large. ARMs accounted for 48 percent of subprime loans in the MBA data but 73 percent of subprime foreclosure starts.

In part, the high foreclosure rates among ARMs may reflect the potential for payment shock for borrowers when the interest rates on these loans first reset. However, as will be discussed further later in this report, the incidence of early payment defaults among these loans suggests that much of their poor performance may be related to lax underwriting that allowed borrowers to take on monthly payments that were unaffordable even before interest rate resets occurred.

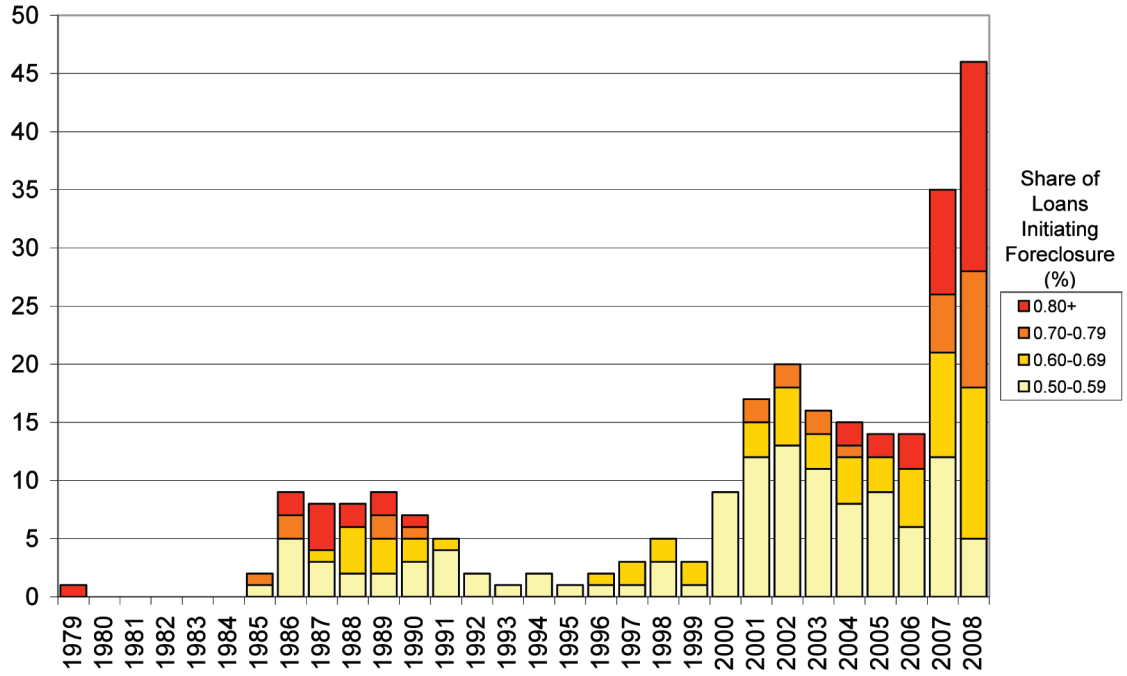
In sum, data from the MBA *National Delinquency Survey* highlight a few key features of the foreclosure crisis. First, a substantial portion of the crisis can be traced to both the growing volume of and rising foreclosure rates among subprime loans—particularly in the initial phases of the crisis. Second, foreclosure starts have been much higher among adjustable-rate loans in both the subprime and prime sectors, with much of the problem among prime loans concentrated in the Alt-A segment of the market. However, as the crisis continues into its third year and the nation's economic recession worsens, foreclosure starts are also rising sharply among prime fixed-rate loans as well.

Regional Trends in Foreclosures

As shown earlier, data from the MBA find that foreclosure rates are now nearly three times higher than previous peak levels from any time over the past 30 years. Where new records for foreclosure starts rates used to be measured in hundredths of a percent, it has not been uncommon for this measure to increase by tenths of a percent in a single quarter. Given the magnitude of this crisis, it is perhaps not surprising that the increase in foreclosures is evident in most areas of the country. Nonetheless, there are significant differences in the extent of the foreclosure crisis across market areas.

Exhibit 8 shows the number of states with a foreclosure start rate exceeding 0.50 percent in a given year beginning in 1979, when the MBA first conducted the *National Delinquency Survey*. A foreclosure start rate of 0.50 percent is taken as an indicator of severe distress in the mortgage market as this was the national record level prior to 2007. As shown in Exhibit 8, there were widespread problems evident at the state level as early as 2000. During the 1980s, the severe economic recession in the oil patch states led to significant foreclosure start rates in seven to nine states each year from 1986 through 1990. This period has been viewed as one of the most serious mortgage foreclosure episodes in the post-war era. More specifically, foreclosure rates in Texas and surrounding states from this time were used as the basis for the stress test of the government-sponsored enterprises' capital requirements by its regulator. But by 2000, the number of states with foreclosure start rates exceeding 0.50 percent was already at nine. By 2002, at the height of foreclosures in the wake of the previous economic recession, the number of states exceeding this rate reached 20, more than double the number achieved in the 1980s. Most of these states were in the Midwest and the South in areas with high shares of subprime loans. While the number of states exceeding a foreclosure start rate of 0.50 percent declined through 2006, there were several states that saw the situation deteriorate even further, experiencing very high rates of starts (in excess of 0.80 percent). These states included Indiana, Ohio, and Michigan. With the start of the national foreclosure crisis in 2007, the number of states with foreclosure start rates above 0.50 percent exploded, reaching 35 in 2007 and 46 in 2008. The number of states with very high rates of foreclosure starts also reached unprecedented levels, with 18 states in this category in 2008. Clearly, the foreclosure crisis is not limited to a small number of states.

Exhibit 8: Number of States With Foreclosure Start Rates Above 0.50 Percent



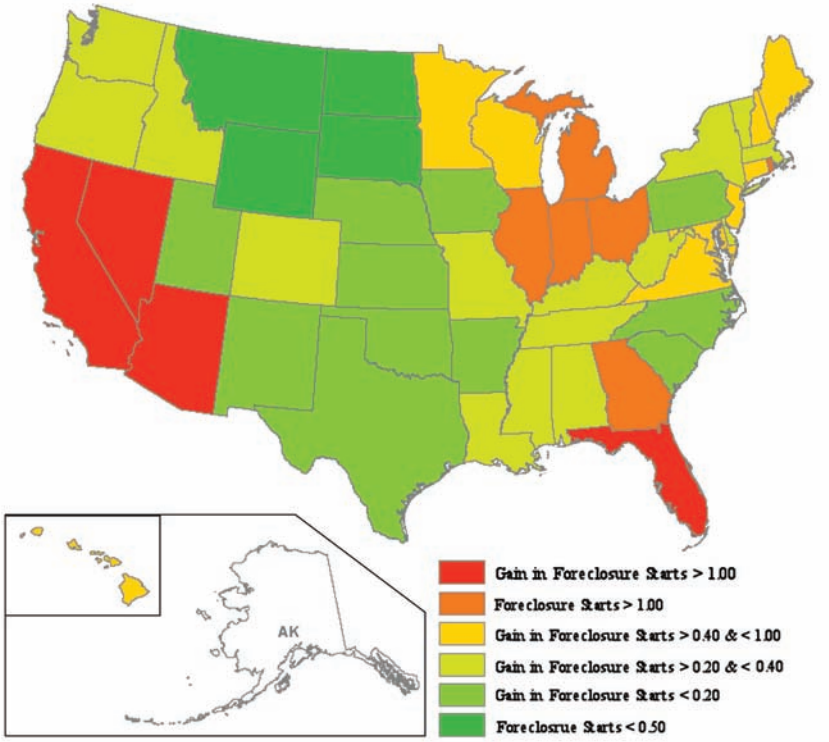
Source: Mortgage Bankers Association, National Delinquency Survey
Note: Annual rates of foreclosures started are average of the quarterly rates.

Table 1 in the appendix provides summary information for all 50 states and the District of Columbia on changes in foreclosure starts rates from 2005, before the national foreclosure crisis began, to 2008. The table also provides selected information for each state on high-cost loan shares, changes in house prices, and unemployment rates to provide some indication of the factors that may help explain variations across states in foreclosure levels.[25] States have been divided into six groups in this exhibit based on changes in the foreclosure start rate between 2005 and 2008 as well as the level of foreclosure starts in 2008.

Exhibit 9 maps the six categories identified in Table 1. The first group, shown in red, consists of the four states that have experienced the sharpest rise in foreclosures from 2005 to 2008, with an increase of more than 1.00 percentage points. The average foreclosure start rate among this group is 1.76 percent—more than twice the national average. This group has been referred to as the "sand states" as it includes Arizona, California, Florida, and Nevada. There are several characteristics of this group that stand out from the data in Table 1 in the appendix. Specifically, these sand states all had high incidence of subprime lending based on their high shares of high-cost loans in 2006. While the average high-cost loan share across states was 27.2 percent, high-cost loans averaged 33.6 percent across the sand states. The high-cost lending in theses states was also coupled with a much larger run-up in home prices before the crisis hit, as indicated in Table 1 by an average gain in home prices of 24.2 percent in 2005 compared to a national average across states of 10.3 percent. Perhaps because of this robust house price growth, these states also had the lowest foreclosure start rate in 2005 of any the groups,

[25] High-cost loans are originated with an annual percentage rate at or above 3 percentage points plus the yield of a Treasury security of comparable maturity. Not all high-cost loans are necessarily subprime; however, high incidence of high-cost lending is generally indicative of high incidence of subprime lending.

Exhibit 9: State-Level Trends in Foreclosure Starts



averaging just 0.20 percent. However, the fall in house prices has also been most dramatic among the sand states, declining by an average of 20.9 percent in 2008 alone. Further exacerbating problems in these markets has been a sharp rise in unemployment since 2005, with unemployment rates rising from below the national average to among the highest rates in the country.

It is noteworthy to contrast the experience of the sand states with the "Group 2 states," which are defined as those states for which the level of foreclosures starts in 2008 was high (above 1.00 percent), but the gain in foreclosure starts from the inception of the crisis was not as high as the gain exhibited by the sand states in Group 1. Group 2, shaded in orange in Exhibit 9, comprises states that had high foreclosure rates even before the crisis began due to weaknesses in local economies. Prominent among these states are the industrial states from the Midwest, including Illinois, Indiana, Michigan, and Ohio. As of 2005, this group of states had the highest average foreclosure rates in the country at 0.62 percent compared to an average across all states of 0.39 percent. As of 2005, the housing problems in these areas appear related to a combination of high shares of high-cost lending (30.5 percent of all loans in 2006) and the weakest house price growth of any group of states (5.2 percent in 2005). This group also had much higher unemployment rates in 2005 than other states. Since 2005, economic conditions have deteriorated even further, with falling housing prices and rising unemployment contributing to increases in foreclosure rates of more than 0.50 percent on average. With high foreclosure starts rates in 2005 and worsening conditions since then, this group of states has the second highest average foreclosure starts rate in 2008 after the sand states.

The third group in Exhibit 9 consists of states that had increases in foreclosure starts rates since 2005 of more than 0.40 but less than 1.00 percentage points. This increase is actually similar in magnitude to that of the

second group of states, but because the third group had below-average foreclosure rates in 2005, the 2008 rates are lower than those of the second group, averaging 0.79 percent. States in this group, shaded in yellow, are mostly located along the eastern seaboard from Virginia to Maine but also include Wisconsin and Minnesota in the Midwest and Hawaii in the West. The most prominent characteristics of this group that seem related to rising foreclosure rates are above-average house price growth in 2005 (13.4 percent) followed by slightly higher than average price declines in 2008 (-4.8 percent). The share of high-cost loans in 2006 was close to the national average. Overall, the experience of this group of states has been closest to the national average.

The fourth group of states is marked by an increase in foreclosure starts since 2005 of between 0.20 and 0.40 percentage points. Foreclosure starts were close to the national average in 2005 but are now below average, having had smaller than average increases since then. Still, the average foreclosure start rate among these states is 0.69 percent, well above previous national highs. This group, shaded in light green, includes a number of states in the south-central region, the Pacific Northwest, and the Northeast. Like the third group, these states had an average share of high-cost loans in 2006, but they were also marked by somewhat less volatility in house prices, having slightly below-average gains in 2005 and smaller declines in 2008.

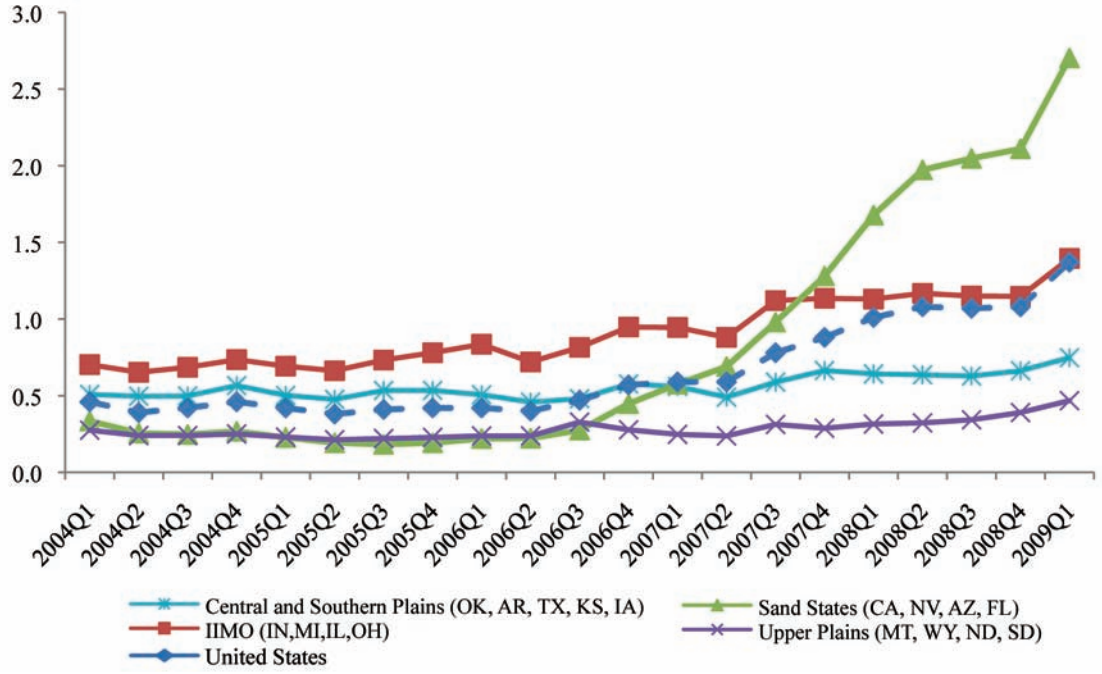
The fifth group of states is marked by having foreclosure starts rates of less than 0.20 percentage points; this group is among the states with the most modest increases in foreclosures since 2005. This group is distinguished from the sixth group, however, by having foreclosure starts rates of above 0.40 percent in 2005. These states were among those with the highest foreclosure rates in 2005, averaging 0.51 percentage points, and second only to the states in the industrial Midwest at that time. This group, shaded in green, is concentrated in the central and southern plains states from Nebraska down through Texas and also includes the Carolinas, Pennsylvania, and Utah. Like Groups 3 and 4, these states also had average levels of high-cost lending in 2006 but had below-average house price increases in 2005, which may have contributed to the higher foreclosure rates at that time. In 2008, house price declines were relatively small, averaging just 0.9 percent, which may explain why foreclosure rates have risen less sharply in these areas. Like the fourth group, the average foreclosure starts rate of 0.65 percent is somewhat below the current national average but well above previous national highs.

The sixth group of states are the only states where it can be said that a foreclosure crisis has not been evident, as foreclosure starts rates have remained well below 0.50 percent. These states, shaded in dark green, include the northern plains states of the Dakotas, Montana, and Wyoming as well as Alaska. One prominent characteristic of these states is a very low share of high-cost loans, averaging only 21.7 percent in 2006. These areas also had average house price growth in 2005 and generally have not experienced house price declines.

In general, there are two factors that stand out in differentiating the six groups of states. The first is the share of high-cost loans originated in 2006. States with the greatest increase and highest levels of foreclosures in 2008 all had above-average shares of high-cost loans in 2006, while the states that have avoided the foreclosure crisis all had very low shares of these loans. The second key factor is trends in house price increases since 2004. Many states with the sharpest increases in foreclosures were marked by sharp increases in house prices through 2005, followed by the sharpest declines through 2008.

To illustrate how the foreclosure crisis has played out in different areas of the country, Exhibit 10 shows trends in foreclosure starts rates from 2004 through the beginning of 2009 for a sample of states from Groups 1, 2, 5, and 6. At the beginning of the period, states from the industrial Midwest stand out as having foreclosure rates that are well in excess of other parts of the country. States in the central and southern plains also had foreclosure rates that were consistently in excess of the national rate and close to the 0.50-percent level. In contrast,

Exhibit 10: Foreclosure Starts for Selected States

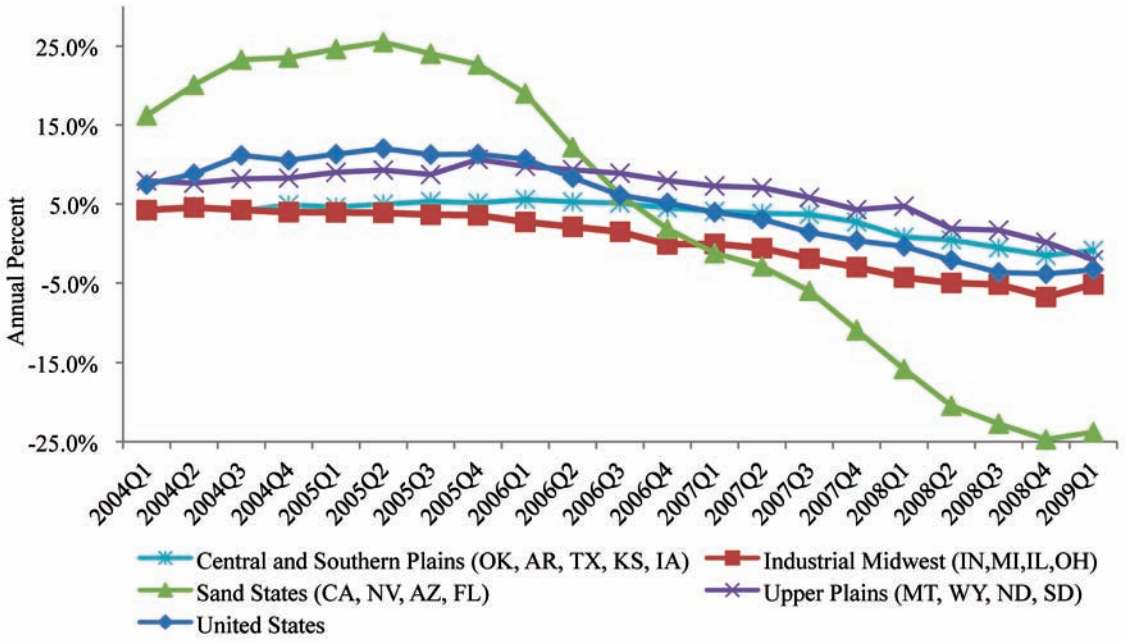


Source: Mortgage Bankers Association

the sand states and upper plains states both had foreclosure rates that were well below the national average. By the end of 2006, the national foreclosure crisis begins to be evident with foreclosure starts increasing most dramatically in the sand states. These states had a clear influence on the national foreclosure rate, which also moved up markedly over this same period. Foreclosures also increased in the industrial Midwest, although the increases were much less dramatic than in the sand states. Foreclosure rates in the central and southern plains states, which were consistently above the national average prior to 2006, increased relatively modestly until the end of 2008 and so are now well below the national average despite being higher than the nation prior to the crisis. Finally, states in the upper plains have had only a mild increase in foreclosure starts, with most of the gains occurring since the beginning of 2008 when the nation entered a severe recession.

To illustrate the role that house price trends appear to have played in regional variations in the crisis, Exhibit 11 presents trends in housing prices for these same groups of states since 2004. In general, the order of the lines for the four state groups is in inverse order from Exhibit 10. The sand states had house price increases that were well in excess of the national level through the end of 2005. In 2006, these increases slowed substantially and by 2007 were declining. The sharp rise in foreclosure starts in Exhibit 10 for these states mirrors this dramatic fall in house prices. In contrast, the industrial Midwest states had the lowest rates of housing price appreciation prior to 2006 and have also experienced fairly significant declines in house prices since 2006. The central and southern plains states had house price increases prior to 2006 that were only slightly higher than in the industrial Midwest, but the declines since 2006 have been fairly modest. Finally, the upper plains states had house price increases that were about the national average through 2005 but have maintained positive growth rates for much longer than other regions.

Exhibit 11: Annual Changes in House Prices for Selected States



Source: Federal Housing Finance Agency, State-Level House Price Index

While the data presented in this section is only illustrative, it does suggest the likely importance of both subprime lending shares and house price trends in contributing to the foreclosure crisis. The next section of the report presents a detailed review of the literature that examines with more rigor the relative importance of various factors in producing the crisis.

2. Literature Review

2.1 General Literature on Causes of Foreclosures and Delinquencies

There is a rich economics literature examining the cause of mortgage foreclosures, generally referred to as "default" in the literature.[26] As noted in detailed reviews of this literature by Quercia and Stegman (1992) and Vandell (1995), since the 1980s, this literature has been dominated by an option-based theory of mortgage default, where the mortgage contract is viewed as giving homeowners an option to "put" the home back to lenders by defaulting on their mortgage. In an option-theoretic view, the primary factor driving defaults is the value of the home relative to the value of the outstanding mortgage; when the home value falls substantially below the mortgage debt, owners are better off by ceding the home to the lender.[27] This type of situation has been characterized in the literature as a "ruthless default," where borrowers simply walk away from their mortgage obligations when it is in their financial interest to do so.

However, as argued most prominently by Vandell (1995) and Elmer and Seelig (1999), a lack of housing equity by itself generally does a poor job of predicting mortgage delinquencies, which are a necessary precursor to foreclosures. As these papers point out, it is generally understood that most borrowers become delinquent due to a change in their financial circumstances that make them no longer able to meet their monthly mortgage obligations. These so called "trigger events" commonly include job loss or other income curtailment, health problems, or divorce. Both Vandell and Elmer and Seelig argue that foreclosures are most accurately thought of as being driven by a two-stage process: a first trigger event that produces financial illiquidity among borrowers which is then coupled with a lack of home equity that makes it impossible for the borrower to either sell their home to meet their mortgage obligation or refinance into a mortgage that is affordable given their change in financial circumstances. In this view, a lack of home equity is an important determinant of foreclosures as it precludes other means that borrowers can take to resolve an inability to meet their mortgage obligations, but foreclosures are most commonly triggered by some other event that makes borrowers financially insolvent.

For the most part, the literature provides numerous examples to support the view that most defaults are not ruthlessly driven by falling house prices. One of the first articles to put forth an option-theoretic view of mortgage default was Foster and Van Order (1984, 1985). However, the data on Federal Housing Administration (FHA) borrowers used in their analysis show that only 4.2 percent of borrowers with estimated loan-to-value ratios of 110 percent or higher actually defaulted on their mortgage. Ambrose and Capone (1998), again examining data on FHA borrowers, find that loans with negative equity accounted for a small share of all loans that became seriously delinquent and also a minority of loans that ended in foreclosure. More recently, Foote, Girardi, and Willen (2008) examine data on all homeowners in Massachusetts over a 20-year period and found

[26] Technically, mortgage "default" occurs when a borrower has missed three payments and a fourth is due. The default leads lenders to initiate the foreclosure process, but historically a majority of defaults are resolved without a foreclosure occurring.

[27] Option-theory also focuses on borrowers' ability to exercise a "call" option by prepaying the mortgage when interest rates fall. Thus, pure option-theoretic models focus heavily on trends in house prices and interest rates to explain both defaults and prepayments.

that in the early 1990s only 6.4 percent of homeowners whose house values dropped below their mortgage amounts ended in foreclosure.

Of course, while it may be that most defaults are not strictly ruthless, this does not preclude ruthless defaults from occurring. The magnitude of house price declines occurring now in many markets around the country as well as the number of markets simultaneously experiencing house price declines are unprecedented in the post-war era. Some owners are property investors who are purely motivated by financial concerns and may be more likely to pursue a ruthless default if it is in their financial interest. Some owner-occupants who have the ability to meet their monthly payments may decide to default when house values are substantially below their mortgage debt either because of a desire to move to a new home or because they see limited financial benefit from continuing to pay the mortgage given the level of prevailing rents relative to their mortgage costs and the degree to which home prices would have to recover to make them whole.[28] But, given the high cost of foreclosure to borrowers, these ruthless defaults are unlikely to be widespread.

While borrower illiquidity is largely believed to be a root cause of foreclosures, the literature has found only an inconsistent relationship with measures of trigger events such as unemployment or divorce rates. On the other hand, there is always a strong association between negative home equity and the likelihood of foreclosure. As both Quercia and Stegman and Vandell note, in part this reflects the fact that there is little systematic information available on the incidence of trigger events among individual borrowers. Instead, the literature has relied on aggregate measures of these events at the metropolitan area or state level. The finding of a strong association between foreclosures and declines in house prices is also consistent with the view that while delinquencies are brought on by a trigger event, a delinquency is only likely to end in a foreclosure in cases where homeowners do not have sufficient equity to be able to sell their home or refinance into a more affordable mortgage. To the extent that the literature has largely focused on estimating the causes of foreclosures and not delinquencies, it is not altogether surprising that measures of declining housing prices are found to be much more significant predictors of these outcomes than measures of trigger events. Foote, Girardi, and Willen (2008) note that while Massachusetts experienced a record-high level of mortgage delinquencies at the time of the last economic recession in 2001, this period was also marked by a record *low* level of foreclosures as steep increases in house prices offered delinquent borrowers options for resolving the delinquency short of foreclosure.

While the importance of house prices as a determinant of foreclosures has continued to be evident in the literature since the mid-1990s, there has also been a growing emphasis on the importance of borrowers' credit history and specific loan terms in contributing to foreclosure risk. During the 1990s, as automated underwriting became more common in the prime mortgage market and as the subprime market developed, there was greatly expanded use of credit scores in evaluating borrowers' risk of default (Gramlich, 2007). A variety of studies have confirmed the importance of credit scores in predicting the likelihood that an individual borrower will default (see, for example, Pennington-Cross, 2003 and Demyanyk and Van Hemert, 2008). Pennington-Cross finds that, all else being equal, borrowers with low credit scores (less than 600) were two to three times more likely to default than borrowers with high credit scores (700 or higher). Demyanyk and Van Hemert find that even among subprime borrowers, credit scores were one of the strongest predictors of default along with starting loan-to-value ratios, initial interest rates, and changes in house prices.

[28] Foote, Girardi, and Willen (2008) present theoretical examples comparing the financial returns from maintaining ownership in the face of declining home prices with the alternative of renting a home of the same quality to show that it can be logical for homeowners to choose to default on their mortgage.

A number of studies have found that a variety of loan terms common in the subprime market are associated with higher risk of default. While adjustable-rate mortgages (ARMs) have long been known to be associated with higher risk (see, for example, Cunningham and Capone, 1990), recent work has shown that hybrid ARMs, which are particularly common in the subprime market, exhibit a spike in default and prepayment risk at the time when interest rates first adjust from initially lower rates.[29] In examining a group of hybrid loan originated in 1995–96 and tracked through mid-2000, Ambrose, LaCour-Little, and Huszar (2005) find that hybrid ARMs exhibited a sharp spike in the risk of both default and prepayment in the month when the interest rate first adjusted. Similarly, in examining the performance of hybrid ARMs originated between 1998 and 2005, Pennington-Cross and Ho (2006) find that these loans exhibited a strong spike in prepayment rates in the month when interest rates first adjusted along with a mild increase in default rates. While these authors do not find as strong a spike in defaults as Ambrose, LaCour-Little and Huszar do, the time period studied by Pennington-Cross and Ho was marked by significant increases in house prices which may have contributed to the predominance of prepayment over default at the time of interest rate resets.[30]

In addition to adjustable-rate features, other characteristics of subprime and Alt-A loans that have been found to have an independent association with higher default risk include the following:

- Prepayment penalties (Quercia, Stegman, and Davis, 2005; Danis and Pennington-Cross, 2005a; Demyanyk and Van Hemert, 2008).
- Low or no documentation of income or savings (Danis and Pennington-Cross, 2005a; Pennington-Cross and Ho, 2006; Demyanyk and Van Hemert, 2008).
- Balloon terms (Quercia, Stegman, and Davis, 2005; Danis and Pennington-Cross, 2005a; Demyanyk and Van Hemert, 2008).

In short, subprime mortgages have been found to be inherently associated with much higher foreclosure risk than prime mortgages both because they are made to riskier borrowers and because they frequently contain a range of loan terms that are associated with higher foreclosure risk. While Alt-A loans are generally made to borrowers with higher credit scores, these loans also exhibit higher risk than prime loans because of the risks associated with lower documentation of income and assets as well as the higher risk of payment shock associated with various loan terms.

But even prime mortgages may also have been of higher risk during recent years as underwriting standards allowed higher loan-to-value ratios, which has been an important predictor of foreclosure risk in the past. The surging volume of piggy-back loans noted earlier may also have masked the degree to which prime mortgages were becoming riskier as relatively low loan-to-value ratio first mortgages were often teamed with second mortgages that brought the combined loan-to-value ratio to 100 percent. In 2006, it is estimated that nearly

[29] Hybrid adjustable-rate mortgages are loans where interest rates are fixed for an initial 2- or 3-year period, following which interest rates adjust every 6 months to a year based on trends in an index rate (commonly the London Interbank Offer Rate) plus a margin specified for each loan.

[30] In an analysis of the performance of fixed-rate subprime loans from a similar time period, Danis and Pennington-Cross (2005) find that delinquent loans had a very high probability of prepayment as long as the borrower had some positive equity in the home. This result is consistent with the finding that subprime adjustable-rate mortgages from this period did not experience high defaults at the time of reset as rapidly rising house prices in most areas of the country would have provided most owners with a positive equity cushion.

one-quarter of all home purchase loans reported in the Home Mortgage Disclosure Act (HMDA) involved a piggy-back loan, suggesting that the share of prime loans where borrowers had essentially no equity investment was very high in recent years (Avery, Brevoort, and Canner, 2007).

2.2 Literature Assessing Causes of the Current Foreclosure Crisis

There have been a number of reviews of the fundamental causes of the sharp rise in mortgage delinquencies and foreclosures since 2006. Prominent among these are reviews by the Chairman of the Federal Reserve Board (Bernanke, 2008), the Government Accountability Office (GAO) (GAO 2007), the Majority Staff of the Joint Economic Committee of the U.S. Senate (2007), the Fitch Rating Agency (Costello, Mistretta, and He, 2007), and Mayer, Pence, and Sherlund (2009). In general, each of these sources point to three prominent factors underlying the current crisis: (1) the widespread slowdown in house price growth followed by actual declines in prices in most areas of the country, (2) weak economic conditions in selected market areas, and (3) substantial growth in the volume of risky loans originated—made even riskier by loosening underwriting and lender quality control in the years leading up to the crisis. This section presents a review of the literature that has supported these conclusions.

The literature provides fairly strong evidence that slowing growth and then decline in house prices played a significant role in precipitating the foreclosure crisis in many market areas. On the other hand, weak economic conditions have been a much less important factor than in previous times of high foreclosure rates. Taken as a whole, the literature suggests that the more fundamental cause of the foreclosure crisis was the surge beginning in 2003 in the origination of loans that were at high risk of foreclosure due to a combination of unaffordable initial payment levels relative to borrower incomes coupled with loan terms that would make these loans even more unaffordable over time. The riskiness of these mortgages was masked by rapid house price appreciation through 2006 that allowed many—but certainly not all—borrowers to avoid foreclosure by either refinancing into a new mortgage or selling their home for more then they had originally financed. In fact, as described in the following text, there is evidence that the surge in risky lending itself fed the rapid house price growth that occurred since 2003. Once the limit of extending risky mortgage credit was reached in 2006, house price growth slowed.

House price declines were further exacerbated by an oversupply of new homes, particularly in markets where rapid house price growth had spurred significant housing demand by investors and borrowers that were aided by the ready availability of mortgage financing. As house prices softened, demand by both investors and owner-occupants dropped sharply, leaving an excess supply of new housing that further added to downward pressure on prices (Joint Center for Housing Studies, 2008). Foreclosures themselves also undoubtedly add to this downward pressure.

As a result, declining house prices can be viewed as an inevitable *result* of the surge in risky lending rather than a cause of the resulting foreclosure crisis. As the crisis matures, however, a downward spiral can take hold as declining house prices could exert their own influence to increase foreclosures, which, in turn, depress prices further.

2.2.1 Contribution of House Price Declines

Given the central role that has long been assigned to home price declines in explaining foreclosure trends, it is perhaps not surprising that most reviews of the current crisis begin by pointing to the slowdown in house price growth that began in 2006 as the main factor precipitating the sharp rise in delinquencies and foreclosures. There have been several studies by researchers in the Federal Reserve System that are commonly cited as evidence of the importance of house price trends in the current crisis.

The most prominent of these studies is an analysis of foreclosure rates in Massachusetts from 1989 through mid-2007 by researchers from the Federal Reserve Bank of Boston (Gerardi, Shapiro, and Willen, 2008).[31] A key conclusion of the study is that the decline in house price appreciation that began in Massachusetts in 2005 accounts for much of the dramatic rise in foreclosures in the state in 2006 and 2007. Specifically, they find that a one standard deviation decrease in house price appreciation is associated with a doubling of foreclosure risk. However, the study also finds that homeownership spells that begin with a mortgage originated by a subprime lender are six times more likely to end in foreclosure than homeownership spells that begin with a prime mortgage.[32]

In fact, a related study by Gerardi and Willen (2009) suggests that a significant portion of the current foreclosure surge in Massachusetts is related to changes in mortgage underwriting associated with the growth of subprime lending. This paper compares actual foreclosure levels among multifamily properties during both the early 1990s and the late 2000s with foreclosure levels estimated by applying housing price trends during these two time periods. The simulation finds that while price declines were much more substantial during the early 1990s, the level of foreclosures was much lower than current levels. The authors conclude that the growth in subprime lending is the most likely explanation why foreclosure levels are higher in the 2000s despite less-precipitous house price declines.

Another commonly cited source of evidence of the importance of house price declines is a study by researchers from the Federal Reserve Bank of San Francisco (Doms, Furlong, and Krainer, 2007), which points to changes in house price appreciation rates as the single most important factor in explaining variation in serious delinquency rates in subprime mortgages across 309 metropolitan areas in 2005 and 2006. This study finds that variations in house price appreciation rates explain about two-thirds of the variation in serious delinquency rates. While the study does find some association between delinquency rates and measures of borrower risk (proxied by high-cost loan shares and the median interest on high-cost loans as reported in HMDA) and economic conditions (measured both by employment growth and unemployment rates), these factors are largely insignificant when house price appreciation rates are taken into account.

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31 There are several interesting features of this study. First, the data analyzed cover a period of nearly two decades from 1987 to 2007 that span two periods of substantial decline in nominal home prices. Second, the data come from public real estate records that track spans of property ownership rather than just the lifespan of an individual loan.

32 One limitation of this study is that it only includes data on Massachusetts and so may not be representative of other areas of the country. For example, Massachusetts has experienced fairly volatile house prices over this period compared to other areas of the country (such as the Midwest) and did not have the same degree of subprime or Alt-A lending as other areas (such as California or the south-central regions). Another limitation is that the study did not have any information on loan terms other than whether the loan was originated by a lender on a list of subprime lenders compiled by the U.S. Department of Housing and Urban Development.

A number of studies using data from Loan Performance on subprime and Alt-A loans originated since 2000 have concluded that declines in house prices were the single most important factor associated with the sharp rise in delinquencies and foreclosures after 2005 (see, for example, Sherlund, 2008; Haughwout, Peach, and Tracy, 2008). Perhaps the most prominent of these is a study by Yuliya Demyanyk of the Federal Reserve Bank of St. Louis and Otto Van Hemert of New York University. They find that declines in metropolitan-area house price appreciation rates were the single most important factor contributing to very high rates of early delinquency (60 days or more late within 12 months of origination) among subprime loans originated nationally in 2006 and 2007 (Demyanyk and Van Hemert, 2008). This study pools loans originated from 2001 through 2007 and predicts early delinquency as a function of loan characteristics and house price appreciation rates over the 12-month period after origination. For the entire pool of loans, the study finds that borrower FICO score, the combined loan-to-value ratio of all loans, the original mortgage interest rate, and the rate of house price appreciation all have similarly large associations with early default rates. However, when they further examine deviations in underlying explanatory factors across cohorts of loans by the year of origination, they find that the very high rates of early payment default among loans originated in 2006 and 2007 are almost entirely due to lower rates of house price appreciation and not due to higher incidence of any specific loan terms or borrower credit scores.

Yet, while there is significant evidence that softening house prices played a prominent role in precipitating the crisis, it is also remarkable that the rise in mortgage delinquencies and foreclosure starts began as the *growth* in house prices slowed—and generally before house prices actually began to *drop*. Between the second quarter of 2006 and the second quarter of 2007, 47 states experienced an increase in the foreclosure start rate in the Mortgage Bankers Association's (MBA's) *National Delinquency Survey*, with an average increase of 47 percent. Over this same period, the Federal Housing Finance Agency's house price index indicates that 44 states experienced declines in the rate of house price *growth*, but only 5 states had actual price *declines* over this period. In many states the rise in foreclosures appears to have been brought on by slowing house price growth as much as outright declines.[33]

2.2.2 Contribution of Weak Economic Conditions

While reviews of the foreclosure crisis generally point to weak economic conditions in some regions of the country as a contributing factor, most studies actually find only a weak association between variations in economic conditions and subprime delinquency rates. Gerardi, Shapiro, and Willen (2008) do find a statistically significant association between town-level unemployment rates and foreclosure rates in Massachusetts over a period from 1989 through mid-2007, but the association is much weaker than that for either house price appreciation or the use of a subprime lender. While they find that a one standard deviation increase in unemployment rates raises foreclosure risk by 10 percent, the same change in house price appreciation rates is associated with a 200-percent change in foreclosure risk. However, given this study's focus on foreclosure incidence rather

[33] A plausible explanation is that growth in the values of individual properties is distributed around the measured market area index, which represents the mean growth for the market area. Even with a positive mean growth in a market, there will be some properties in that market that experience negative growth. When the mean for the market grows less rapidly, there are likely to be a higher number of individual properties with negative growth. According to Calhoun (1996), "it is now standard practice in the housing research literature to characterize individual house prices as arising from a stochastic process in which the average rate of change or drift in housing values is represented by a market index and the dispersion and volatility of values around the market average are modeled as a log normal diffusion process. In this approach, one assumes that the price, Pit, of an individual house i at time t, can be expressed in terms of a market price index βt, a Gaussian random walk Hit, and white noise Nit, such that $\ln(Pit) = \beta t + Hit + Nit$."

than delinquency, it would be expected that house price changes would play a much more important role than employment trends.

Doms, Furlong, and Krainer (2007) find that variations in employment growth and unemployment rates by themselves explain about one-third of the variation in subprime delinquency rates in 2005 and 2006, but this association is either statistically insignificant or much smaller in magnitude once variations in house price appreciation are taken into account. The GAO review (2007) cites work by researchers from Moody's, noting that weaker employment growth accounts for about 20 to 32 percent of elevated delinquency rates in selected Midwest markets, but the Moody's study is also reported to have found that employment growth trends had little impact on delinquencies nationally. In keeping with this conclusion, Demyanyk and Van Hemert (2008) indicate that they dropped the unemployment rate from their model due to statistical insignificance.

In fact, what may be most unique about the current crisis in mortgage delinquencies and foreclosures is that weak economic conditions were not a significant factor in precipitating these events, although, after the crisis began, they have contributed to worsening the crisis. This view is aptly summarized in a review of the drivers of high delinquencies among subprime loans originated in 2006 by Fitch Ratings Agency which concludes that "the 2006 subprime vintage performance is remarkable for the magnitude of early mortgage defaults given a benign economic environment apart from home prices." As an indication of the lack of importance of weak economic conditions in producing the mortgage crisis, it is notable that 48 states had an increase in the foreclosure start rate between 2006 and 2007 in the MBA's *National Delinquency Survey*, but, over this period, only 16 states had an increase in the unemployment rate, and in 10 of these states the increase was 0.2 percentage points or less.

2.2.3 Contribution of Growth in Risky Loans

Investor Loans

One reason why there may have been such a significant rise in mortgage delinquencies and foreclosures in the wake of merely softening home prices in 2006 is that there was much greater potential for "ruthless" default among home buyers given trends in the housing market. Using data reported by lenders under the HMDA, Avery, Brevoort, and Canner (2008) document the significant growth in home purchase loans made to investors from the late 1990s through the mid-2000s. From 1993 to 2001, the share of purchase loans made to investors grew steadily from 5.1 percent to 8.6 percent. But, between 2001 and 2005, this share doubled to 17.3 percent. So by 2005, more than one in six of all home purchase mortgages were made to investors. The investor share declined after 2005, but these buyers still accounted for 14.9 percent of home purchase loans in 2007. In states experiencing very rapid house price growth, including California, Arizona, Nevada, and Florida, investors accounted for roughly one-quarter or more of all purchase loans in 2005 and 2006 (Bernanke, 2008).

These figures also appear likely to understate the true share of home purchases by investors, as a common form of mortgage fraud during this period was for lenders and/or borrowers to falsely claim that the investor buyers intended to occupy purchased homes as their principal residence. In reviewing a small sample of early payment defaults from 2006, Fitch Rating Agency (2007b) found that two-thirds of these properties were never occupied by the purchaser.

To the extent that investors were motivated to purchase properties to realize gains from house price appreciation, a mere slowdown in house price growth would be sufficient to induce a ruthless default. Given that real

estate agent commissions are on the order of 5 to 10 percent of the sales price (not to mention costs incurred during the period when a home is on the market), if house prices are growing by less than this rate, investors will begin to incur losses. Thus, the high share of purchase loans made to investors is likely to have made a significant contribution to the high level of early payment defaults among loans originated in 2006. However, while the analysis by Demyanyk and Van Hemert (2008) did find that investor loans were more likely to experience early payment defaults, they also found that the much worse performance of loans made in 2006 and 2007 was not related to there being a higher share of investor loans in these years. It may be that the increase in investor loans was masked by fraudulent applications indicating the properties would be owner occupied. As will be discussed further later, a rise in mortgage fraud was evident in recent years, with misrepresentations about owner-occupancy a common form of fraud.

Unaffordability of Subprime Loans Generally

Beyond the growth of investor loans, there is strong evidence that the slowdown and subsequent decline in house prices played such a prominent role in producing the mortgage crisis fundamentally because the rapid growth in the volume of risky mortgages meant that many loans were made to borrowers who were struggling to make monthly payments even at the time loans were originated. In part, the unaffordability of these loans reflects situations where borrowers did not adequately understand the terms of their loans (see, for example, Bucks and Pence, 2006). However, in other cases, borrowers likely understood the risks they were taking but chose to obtain these loans either to tap accumulated home equity or to purchase larger homes than they could otherwise afford. In either case, the originators of these loans ultimately determined that overall these loans were expected to be profitable even if the risk of default were high.

In fact, the early termination rate of subprime loans was extraordinarily high throughout the first half of the decade, but rapid increases in housing prices meant that a large majority of borrowers were able to avoid or resolve a delinquency by prepaying their mortgage—either by selling their homes or by refinancing into a new mortgage. Thus, when house price growth slowed, subprime borrowers' inability to afford their mortgage payments could no longer be masked through refinancing or selling the home.

The strongest indications of the importance of prepayment as a means of avoiding delinquencies and foreclosures are the findings by Ambrose, LaCour-Little, and Huszar (2005) and Pennington-Cross and Ho (2006) that subprime hybrid loans experience a sharp rise in prepayment rates when interest rates on ARMs first adjust. Recent work by Foote et al. (2009) also find a sharp spike in subprime prepayments at both 12 and 24 months after origination. As noted earlier, Ambrose, LaCour-Little, and Huszar also find that foreclosures spike at the time of interest rate resets, while Pennington-Cross and Ho find only a slight rise in foreclosure rates at reset. But this may well reflect the fact that the first study examined loan performance through mid-2000 while the second study examined a period that extended into 2005, when house price growth was exceptionally strong in most areas of the country. Finally, Danis and Pennington-Cross (2005b) further find that the likelihood that a subprime loan will prepay rises substantially after a delinquency occurs, leading them to conclude that there is strong evidence that delinquent subprime loans are more likely to prepay than default.

Whether distressed or not, the prepayment rates on subprime mortgages have consistently been very high. Foote et al. (2008) plot prepayment rates through mid-2007 for subprime hybrid loans originated in Massachusetts, Connecticut, and Rhode Island between 2001 and 2006. They find that these subprime loans begin to prepay at a high rate almost immediately after origination. For loans originated from 2001 to 2004, roughly 60

percent had prepaid by the time they reached the first interest rate reset. By 36 months after origination, more than 70 percent of these loans had prepaid.

In part, the high prepayment rates might be expected in an environment where interest rates are declining so that refinancing would provide lower payments. However, several factors argue against this being an appropriate explanation for subprime loans. First, the vast majority of subprime loans had prepayment penalties requiring borrowers to pay roughly 6 months of interest on the outstanding balance if the loan is paid off within 3 years of origination (Quercia, Stegman, and Davis, 2005). Demyanyk and Van Hemert (2008) present data indicating these penalties were included in 70 to 75 percent of subprime loans originated from 2001 through 2007. Given the stiff penalty from prepayment, it seems unlikely that borrowers would be motivated to prepay with the goal of reducing mortgage costs. In addition, since the London Interbank Offered Rate (LIBOR) index used to set interest rates on most subprime loans began rising steadily after mid-2004, for loans originated in 2004 there would have been little incentive to refinance in the first 2 years of the loan in order to obtain a lower interest rate. Yet, these loans are shown to have prepaid at nearly the same rate as loans originated in 2001—which experienced declining market interest rates in the 2 years after origination. Finally, Pennington-Cross and Ho (2006) also find that the prepayment rates on fixed-rate subprime mortgages originated from 1998 to 2005 were also fairly high, with 60 percent having prepaid or foreclosed within 36 months of origination. In short, the high prepayment rates among subprime loans are consistent with the argument that borrowers used prepayment as a means of managing unaffordable payments.

However, Foote et al. (2009) argue that there is only weak evidence that the unaffordability of subprime loans at origination is an important predictor of defaults. The study finds that variations in the debt-to-income ratio at origination are not associated with large changes in the probability of default. They argue that these defaults are likely due to changes in income after origination. However, the study shows that default risk rose sharply among subprime loans only a few months after origination and remained high for the first 2 and one-half years of the loan's life. If changes in income account for these high default rates, it must be the case that these changes occur almost immediately after origination. The study's conclusions may also be tempered by the fact that the data used do not include any information on second liens and so may understate the true debt-to-income ratio faced by borrowers. Nonetheless, a large share of borrowers had debt-to-income ratios in excess of 40 percent. Furthermore, the debt-to-income measure is missing for about one-half of all subprime loans, greatly limiting the sample of loans that could be included in their analysis.

Rapid House Price Growth—Cause and Consequence of the Crisis

The data presented by Foote et al. (2008) provide evidence for the importance of rapid house price growth in fueling prepayments. They find that the prepayment rate for subprime loans originated in 2005 and 2006 began to slow substantially compared to earlier cohorts. For loans originated in 2005, only 50 percent had prepaid 24 months after origination compared to 60 percent of earlier cohorts. For loans originated in 2006, prepayment rates were roughly another 10 percentage points below the rates experienced by the 2005 cohort. The authors speculate that the lower prepayment rates of these later cohorts are due to declining housing prices, leaving borrowers without any equity in their homes and thus an inability to refinance their existing mortgages.

There is also some empirical evidence that high house price growth spurred lenders into originating riskier loans. An analysis of denial rates reported in HMDA by Dell'ARiccia, Igan, and Laeven (2008) find evidence that metropolitan areas with more rapid house price growth had larger declines in mortgage denial rates even

after controlling for variations in income and employment. The impact of house price appreciation rates on denial rates was also much larger for subprime lenders than for prime lenders.

Rapid house price growth may also have been a result of the surge in the use of nontraditional mortgages and looser underwriting. Greater inflation in house prices might be expected to the extent that new loan products gave borrowers the ability to make higher bids for homes than would have been possible using more traditional mortgage products and more conservative underwriting standards. Several recent studies described in the following text provide empirical support for this view. Appraisal fraud may also have contributed to rapid house price growth. As discussed further in the following text, misrepresentation of property characteristics, or the use of disallowed parameters in arriving at property valuations, has been identified as a common type of mortgage fraud. Bitner (2008) describes how subprime lenders worked with appraisers to manipulate valuations to support higher loan amounts. He further describes how these transactions then become comparable sales that are used to justify other excessive appraisals in the same neighborhood, creating a self-reinforcing cycle of house price inflation.

Mian and Sufi (2008) find that ZIP Codes where denial rates declined by more than would be expected given changes in underlying factors related to borrower quality (and so, areas where lenders' underwriting is thought to have loosened) experienced more rapid increases in house prices than expected given changes in borrower incomes. In essence, they find that looser underwriting was associated with faster house price growth than predicted by basic demand factors.

Wheaton and Nechayev (2008) develop time-series models of house price trends in 59 metropolitan areas for the period from 1998 through 2005. They find that fundamental measures of housing demand predict much lower levels of house price appreciation than actually occurred. They further find that prediction errors are larger in markets with higher shares of subprime mortgages and where second home and investor buying was more prevalent.

Pavlov and Wachter (2008) develop a theoretical model to support the view that aggressive lending instruments will fuel more volatile house price cycles by allowing greater borrowing than would occur in the absence of these loan products. Using several data sets, they also find empirical evidence of a link between greater use of riskier loan products and more volatile house price cycles. Specifically, they find evidence of an association between greater use of ARMs and more volatile housing price cycles loans in Los Angeles County during the period 1990 to 1995 as well as nationally from 1996 through 2002. They also find an association between greater house price volatility and higher levels of subprime lending based on HMDA data at the metropolitan area level from 2001 through 2007.

Finally, Shiller (2007) examines long-run changes in housing prices at the national level through mid-2007 and finds that the increase in house price growth experienced since the start of the current decade cannot be explained by economic fundamentals. Instead, he argues that the house boom was a classic bubble, fueled by self-fulfilling expectations by consumers of continued robust price growth. However, at some point consumer expectations should be choked off by their inability to bid housing prices up beyond levels they can afford. With the advent of nontraditional mortgages and a decline in underwriting standards, this constraint may have effectively been removed.

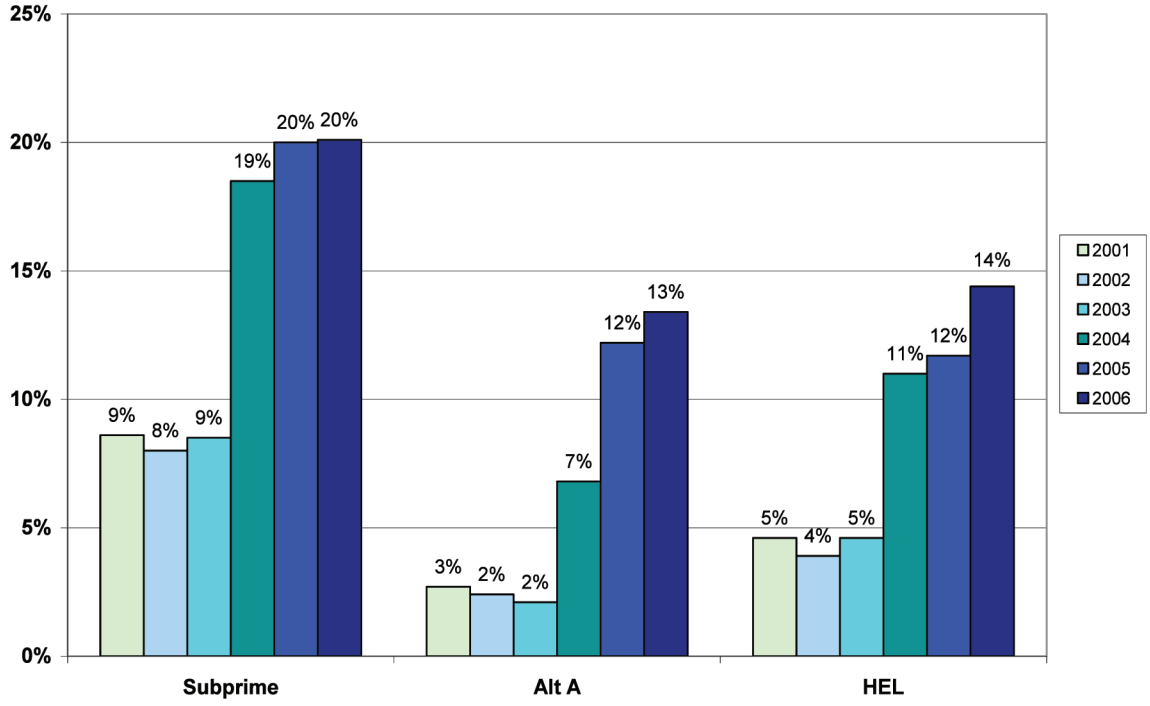
Rapid Growth of Risky Loan Volumes

One way in which overall mortgage market risk increased in recent years was by the rapid growth in the market share of loans that by their very nature were riskier. Exhibit 12 shows trends from 2001 through 2006 in the market shares of all mortgage originations by dollar volume that were accounted for by subprime, Alt-A, and home equity loans (HELs).

In 2003, subprime loans accounted for 9 percent of the total dollar volume of originations; by 2006, this share had risen to 20 percent. The growth in Alt-A loans was even more spectacular, increasing from 2 percent in 2003 to 13 percent by 2006. There was also substantial growth over this period in HELs, primarily so-called piggyback loans, which allowed borrowers to take out a first mortgage for 80 percent of the purchase price to avoid mortgage insurance premiums and then finance the remaining 20 percent of the price with a HEL. These loans increased from just 5 percent of the market in 2003 to 14 percent by 2006. In all, these three segments went from a combined market share of just 16 percent in 2003 to 48 percent in 2006—essentially one-half of all mortgages originated.

The rapid growth in these broad market segments does not reveal the full extent to which lenders were increasing the volume of risky loans. In the *State of the Nation's Housing Report* from 2006, researchers from the Joint Center for Housing Studies noted that the combination of rapidly rising home prices and interest rates had eroded the affordability of homeownership. With borrowers eager to buy into rapidly appreciating home markets and lenders motivated to maintain high origination volumes, lenders began to offer a variety of nontraditional mortgage products designed to lower monthly payments and allow borrowers to buy ever more expensive homes. The most common of these loans were interest-only mortgages, where monthly payments did not include any payment toward reducing the principal but also included payment-option loans, where borrow-

Exhibit 12: Market Share of Subprime, Alt-A and Home Equity Loans (HELs) 2001–2006



Source: Inside Mortgage Finance Publications, Inc.

ers could choose to make payments that were less than the monthly interest owed, and 40-year amortization mortgages due and payable after 30 years. As shown in Exhibit 13, prior to 2003, Inside Mortgage Finance did not even track the volumes of these types of loans. In 2004, they were found to account for 7 percent of the entire mortgage market, but, by 2006, they totaled 29 percent of all mortgages.

When used in appropriate circumstances, these nontraditional loan terms can be useful for both lenders and borrowers to provide loans that address borrower needs or market circumstances. But, as recent experience has shown, when used inappropriately, these loan terms can raise the risk of borrower default to unacceptable levels.

Exhibit 13: Nontraditional Mortgage Volumes and Market Share

	Interest Only	Option ARM	40-Year Balloon	Total Nontraditional	Total Mortgage Market
Dollar Volume (in Billions)					
2004	60	145	0	205	2,920
2005	481	280	10	771	3,120
2006	520	255	90	865	2,980
Market Share					
2004	2.1%	5.0%	0.0%	7.0%	100%
2005	15.4%	9.0%	0.3%	24.7%	100%
2006	17.4%	8.6%	3.0%	29.0%	100%

ARM = adjustable-rate mortgage.
Source: Inside Mortgage Finance Publications, Inc.

Weakening of Underwriting and Lender Quality Controls

In addition to the fact that there was substantial growth in risky loans made to risky borrowers, there is also significant evidence that underwriting and lender quality control mechanisms deteriorated in the years leading up to the mortgage crisis. Certainly, underwriting standards were loosened in terms of such factors as income qualification standards, allowable debt-to-income ratios, loan-to-value ratios, and borrower credit quality. For example, Reeder and Comeau (2008) use HMDA data to observe a substantial weakening of income qualification standards particularly in the private-label lending sector but also at Fannie Mae and Freddie Mac. This weakening permitted a significant shift to higher leverage mortgage lending in terms of mortgage loan-to-income ratios between 2004 and 2006 that could only be achieved by qualifying borrowers at higher payment-to-income ratios or very low introductory interest rates with an implied future payment shock. Although the increase in high leverage lending was more pronounced among high-cost loans, borrowers were disproportionately much more likely to use high-leverage loans in both the high- and low-cost sectors to refinance rather than purchase their homes.

In addition, quality control standards to ensure the validity of borrower and property characteristics also appear to have deteriorated. Perhaps the strongest evidence for the deteriorating credit quality of originated loans is provided by Demyanyk and Van Hemert (2008), who estimate the likelihood that subprime loans originated from 2001 through 2007 experienced a serious delinquency 12 months after origination. The authors conclude "… during the growth of the subprime (securitized) mortgage market, the quality of the market deteriorated dramatically." The authors explain that they measure loan quality as the performance of loans statistically adjusted for differences in borrower and loan characteristics and macroeconomic conditions, such as house price appreciation, neighborhood income, and change in unemployment. "In many respects, the subprime market experienced a classic lending boom-bust scenario with rapid market growth, loosening underwriting standards,

deteriorating loan performance and decreasing risk premiums. …Rapid appreciation in housing prices masked the deterioration in the subprime mortgage market and thus the true riskiness of subprime mortgage loans."[34]

Haughwout, Peach, and Tracy (2008) also decompose the rise in early defaults among loans originated in 2005 through 2006 into components related to changes in loan terms, deteriorating economic conditions, and an unexplained portion. They find that deteriorating economic conditions accounted for most of the rise in foreclosures that was explainable, but that a majority of the rise was unexplained. "Observable changes in standard underwriting standards and key economic measures appear to be unable to explain the majority of the run-up in early defaults."[35]

Anderson, Capozza, and Van Order (2009) employ a somewhat different methodology to decompose the increase in foreclosure starts into components due to poor economic conditions and to deterioration in loan quality due to changes in underwriting. They estimate a model predicting the MBA foreclosure start rate across states and over time as a function of year fixed effects and an economic default risk index based on projections of house prices and local economic conditions. The index is derived from a proprietary model of mortgage loan performance over time. The study concludes that roughly one-half of the increase in foreclosure starts after 2005 is attributable to worsening economic conditions captured by their index, with the remainder captured by the time fixed effects which they attribute to deterioration in loan underwriting.

Keys et al. (2008) investigate whether the increased use of securitization to fund loans weakened screening of borrowers as financial intermediaries had less incentive to worry about subsequent loan performance. Their approach is to compare early default rates among subprime and Alt-A loans originated from 2001 through 2006 with FICO scores just above and below 620. They argue that this FICO score was commonly used as a cutoff for loans eligible for pooling into securities, which is supported by the fact that in the data set they analyzed loans with FICO scores of 620 or higher were twice as likely to be securitized. Their analysis finds that, in fact, loans with FICO scores just above 620 had early default rates that were 10 to 25 percent higher than among loans just *below* this cutoff. This effect was much more pronounced for loans with low documentation, which, they argue, is consistent with the view that entities reviewing loan pools for securitization over-relied on FICO scores as an indicator of default risk.

Rajan, Seru, and Vig (2008) also present evidence that increased reliance on securitization as a means of funding loans was associated with poorer assessment of credit risk. Their primary analysis consisted of estimating a model of default based primarily on borrowers' FICO scores and loan-to-value ratio. The model is estimated for loans originated in 1997 through 2000 and then applied to loans originated in later years. They find that the model underpredicts default probabilities for later loan cohorts, and that this underprediction increases as the share of loans securitized increases. The underprediction was most evident among loans with low documentation, while fully documented loans had much smaller underpredictions of default rates. This underprediction for low-documentation loans remains even when they include forward-looking measures of house prices to account for the substantial decline in house prices that occurred after 2005. They conclude that the securitization process relied too extensively on readily observable measures of credit risk and failed to account for "soft" measures of risk that provided valuable information about default risk.

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34 Pp. 32-33.

35 P. 23.

Further evidence on loosening underwriting is provided by two studies examining trends in HMDA loan denial rates. Dell'Ariccia, Igan, and Laeven (2008) find evidence that metropolitan-area level denial rates declined over time from 2000 through 2006 for reasons not related to their measures of borrower risk (primarily income and employment measures). Mian and Sufi (2008) undertake a very similar analysis of HMDA denial rates, but at the ZIP Code rather than metropolitan-area level. They identify ZIP Codes that had high denial rates in 1996 and test to see how much of declines in denial rates could be related to improvements in borrower risk measures—captured by trends in income, employment, and establishments—and how much is related to simply lenders extending more credit in areas previously deemed too risky. They find evidence the denial rates declined more sharply in areas with previously high denial rates—despite the fact that these areas actually had relatively worse trends in their measures of underlying borrower risk.

Payment Shock From ARM Resets

Another factor that is often identified as making a significant contribution to rising delinquencies and foreclosures is the payment shock associated with adjustable-rate loans, either due to initial "teaser" rates that were substantially below the fully indexed rate or simply because of increases in underlying interest rate indexes that produced large increases in payments upon reset. An important part of the evidence for the contribution of ARMs to the current crisis is the high delinquency and foreclosure rates among these loans in MBA's *National Delinquency Survey*. However, there are several studies that suggest that the importance in the crisis of resetting interest rates on ARMs may be overstated for a number of reasons.

First, Demyanyk and Van Hemert (2008) find that all types of subprime loans—fixed and adjustable rate—experienced consistent increases in early delinquencies over time. But they note that because fixed-rate loans accounted for lower shares of loans in more recent years, the rise in delinquency rates of fixed-rate subprime loans was masked by the fact that the overall portfolio of subprime fixed-rate loans tended to include a higher share of older loans than ARMs. The overall fixed-rate portfolio therefore was more seasoned than the overall ARM portfolio and, for this reason, appeared not to suffer as much from increased delinquency rates as more seasoned loans will in general perform better.

Second, Foote et al. plot trends in default probabilities for subprime ARMs originated in 2002, 2005, and 2006 and find that there is no evidence of an uptick in default rates at the time that loans reset. They cite average measures of initial interest rates compared to fully indexed rates to suggest that the number of loans with initial steep discounts on teaser rates that would experience very large increases in interest rates was fairly small.

Finally, a number of market observers have noted that the underlying index used by many subprime ARMs (the LIBOR) declined sharply from September 2007 into the first part of 2008, which would reduce the likelihood of a payment shock (see, for example, Berry, 2008). Payment shocks simply have not been as evident as they would have been in a less favorable interest rate environment. Based on an example of a subprime loan pool from 2006 drawn from the study by Ashcraft and Schuermann (2008), Berry notes that had LIBOR rates remained near the level from when these loans were originated, the average borrower in this loan pool would have experienced a payment increase of about 28 percent by 31 months after origination. Assuming borrowers were paying roughly 40 percent of their income on mortgage payments, the increase would have meant they would be paying more than 50 percent of their income for mortgage payments after the adjustment. However, with LIBOR rates down sharply, loans in this pool were not expected to experience much change in monthly payments when their rates adjusted.

However, the fact that a substantial number of loans face a potentially large payment shock is beyond dispute. One of the most comprehensive reviews of this issue is Cagan (2007), who examined more than 8 million ARMs originated between 2004 and 2006 and found that given interest rate levels prevailing as of the time of his analysis in 2007, 39 percent would face a payment increase of between 25 and 50 percent upon initial reset, 10 percent would face a payment increase of 51 to 99 percent, and 15 percent would face a payment increase of 100 percent or more. When it is considered that a typical subprime borrower had a housing-payment-to-gross-income ratio of 40 percent, increases in payments of 25 percent are fairly substantial. Cagan's analysis was based on interest rates prevailing in 2007 and so did not take into account the decline in the LIBOR rate that subsequently occurred. But his analysis does put into perspective the number of loans that are at risk of payment shock should rates rise again.

It may also be that the issue of payment shock triggering delinquencies and foreclosures has not been evident mainly because many subprime loans are unaffordable even before payments adjust, as described previously. In support of the argument that payment resets do make loans unaffordable, more rigorous studies of subprime loan performance have found a very significant impact of interest rate adjustments on the probability of prepayment (Ambrose, LaCour-Little, and Huszar, 2005; Pennington-Cross and Ho, 2006). Ambrose, LaCour-Little, and Huszar, also found a significant impact of payment resets on the probability of default in their sample that spanned the period from 1995 to 2000, although Pennington-Cross and Ho did not find such an effect during the period of more robust housing price growth from 1998 through 2005. Finally, tabulations of serious delinquency rates among subprime ARMs originated in 2005 by Fitch Ratings Agency do show an upward inflection in these rates in the few months leading up to the initial rate reset, suggesting that for recent loan cohorts payment shock is at least a contributing factor.

2.2.4 Overall Conclusions on Precipitating Causes of Crisis

While softening housing prices were clearly an important precipitating factor in the present crisis, it seems clear from the literature that the sharp rise in mortgage delinquencies and foreclosures is fundamentally the result of rapid growth in loans with a high risk of default—due both to the terms of these loans and to loosening underwriting controls and standards. The current crisis is actually unusual in that general economic weakness did not play a significant role in producing delinquencies and foreclosures in most market areas—at least not initially. Instead, it was a slowdown in house price growth that removed the primary safety valve for the high volume of unaffordable mortgages that had been made, which was for borrowers to take advantage of robust house price growth to avoid foreclosure by refinancing into a new loan or selling the property for a profit. As Demyanyk and Van Hemert (2008) concluded: "...the seeds for the crisis were sown long before 2007, but detecting them was complicated by high house price appreciation between 2003 and 2005—appreciation that masked the true riskiness of subprime mortgages." Or, as Mark Zandi of Moody's Economy.com more prosaically put it, "Skyrocketing house prices fed many dreams and papered over many ills" (Zandi, 2008).

In fact, several studies have found an association between increases in high-cost lending that enabled borrowers to obtain larger mortgages than they could otherwise afford and more rapid house price growth than would be predicted by other fundamental measures of housing demand. Thus, the slowdown and then decline in house price growth that precipitated the foreclosure crisis is itself a product of the inevitable end to the ability of lenders to keep extending more credit to borrowers. Once the downturn began, both an oversupply of new homes and a rising tide of foreclosures added to downward pressure on prices, exacerbating the crisis. But, given that a significant increase in risky lending lies at the heart of the current crisis, the key question becomes, what were the factors that made it possible for the mortgage market to make so many ill-advised loans? The next section addresses this question.

2.3 Factors Enabling Expanded Risky Lending

In this section we examine the factors that have contributed to the growth in risky lending since 2000. The first part of the section outlines key market developments in the 1980s and 1990s that were important antecedents of the trends that emerged since 2000. The second part examines issues related to regulation of the mortgage market and how the regulatory structure may not have changed quickly enough to keep up with developments in the market. The third section reviews key developments since 2000 that fostered the growth in risky mortgage lending. Finally, the last part of this section examines evidence for several specific factors that have commonly been cited as important contributing factors to the crisis, including an increase in fraud among market participants and the role of the Community Reinvestment Act (CRA) and the government-sponsored enterprises (GSEs) in spurring risky lending.

2.3.1 Key Market Developments in the 1980s and 1990s

As described by McCoy and Renaurt (2008), the seeds for the growth of the subprime market were planted in the early 1980s by two congressional acts that were intended to mitigate the challenges posed by doubled-digit mortgage interest rates. The first of these was the Depository Institutions Deregulation and Monetary Control Act (DIDMCA) of 1980, which abolished interest rate ceilings on first mortgages for residences (with "interest" defined to include all costs included in estimating annual percentage rates on mortgages). Two years later, Congress passed the Alternative Mortgage Transaction Parity Act (AMTPA), which preempted state laws to enable the national use of variable-rate terms, balloon payments, and negative amortization of both first and subordinate lien loans. While McCoy and Renaurt acknowledge that these laws were aimed at alleviating a crisis in mortgage lending brought about by high interest rates, they conclude, "Ultimately, however, both statutes had far reaching structural effects. By liberalizing the permissible features of loan products and facilitating differential pricing according to risk, the DIDMCA and AMTPA set the legal stage for the emergence of the subprime market a decade later."

While these legislative changes enabled the use of risk-based pricing, the actual development of lending practices that offered different interest rates to different classes of borrowers based on risk was aided by technological advancements allowing lenders to statistically analyze credit risk and to incorporate this analysis into automated underwriting systems. A key innovation in the development of automated underwriting was the application of credit scores to assess the credit risk of mortgage applicants. FICO™ (formerly known as Fair Isaac Corporation) pioneered the summary of credit history information in credit scores beginning in the 1950s and introduced the FICO score for general use in 1989. In 1992, Freddie Mac researchers evaluated the ability to predict mortgage default using these general credit scores and found them to be a strong, statistically significant predictor (Straka, 2000). This led both to greater use of credit scores in manual underwriting as well as the incorporation of scores in the development of automated underwriting systems used by the GSEs in the 1990s. The subprime market was slower to develop automated underwriting systems, but, by the late 1990s, large subprime lenders began to adopt this technology as well (Browning, 2007). A number of studies have pointed to the growth of automated underwriting systems as facilitating the rapid growth of subprime lending over the past decade (see, for example, Apgar, Calder, and Fauth, 2004; Gramlich, 2007; and Belsky and Essene, 2008).

Another key factor fueling the growth of the subprime market was the development of the asset-backed securities (ABS) market, where the revenue stream from financial assets—including mortgages—is used to back the issuance of a security sold to investors. As described by Belsky and Essene (2008), in 1985 the total value of all ABS was $1.2 billion. By 1991, the market had increased to $50.6 billion—a large increase, but still small

compared to the size of the residential mortgage market, which was nearly $600 billion that year. But the ABS market continued to grow extremely rapidly through the 1990s, reaching $1.9 trillion in 2005.

The development of the ABS market as a source of capital for mortgage lending opened the door to the rapid growth of mortgage lending by nondepository institutions. Apgar, Calder, and Fauth (2004) describe the significant evolution of the mortgage market over the 1980s and 1990s from one where depository institutions originated most mortgages and either held them in portfolio or sold them into the secondary market with guarantees by the federal government or by the GSEs to one where nondepository institutions originated large shares of mortgages using financing provided through the sale of mortgage-backed securities (MBS).

Trends in the primary sources of mortgage financing illustrate this story. As of the early 1990s, a majority of mortgages were originated through depository institutions. The U.S. Department of Housing and Urban Development's (HUD's) *Survey of Mortgage Lending Activity* found that nearly two-thirds of the total dollar volume of mortgages in 1990 was originated by depositories (see Table 18 in HUD (1999). At the same time, the secondary market for residential mortgages was dominated by the GSEs and Ginnie Mae. Based on data from Inside Mortgage Finance, in 1990, a total of $259 billion in mortgage-backed securities were issued, with 66 percent guaranteed by the GSEs, 25 percent guaranteed by Ginnie Mae, and only 9 percent issued by other sources.

The heavy reliance on either portfolio lending by depositories or sale of mortgages on the secondary market with guarantees by the GSEs or Ginnie Mae helped keep standard mortgage underwriting fairly conservative into the mid-1990s. In fact, in developing a strategy to help increase homeownership among low-income and minority families, HUD characterized the inability to qualify for mortgage financing as a "very serious barrier to homeownership" and, in response, made it a priority to foster more "flexible underwriting" and to promote availability of "alternative financing products" (HUD, 1995).

The growth of the nonagency mortgage-backed security market during the 1990s helped to expand the sources of mortgage financing beyond the GSEs and government-insured sectors. By 1997, the share of MBS issued by nonagency sources had increased to 24 percent. Along with increased access to nonagency sources of capital to finance mortgages, the share of loan volume accounted for by depositories fell rapidly. By 1997, these lenders only accounted for 42 percent of mortgage originations, down from 64 percent in 1990. By 2005, the share of MBS from nonagency sources had increased to 55 percent. HUD's *Survey of Mortgage Lending Activity* was discontinued in 1998, but undoubtedly the share of loans originated by depository institutions fell further in the years leading up to 2005. One indication of the growing importance of nondepository institutions in originating mortgages is that the number of mortgage brokerage firms increased more than sixfold, from 7,000 in 1987 to 53,000 in 2007 (Essene and Apgar, 2007).

As described by Belsky and Essene (2008), the greater access to broader capital markets brought by securitization not only expanded the amount of funding available for mortgages but also brought investors with a broader range of risk preferences and tolerances and so helped expand the range of mortgage products available. The growth of securitization was also associated with the vertical disintegration of the mortgage market. Previously, the process of originating, servicing, and investing in mortgages involved either a single institution (in the case of loans held in portfolio by depository institutions) or a couple of institutions (in cases where loans were sold into the secondary market through the GSEs or federally insured programs). With the growth of securitization, there was a significant unbundling of the various steps in this process, with brokers processing mortgage applications, wholesale lenders originating loans, large mortgage banking organizations purchasing loans and aggregating them into pools, Wall Street investment banking firms issuing securities based on these pools, and

investors from around the world purchasing these securities. Since the actors in this process are compensated by transaction fees at each step and have little capital at risk, this system is rife with principal-agent problems—where the principals acquiring loans cannot be sure that the agents supplying these loans have acted in their best interests in insuring the quality of the loans produced. As will be described in the following text, in hindsight it seems clear that the regulatory system did not adequately evolve to adjust to this new mortgage market.

2.3.2 Failure of the Regulatory Environment To Adapt to Market Changes

In contrast to the fairly dramatic changes occurring in the structure of the mortgage market during the 1990s, there was little change in the regulatory regime overseeing mortgage lending activity. Various authors have identified that one way in which the regulatory structure failed to adequately adapt to changes in the market was through its continued reliance on consumer disclosure rules as the principal means of ensuring that borrowers made appropriate choices with regard to mortgage financing—even in the face of much greater variation in mortgage interest rates and fees as well as growing complexity of mortgage terms (see, for example, Gramlich, 2007; Essene and Apgar, 2007; McCoy and Renaurt, 2008; and Barr, 2008). Two key federal laws governing mortgage transactions are the Truth in Lending Act (TILA) and the Real Estate Settlement Procedures Act (RESPA), both of which are intended to ensure that consumers are provided timely and accurate information about mortgage pricing and terms before closing a loan. These commentators have argued, however, that the existing system of disclosures was no longer sufficient to protect consumers from making poor choices given the increased complexity of choices. The inadequacy of the disclosure system was perhaps most succinctly described by the Government Accountability Office in its review of federal efforts to combat predatory lending:

> "Although improving loan disclosures would undoubtedly have benefits, once again the inherent complexity of loan transactions may limit any impact on the incidence of predatory lending practices. Moreover, even a relatively clear and transparent system of disclosures may be of limited use to borrowers who lack sophistication about financial matters, are not highly educated, or suffer physical or mental infirmities" (GAO, 2004).

Essene and Apgar (2007) provide a thorough review of the challenges facing consumers in choosing the best mortgage for them even given the information made available as a result of TILA and RESPA. Among the factors hampering consumers are the challenges inherent in accurately assessing risk and in evaluating the total cost of a stream of payments over time. In addition, consumers often have little awareness of mortgage prices and struggle with shopping for a mortgage due to the effort involved in obtaining multiple offers and then in comparing these offers across the many factors that affect mortgage pricing (HUD, 2008).

Another way in which the subprime mortgage market presents challenges for consumers is that these loans are often aggressively sold to consumers by profit-seeking lenders rather than sought out by consumers. Essene and Apgar (2007) provide a number of examples of the ways in which common marketing approaches by subprime lenders are designed to sell loans to borrowers that are not in their best interests. A study by the GAO (2006) similarly documented concerns by both federal regulators and mortgage industry groups that advertising by subprime lenders generally emphasized the benefits of nontraditional mortgage products without explaining the risks. However, there is little systematic information on the extent of these practices. Renuart (2004) argues that a significant volume of court decisions and government enforcement actions suggest that overly aggressive lending practices are widespread. One significant example of such legal actions is described in congressional testimony by the Iowa Attorney General, Thomas J. Miller (2003). In his testimony, Miller described a consent judgment against a large subprime lender for a variety of misleading sales practices that involved a settlement

providing injunctive relief of nearly $500 billion. One study that does provide some more systematic evidence of the extent to which mortgage brokers are involved in selling subprime loans to borrowers is Kim-Sung and Hermanson (2003). These researchers found that among a random sample of roughly 1,000 elderly homeowners who refinanced their loan between 1999 and 2000, more than one-half of those with broker-originated loans reported that brokers initiated contact with them about the loan, while only one-quarter of borrowers with lender-originated loans were first contacted by their lender.

Subprime lenders also have strong incentives to get borrowers to agree to higher priced loans than they might otherwise qualify for as they earn yield spread premiums for loans with rates above prevailing levels (Jackson and Berry, 2002; Woodward, 2003). Subprime lenders have also revealed that subprime loans in general were much more profitable to originate than other types of loans. One lender reported that subprime loans were three to five times more profitable than any other type of loan his firm offered, and he saw "no logical reason to sell something that made less money." Similarly, the chief executive officer (CEO) of Ownit Mortgage Solutions was quoted as saying, "The market is paying me more to do a no-income verification loan than it is paying me to do the full documentation loans. What would you do?"

While difficult to prove, there is evidence that many subprime borrowers took on mortgages that were more costly than warranted given their level of credit risk. Lax et al. (2000) compared interest rates on a group of A-minus loans purchased by Freddie Mac with a similar group of loans originated by a subprime lender. They found that the subprime loans had average interest rates that were more than 2 percentage points higher. Even after factoring in differences in default risk and servicing costs, Lax et al. concluded that roughly one-half of the interest rate differentials could not be accounted for by higher risk. Furthermore, they note that the interest rate difference does not even account for the fact that the subprime loans were also likely to have paid higher points and fees.

Gruenstein, Ernst, and Li (2006) examined differences in interest rates on a large number of subprime loans, taking into account a variety of risk measures (including credit scores), and found that African-American and Latino borrowers were more likely to receive higher priced loans than Whites did. Woodward (2003) examined a small sample of loans from a single lender originated through mortgage brokers and found that borrowers with less than a college degree paid $1,500 more in fees, all else being equal, than other borrowers. In addition, African-American borrowers paid $500 more, and Latinos paid $275 more than otherwise similar Whites did.

Taken as a whole, these studies support the view that at least some subprime borrowers faced higher rates and fees than necessary given their level of credit risk and provide an indication that the reliance on a system of disclosures failed to help consumers successfully navigate the increasing complex mortgage market. Of course, other borrowers also knowingly took on loans that were unaffordable as a means of tapping more home equity or purchasing larger homes than they might otherwise have been able to.

The one relevant exception to federal reliance on consumer disclosures was the Home Ownership and Equity Protection Act (HOEPA), which was enacted in 1994 in response to concerns about the emergence of subprime lending (McCoy and Renaurt, 2008).[36] HOEPA prohibits certain loan terms and practices on "high-cost" refinance loans, with high cost defined as loans with interest rates more than 8 percentage points above the rate on Treasury securities of a comparable term or where total points and fees exceed the greater of 8 percent of the loan balance or $400. For loans exceeding these thresholds, HOEPA restricts or bans balloon clauses, negative amortization, increased interest rates after default, prepayment penalties, and loans made without regard to the borrower's ability to make payments. However, in practice, HOEPA has had little influence on mortgage lending as the

definition of "high cost" was set at such elevated levels that only a tiny fraction of mortgages have been covered by the law—less than 0.1 percent of refinancing and home improvement loans in 2006 (Avery, Brevoort, and Canner, 2007). While the Federal Reserve Board was given authority to implement HOEPA and to adopt regulations to achieve the act's purposes, it largely refrained from exercising this authority until July 2008.

Over the course of the past decade, many states became concerned about the growth of lending practices that were deemed to be predatory. In the absence of stronger federal protections, starting in 1999 states passed HOEPA-like legislation to ban or restrict specific loan terms or practices on loans defined as high cost. By 2007, only seven states had no mini-HOEPA statutes or other laws or regulations in effect restricting prepayment penalties, balloon clauses, or mandatory arbitration clauses in residential mortgages (Bostic et al., 2007). In their analysis of the effect of state laws on subprime lending activity, Bostic et al. generally find that the passage of these laws is associated with an *increase* in subprime originations and a *decrease* in loan rejection rates. They speculate that the laws may actually increase consumer confidence in the subprime lending market. The study does not address whether entities subject to state predatory lending laws have had lower foreclosure rates than entities not subject to such laws.

One significant factor that may have limited the impact of these laws is that federal depository institutions and affiliated mortgage banking operations were largely exempt from these state laws. As described by McCoy and Renaurt (2008), the Office of Thrift Supervision (OTS) issued a series of opinion letters and regulations over the course of the 1990s asserting federal preemption of state laws restricting mortgage lending for federal savings institutions, culminating in a sweeping preemption regulation issued in 1996. With the growing wave of state antipredatory lending laws after 1999, national banks pushed for their regulator, the Office of the Comptroller of the Currency (OCC) to provide them with the same relief as federal thrifts. In response, in 2004 the OCC issued a preemption regulation virtually identical to that of the OTS. McCoy and Renaurt and others (see, for example, Wilmarth, 2004 and Renuart et al., 2005) also argue that since the OTS and OCC pay for their operations through fees earned from chartering and examining their member institutions, they have a strong incentive to offer member institutions the favorable regulatory regimes to help build their membership base.

Importantly, both agencies extended these preemption privileges to mortgage banking operating subsidiaries as well. McCoy and Renaurt assert that the appeal of being able to claim federal preemption gave impetus to mortgage banking operations being acquired by depository institutions. McCoy and Renaurt further claim that while the mortgage banking affiliates are granted the same preemption authority over state laws, they are not subject to nearly the same level of examination and review as their affiliated depository institution. As a result, McCoy and Renaurt state that these mortgage banking affiliates are subject to little oversight by these federal regulators—even though mortgage banking organizations have been playing a larger role in the market.

There are no studies in the literature that make a rigorous comparison of foreclosure rates between entities subject to state predatory lending laws and those not subject to these laws. It is also not clear, however, that there were a sufficient number of active market participants subject to the preempted state laws to accurately measure differences in performance.

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[36] The federal banking regulators do issue and enforce regulations relating to fair lending and equal credit opportunity intended to protect borrowers from many abusive practices, but these protections were not oriented toward helping borrowers avoid inappropriate housing and mortgage product choices in the years leading up to the crisis. For example, the Office of Thrift Supervision has rules to prohibit discrimination and false advertising. See 12 C.F.R. part 528 and 12 C.F.R. §563.27. Furthermore, stronger consumer protections have been put in place by federal banking regulators in response to the crisis. See 74 Fed. Reg. 5489, 5506 (January 29, 2009).

The high volume of mortgages being bundled into securities revealed another hole in the regulatory fabric. Under the holder in due course doctrine of the Uniform Commercial Code, purchasers of securities are generally not liable for the illegal activities of lenders who made these loans (McCoy and Renaurt, 2008). So, even if borrowers were the victims of illegal, unfair, or deceptive practices in the origination of their loans, they often do not have recourse against the current owners of the loans. Engel and McCoy (2004) identify several ways that borrowers can overcome the holder in due course restrictions on bringing claims as well as ways in which security holders may be at risk of litigation under other federal regulations. Nonetheless, Engel and McCoy conclude that borrowers face significant obstacles in bringing claims against holders of securities so that the litigation risk to investors is not substantial. Thus, the securitization process itself provides another layer of protection for predatory lending practices.

McCoy and Renuart (2008) argue that the failure of the OTS, the OCC, and the Federal Reserve Board to impose greater protections for borrowers in part reflects the fact that these agencies are principally charged with overseeing the safety and soundness of depository institutions and not with consumer protection.[37] In fact, there are a variety of ways in which the regulatory structure failed to adequately protect the safety and soundness of the finance industry given changes in the market over time. As already noted, more mortgage lending was being conducted through mortgage banking organizations, both affiliated and unaffiliated with depository institutions. In the case of those affiliated with depositories, federal bank regulators have responsibility for examining these institutions. But since regulators are largely concerned with depository failures, the failure of a subsidiary is not nearly as important, and so subsidiaries are subject to less rigorous review (McCoy and Renuart, 2008; Gramlich, 2007). Meanwhile, mortgage banking organizations unaffiliated with a depository fall under the purview of various state financial agencies, but the resources states have for this function are small compared with those of the federal government (Gramlich, 2007).

Perhaps a larger hole in the regulatory fabric was the lack of meaningful oversight of nationally recognized statistical rating agencies—who themselves were the de facto regulators of the securities market through their role in assigning ratings to issued securities.[38] By assigning AAA and AA ratings to large portions of mortgage pools, the rating agencies not only gave investors confidence in the safety and soundness of these investments but in many cases actually made it legally feasible for financial institutions to invest in these securities. A key impetus for the role of the rating agencies in the mortgage-backed securities market was the Secondary Mortgage Market Enhancement Act of 1984, which not only made it easier for private entities to issue mortgage-backed securities but also enabled banks, thrifts, state-chartered financial institutions, pension funds, and insurance companies to invest in the two top-rated tranches of these securities (McCoy and Renaurt, 2008).

Yet, the activities of rating agencies have been subject to very limited federal oversight. It was not until September 2007 that the rating agencies were made to register with the U.S. Securities and Exchange Commission (SEC) under the Credit Agency Reform Act of 2006 (SEC, 2008). In the wake of the subprime crisis, it has become apparent that the rating agencies were subject to a substantial conflict of interest in that their fees were

[37] As previously noted, the agencies do issue and enforce regulations that provide consumer protections (for example, see Office of Thrift Supervision rules to prohibit discrimination and false advertising at 12 C.F.R. part 528 and 12 C.F.R. §563.27) but bank safety and soundness are their primary concern. Recent additions to their regulations have strengthened the depository regulators' consumer protection role.

[38] The three main rating agencies registered with the U.S. Securities and Exchange Commission are Fitch Ratings, Moody's Investor Services, and Standard & Poor's Rating Services (SEC 2008). These firms are referred to collectively as the "rating agencies."

paid for by security issuers and not investors in these securities. With competition among the rating agencies for business, there was substantial pressure on rating agencies to meet the needs of their clients in providing favorable ratings.

A recent formal review by the SEC (2008) of rating agencies' role in the subprime securities market found that the agencies did not appropriately manage the conflict of interest between their role in providing investors with ratings while being compensated by the firms structuring and marketing the securities. Accounts in the literature and popular press provide a variety of anecdotes about how the process of chasing profits led rating agencies to downplay the increasing risk of subprime mortgage pools (see, for example, Calomiris, 2008 and Lewis, 2008). Beyond conflicts of interest in their compensation structure, the SEC also found a number of other deficiencies in rating agency performance, such as not adequately disclosing significant aspects of the rating process (including rationales for deviations from their models), not having as robust a surveillance process for lenders as was evident prior to 2003, and not having consistent internal audit processes. The SEC has also argued that the rating agencies may have struggled to handle the increased volume and complexity of deals after 2002. Jaffee (2008) argues that rating agencies greatly underestimated the importance of house price trends in subprime loan performance as the only relatively large-scale historical experience with these loans during an economic downturn occurred around the recession of 2001, which was unusual in having weak employment growth coupled with robust house price increases.

Calomiris (2008) finds that the failure of the rating agencies' statistical models to account for the potential shock of falling house prices resulted in very high proportions of subprime loan pools being rated as AAA. In addition to underestimating the default risk of individual loans, Coval, Jurek and Stafford (2009) also argue that the rating agency models underestimated the risk of structured securities by failing to account for the correlation of default both among loans in individual securities and across securities in collateralized debt obligations of pooled securities. Given rules requiring many institutional investors to only purchase securities with the highest ratings as well as capital requirements that greatly favored investments in these same securities by banks and other regulated financial firms, achieving a high rating opens up a much larger market for these securities. A number of reviewers have argued that rating agencies' supposedly sophisticated methods for assessing risk helped sell institutional investors on the "alchemy of securitization," in which pools of risky mortgages were transformed into safe investments (President's Working Group on Financial Markets, 2008; Coval, Jurek, and Stafford, 2009). In this view, given the agencies' ratings, investors and regulators alike felt confident that the market could appropriately price this risk. In a widely cited speech from April 2005, Federal Reserve Chairman Alan Greenspan touted the benefits of technological advancements in helping to achieve "significant efficiencies in collecting and assembling the data necessary to evaluate risk and make corresponding decisions about credit pricing."

However, Calomiris (2008) argued that the underestimate of default risk due to falling house prices in rating agency models was clearly observable by investors. By this view, the overly optimistic assessment of risk by the rating agencies was driven by investors who were demanding high volumes of AAA-rated MBS in which to invest. In support of this view, Calomiris cites an anecdote told to him by a ratings agency executive that when a large institutional investor was warned about an upcoming security issuance rated by a competitor using overly optimistic assumptions, the investor responded by saying "we have to put our money to work." Calomiris argues that the low default rate experienced during the 2001 recession gave asset managers the excuse of "plausible deniability"—that when house prices inevitably fell and led to high losses among subprime loans, the asset managers could explain that the experience with subprime loans during the 2001 recession had misled them.

His argument is that asset managers were compensated on the basis of fees earned on transactions and thus had incentives to place large risky investments for institutional investors since they would not share in the losses.

In contrast to this view, the President's Working Group on Financial Markets (2008) argued that a lack of transparency in the rating agency process made it difficult for investors to understand what was used to determine the ratings. Coval, Jurek, and Stafford (2009) have also argued that investors were generally unprepared to play a role of questioning the rating agencies' methods. In either case, with little oversight of rating agencies by federal regulators, it is clear that investors were left on their own to question the ratings process. Whether investors were unable or unwilling to play this role, clearly very few questioned the rating agencies' methods for rating subprime securities.

2.3.3 Factors Fostering the Surge in Risky Lending in the 2000s

For the most part, the antecedents to the foreclosure crisis—changes in federal laws, evolution in the mortgage market, and a lack of regulatory reform to keep pace with these changes—were largely in place in the 1990s. So another important question is, what factors have come together since 2000 to foster the high volume of risky lending that led to the foreclosure crisis?

One commonly cited ingredient was the high demand for asset-backed securities by investors from around the world. As described by Zandi (2008), U.S. trade deficits had left international investors with a flood of dollars to invest. With global investors seeking dollar-denominated investments, there was a surge in demand for U.S. securities markets. Between 2002 and 2006, there was a threefold increase in U.S. credit market instruments held by foreigners, from $2 trillion to more than $6 trillion. By 2006, international investors owned nearly one-third of all U.S. mortgages. The growth of hedge funds also contributed to rising demand, with the value of assets under management by these funds more than tripling from $490 billion in 2000 to $1.7 trillion in 2007 (DiMartino, Duca, and Rosenblum, 2007). The sharp rise in investor demand for securities was evident in trends in the spread between Treasury securities and junk bond and emerging-market interest rates, with risk premiums in these markets all but vanishing by 2006 (DiMartino, Duca, and Rosenblum, 2007).

In part, the willingness of investors to purchase risky mortgages with relatively little risk premium also reflects the belief that innovations in financial market instruments were shielding them from default risk (DiMartino, Duca, and Rosenblum, 2007). In addition to the security provided by the carving up of loan pools into distinct tranches with different priorities for repayment, the development of collateralized debt obligations (CDOs) and credit default swaps (CDS) were designed to provide further layers of protection against credit losses. CDOs are essentially pools of securities, which are intended to further diversify investor risk. CDS transfers default risk from security holders to CDS sellers. CDS sellers are essentially selling insurance against defaults to holders of the actual security. If a default occurs, the CDS seller either takes delivery of the defaulted security at par value or pays the security holder the difference between par and recovery value. With the availability of CDS, security investors felt they had the ability to fully hedge default risk. From 2000 to 2007, the volume of CDS rose dramatically from $631 billion to over $45 trillion (DiMartino, Duca, and Rosenblum, 2007). The rapid growth in both of these financial instruments also played a significant role in fostering the broader financial crisis that ensued from the meltdown in the residential mortgage market.

But in addition to demand by investors, the surge in subprime lending was also driven by the high profits earned by participants at each stage of the process, from origination through the selling of securities derived from these loans. Between 2001 and 2003, the volume of mortgages originated surged as efforts by the Federal

Reserve to stimulate the economy led to very low mortgage interest rates and spurred both a refinancing boom and strong demand for new housing. According to Inside Mortgage Finance, in 2000 slightly more than $1 trillion in mortgages were originated; by 2003, the volume had nearly quadrupled to just under $4 trillion. A combination of interest rate increases and rapidly appreciating house prices dampened demand for new mortgages, with originations declining to about $3 trillion in 2004.

In order to keep origination volumes high, lenders began offering new mortgage products intended to stretch borrowers' ability to afford ever more expensive homes (Joint Center for Housing Studies, 2006). Efforts to keep origination volumes high also appear to have contributed to loosened underwriting standards. Fishbein and Woodall (2006) cite a variety of evidence that lenders were relaxing underwriting standards in pursuit of higher loan volumes, including information gathered by regulators about loosening credit standards by lenders as well as accounts in the popular press about lenders pushing the envelope on underwriting to maintain loan volumes. An analysis of HMDA data by Reeder and Comeau (2008) also documented a substantial increase in the share of loans with high mortgage payment-to-income ratios during the 2004-to-2006 period, particularly among high-cost and refinance loans. In addition, as noted earlier, several studies by Federal Reserve economists have found evidence that mortgage denial rates declined during this period more than would have been expected given trends in underlying borrower risk factors (Demyanyk and Van Hemert, 2008; Dell'Ariccia, Igan, and Laeven, 2008; Mian and Sufi, 2008).

Further fueling loosening underwriting standards was increased competition among lenders (Apgar, Calder, and Fauth, 2004). The growing use of technology at all stages of mortgage origination and servicing led to greater economies of scale in operation. As a result, the mortgage industry experienced tremendous consolidation, with the top 25 lenders accounting for more than three-quarters of loan originations. The loosening underwriting standards since 2000 appear to have been driven in part by lenders seeking to maintain market share. Belsky and Essene (2008) describe this as a "classic collective action problem" where lenders might have been better served by enforcing more restrained underwriting but to do so would result in a loss of market share and so few lenders were willing to unilaterally tighten lending standards. Recent congressional hearings into the federal takeover of the GSEs identified a potentially similar phenomenon among these institutions, as efforts to maintain their market share led the GSEs to purchase risky Alt-A loans over the objections of their own risk managers. A review of company documents found presentations indicating that a failure to enter this market segment would mean they would lose relevance with their largest lender partners and thus relegate the GSEs to a "niche" role in the industry. In essence, efforts to maintain market share and profits led most participants in the mortgage market to engage in a race to the bottom in making risky loans.

The final—and perhaps most important—ingredient that fostered the surge in risky lending was the rapid increase in housing prices in large swaths of the country through 2006. As summarized earlier, a number of commentators have observed that the rapid pace of house price appreciation papered over the increasing risks of mortgages originating in the years leading up to the emergence of the foreclosure crisis in 2007. In fact, as also noted earlier, the growth in risky lending seems likely to have fueled the dramatic rise in house prices. In short, market developments since 2000 helped create a self-perpetuating cycle. In pursuit of high profits, lenders and investors poured capital into ever riskier loans particularly after 2003. This flood of capital helped to spur rising home prices that masked the riskiness of the loans being made, leading to continued loosening of underwriting standards. Unrealistic expectations of continued high price appreciation by both borrowers and lenders prevented the use of prudent risk management by both parties and created an upward spiral of easy capital availability and demand for housing even with inflated prices. When house price growth finally slowed in late 2006, the true nature of these risky loans was revealed, bringing down the "house of cards" (Stiglitz, 2007).

2.3.4 Contribution of Mortgage Fraud, the CRA, and the GSEs

Mortgage Fraud

There is a general conception that fraud on the part of mortgage brokers and borrowers may have made a significant contribution to the foreclosure crisis. Technically, mortgage fraud is defined as "the intentional misstatement, misrepresentation, or omission by an applicant or other interested parties, relied on by a lender or underwriter to provide funding for, to purchase, or to insure a mortgage loan" (Federal Bureau of Investigation, 2008). There are significant challenges with quantifying the degree of mortgage fraud. One challenge is that there can be a blurry distinction between outright fraud and "creative" methods used by brokers to help borrowers qualify for a mortgage. One subprime lender has recounted a variety of ways that brokers could manipulate a borrower's profile—in ways that may not have constituted fraud—to help meet underwriting requirements, such as employing quick fixes to increase credit scores, omitting co-borrowers with poor credit histories, or reporting only recent temporarily increased income levels (Bitner, 2008). Fraud is also hard to detect because it generally does not become evident until a borrower defaults on their mortgage, revealing the misinformation that was used to originate the loan. During periods of robust housing price growth, such as was experienced through 2006, many cases of fraud would be hidden by the ability of borrowers to refinance or sell their property to satisfy their outstanding mortgage (Mortgage Assessment Research Institute, 2008).

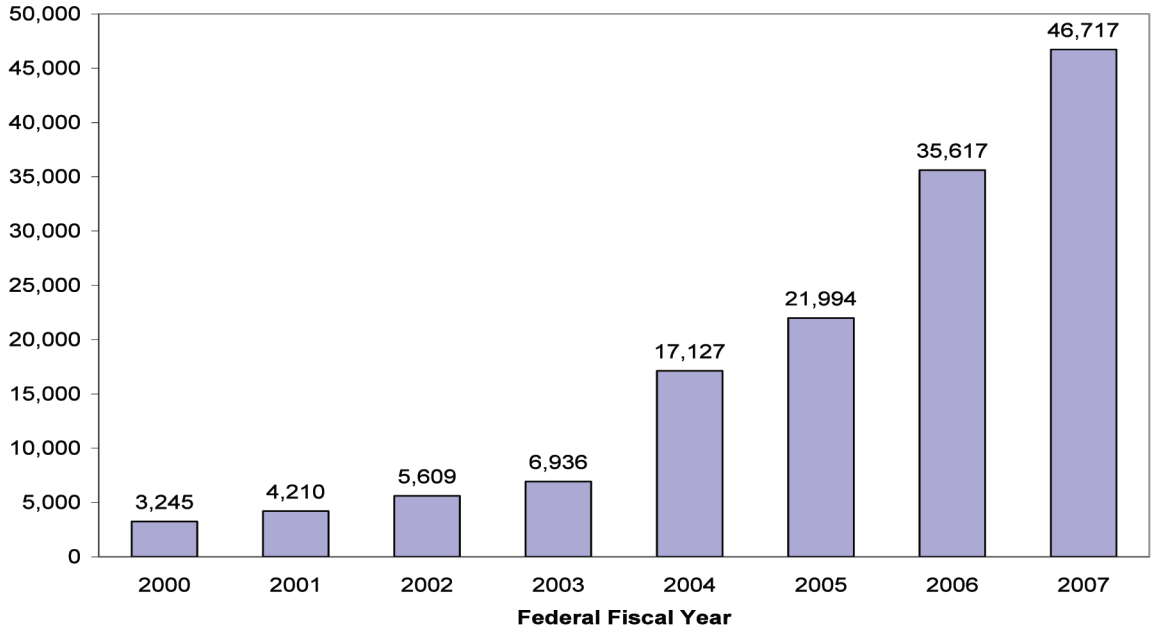
The most commonly cited information on trends in mortgage fraud are derived from Suspicious Activity Reports (SARs), which are filed by financial institutions, including federally insured depository institutions, and are utilized by several federal agencies, including the Federal Bureau of Investigation (FBI), the Financial Crimes Enforcement Network, and HUD, amongst others, in their efforts against mortgage fraud. Importantly, with significant shares of loans made by nonfederally insured institutions, this reporting system leaves out a significant portion of the mortgage industry. But, even with a large segment of the market excluded from this system and with strong housing price growth potentially masking many cases of fraud, the number of SARs grew sharply beginning in 2004 (Exhibit 14). In 2003 a total of 6,939 SARs were filed; by 2007, this number had increased nearly sevenfold to 46,717.

Nonetheless, the number of SARs was still fairly small relative to the number of loans originated annually. However, the low share undoubtedly reflects both the difficulty of identifying fraud as well as the limited scope of institutions reporting SARs. BasePoint Analytics, a private firm specializing in detecting mortgage fraud, has estimated that 9 percent of loan delinquencies are associated with some form of fraud (BasePoint Analytics, 2006). Thus, while mortgage fraud is certainly not a trivial issue, it is estimated to only account for about 1 in 10 delinquencies.

In terms of the nature of fraud, the FBI distinguishes between two types of fraud: (1) "for profit," mostly perpetrated by brokers and others to generate profits, and (2) "for housing," perpetrated by homebuyers with the goal of purchasing or retaining a home. The FBI estimates that roughly 80 percent of fraud is "for profit" and conducted by brokers and other professional parties to the transaction (FBI, 2007).[39] Consistent with this conclusion, BasePoint Analytics has concluded that most fraud is driven by mortgage brokers in their efforts

[39] Of course, in some cases homeowners may be complicit in broker fraud, for example by allowing their income to be misrepresented so the borrower is able to either take more cash out of their homes or to purchase a more expensive home than they might otherwise have been able to. However, to the extent that the broker is helping to perpetrate the misrepresentation, the act of fraud is deemed to have been committed by the broker.

Exhibit 14: Number of Suspicious Activity Reports Filed



Source: Federal Bureau of Investigation

to earn profits by originating loans (BasePoint Analytics, 2007). In support of the association between brokers' profit-seeking motives and fraud, their analysis finds a high correlation between the incidence of fraud and above-average interest rates and fees on loans. Furthermore, they find that about 10 percent of brokers account for all the cases of fraud they uncovered in a database of 3 million loans originated between 1996 and 2006.

Based on information on fraud gathered by BasePoint Analytics (2006), the Mortgage Asset Research Institute (2008), and Fitch Ratings Agency (Pendley, Costello, and Kelsch, 2007), the vast majority of fraud involves the misrepresentation of information on loan applications related to income, employment, or occupancy of the home by the borrower. The growth in no- and low-documentation loans appears to be highly related to the growth in fraud. Based on data from both BasePoint Analytics and Fannie Mae, the FBI reports that the fraud rate among Alt-A loans (which include a very high share of no- and low-documentation loans) was three to four times higher than among subprime and prime loans. These same sources also find that another significant share of cases of fraud involve appraisal misrepresentations, where property conditions are materially different than presented in the appraisal or information is used to derive the property value that is typically outside of accepted parameters.

Ultimately, the growing incidence of fraud can be traced back to the lack of adequate underwriting controls by lenders to oversee brokers' activities. A Fitch Rating Agency review of the poor performance of loans originated in 2006 highlighted the importance of poor underwriting performance and fraud in producing high rates of early payment defaults (Pendley, Costello, and Kelsch, 2007). The Fitch report concludes that "poor underwriting processes did not identify and prevent and, therefore, in effect, allowed willful misrepresentation by parties to the transactions." The complicity of lenders practices in the incidence of fraud is also demonstrated

by the recent agreement between the New York State Attorney General and Fannie Mae and Freddie Mac to adopt practices to ensure that property appraisals are independent and reliable.[40]

The CRA

Stories and opinion articles in the popular press have identified the CRA as a culprit in the foreclosure crisis. The CRA was passed by Congress in 1977 with the goal of encouraging banks to meet the credit needs of the communities in which they have branches, with a specific emphasis on low- and moderate-income neighborhoods. Banks are subject to reviews to see if they are meeting their CRA goals. Since a bank's CRA rating is considered when banks seek to engage in mergers or acquisitions, CRA's regulations are taken seriously by banks. There is fairly significant evidence that CRA has, in fact, resulted in an increase in credit flows to low- and moderate-income areas where CRA-covered institutions have branches (Apgar and Duda, 2006).

Critics of the CRA claim that the wave of risky lending was generated in no small part by banks having been pushed into making these loans to meet their CRA requirements.[41] While not supported by any in depth empirical analysis, this argument has gained enough prominence that a variety of newspapers have written editorials to counter these arguments.[42] There is a variety of empirical evidence that supports the view that CRA's requirements played little or no role in producing the foreclosure crisis.

One key argument against CRA having played a significant role in the foreclosure crisis is that only a very small share of the high-priced loans that have been a key driver of the crisis were originated by CRA-covered institutions in geographic areas where they are subject to CRA assessment. A recent speech by Governor Randall S. Kroszner (2008) of the Federal Reserve System uses HMDA data to document the fact that only 6 percent of higher priced loans were originated by CRA-covered institutions in their CRA assessment areas. With CRA-motivated loans accounting for such a tiny fraction of higher priced loans, it is hard to argue that CRA played a fundamental role in producing the crisis.

Another weakness in the argument that CRA was an important factor in the crisis is that while CRA lending requirements have been in force for over three decades, the foreclosure crisis is a recent phenomenon. In fact, the rise of the foreclosure crisis came after a period of sustained decline in the share of mortgage lending activity covered under the CRA. As Park (2008) documents, while between 38 and 46 percent of home purchase and refinance mortgages originated in 1994 fell under CRA review, by 2005 these shares had fallen to less than 25 percent. It is hard to argue that CRA produced the foreclosure crisis even as its influence was waning.

Finally, there is also some evidence that loans made to low- and moderate-income homebuyers as part of banks' efforts to meet their CRA obligations have actually performed better than subprime loans. In an analysis of CRA-motivated loans sold to a community development financial institution (Self-Help), Ding, Quercia and Ratcliffe (2008) found that the default risk of these loans was much lower than subprime loans made to borrowers with similar income and credit risk profiles. Similarly, Laderman and Reid (2008) compare the foreclosure risk of home purchase loans made in California in 2004 and 2006 by CRA-covered institutions in their assess-

[40] For details, see the press release from the Office of the New York State Attorney General, March 3, 2008.

[41] Gross (2008) identifies a number of sources of this criticism. One notable example is a recent editorial in *The New York Times* by Husock (2008).

[42] See, for example, The New York Times (October 15, 2008) and *The Los Angeles Times* (October 25, 2008).

ment area with loans made by independent mortgage companies while controlling for a range of borrower and loan characteristics. They also find that CRA loans were half as likely to go into foreclosure as loans made by independent mortgage companies. They conclude that this provides evidence that the CRA helped to ensure "responsible lending even during a period of overall declines in underwriting standards."

In short, there is little evidence to support the view that CRA made any contribution worthy of note to the current foreclosure crisis both because the volume of high-priced loans made to meet CRA requirements was very small and because CRA loans had much lower risk of foreclosure than subprime loans generally.

The GSEs

Many of the same voices in the popular press raising questions about CRA's role in producing the foreclosure crisis have also argued that federal regulations requiring the GSEs (Fannie Mae and Freddie Mac) to devote a sizeable share of their lending to low- and moderate-income homeowners also played a significant role in fostering the growth of risky lending. The serious financial troubles of the GSEs that led to their being placed into conservatorship by the federal government provides strong testament to the fact that the GSEs were, indeed, overexposed to unduly risky mortgage investments. However, there is evidence to suggest that the GSEs' entry into subprime lending was probably more motivated by efforts to chase market share and profits than by the need to satisfy federal regulators.

Much of the GSEs' troubles can be traced to their purchases of Alt-A mortgages offered to prime borrowers who provided little or no documentation of income or assets.[43] Recent congressional hearings into the causes of the GSEs' financial troubles revealed a variety of information from internal documents, suggesting that the agency's own risk managers expressed concerns about the riskiness of these mortgages but that corporate management overlooked these warnings in pursuit of profits and market share. For example, a 2005 internal memorandum from Daniel Mudd, Fannie Mae's CEO, stated that, "the real revenue opportunity was in buying subprime and other alternative mortgages. To pursue this course the company would have to accept higher risk and higher volatility of earnings."[44] While many of these risky loans would help meet the GSEs' housing goals, Freddie Mac's chief enterprise risk officer wrote in an internal memo arguing against purchasing these loans: "what better way to highlight our sense of mission than to walk away from profitable business because it hurts the borrowers we are trying to serve."[45]

That is not to say that the GSEs' expansion of lending to lower income or credit-impaired borrowers was not associated with higher risks. In recent congressional testimony, James B. Lockhart III, Director of the Federal Housing Finance Agency, noted that loans owned or guaranteed by the GSEs to borrowers with credit scores below 660 had 60-day delinquency rates of 10 percent, which was roughly five times larger than the rate among their prime loans (Lockhart, 2009). The delinquency rate among the GSEs' loan portfolios was 2.3 percent for Fannie Mae and 3.2 percent for Freddie Mac, compared to an industry average of 4.7 percent for prime loans and 7.2 percent for all single family mortgages. Overall, the GSEs were taking on less than average risk in recent years.

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43 Turmoil in the U.S. Credit Markets: The Genesis of the Current Economic Crisis, Senate Committee on Banking, Housing, and Urban Affairs (Stein, 2008).

44 "Former GSE Chiefs Scolded for Careless Lending," *The Washington Post*, December 9, 2008.

45 "Internal Warnings Sounded on Loans at Fannie, Freddie," *The Washington Post*, December 9, 2008.

One way in which the housing goals may have pushed the GSEs into the subprime market was by allowing them to claim credit toward the housing goals by purchasing MBS. Since subprime loans include a high share of low-income borrowers, purchasing the highest rated tranches of subprime MBS offered an easy way for the GSEs to obtain goal credits while seeming to minimize their risks. A *Washington Post* article from June 2008 presents the argument that the GSEs' purchases of subprime MBS, motivated by a desire to meet their federally established housing goals, was a significant source of capital for the subprime market.[46] The article goes on to argue that by spurring the GSEs to purchase subprime MBS, HUD's housing goals may have been an indirect cause of the growth of subprime lending.[47]

The GSEs did play a significant role as purchasers of these securities, although their role greatly diminished even as the market was expanding. *The Washington Post* article reports that the GSEs purchased 44 percent of all subprime securities in 2004, followed by 33 percent in 2005 and 20 percent in 2006. The fact that the GSEs' role as a purchaser of subprime securities was declining during the period when the subprime market grew most rapidly is not consistent with the argument that they fueled the growth of the market. Calomiris (2008) also acknowledges that nonmortgage-backed securities also experienced shrinking risk premiums during the period after 2004, which is evidence that demand by investors other than the GSEs was an important part of market trends. Zandi (2008) argues that demand for MBS by international investors, rather than the GSEs, was an important factor in the growth of this market. While the GSEs certainly contributed to the growth of the subprime market, there was clearly substantial demand for these securities from a wide variety of investors. However, the GSEs' purchase of these subprime securities does appear to have played a significant role in producing their current financial troubles. Lockhart (2009) also reported that in 2008 Freddie Mac recorded realized and unrealized losses of $53 billion in its investments in private-label securities, which was three times bigger than its $16 billion in credit losses across its entire single family book of business.

In evaluating the role of the GSEs' housing goals—which were intended to support increases in homeownership rates among low-income and minority households—in spurring the foreclosure crisis, it is also important to note that most of the rise in homeownership since the early 1990s among low-income and minority households—whom the housing goals were intended to help—occurred prior to 2001 and so before the substantial growth in subprime lending occurred (Joint Center for Housing Studies, 2008). Thus, to the extent that efforts by the federal government to encourage the GSEs to extend credit to low-income and minority homeowners did have an impact on low-income and minority homeownership rates, these benefits were largely realized *before* the problems of the subprime market emerged.

[46] "How HUD Mortgage Policy Fed the Crisis," The Washington Post, June 10, 2008.

[47] Calomiris (2008) also argues that the government-sponsored enterprise purchase of subprime securities made a significant contribution to the growth of the subprime market.

3. Policy Responses to the Foreclosure Crisis

This section describes the existing policy responses to the foreclosure crisis as well as proposals for additional measures that could be undertaken. The first part of this policy discussion will review efforts to address rising foreclosures. The second part will present options that would reduce the future origination of mortgages with unacceptably high risk of foreclosure. The final part will present options for more comprehensive reform of the regulatory structure overseeing mortgage market operations.

3.1 Efforts To Address Rising Foreclosures

Rising mortgage delinquency and foreclosure rates exact a tremendous toll on individual borrowers and their communities. Foreclosures can depress property values, lower local property tax revenue, and impose additional costs on cash-strapped public agencies in the form of additional police, fire, and other municipal services needed to respond to the blighting influence that vacant and foreclosed properties can have on local communities. Aggressive loan modifications and expanded refinancing options can help mitigate these negative impacts. Similar efforts are under way to limit the eviction of tenants from rental properties at risk of foreclosure.

This part briefly discusses these issues, starting with a review of current efforts to promote loan modifications. This is followed by a discussion of several newly proposed, and admittedly highly controversial, initiatives to expand the range of workout options, including more aggressive use of interest rate and even principal write-downs to help households avoid foreclosure.

3.1.1 Efforts To Enhance the Ability of Households To Remain in Their Homes

Over the past 2 years, there have been a growing number of efforts to engage in expanded loan modifications to help consumers remain in their homes. With the assistance of the U.S. Department of Treasury and the active participation of a consortium of banks, mortgage servicing organizations, and other entities led by the Neighborhood Reinvestment Corporation (also know as NeighborWorks America [NWA]), the HOPE NOW Alliance was formed in 2007 to help keep borrowers in their homes by increasing their access to counseling and information and creating a unified private industry plan to facilitate loan workouts. Building on this initiative, in December, 2007, Congress appropriated $180 million to NWA, which it distributed in turn to state agencies and not-for-profit entities to expand the availability of foreclosure prevention counseling services in their areas. This was followed by an additional congressional appropriation of $180 million to NWA in July 2008 for similar purposes.

The federal Government has also availed the use of the Federal Housing Administration's (FHA) mortgage insurance capacity to help provide relief to financially distressed homeowners. Late in 2007, the FHASecure program was launched as an initial response using FHA mortgage insurance to replace risky subprime and high-cost loans with fixed-rate, long-term financing and included some borrowers who were delinquent on their loans due to a payment reset. However, there was limited takeup of this program in part due to eligibility criteria that prevented participation in this program for many borrowers. In July 2008 Congress authorized FHA under the Housing and Economic Recovery Act (HERA) to insure up to $300 billion in loans via a new program: HOPE for Homeowners. This program required existing lenders to accept as payment in full of the

original first lien mortgage an amount equal to no more than 90 percent of the current appraised value of the property (87 percent after payment of the upfront premium to FHA)—a substantial principal write-down in many cases. Although some lenders have expressed interest in the program, as of late 2008 the program had insured only one loan. In May 2009, President Obama signed into law the Helping Families Save Their Homes Act. This act modifies HOPE for Homeowners with the goal of helping additional families.

With participation from most of the nation's largest servicers, HOPE NOW members completed nearly 4.4 million loan workouts from July 2007 through May 2009 (HOPE NOW, 2009). Initially, the majority of these workouts consisted of repayment plans, accounting for more than two-thirds of all workouts in the first year of operations. While workouts can help some households meet their mortgage payment obligations, for many subprime borrowers repayment plans offer limited relief. In particular, these plans, by definition, place additional debt repayment obligations on households already struggling to make mortgage payments. The problem is even more severe for those borrowers with an "underwater" mortgage, namely a situation where the value of the property securing the mortgage is less than the amount of their outstanding mortgage debt and deferred payment obligations. Indeed, with home prices falling rapidly in many market areas, one widely cited estimate is that as many as one in six households with a mortgage are "underwater and it appears that a growing number of delinquent owners are simply 'sending the keys back to the lender,' " and accepting the consequences of entering into foreclosure.[48]

Loan modifications that include interest rate and/or principal reductions represent the most powerful tool for keeping borrowers in their homes, yet they pose difficult issues for investors in these loans. Avoiding foreclosure related costs can save investors in the range of $50,000 per property, yet many lenders are reluctant to gain a reputation for reducing interest or principal on loans for fear that all of their customers will seek interest or principal reductions independent of whether they are capable of meeting their mortgage payment obligations. The best available information, however, suggests that only a relatively small fraction of households with loans that are currently underwater in fact "ruthlessly" choose to default on a loan that they could afford to pay. Support for interest and principal write-downs is also limited by concerns about the moral hazard of forgiving debt on homebuyers who overstretched, which may encourage more excessive borrowing in the future.

Based on data reported by HOPE NOW, servicers initially seemed reluctant to pursue loan modifications. Among other things, many servicers lack the capacity to handle the workload associated with elevated requests for loan modifications and write-downs. In any event, servicers have contractual obligations to investors to comply with a series of preset decisionmaking protocols that can limit their flexibility to engage in aggressive loan modification efforts (Eggert, 2007). In the face of these competing interests, there has been rising public pressure on investors and servicers to engage in more aggressive loan modifications to keep more borrowers in their homes. Since mid-2008, HOPE NOW has reported an increasing number of loan modifications by its participating servicers. From July through December 2008 nearly one-half of the loan workouts reported were loan modifications rather than repayment plans.

Yet to date it appears that most of the loan modifications that have been offered have not reduced monthly payments. For example, based on an examination of data from a large cross-section of subprime loan servicers, Allen White (2008) found that voluntary loan modifications of subprime borrowers completed through August 2008 typically increased a borrower's principal debt and virtually none involved a reduction in principal owed.

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[48] See Moody's Economy.com as published in *The Wall Street Journal*, October 8, 2008 ("Housing Pain Gauge: Nearly 1 in 6 Owners 'Under Water.'").

While servicers did seem willing to lower mortgage interest rates, a recent assessment of the HOPE NOW Alliance program by the Center for Responsible Lending (CRL) estimated that only one in five of all subprime workout plans actually lowered monthly mortgage payments for financially distressed borrowers (Center for Responsible Lending, 2008).

In December 2008, Federal Deposit Insurance Corporation (FDIC) Chairman Sheila Bair called for more aggressive loan modifications that combine both interest rate reduction and principal reduction to enable delinquent borrowers to obtain a 30-year, fixed-rate mortgage while paying no more than an affordable 31 percent of income.[49] She argues that such aggressive restructuring is required to fundamentally change the unsustainable terms of the mortgage and make the loan affordable to the borrowers over the long term.

At the same time, Mason (2007) cautions that there are risks associated with more aggressive use of loan modifications as a foreclosure reduction strategy. Loan modifications can prove effective for those households with good incomes and limited amounts of other debts, but inappropriate loan modifications can also prove harmful, especially as a remedy for those subprime borrowers with heavy mortgage and other debt payments. Mason's main theme is that inappropriate loan modifications can simply draw unsuspecting borrowers deeper into debt and lead to an even bigger default later. In these cases, many borrowers unable to afford homeownership may be better suited by relocating to more affordable rental housing rather than chase what Mason labels as the "unobtainable chimera of homeownership."

The evidence from initial efforts to modify troubled loans suggests many workouts offered in the past were not sustainable. According to the joint Office of the Comptroller of the Currency (OCC) and Office of Thrift Supervision (OTS) *First Quarter 2009 Mortgage Metrics Report*, some 46 percent of recently modified loans were 60 days late just 6 months after the loan was restructured, an increase of 9 percent from the previous quarter. However, this increase in serious delinquencies among modified mortgages was offset by a decline in early stage delinquencies—that is, loans that were 30 to 59 days past due—although the report states that this early state delinquency improvement could be due in part to seasonal effects usually seen in first quarter data.

Making Home Affordable is a comprehensive plan to stabilize the U.S. housing market which was first announced by the federal government on February 18, 2009.[50] The three-part program includes aggressive measures to support low mortgage rates by strengthening confidence in Fannie Mae and Freddie Mac, a Home Affordable Refinance Program to provide new access to refinancing for millions of homeowners, and a Home Affordable Modification Program to offer reduced monthly mortgage payments for up to 3 to 4 million at-risk homeowners.

The Treasury Department released the details of the Making Home Affordable plan on March 4, 2009. The Home Affordable Refinance Program provides access to low-cost refinancing for loans owned or securitized by Fannie Mae and Freddie Mac and for homeowners in areas with declining property value. The refinance option is available for owner-occupied property where the borrower has sufficient income to support the new mortgage debt and the first mortgage is no more than 125 percent of the current market value of the property.[51]

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[49] Remarks by Federal Deposit Insurance Corporation Chairman Sheila Bair to The New America Foundation conference: "Did Low-income Homeownership Go Too Far?": Washington, DC, December 17, 2008.

[50] The February 18 announcement was originally entitled the Homeowner Affordability and Stability Plan, which has since become known as Making Home Affordable.

[51] The original Home Affordable Refinance Program was limited to 105 percent of the current market value, but this limit was raised to 125 percent on July 1, 2009.

The Home Affordable Modification Program is intended to help those borrowers in imminent danger of default, including those with loans that are not owned or guaranteed by Fannie Mae or Freddie Mac. When evaluating borrowers for a Home Affordable Modification, loan servicers will be required to first determine the homeowner's eligibility for a HOPE for Homeowners refinancing. Where HOPE for Homeowners proves to be viable, the servicer must offer this option to the borrower. If not, then the Home Affordable Modification Program provides aggressive restructuring of troubled loans, reducing mortgage payments to 31 percent of household income primarily through interest rate reductions. The $75 billion program also provides servicers and investors with the option of reducing outstanding principal balance as a means of achieving the 31-percent payment-to-income target. These measures provide borrowers with more sustainable terms that make the loan more affordable over the long term. In addition, the plan involves assistance from the FHA, the FDIC, and other agencies to undertake a multifaceted strategy to help at-risk homeowners stay in their homes.

As noted previously, however, few modifications made prior to the Home Affordable Modification Program reduced monthly payments. As a result, the first quarter 2009 OCC/OTS report does not yet capture the loan performance of the payment-reducing modifications of the Home Affordable Modification program. As of July 1, 2009, more than 200,000 borrowers have received offers for trial loan modifications under the Home Affordable Modification Program. These payment-reducing modifications are expected to experience fewer delinquencies each month following modification than the earlier modifications that left payments unchanged or increased.[52]

3.1.2 Efforts To Enable More Aggressive Loan Modifications

While the greater use of interest and/or principal write-downs may be needed to help stem foreclosures, the ability of loan servicers to offer such write-downs can be stymied by the complex way foreclosure-prone subprime loans were initially securitized, "sliced into pieces," and sold to diverse investors around the world. More than three-quarters of all subprime loans are now held in mortgage-backed securities. Loan servicers, acting as fiduciary agents for investors and bond insurers, collect payments from borrowers and funnel these payments through to investors. These contracts—called pooling and servicing agreements (PSAs)—define the rules concerning how servicers address delinquencies and the use of loan modification tools.

Adding to the complexity is the fact that owners of different risk tranches of a single mortgage pool may be differentially impacted by a proposed mortgage modification or other change in the terms of individual mortgages in the pool. Thus, many servicers have been reluctant to offer interest rate reductions or principal write-downs. In part this reflects concerns that existing PSAs may limit the ability of servicers to engage in loan modification activities that involve mortgage write-downs. Yet, at the same time, many of these agreements contain inconsistent and arguably not enforceable, language as to what actions are permissible under the contracts. The Homeowner Affordability and Stability Plan (HASP) offers subsidies for interest rate reductions, provides bonus payments for successful modifications to lenders and borrowers, and creates clear industrywide standards on how best to interpret these PSAs. Thus, the expectation is that HASP will encourage wider use of loan modification tools.

There remains concern that the Making Home Affordable approach, on its own, is not sufficient to address all situations. For some borrowers, the interest rate subsidies provided through the Home Affordable Modification

[52] "OCC and OTS Mortgage Metrics Report, First Quarter 2009," Office of the Comptroller of the Currency and Office of Thrift Supervision, Washington, DC, June 2009.

Program will not be sufficient to allow them to stay in their homes and additional efforts are needed. Some of these borrowers may be helped through the improved HOPE for Homeowners program. But many have argued that bankruptcy reform is needed to allow bankruptcy judges to modify mortgages for families who have run out of other options. Some worry, too, that there may be remaining ambiguities in PSA language that will limit the willingness of servicers to participate in the Home Affordable Modification Program. More aggressive "safe harbor" rules would protect servicers from the threat of litigation as the industry works out the extent to which modifications are consistent with the contractual language in existing PSAs. Other proposals call for changes to the real estate mortgage investment conduit (REMIC) rules. Yet each of these proposals also has its critics, including those who suggest that it is inappropriate to retroactively intervene to override the language of existing contracts.

Proposed Legislative Changes to REMIC Rules

Recognizing both the complexity and variability of pooling and servicing agreements now in force, the extent to which existing agreements limit servicer discretion concerning the use of loan modification tools remains somewhat unclear. Yet there is growing consensus that the rules governing securitization can and do limit the flexibility of servicers to pursue modifications, even in situations where an aggressive modification would benefit both the borrower and investors. To address this issue, Michael Barr and James Feldman (2008) have proposed legislation that would provide servicers with both the legal authority and the appropriate incentives to take distressed loans out of securitized pools and loan portfolios and sell them to the U.S. Department of Treasury or another public purpose organization so that the loan can be restructured or refinanced.

Moreover, because selling mortgage loans to congressionally authorized programs would advance important public interests, Barr (2008) further propose that the Financial Accounting Standards Board (FASB) should modify its Statement 140, which provides accounting rules governing qualified special-purpose entities such as certain mortgage-backed securitization trusts. Barr argues that modifying FASB Statement 140 could provide servicers with further legal comfort in broadly modifying and selling mortgage loans under appropriate mortgage restructuring programs while not conflicting with the underlying purposes of this rule.

Proposed Bankruptcy Reform

Recognizing that restructuring the terms of a mortgage and mortgage security involves the interests of the borrower and potentially scores of distinct investors, not to mention the interests of the public at large, some argue that these matters are best left to a judicial process. Yet, under current law, bankruptcy courts are not authorized to modify the terms of primary mortgages of consumers who file for bankruptcy protection, even though such approaches are common in efforts to resolve delinquency situations involving commercial real estate.

Proponents of bankruptcy reform legislation argue that by altering the payment schedule, reducing the contract interest rate, or reducing the amount of principal owed, these loan modifications would enable borrowers to remain in their home by lowering (and in the case of adjustable-rate loans, stabilizing) their monthly payment to an affordable amount. This not only avoids the costly foreclosure process and benefits delinquent homeowners, it also benefits mortgage servicers and investors if the net present value of the future cash flows from the modified loan exceed the net present value that could be realized via foreclosure. Under current law, similar modifications can be applied to loans secured by cars, boats, second homes, and vacation homes but not by the debtor's principal residence. As a result, the legislation would not set a new precedent but simply would extend

to homeowners the same protections in bankruptcy that are now afforded to family farmers, corporations, or others who own investment properties.

Legislation was introduced in the House of Representatives in 2007 to grant bankruptcy judges the authority to reduce outstanding principal balances. This proposal led to the release of a number of studies designed to estimate the impacts of bankruptcy reform on homeowners, loan servicers and investors, and the mortgage market. Although estimating the market implications of such a complex change in rules governing bankruptcy is admittedly difficult, White and Zhu (2008) developed a model and estimated that allowing for mortgage write-downs in bankruptcy could enable an additional 100,000 families to save their homes from foreclosure. In addition, the CRL predicted that allowing bankruptcy judges to mandate principal write-downs would encourage loan servicers and investors to more aggressively pursue loan modifications and mortgage write-downs prior to the commencement of bankruptcy proceeding (Twomey, 2008).

Opponents from the mortgage industry, among others, argued that allowing bankruptcy judges to change the terms of the mortgages would abrograte contractrual requirements, would encourage homeowners to file for bankruptcy to escape mortgage debts, would clog the courts with hundreds of thousands of bankruptcy cases, and would cause lenders to tighten lending standards, thus raising the cost of mortgage credit for all homebuyers and homeowners (Labaton, 2008).

This last objection—namely that allowing judicial modification of loans as part of bankruptcy proceedings will raise mortgage costs for future borrowers—has emerged as perhaps the most hotly contested issue of the debate. While such a change could raise mortgage rates in the future, there is considerable disagreement as to the magnitude. The Mortgage Bankers Association asserts that judicial modification of primary home loans as specified in HR 3609 would raise mortgage rates by 150 basis points (Mortgage Bankers Association, 2008). In contrast, using mortgage market data from the period following previous legislation that first eliminated home mortgages secured by primary residences from being eligible for mortgage modifications, Levitan and Goodman (2008) argue that the market effects of the proposed reversal of these rules would be modest. Levitan and Goodman also note that there is no difference today between the mortgage rates charged for owner-occupied two-family homes, where judicial modifications are allowed in bankruptcy proceedings, and for owner-occupied single-family homes, where judicial modifications are not allowed.

3.1.3 Efforts To Reduce the Negative Impact on Communities

Not only is stemming the tide of foreclosures important to the well-being of millions of at-risk households, reducing the flood of foreclosed properties onto today's housing market is critical to efforts to help stabilize home prices and to halt the resulting loss of housing wealth. Although aggressive mortgage write-downs can help many borrowers remain in their homes, in many instances foreclosure is unavoidable, and the best option is to encourage the owner to sell the home or otherwise convert the property to rental occupancy. In weak market areas where the cost of pursuing a foreclosure exceeds the likely amount recouped from the sale of the foreclosed property, often both the owner and the lender "walk away" from the property in that they do not even bother to complete foreclosure actions or to record the outcome of any foreclosure sale. In these instances, the outcome often is an abandoned property with a title in legal limbo.

It is obviously difficult to disentangle the effects of foreclosures from the effects of the collapse of the housing bubble since 2006. It seems clear, however, that the two reinforce one another—the collapse in house prices has increased the number of foreclosures and the increase in foreclosures has further exacerbated the decline in

house prices. By the end of 2008, this vicious cycle was being further reinforced by the onset of a severe recession and associated widespread job losses. Consistent with the forecasts of a deepening recession, forecasts of the likely number of foreclosures grew equally more pessimistic. Indeed, one widely cited estimate suggests that home foreclosures could top 8 million before the current economic downturn has run its course in 2012 (Credit Suisse, 2008).

In addition to direct costs, the rise in foreclosures can impose a wide range of "collateral damage" on communities. In a recent review of the literature on community impact of foreclosure, Alan Mallach (2008) identified several types of damage:

- Diminution of the value of surrounding properties; the more foreclosures in the immediate vicinity, the greater the loss of value.
- Destabilized economic and social conditions in the neighborhood.
- Imposition of additional cost burdens on state and local governments while reducing the revenues available to those entities.

Although local efforts have been under way for several years, the major federal initiative to address these adverse impacts of foreclosure on states and localities was the Neighborhood Stabilization Act, introduced as H.R.5818 in April 2008 and enacted into law as part of the HERA legislation. Congress appropriated $3.92 billion for the act, dubbed the Neighborhood Stabilization Program, and authorized heavily impacted states and localities to work to mitigate the adverse impacts of foreclosures by acquiring, rehabbing, or converting to rental or other use foreclosed or vacant residential properties. Recognizing that many areas had more foreclosed and vacant properties than could be productively reused, the legislation also authorized the demolition and possible land banking or longer term redevelopment of sites created through the demolition of blighted properties. The recently passed American Recovery and Reinvestment Act of 2009 includes an additional $2 billion to support neighborhood stabilization activities through this program.

3.1.4 Efforts To Protect Renters Affected by Foreclosures

The damage from today's mortgage foreclosure crisis reaches deep into the rental market. Numerous studies document that many of the properties facing foreclosure—including single-family homes and small multifamily properties—are occupied by renters. For example, Harvard's Joint Center for Housing Studies estimates that by the end 2007, one out of every five foreclosure actions nationwide involved absentee owners of one- to four-family rental properties (Joint Center for Housing Studies, 2008). According to another 2008 study by the National Low Income Housing Coalition of 20 metropolitan areas, roughly 40 percent of the recent foreclosures nationwide are on properties likely to be occupied by renters, namely nonowner-occupied single-family and multifamily rental homes (Pelletiere and Wardrip, 2008). Pelletiere (2009) also demonstrates that, given the geographic concentration of multifamily foreclosures in urban communities, these foreclosures are disproportionately affecting low-income and minority renters.

Under current law, foreclosure generally leaves renters at risk of eviction—regardless of whether they paid their rent on a timely and regular basis. Given the limited supplies of affordable rental housing, many housing advocates argue that foreclosure-related evictions will add greatly to the rental cost burden and in extreme instances leave the evicted tenant homeless. On the other hand, the effects of a weak economy on rent levels as well as the increase of rental stock from transferring single-family homes from owner-occupied to rental units

(due to the poor sales of single-family homes) may mitigate these effects. Unfortunately, data that trace the postforeclosure occupancy status of families are extremely limited, although there is clearly a potential for a large number of low-income households to experience stress from displacement or posteviction rent increases. Advocacy organizations have conducted surveys of individuals seeking assistance from homeless shelters or other housing assistance program and gathered information from individuals who call foreclosure avoidance hotlines. While many of these studies are anecdotal in nature, they suggest that the ongoing foreclosure crisis combined with increasingly weak economy will exacerbate the economic stress of low-income families and individuals.[53]

Since the foreclosure crisis emerged several years ago, local and state governments have undertaken a variety of initiatives to protect renters from foreclosure related evictions. Although tenant protections vary from one state to the next, the foreclosure process generally overrides existing rental lease provisions. In general, this results from a state's "first in time, first in right" laws, which maintain that if the mortgage was recorded before the tenant signed the lease, then the lease becomes obsolete if the property enters foreclosure. There are several exceptions to this rule, including recipients of Section 8 vouchers and tenants living in rent-controlled units, who are able to maintain their leases after foreclosure by law. In addition, a growing number of states (including the District of Columbia, Massachusetts, Minnesota, New York, New Jersey, and New Hampshire) require "just cause" as a condition for eviction. These laws protect renters by ensuring that landlords can only evict with proper cause, such as not paying rent on time. In general, foreclosure does not count as a "just cause" to justify eviction in these locations.[54]

Increasing the requirements for providing notice to tenants of a pending foreclosure constitutes another approach to protecting tenants from the adverse consequences of eviction. In many instances, renters may not have any warning that the property they are living in is going through foreclosure until they receive a notice of eviction. The new property owner (typically the mortgage lender) can evict the occupants with as little as 3 days' notice in some states. A number of states (including Minnesota and Rhode Island) have enacted or are considering policies to ensure that tenants receive warning of a pending foreclosure and to extend the period that tenants can remain in the home after a foreclosure.

Finally, various federal proposals for comprehensive foreclosure mitigation efforts include special provisions to protect renters. For example, HR 3915, the Mortgage Reform and Anti-Predatory Lending Act of 2007, would not only address homeowner protections but would provide that foreclosures would generally not override tenant leases and that month-to-month tenants would be entitled to 90-day termination notice. In light of the growing federal concern, some loan investors and servicers, including Fannie Mae, have recently announced that they are suspending tenant evictions pending the outcome of new federal regulations governing this matter.

[53] For an overview on what is known about what happens to displaced tenants, see Wardrip (2008).

[54] For a comprehensive review of state and local tenant protections, see National Low Income Housing Coalition (2008).

3.2 Efforts To Reduce the Risk of Unacceptably High Rates of Mortgage Foreclosures in the Future

While many factors have undoubtedly contributed to the recent rise in foreclosures, as discussed earlier, no small part of the increase stems from recent increases in abusive forms of subprime lending. In particular, the fact that relatively high shares of loans end in foreclosure less than 2 years after origination is a clear indication that many, although not all, such loans were made with little regard to borrowers' actual ability to repay.

3.2.1 Expanding the Ability of Consumers To Make Wise Choices

In the face of aggressive push marketing by subprime lenders over the past decade, there were numerous efforts to expand homeowner counseling and promote consumer awareness of truly abusive lending practices. Consumer awareness campaigns, including the Don't Borrow Trouble Campaign initiated by Freddie Mac, were designed to prevent unsuspecting buyers and borrowers from falling prey to abusive lenders. Implicitly, these efforts are built on a presumption that once provided with information about alternative loan products, consumers will act "rationally." Yet frequently, the underlying assumptions behind the presumption of rationality can lead to a distorted view about how consumers behave and a faulty basis for generating effective policy approaches that can help consumers avoid falling victim to abuse in the mortgage market.

Essene and Apgar's (2007) research on consumer behavior provides evidence that many consumers, including many who had access to traditional mortgage counseling and the information distributed through consumer education campaigns, took out mortgages that they did not understand or that were not suitable for their needs. In particular, they find evidence that efforts to educate consumers are all too often overwhelmed by aggressive mortgage sales and marketing efforts that exploit various consumer decisionmaking weaknesses. Notably, some mortgage market participants use their knowledge of consumer decisionmaking tendencies to aggressively market specific mortgage products that may not be in the best interest of the borrower. Instead of supporting informed choices, aggressive and misleading marketing can play on consumer fears and lack of knowledge.

Unfortunately, even the best-designed education and outreach efforts can be easily swamped in a marketplace characterized by aggressive outreach in which some sophisticated and abusive subprime lenders promise to approve a mortgage application in a matter of hours, if not minutes, even for borrowers with "bad credit." In the face of this marketing onslaught, many community groups and counseling organizations are taking a more aggressive approach and expanding their capacity to work with buyers individually to search for the best mortgages. Of course, for such a service to be helpful, community groups must keep abreast of mortgage market trends and developments in mortgage products and must be recognized by potential borrowers as a trusted source of information. Indeed, some community groups already operate a mortgage brokerage business with the explicit goal of using their good standing in the neighborhood to become a "buyer's broker" while at the same time earning a small fee for offering this service like any other mortgage broker.

Borrowing from the automobile blue books, other local counseling agencies make mortgage "rate sheets" available to recent graduates of homebuying courses, participants at fairs, or any homebuyers interested in purchasing a home in their area. Armed with knowledge of their credit score, income, and other characteristics, borrowers use these rate sheets to help shop for the best product and to better evaluate unsolicited offers. Working to enable borrowers or their trusted advisors to be better shoppers and resist such marketing practices would go a long way toward not only reducing the incidence of predatory lending but also to stemming the growth of foreclosures that inevitably follow in the wake of these same predatory lending practices.

Barr, Mullainathan, and Shafir (2008) suggest applying the "opt-in/opt-out" principle identified in the consumer behavior literature to structure more effective mortgage marketing of "good loans"; that is, loans that are fairly priced and that consumers can understand and afford to repay over the life of the loan. For example, many programs first offer a prospective consumer a "safe" level payment fixed-rate mortgage priced in an affordable manner. By starting with the default option of offering a simple and safe product, this approach builds on the observation that consumers often latch onto the first option for which they qualify. Those borrowers who meet a certain set of criteria, (for example, lower income-to-housing-expense ratio) could be allowed to "opt out" of this requirement, a feature that would still allow for mitigating circumstances of some borrowers, but research shows that such an approach is more likely to help consumers make choices that are more likely to be in their (and society's) long-term interest.

3.2.2 Legal and Regulatory Efforts To Ban Deceptive Lending Practices

While expanding the range of consumer counseling and consumer assistance efforts is likely to be helpful, it may also be important to more forcefully counteract aggressive marketing practices and consider banning inherently deceptive loan features. Moreover, since the mortgage market will continue to create new products, efforts to ban specific loan terms or mortgage products may not keep pace with these innovations. Therefore, focusing on efforts to reform the mortgage lending process itself is an equally important strategy.

Disclosure is the major form of regulation for most home mortgages in the United States. The Truth in Lending Act (TILA) requires lenders and brokers to disclose the total finance charge and annual percentage rate of loans. The Real Estate Settlement Procedures Act (RESPA) mandates the disclosure of closing costs for home mortgages. In addition, all mortgage lenders must comply with the Home Ownership and Equity Protection Act (HOEPA) of 1994, which regulates a number of practices, including balloon clauses, loans without regard to the borrower's ability to pay, negative amortization, prepayment penalties, and abusive refinancing. In addition, lenders who make HOEPA loans must provide special truth in lending disclosures to loan applicants in advance of closing. Finally, consumers are also covered by a patchwork of state and federal antipredatory lending laws.

In July 2008, some minor elements of antipredatory lending reform were included in the HERA legislation, along with the act's major reforms of the programs and the oversight of the FHA, the GSEs, and the Federal Home Loan Bank System. HERA also included the Secure and Fair Enforcement (S.A.F.E.) Mortgage Licensing Act of 2008, which provides for a nationwide mortgage licensing system and registry for all state-licensed mortgage originators. This act is intended to enhance consumer protections and reduce fraud by establishing more consistent licensing requirements and oversight of all mortgage lenders. In the same month, after considerable prodding by Congress to more aggressively utilize existing legislative authority, the Federal Reserve Board of Governors issued new rules that would more broadly ban unfair and deceptive mortgage practices and improve TILA disclosures, while in November the U.S. Department of Housing and Urban Development (HUD) issued new RESPA rules designed to increase transparency and enable all borrowers to get firm price quotes on loans and settlement services in order to comparison shop.

But even while applauding these initial efforts, many consumer advocates argue that additional reform is needed. Among areas of greatest concern are efforts to limit or ban yield spread premiums, which provide brokers and loan officers with incentives to sell borrowers higher priced loans, and prepayment penalties, which lock borrowers into high-priced loans and expose them to high fees if they need to refinance or sell their homes. There are also proposals to develop new standards for truth in lending so that mortgage brokers and lenders do not have incentives to get around disclosure rules. Under this approach, federal regulators would evaluate

whether a creditor's disclosure was objectively unreasonable, in that the disclosure would fail to communicate effectively the key terms and risks of the mortgage to the typical borrower.

In June 2009, the Treasury Department issued a report outlining detailed recommendations for comprehensive reform of the regulatory structure overseeing the financial sector (U.S. Department of the Treasury, 2009). The report identifies five broad areas where reform is needed, one of which is to provide greater protections for consumers against abusive practices. A central part of the Treasury Department's proposals with regard to consumer protections is the establishment of a new Consumer Financial Protection Agency, which would have broad jurisdiction to protect consumers across the financial sector from unfair, deceptive, or abusive practices. In addition, the Treasury Department recommends that this new agency develop stronger regulations governing consumer disclosures to ensure that they are transparent, simple, and fair.

3.3 Comprehensive Mortgage Market Reform

Arguably, the failure of federal regulation to adapt to the rapid changes in both the primary and secondary market was a key element in the explosion of high-risk lending and resulting surge in mortgage delinquency and default. Over the past several decades, federal legislation and regulation focused much of its energy on regulations that related to deposit-taking institutions, including major commercial banks and thrifts as well as thousands of smaller deposit-taking institutions. For these federally supervised institutions, teams of examiners review loan level records, including Home Mortgage Disclosure Act reports. Examiners also check for lending discrimination and the degree to which the lender evaluates the borrower's ability to repay the mortgage.

This detailed loan-level review did not extend to the growing number of nonbanks chartered by states and not subject to federal supervision, nor even to the many mortgage banking affiliates and subsidiaries of federally regulated banks and thrifts. Similarly, while much attention was given to oversight of the GSEs, increasingly capital was flooding into the mortgage markets through lightly regulated (or even entirely unregulated) Wall Street conduits. The uneven regulation and supervision left what one former Governor of the Federal Reserve Board described as a "gigantic hole in the supervisory safety net" (Gramlich, 2007).

3.3.1 Efforts To Promote Uniform Regulations in the Primary Market

Since the boom and bust of the subprime market was led by nonbank institutions and less fully regulated affiliates and subsidiaries of banks, in large measure the nation's regulatory mechanisms may have been focused on the wrong parts of the system. To realign regulation with today's organization of financial services, greater uniformity of regulation is needed across the lending practices of all segments of the mortgage industry and its regulators. Reforms could reduce the incidence of nonbanks or bank affiliates and subsidiaries playing by different rules and could encourage hands-on oversight to improve fair lending enforcement and compliance monitoring.

An example of harmonizing the rules for all loan originators could be reform of the Community Reinvestment Act (CRA). Such reform would involve expanding the current onsite reviews and detailed file checks now performed on assessment area lending of CRA-regulated entities to all mortgage lending activities. Most importantly, CRA could be expanded to cover independent mortgage banking operations and other newly emerging nonbank lenders.

The Treasury Department's recommendations address these concerns by calling for the Federal Reserve to oversee and set stronger capital requirements for all financial firms, even if they do not own banks (U.S. Department of the Treasury, 2009). In addition, these recommendations also call for the creation of a single National Bank Supervisor to oversee all federally chartered banks as well as the elimination of loopholes that allow some depositories to avoid bank holding company regulation by the Federal Reserve.

3.3.2 Secondary Market Reform Initiatives

As with regulation of the primary market, it is important to take note of the lack of uniformity in the regulation of secondary market participants. The Federal Housing Enterprises Financial Safety and Soundness Act of 1992 established a complex regulatory framework for Fannie Mae and Freddie Mac. Under this system, the Office of Federal Housing Enterprise Oversight was created to oversee safety and soundness regulation of these two GSEs, while HUD was charged with "mission regulation," or the task of overseeing the extent to which the GSEs helped to expand access to affordable housing for the nation's lower income individuals and communities.

At the time the legislation was enacted, the subprime sector barely existed and the secondary market for subprime loans was just emerging. Many of the new secondary market institutions and capital market instruments that became the mainstay for funding subprime mortgages did not exist. Similar to potential regulatory changes for the primary market, the changes in mortgage industry structure and the emergence of new mortgage delivery channels imply that federal oversight of the secondary markets must adjust as well.

As a result of this lack of uniformity in regulation, Fannie Mae and Freddie Mac had been subject to extensive federal oversight; however, most of the funding for the subprime market had been flowing through the lightly regulated private-label mortgage-backed securities market. Although the U.S. Securities and Exchange Commission is charged with the responsibility of monitoring the wide range of security transactions linked to the subprime sector, the degree of due diligence in this sector falls short of the more extensive oversight review of the GSEs. Developing a new and comprehensive regulatory structure for the non-GSE segment of the secondary mortgage market will be important.

In considering how best to regulate the GSEs and other secondary market participants, it is important to place these issues in the broader context of how the capital markets channel investment dollars into the subprime mortgage market. Just as is the case in the primary market, the development of detailed secondary market regulations that apply to only one segment of the marketplace can be both counterproductive and unfair. Considering how best to reduce the tendency for capital used to fund higher priced mortgages to flow through less-regulated capital market channels is a worthy addition to the current debate on GSE reform in particular and on capital markets in general.

The recent enactment of GSE regulatory reform under the 2008 HERA legislation and subsequent placement of Fannie Mae and Freddie Mac into conservatorship make examination of the broader issues relating to the regulation of the secondary mortgage market in general a high priority.

With regard to the secondary markets, the Treasury Department's recent recommendations also call for enhanced regulation of securitization markets, including greater oversight of credit rating agencies and a requirement that originators and security issuers retain a financial interest in securitized loans (U.S. Department of the Treasury, 2009). The Federal Reserve would also be granted new authority to supervise all firms that pose a risk to financial stability.

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Appendix

Table 1: State-Level Trends in Foreclosure Starts and Selected Market Factors (1 of 2)

Category / State	Foreclosure Start Rate			High-Cost Loan Share	Annual Change in FHFA House Price Index		Unemployment Rate	
			Change					
	2005	2008	2005–2008	2006	2005	2008	2005	2008
Group 1: Gain in foreclosure starts > 1.00								
Nevada	0.20	2.34	2.14	34.6%	22.2%	– 23.0%	4.50	6.70
Florida	0.23	2.19	1.96	37.0%	24.6%	– 20.1%	3.80	6.20
Arizona	0.22	1.73	1.51	32.5%	28.8%	– 16.2%	4.60	5.50
California	0.15	1.58	1.43	30.5%	21.2%	– 24.3%	5.40	7.20
Group average	0.20	1.96	1.76	33.6%	24.2%	– 20.9%	4.58	6.40
Group 2: Foreclosure starts >1.00								
Michigan	0.63	1.25	0.61	32.4%	1.9%	– 10.4%	6.80	8.40
Rhode Island	0.27	1.23	0.96	29.8%	10.6%	– 7.5%	5.10	7.80
Indiana	0.92	1.16	0.24	30.4%	3.2%	– 2.4%	5.40	5.90
Ohio	0.84	1.15	0.31	29.1%	2.9%	– 4.5%	5.90	6.50
Illinois	0.47	1.05	0.58	32.1%	7.1%	– 3.9%	5.80	6.50
Georgia	0.57	1.05	0.48	29.4%	5.8%	– 5.5%	5.20	6.20
Group average	0.62	1.15	0.53	30.5%	5.2%	– 5.7%	5.70	6.88
Group 3: Gain in foreclosure starts > 0.40 & <1.00								
Minnesota	0.33	0.93	0.61	26.8%	5.8%	– 6.6%	4.20	5.40
New Jersey	0.29	0.89	0.60	27.6%	14.2%	– 5.3%	4.50	5.50
Maine	0.32	0.89	0.57	26.6%	9.9%	– 1.8%	4.90	5.40
Maryland	0.22	0.83	0.61	33.3%	19.9%	– 9.0%	4.10	4.40
Wisconsin	0.40	0.81	0.41	25.0%	5.6%	– 1.5%	4.80	4.70
District of Columbia	0.21	0.75	0.55	26.2%	19.6%	– 4.3%	6.50	7.00
New Hampshire	0.26	0.74	0.48	23.8%	8.6%	– 6.4%	3.60	3.80
Connecticut	0.29	0.72	0.43	25.9%	10.4%	– 4.4%	4.90	5.70
Virginia	0.16	0.72	0.56	26.0%	15.8%	– 7.1%	3.50	4.00
Hawaii	0.12	0.66	0.54	25.4%	24.2%	– 1.5%	2.70	3.90
Group average	0.26	0.79	0.53	26.7%	13.4%	– 4.8%	4.37	4.98
Group 4: Gain in foreclosure starts > 0.20 & <0.40								
Mississippi	0.55	0.92	0.36	35.6%	6.8%	– 2.2%	7.80	6.90
Colorado	0.53	0.82	0.29	24.2%	5.2%	– 2.4%	5.10	4.90
Kentucky	0.60	0.81	0.22	26.2%	4.2%	0.0%	6.10	6.40
Tennessee	0.55	0.77	0.22	27.8%	6.9%	– 1.8%	5.60	6.40
Missouri	0.46	0.73	0.27	31.2%	5.7%	– 3.2%	5.40	6.10
Idaho	0.32	0.71	0.39	25.0%	14.3%	– 2.9%	3.70	4.90
West Virginia	0.49	0.71	0.22	25.8%	6.8%	1.1%	4.90	4.30
Alabama	0.41	0.69	0.29	29.1%	7.2%	– 1.1%	3.80	5.00
Massachusetts	0.28	0.66	0.39	23.8%	6.7%	– 4.6%	4.80	5.30
Louisiana	0.43	0.64	0.22	31.2%	7.5%	– 0.5%	6.70	4.60
New York	0.33	0.63	0.30	29.5%	9.4%	– 1.2%	5.00	5.40
Delaware	0.34	0.62	0.28	25.5%	13.5%	– 4.5%	4.00	4.80
Oregon	0.25	0.60	0.34	24.1%	16.6%	– 4.2%	6.20	6.40
Washington	0.27	0.55	0.28	24.6%	15.2%	– 3.4%	5.50	5.30
Vermont	0.19	0.51	0.31	20.3%	12.2%	– 1.2%	3.50	4.80
Group average	0.40	0.69	0.29	26.9%	9.2%	– 2.1%	5.21	5.43

Table 1: State-Level Trends in Foreclosure Starts and Selected Market Factors (1 of 2)

Category	Foreclosure Start Rate			High-Cost Loan Share	Annual Change in FHFA House Price Index		Unemployment Rate	
			Change					
State	2005	2008	2005–2008	2006	2005	2008	2005	2008
Group 5: Gain in foreclosure starts < 0.20								
South Carolina	0.61	0.79	0.18	25.5%	6.9%	– 0.8%	6.70	6.90
Oklahoma	0.63	0.70	0.07	30.4%	5.2%	1.0%	4.50	3.80
Utah	0.56	0.69	0.13	25.7%	11.4%	– 3.0%	4.10	3.40
Texas	0.51	0.64	0.13	30.9%	5.0%	1.5%	5.40	4.90
Pennsylvania	0.48	0.64	0.15	25.2%	11.1%	– 1.6%	5.00	5.40
Kansas	0.53	0.63	0.10	25.3%	4.0%	– 0.4%	5.10	4.40
Arkansas	0.44	0.62	0.19	26.6%	6.7%	– 2.3%	5.10	5.10
Nebraska	0.43	0.62	0.19	25.6%	3.5%	– 2.4%	3.90	3.30
Iowa	0.45	0.62	0.17	25.4%	4.2%	– 0.7%	4.30	4.10
New Mexico	0.44	0.59	0.15	25.7%	12.6%	– 0.6%	5.20	4.20
North Carolina	0.51	0.57	0.07	23.5%	7.0%	– 0.1%	5.30	6.30
Group average	0.51	0.65	0.14	26.4%	7.1%	– 0.9%	4.96	4.71
Group 6: Foreclosure starts < 0.50								
South Dakota	0.27	0.40	0.13	19.5%	6.7%	1.9%	3.60	3.00
Montana	0.25	0.38	0.13	20.7%	11.6%	1.2%	3.70	4.50
Alaska	0.22	0.38	0.16	23.0%	11.1%	– 0.5%	6.90	6.70
Wyoming	0.17	0.30	0.13	25.0%	11.0%	2.0%	3.70	3.10
North Dakota	0.19	0.28	0.09	20.2%	8.4%	3.4%	3.40	3.20
Group average	0.22	0.35	0.13	21.7%	9.8%	1.6%	4.26	4.10
Average, all states	**0.39**	**0.82**	**0.43**	**27.2%**	**10.3%**	**– 3.9%**	**4.91**	**5.30**

FHFA = Federal Housing Finance Agency.
Note: High-cost loans are originated with an annual percentage rate at or above 3 percentage points plus the applicable Treasury yield.
Sources: Federal Housing Finance Agency, House Price Index State-Level; Mortgage Bankers Association; U.S. Census Bureau