Financial Services and E-Commerce

A Comment on the Proposed Statement on Subprime Mortgage Lending

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In 2006, foreclosure rates on subprime mortgages more than doubled over the previous year, and a number of firms that specialize in such loans—primarily in the mortgage market—either closed or filed for bankruptcy.[1] The rise in default rates indicated that many borrowers had obtained mortgages with terms that they could not meet. The majority of subprime loans are adjustable-rate mortgages, and some policymakers are concerned that borrowers may not fully understand the risks associated with adjustable rate loan products at the time of purchase.

In response to increasing concerns about the health of this market, and its effect on the overall housing market and the economy, five agencies—the Office of the Comptroller of the Currency, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the Office of Thrift Supervision, and the National Credit Union Administration—proposed a statement on subprime mortgage lending. The statement discusses criteria and factors that a lender should assess in determining a borrower's ability to repay; consumer protection issues and practices; and the need for policies, procedures, and systems to assure that subprime mortgage lending is conducted in a safe and sound manner.

The statement itself does not issue new rules and regulations. It serves as guidance to lenders about existing rules that may affect the subprime industry and discusses whether further regulation of this market is necessary. Substantial evidence shows that the subprime market meets the needs of borrowers effectively, and the recent tightening of the subprime market reflects a correction. The expansion of subprime mortgage lending has had an extremely positive impact on the housing market, allowing both prime and subprime borrowers to secure more affordable mortgages. Regulatory action in this market must be carefully considered so that it does not result in product rationing or further confusion among lenders and borrowers.

I. Analysis

A discussion of subprime lending requires a definition of subprime lending. Subprime borrowers have a weak credit repayment history or credit characteristics that indicate reduced repayment capacity, such as high debt-to-income ratios.[2] Another significant category of subprime borrowers, such as self-employed individuals, have the credit characteristics of prime borrowers but cannot provide full documentation of their incomes and assets. Loans to these borrowers use higher interest rates, higher costs, and other mechanisms to mitigate the increased risk that they present.

Regulatory actions of the subprime industry fundamentally have three main facets.

(1) Does subprime lending by its nature create an unacceptable level of risk for lenders, borrowers, and those in secondary markets who purchase mortgage-based securities?

(2) Is "predatory" lending more prevalent in subprime markets and a result of the nature of subprime markets?[3]

(3) What regulatory systems can be created to alleviate market failures while maintaining the benefits that subprime borrowers receive from the expanded subprime market?

Evidence suggests that subprime lending has enhanced the mortgage market, by making credit available to a large set of homeowners whose credit histories have left the prime mortgage market unavailable. Although these borrowers have weaker financial credentials, most subprime borrowers have shown a willingness and ability to repay their loans on a timely basis. Overall, innovations in the mortgage market over the past few decades, including the expansion of subprime loans, have homeowners better able to buy homes based on their future income expectations, allowing more borrowers to become homeowners.[4]

Predatory lending may be more prevalent in the subprime mortgage market, but that is not necessarily a result of the nature of the market. The subprime market is the fastest-growing segment of the mortgage market, and it has much wider variation among rates and terms than the prime market. Substantial heterogeneity in lending terms is natural given the variety of needs and preferences of subprime borrowers, but this also makes it easier for unscrupulous lenders to take advantage of a wide set of increased fees, penalties, and disclosures/nondisclosures that cause borrowers to accept predatory loans.

Finally, regulation of the mortgage market, and all credit markets in general, must be carefully considered in order to achieve intended and to avoid unintended consequences. Restricting the types of terms that can be offered can lead to a substitution of fees or interest rates for other fees or rates. Regulations that are too strict can lead to lenders exiting the market or rationing credit. Disclosure requirements can be effective, but they can also overload borrowers with information or require irrelevant and extraneous disclosures, which do not benefit consumers.

The Proposed Statement asks for comment on four questions.

1. The proposed qualification standards are likely to result in fewer borrowers qualifying for the type of subprime loans addressed in this Statement, with no guarantee that such borrowers will qualify for alternative loans in the same amount. Do such loans always present inappropriate risks to lenders or borrowers that should be discouraged, or alternatively, when and under what circumstances are they appropriate?

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The subprime mortgage market emerged as a widespread industry in the mid 1990s.[5] Prior to then, many subprime borrowers had been excluded from the mortgage market. Rationing occurred when lenders could not charge higher rates on mortgages to riskier customers due to interest-rate caps, so they did not offer any mortgages to these customers. The expansion of the subprime market is a direct result of lenders' increased use of risk-based pricing in response to deregulated lending markets, technological changes in underwriting, and financial innovations in securities markets.[6] To compensate for the increased risk of lending to subprime borrowers, lenders use a number of instruments, including higher interest rates, higher origination fees, prepayment penalties, and down payment requirements.[7]

Prior to the 1990s, when subprime lending became widespread, the mortgage market suffered from a number of inefficiencies. Not only were subprime borrowers excluded from the market, but, without risk-based pricing, the market rate was artificially high, because of the presence of "lemon" borrowers. These high-risk borrowers still were able to take out loans, due to lenders mistakenly assessing their credit risk. These borrowers increased the overall risk of the loan pool, raising rates for all borrowers. The net effect was that high-risk loans were underpriced and low-risk loans were overpriced, pushing out some less-risky borrowers.[8]

Subprime lending has had a dramatic effect on the United States housing market. Originations in the subprime market grew from $65 billion in 1995 to $332 billion in 2003.[9] This increase mirrors a dramatic increase in the US homeownership rate. From 1965 until 1995, the homeownership rate varied between 63 percent and 66 percent. Beginning in 1995, there has been a steady increase, peaking at 69.2 percent in the fourth quarter of 2004, and holding at 68.9 percent at the end of 2006.[10] In 2006, the difference between the 65.4 percent homeownership rate from ten years prior and the actual 68.9 percent rate is the equivalent of 3.8 million households that own their homes rather than rent them.

We have not found econometric studies to control for other factors, such as the business cycle or aging populations, that may affect homeownership rates. But economists at the Federal Reserve Bank of San Francisco have found that increases in homeownership rates have held across age levels, and they suggest that some of the explanation stems from financial innovations in the mortgage market.[11]

Lenders sort borrowers into different groups based on their credit histories. Prime borrowers are also known as "A" borrowers. Subprime borrowers at the "A-minus" level have typically missed only one mortgage payment or two credit card payments in the last two years. Risk increases down to "D" borrowers, who are emerging from bankruptcy. There is also a class of "Alt-A" borrowers, who have similar credit histories as prime borrowers, but have less documentation of income or assets, or have unusual collateral characteristics.[12] Seventy percent of subprime mortgages are given to Alt-A or A-minus borrowers.[13] These borrowers are the least risky for lenders, and presumably have the greatest ability and willingness to repay among subprime borrowers.

Subprime mortgage pricing follows a schedule based on FICO credit score, loan-to-value ratio, and other loan terms. A borrower with a 560 FICO score must pay a 2.7 percent premium over a borrower with a 680 score to secure an identical mortgage. Lenders also substitute collateral risk for credit risk—customers with the lowest FICO scores cannot secure loans with more than a 90 percent loan-to-value ratio.[14]

Evidence shows that the higher cost of subprime borrowing is justified as these borrowers have a higher delinquency and default rate. In the first quarter of 2006, prime fixed-rate and adjustable-rate mortgages had delinquency rates of 2.0 percent and 2.3 percent respectively; subprime fixed-rate mortgage and adjustable-rate mortgage products had delinquency rates of 9.6 percent and 12.02 percent respectively. Foreclosure rates share a similar story. Prime mortgages foreclose at a 0.4 percent rate, while 3.5 percent of subprime mortgages entered foreclosure.[15]

Though the delinquency and foreclosure rates are much higher than for the prime market and may reveal overly risky behavior by some lenders and borrowers, they still show that over 85 percent of subprime borrowers are able to make each of their monthly payments, and more than 95 percent avoid foreclosure proceedings. Thus, the vast majority of these loans are, by definition, appropriately risky for both lenders and borrowers. The expansion of mortgage products has allowed the market to more adequately price risk and thus allows previously underserved households to obtain mortgages.

In addition, lenders have tended to adequately sort subprime borrowers into different risk classes, and have tended to lend to the least risky. Of the four subprime risk classes (A-, B, C, and D), the vast majority of originations have been to borrowers in the least risky "A-" class, while the riskiest "D" class has obtained very few mortgages.[16]

The high rate of delinquency in the subprime market may not be a prelude to foreclosure, as it often is in the prime market, but instead indicates that borrowers use delinquency as a short-term line of credit.[17] Cutts and Van Order find that in the prime market, the share of mortgages which are delinquent declines between 30-day delinquency (1.73%), 60-day delinquency (0.31%), and 90-day delinquency (0.28%). In the subprime market, the rates are highest for 30-day delinquency (7.35%), decline for 60-day delinquency (2.02%), then rise again for 90-day delinquency (4.04%). The authors explain that:

> Ninety-day delinquency rates can exceed 60-day delinquency rates only if borrowers who fall behind in their mortgage payments miss two, then three, payments, and then begin to pay again without making up all of the missed payments immediately, thus remaining 90-days late for an extended period. Since each period some 60-days delinquent loans will become 90 days late, the total number of loans 90-days late will exceed that of loans 60-days late under this scenario. Apparently, subprime borrowers tend to exercise the option to take out short-to medium-term loans from their mortgage lenders in amounts equal to a month or two month's worth of mortgage payments while prime borrowers do not.[18]

Compared to other lines of credit or personal finance loans, the interest rates of the subprime loan plus penalties are attractive enough to many subprime borrowers that they will use their mortgages as a source of short-term credit. So the higher rates of delinquency do not always indicate a path to foreclosure, but rather short-term repayment trouble.

In addition to timely repayment of their loan, delinquency is one option that mortgage borrowers face. Even after accounting for late fees and the financing of the loan, the borrower may view this as the best possible line of credit that he can acquire given relatively limited realistic available options. A borrower may also choose to default on his or her loan, exchanging the house to the lender for the remaining loan; or he can prepay the loan when interest rates fall or his credit score rises and he can acquire better terms for a new mortgage.[19] Studies of the prime mortgage industry indicate that borrowers "ruthlessly" exercise their option to prepay and refinance at better rates if the market allows it or will exercise their option to default if home values drop significantly.[20]

Due to the higher interest rates charged in the subprime market, borrowers face a strong incentive to prepay their mortgages and refinance when it is possible to secure a prime mortgage. To counter the increased risk of prepayment, subprime lenders commonly insert prepayment penalties into their contracts—three times as often as prime lenders (41 percent of subprime loans as opposed to 12 percent of prime loans in 2001).[21] The prepayment period helps ensure lenders that they will reclaim the origination costs, which borrowers in the subprime market often roll into the loan itself.

The failures of a number of subprime lenders indicate that some lenders and borrowers misjudged borrowers' ability to repay, causing the deep losses that led to some lenders going bankrupt. However, the various pricing schemes used by subprime lenders reflect the techniques that lenders use to judge and, in most cases, accurately mitigate risks by charging different interest rates and introducing prepayment penalties and other terms to extend credit to groups who do not qualify for the prime market. In response to the recent increase in default and foreclosure, lenders have corrected their practices by tightening lending requirements.

Subprime mortgages have also been widespread in poorer urban neighborhoods with disproportionately minority populations. African-American borrowers have historically been less able to acquire a prime mortgage than white borrowers.[22] But over the past decade, homeownership has increased fastest for minority groups. While this statement does not address inequalities in the mortgage market, a reduction in subprime lending due to tighter requirements for borrowers is likely to disproportionately reduce credit for minority borrowers. Homeownership is the primary method of wealth accumulation for low and middle-income people—a group that is a large part of the subprime mortgage market.[23]

Subprime loans often carry high rates that seem unreasonable to borrowers who qualify for prime loans. But the high rates and additional terms such as prepayment penalties do not signify that subprime loans are unreasonable. In most cases, the loans are reasonable and have helped expand the mortgage market to borrowers who do not meet prime standards but have almost all shown an ability and willingness to repay their mortgages. In some cases, lenders have originated complicated loans that borrowers don't fully understand, or borrowers have inflated their incomes in order to secure a loan. In these and similar cases, subprime loans are not appropriate. Many inappropriate loans can be characterized as predatory lending or fraudulent and deceptive practices, which can often be remedied by existing rules and legislation.

2. Will the proposed Statement unduly restrict the ability of existing subprime borrowers to refinance their loans and avoid payment shock? The Agencies also are specifically interested in the availability of mortgage products that would not present the risk of payment shock.

The proposed statement specifically notes the agencies' concerns with terms of adjustable-rate products including: low introductory rates that expire and jump to a much higher variable rate; loans with little income documentation; loans without rate caps; loans with terms that are likely to induce repeated re-financing; substantial prepayment penalties or prepayment penalties with long time horizons; and providing borrowers with inadequate information about loan terms or product features.

As noted above, a number of these features are typical of the subprime market and are evidence of mortgage providers' use of risk-based pricing in their loans. Restricting the use of certain products can impair the ability of lenders to match borrowers with appropriate loan products and may lead to a return to the rationing of mortgage loans which existed prior to the 1990s.

Regulating a market such as the subprime mortgage market raises a number of questions. The first is whether to pursue substantive regulation or whether an alternative regulatory system is preferable. The agencies' statement includes both substantive implications and options for alternative systems.

The substantive portion of the statement refers to certain features of loans with variable rates, loans to borrowers with little or no documentation, prepayment penalties, and loans that don't account for borrowers' ability to repay. Substantive regulation of credit markets is difficult because of the likely consequences of regulation, both intended and unintended. The intended consequences will likely include reduced use of the practices noted above. The unintended consequences are more difficult to forecast, but will likely fall into a number of categories, including term substitution or repricing, product substitution, and rationing.

Term substitution might occur if lenders are held to an interest rate ceiling or other terms that restrict them from certain risk-based pricing practices. Lenders can then use other, less-precise terms to mitigate their risks. This could include increased origination or application fees, greater down-payment requirements, stricter default and foreclosure rules, prepayment penalties, or other terms.

Product substitution—replacing one source of credit with another, such as using credit cards instead of personal finance loans—may be less likely in the mortgage market than

in other types of credit markets, such as credit cards, since there are fewer sources willing or able to lend the thousands of dollars required for purchasing a home. The more likely result of stricter mortgage origination rules is a return to rationing, which could result in a reduction in overall homeownership since some of the recent increase in homeownership was due to the ability of subprime borrowers to access credit.[24]

Empirical studies have found that city-wide or state-wide attempts to regulate predatory lending may result in rationing of credit. Beginning with North Carolina in 1999, a number of states and cities have passed legislation intended to curb predatory and abusive lending. The laws have various degrees of strictness and use various means to protect citizens against predatory lending. Some laws expand the coverage of the federal Home Ownership and Equity Protection Act (HOEPA) to a wider range of loans. Other laws restrict or require certain practices by lenders on loans covered by the legislation. Many laws combine these two paradigms. Loans that are covered by HOEPA cannot "provide short-term balloon notes, impose prepayment penalties greater than five years, refinance loans into another HOEPA loan in the first 12 months, or impose higher interest rate[s] upon default." Creditors must also account for borrowers' abilities to repay when originating loans.[25]

Studies have found mixed results from these laws. In North Carolina, Elliehausen and Staten found that the number of subprime mortgage originations dropped by 14 percent. The decline in originations was almost entirely among lower-income borrowers in North Carolina.[26] Harvey and Nigro also found that subprime applications and originations dropped significantly though most of the drop was due to fewer applications and not a significant change in rejection rates.[27]

Pennington-Cross and Ho, in a wider study of state and local anti-predatory lending laws, find that the various state and local laws that they studied did not significantly impact the rate of originations. They do, however, reduce the rate of application, and applicants are more likely to be accepted. The authors speculate that this may be due to lenders marketing less aggressively for subprime products because of strengthened predatory lending legislation; the change in rejection may also have been due to increased pre-screening by lenders, increased borrower self-selection, or a shift to lenders and loan products unregulated by the new law.[28] Harvey and Nigro reach a similar conclusion to explain the reduction in mortgage originations in North Carolina after the passage of the predatory lending law, but do not mention the possibilities of increased pre-screening by lenders or borrowers.[29] Overall, the economic studies show that restrictions on lenders tend to tighten the subprime market, reduce the number of applicants for subprime loans, and, depending on the strength of the law, reduce the number of loan originations.[30]

Alternate regulatory systems include increased disclosure requirements, increased efforts at consumer education, and a reliance on competition to correct or regulate the industry in the absence of a true market failure.

The statement includes sections on increased disclosure requirements. Incomplete or misleading disclosure may be a major cause behind predatory lending. Predatory loans can include mortgages where the terms were fraudulently or deceptively described or where the key terms were not disclosed or were falsely disclosed. Increased disclosure requirements can clarify to lenders exactly what information should be conveyed to the borrowers and can inform borrowers of the minimum amount of information that they should expect from lenders. Alternately, disclosure rules can require increased documentation from borrowers and can preclude lenders from making the most irresponsible no-documentation loans.

This approach allows the market to continue judging risk, but with more information on both sides to accurately assess the risk that the lenders face from borrowers and the responsibilities that borrowers assume when applying for the mortgage. Disclosure requirements can also standardize the information that borrowers receive from numerous lenders, allowing them to compare many offers more efficiently.[31]

But creating disclosure rules can be difficult since there are potentially dozens of terms that can be disclosed and not all terms are relevant to all borrowers or lenders. Requiring too many disclosures can overload borrowers or lenders with too much information and cause the relevant information to be lost among the noise. Crafting disclosure rules thus requires a delicate balance if the rules are to achieve their intended results.

Before creating new disclosure obligations, the agencies should consider whether there is an information market failure in the subprime mortgage industry and what the nature of that failure is. If new disclosure requirements should be made, then the agencies should note the existing disclosure requirements, the benefits that those disclosures create, and whether additional disclosures will lessen the impact of those already existing because of information overload.

It is also possible that the recent troubles in the subprime mortgage industry have been due to a market bubble followed by a correction, rather than systematic predatory fraud or a true market failure. The mortgage bubble may have expanded due to the low interest rates, a strong housing market, and the strong economy that existed for the past decade. But once all three of those factors changed—rising interest rates, an uncertain economy, and falling house values—the subprime market struggled,[32] possibly due to subprime borrowers' increased exposure to cyclical economic changes or trigger events.[33] Since the subprime market is relatively new, as is the securitization of subprime loans in bond markets, lenders and investors may have been irrationally optimistic about these products and extended financing to too many risky borrowers. Presumably, those lenders and investors now better understand the limits of the subprime market.

The market has already begun to correct the bubble by reducing originations of the riskiest loans, with no documentation, no down payment, or payment option mortgages, where the borrower decides how much to pay each month.[34] Lenders facing losses have quickly acted to change their lending models to reduce their risk.

Consumer education may be a remedy for borrowers who make mistakes when evaluating the benefits of certain

mortgage products. Although these circumstances may be particular to the subprime market, due to the financial histories of subprime borrowers and their likely lower levels of financial literacy, the vast majority are still making payments on time and continuing on a path to homeownership. And as noted above, some borrowers who are delinquent are not in danger of foreclosure, but are using the mortgage and its late penalties as a more affordable line of credit than other commercial loans.

Restrictions on subprime lenders' abilities to accurately price their products to reflect the risk of a wide variety of borrowers will likely prevent some prospective borrowers from securing subprime loans or refinancing existing loans. Substantive and disclosure regulations both have limitations. Well-designed, substantive regulation can eliminate certain practices, but lenders may be able to shift costs to other terms of the loans that they offer. Disclosure regulations should be careful to require the most relevant information, without overwhelming borrowers. Regulations that prevent lenders from mitigating the increased risk of subprime lending will likely cause some lenders to abandon the subprime market.

3. Should the principles of this proposed Statement be applied beyond the subprime ARM market?

Lenders and borrowers who are in the subprime market in good faith have obvious incentives to originate or obtain loans that are affordable and reasonable. Originating unaffordable mortgages will usually result in the lender, the borrower, or both parties losing money. Many of the losses in the subprime market, then, are a result either of faulty models and expectations—which lenders and borrowers have begun correcting by tightening the market—or due to predatory lenders and fraudulent borrowers. The principles of this statement, then, should be targeted to predatory lending within the subprime market, a subset of the subprime mortgage market.

Predatory lending is not well defined, but the definition used by Engel and McCoy generally includes loans that meet one or more of the following conditions:[35]

- Loans designed to result in disproportionate net harm to borrowers
- Loans designed to earn unusually high profits
- Fraudulent or deceptive loans
- Other misleading disclosures (or nondisclosures) that do not constitute fraud
- Loans that require the borrower to waive meaningful legal redress

Subprime mortgages, which have higher than normal interest rates or other terms that make them more costly than prime mortgages, are not necessarily predatory loans. Subprime loans are designed to compensate lenders for the increased risk of subprime lenders, while predatory loans go beyond risk-based pricing and set terms above what is required to offset the increased risk of the borrower. Predatory loans are considered a subset of the subprime market.[36]

Predatory lending laws can restrict the types of loans that lenders can originate, mandate required lending practices, or require specific disclosures.[37] Laws meant to restrict predatory lending can have the unintended consequence of making legitimate subprime lending more difficult or expensive, leading lenders to ration mortgage loans and causing some responsible subprime borrowers to lose homeownership opportunities.

Many predatory lending practices are currently restricted by existing laws and regulations. Other than creating new regulations or restrictions on lenders, stricter enforcement against lenders who practice fraud and deception or other predatory practices may be effective in enhancing consumer welfare.

Practices that are legal but may be predatory in nature, are included in the category of "other forms of lack of transparency in loans that are not actionable as fraud." Laws that require certain disclosures have loopholes that do not require some finance charges to be included, and good-faith estimates that lenders provide may be far from the actual cost since lenders aren't liable for errors in their estimates.[38] Clearer disclosure standards may be an effective way to curb predatory lenders' misleading practices.

4. We seek comment on the practice of institutions that limit prepayment penalties to the initial fixed rate period. Additionally, we seek comment on how this practice, if adopted, would assist consumers and impact institutions, by providing borrowers with a timely opportunity to determine appropriate actions relating to their mortgages. We also seek comment on whether an institution's limiting of the expiration of prepayment penalties such that they occur within the final 90 days of the fixed rate period is a practice that would help meet borrower needs.

As noted above, prepayment risk is much higher in the subprime market than it is in the prime market. While prime borrowers only have an incentive to prepay their mortgage and seek new terms when interest rates drop significantly, subprime borrowers can also choose to prepay and refinance when their credit rating improves enough to secure a better subprime loan or a prime loan.

Prepayment penalties allow lenders to mitigate the risk of prepayment by subprime borrowers. In subprime loans without prepayment penalties, lenders typically increase interest rates, to compensate for the increased risk of prepayment.[39] These prepayment-penalty periods can last from 2-5 years, which is not necessarily the same amount of time as the fixed-rate introductory period.[40] It is likely, based on evidence from various types of subprime loans, that restricting the expiration of prepayment penalties to within the final 90 days of the fixed rate period will cause some lenders to charge higher interest rates or other fees in order to shift the risk from prepayment to other terms.

In turn, by increasing the cost of the loan, raising interest rates to offset increased prepayment risk may have the unintended consequence of exacerbating the risk of default and foreclosure or could increase the incentives to prepay, thereby further exacerbating the lender's risk of prepayment. In the end,

this could potentially result in the unraveling of any option for borrowers to finance costs through the loan itself. Borrowers would then need to increase down payments or pay fees up front, resulting in higher costs to borrowers that cannot be easily financed.

CONCLUSION

Subprime mortgages have extended the home mortgage market to a large segment of borrowers who were previously unable to purchase homes. Despite high-profile failures of some subprime lenders, over 85 percent of subprime borrowers make all of their payments on time, and fewer than five percent of subprime mortgages have foreclosed.[41] The higher interest rates, down-payment requirements, prepayment penalties, and other higher fees and costs associated with subprime mortgages are a result of the higher risk of subprime borrowers. Lenders use the higher rates and fees to reduce the risk of lending in this market.

Restricting allowable interest rates or prepayment penalties of subprime lenders may result in lenders charging higher fees or costs in other mortgage terms or reducing their presence in the subprime market, which will result in some borrowers losing access to homeownership opportunities. Requiring certain disclosures may better inform borrowers of the costs and obligations associated with these loans, but too many required disclosures might overwhelm borrowers and leave them worse off. Disclosure requirements must strike a delicate balance.

Predatory lending is a concern. It is likely concentrated within the subprime mortgage market and not a major issue in the prime market. But this might be a consequence of the wider variety of subprime products and the relative novelty of this market. The subprime market at large is beneficial to borrowers and affords many low and middle income borrowers chances for homeownership. Legislative or regulatory measures targeted at predatory lending should be careful not to harm the wider, legitimate, subprime mortgage market.

Endnotes

1 *Hot Topic: The Subprime Market's Rough Road*, Wall St. J., February 17, 2007, A7.

2 The Office of the Comptroller of the Currency, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Office of Thrift Supervision, *Expanded Guidance for Subprime Lending Programs*, 2-3.

3 Predatory lending can refer to a number of practices. For this comment, we are using the definition from Kathleen C. Engel & Patricia D. McCoy, *A Tale of Three Markets: The Law and Economics of Remedies for Predatory Lending*, 80 Tex. L. Rev. 6, 1260 (2002). We are accepting this definition as a working definition, without necessarily independently endorsing it.

4 Kristopher Gerardi, et al., *Do Households Benefit from Financial Deregulation and Innovation? The Case of the Mortgage Market*, Public Policy Discussion Papers No. 06-6 (Boston: Federal Reserve Bank of Boston, 2007): 35.

5 *Id.* at 8.

6 Souphala Chomsisengphet & Anthony Pennington-Cross, *The Evolution of the Subprime Mortgage Market*, Fed. Res. Bank St. Louis Rev. 32 (January/February 2006).

7 *Id.* at 32.

8 Michael Collins et al., *Exploring the Welfare Effects of Risk-Based Pricing in the Subprime Mortgage Market, in* Building Assets, Building Credit 04-8 (Boston: Joint Center for Housing Studies, Harvard University, April 2004): 6.

9 *Supra* note 6, at 37.

10 Census Bureau, *Homeownership Rates for the U.S.*, *at* http://www.census.gov/hhes/www/housing/hvs/qtr406/q406tab5.html

11 Mark Doms & Meryl Motika, *The Rise in Homeownership*, Fed. Res. Bank San Francisco Econ. Letter 2006-30 (November 3, 2006), *at* http://www.frbsf.org/publications/economics/letter/2006/el2006-30.html.

12 *Supra* note 8, at 3.

13 Amy Crews Cutts & Robert A. Van Order, *On the Economics of Subprime Lending*, 30 J. Real Estate Fin. & Econ. 2, tbl. 1.

14 *Supra* note 8, at 3.

15 Press Release, Mortgage Bankers Association, "Residential Mortgage Foreclosures and Delinquencies Decrease Since Last Quarter, According to MBA National Delinquency Survey," June 19, 2006.

16 *Supra* note 6, at 43.

17 *Supra* note 13, at 172.

18 *Id.* at 173.

19 *Supra* note 13, at 169. The default option can be thought of as a "put" option while prepayment is analogous to a "call" option.

20 *Id.* at 169.

21 *Id.* at175.

22 William C. Apgar & Allegra Calder, "The Dual Mortgage Market: The Persistence of Discrimination in Mortgage Lending" (working paper, Harvard University: Joint Center for Housing Studies W05-11, December 2005): 10-11.

23 Thomas P. Boehm & Alan Schlottmann, *Wealth Accumulation and Homeownership: Evidence for Low-Income Households* (Washington, D.C.: Office of Policy Development & Research, HUD, December 2004), *at* http://www.huduser.org/Publications/pdf/WealthAccumulationAndHomeownership.pdf.

24 Mark Doms & Meryl Motika, *The Rise in Homeownership*, Fed. Res. Bank San Francisco Econ. Letter, November 3, 2006, *at* http://www.frbsf.org/publications/economics/letter/2006/el2006-30.html.

25 Giang Ho & Anthony Pennington-Cross, *The Impact of Local Predatory Lending Laws on the Flow of Subprime Credit*, 60 J. Urban Econ. 2, 214 (2006).

26 Gregory Elliehausen & Michael Staten, Regulation of Subprime Mortgage Products: An Analysis of North Carolina's Predatory Lending Law, Credit Research Center Working Paper #66 (November 2002): 15.

27 Keith D. Harvey & Peter J. Nigro, *Do Predatory Lending Laws Influence Mortgage Lending? An Analysis of the North Carolina Predatory Lending Law,* 29 J. Real Estate Fin. & Econ. 4, 453-454 (2004).

28 *Supra* note 25, at 222-223.

29 *Supra* note 27, at 453.

30 North Carolina's law was one of the most restrictive in the Ho and Pennington-Cross study, which found that stricter laws have a stronger effect on the market, reducing both applications and originations.

31 *See* Thomas A. Durkin & Gregory Ellihausen, *Disclosure as a Consumer Protection*, *in* The Impact of Public Policy on Consumer Credit 109-143 (Thomas A. Durkin & Michael E. Staten eds., 2002).

32 Wharton School of Business, "Subprime Meltdown: Who's to Blame and How Should We Fix It?" Knowledge@Wharton, March 21, 2007.

33 *Supra* note 13, at 169.

34 *See supra* note 32.

35 *Supra* note 3, at 1260.

36 *Id.*, at 437.

37 *Supra* note 25, at 212.

38 *Supra* note 3, at 1269.

39 *Supra* note 13, at 175.

40 *Id.*

41 *Supra* note 15.