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# HOME MORTGAGES

## Provisions in a 2007 Mortgage Reform Bill (H.R. 3915) Would Strengthen Borrower Protections, but Views on Their Long-term Impact Differ



GAO

Accountability \* Integrity \* Reliability



Highlights of [GAO-09-741](#), a report to congressional requesters

## Why GAO Did This Study

H.R. 3915 (2007), a bill introduced, but not enacted by the 110th Congress, was intended to reform mortgage lending practices to prevent a recurrence of problems in the mortgage market, particularly in the nonprime market segment. The bill would have set minimum standards for all mortgages (e.g., reasonable ability to repay) and created a “safe harbor” for loans that met certain requirements. Securitizers of safe harbor loans would be exempt from liability provisions, while securitizers of non-safe harbor loans would be subject to limited liability for loans that violated the bill’s minimum standards. In response to a congressional request, this report discusses (1) the proportions of recent nonprime loans that likely would have met and not met the bill’s safe harbor requirements and factors influencing the performance of these loans, and (2) relevant research and the views of mortgage industry stakeholders concerning the potential impact of key provisions of the bill on the availability of mortgage credit. To do this work, GAO analyzed a proprietary database of securitized nonprime loans, reviewed studies of state and local anti-predatory lending laws, and met with financial regulatory agencies and key mortgage industry stakeholders.

## What GAO Recommends

GAO makes no recommendations in this report.

[View GAO-09-741](#) or [key components](#). For more information, contact William B. Shear at (202) 512-8678 or [shearw@gao.gov](mailto:shearw@gao.gov).

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#### What GAO Found

GAO estimates that almost 75 percent of securitized nonprime mortgages originated from 2000 through 2007 would not have met H.R. 3915’s safe harbor requirements, which include, among other things, full documentation of borrower income and assets, and a prohibition on mortgages for which the loan principal can increase over time. The extent to which mortgages met specific safe harbor requirements varied by origination year. For example, the percentage of nonprime mortgages with less than full documentation rose from 27 percent in 2000 to almost 60 percent in 2007. Consistent with the consumer protection purpose of the bill, GAO found that certain variables associated with the safe harbor requirements influenced the probability of a loan entering default (i.e., 90 or more days delinquent or in foreclosure) within 24 months of origination. For example, on the basis of statistical analysis, GAO estimates that, all other things being equal, less than full documentation was associated with a 5 percentage point increase in the likelihood of default for the most common type of nonprime mortgage product. GAO also found that other variables—such as house price appreciation, borrowers’ credit scores, and the ratio of the loan amount to the house value—were associated with default rates.

Research on state and local anti-predatory lending laws and the perspectives of mortgage industry stakeholders do not provide a consensus view on the bill’s potential effects on the availability of mortgage credit. Some research indicates that anti-predatory lending laws can have the intended result of reducing loans with problematic features without substantially affecting credit availability. However, it is difficult to generalize these findings to all anti-predatory lending laws or the potential effect of the bill, in part, because of differences in the design and coverage of these laws. Mortgage industry and consumer group representatives with whom GAO spoke disagreed on the bill’s potential effect on credit availability and consumer protection. For example, mortgage industry officials generally said that the bill’s safe harbor, securitizer liability, and other provisions would limit mortgage options and increase the cost of credit for nonprime borrowers. In contrast, consumer groups generally stated that these provisions needed to be strengthened to protect consumers from predatory loan products.

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# Contents

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<b>Letter</b>		<b>1</b>
	Background	5
	Most Recent Nonprime Mortgages Would Not Have Been Safe Harbor Loans and Certain Variables Associated with the Safe Harbor Requirements and Other Factors Influenced Defaults	17
	Relevant Research and Stakeholder Perspectives Do Not Provide a Consensus View on the Bill's Potential Impact	35
	Agency Comments and Our Evaluation	43
<b>Appendix I</b>	<b>Objectives, Scope, and Methodology</b>	<b>45</b>
<b>Appendix II</b>	<b>Description of the Econometric Analysis of Safe Harbor Requirements</b>	<b>50</b>
<b>Appendix III</b>	<b>Comments from the National Credit Union Administration</b>	<b>62</b>
<b>Appendix IV</b>	<b>GAO Contact and Staff Acknowledgments</b>	<b>63</b>
<b>Tables</b>		
	Table 1: Nontraditional Mortgage Products	6
	Table 2: Percentage of Nonprime Mortgages That Were Safe Harbor and Non-safe Harbor Loans by Racial, Ethnic, and Income Groupings, 2000-2007	25
	Table 3: Percentage of Nonprime Mortgages That Were Safe Harbor and Non-Safe Harbor Loans by Credit Score Groupings, 2000-2007	26
	Table 4: Estimated Probability of Nonprime Purchase Mortgages Defaulting within 24 months of Origination with and without Full Documentation, 2000-2006 Loans	29
	Table 5: Estimated Probability of Nonprime Purchase Mortgages Defaulting within 24 months of Origination under Different Assumptions for the Safe Harbor Spread Requirement, 2000-2006 Loans	30

---

Table 6: Estimated Percentage of Nonagency Securitized Subprime and Alt-A Loans in the LP Database, 2001-2007	46
Table 7: Safe Harbor Requirements and LP Variables Used to Duplicate the Requirements or Develop Proxies	47
Table 8: Variables Used in the Model	51
Table 9: Mean Values for Short-term Hybrid ARMs with DTI Information	54
Table 10: Mean Values for Fixed-rate mortgages with DTI Information	54
Table 11: Mean Values for Longer-term ARMs with DTI information	55
Table 12: Mean Values for Payment-option ARMs with DTI Information	56
Table 13: Estimation Results for Short-term Hybrid ARMs with DTI Information	58
Table 14: Estimation Results for Fixed-rate Mortgages with DTI Information	59
Table 15: Estimation Results for Longer-term ARMs with DTI Information	60
Table 16: Estimation Results for Payment-option ARMs with DTI Information	61

---

## Figures

Figure 1: H.R. 3915 Loan Standards	16
Figure 2: Estimated Proportions of Nonprime Mortgages Meeting and Not Meeting the Safe Harbor Requirements, 2000-2007	18
Figure 3: Estimated Proportions of Nonprime Mortgages Not Meeting Documentation and Amortization Requirements, 2000-2007	20
Figure 4: Estimated Proportions of Nonprime Mortgages Not Meeting Interest Rate and Debt Burden Requirements, 2000-2007	22
Figure 5: Estimated Proportions of Nonprime Mortgages Not Meeting the Fully Indexed Rate Requirement, 2000-2007	24
Figure 6: Estimated Probability of Nonprime Purchase Mortgages Defaulting within 24 Months under Different House Price Appreciation, Credit Score, and LTV Ratio Assumptions, 2000-2006 Loans	34

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## Abbreviations

APR	annual percentage rate
ARM	adjustable-rate mortgage
DTI	debt-service-to-income
FHA	Federal Housing Administration
FTC	Federal Trade Commission
GSE	government-sponsored enterprises
HMDA	Home Mortgage Disclosure Act
HOEPA	Home Ownership and Equity Protection Act
HPA	house price appreciation
HUD	Department of Housing and Urban Development
LIBOR	London Interbank Offered Rate
LP	LoanPerformance
LTV	loan-to-value
MBS	mortgage-backed securities
MSA	metropolitan statistical area
NCUA	National Credit Union Administration
OCC	Office of the Comptroller of the Currency
OTS	Office of Thrift Supervision
RESPA	Real Estate Settlement Procedures Act
SEC	Securities and Exchange Commission
TILA	Truth in Lending Act
VA	Department of Veterans Affairs

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United States Government Accountability Office  
Washington, DC 20548

July 31, 2009

The Honorable Barney Frank  
Chairman  
Committee on Financial Services  
House of Representatives

The Honorable Adam H. Putnam  
House of Representatives

The U.S. housing and mortgage markets are experiencing severe stress, with over 3.2 million home mortgages 90 or more days delinquent or in the foreclosure process in the first quarter of 2009. The rise in delinquencies and foreclosures has been particularly acute in the nonprime segment of the mortgage market. Nonprime mortgages, which include subprime and Alt-A loans, grew dramatically in terms of dollar volume and share of the mortgage market from 2001 through 2006.<sup>1</sup> In 2001, lenders originated \$215 billion in nonprime loans, but by 2006, had increased originations to \$1 trillion. Likewise, the share of the nonprime market as a percentage of the total mortgage market increased from around 10 percent in 2001 to almost 34 percent in 2006. Further, investment banks increased the volume of nonprime loans they bundled into private label mortgage-backed securities (MBS) over this period.<sup>2</sup> In 2001, they bundled 46 percent of nonprime loans into private label MBS, but by 2006, were bundling 81 percent of these loans. The market for nonprime mortgages contracted sharply in mid-2007, as the nation entered a credit crisis and has not rebounded.

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<sup>1</sup>The conventional mortgage market (i.e., mortgages not insured or guaranteed by the federal government) comprises prime loans for the most creditworthy borrowers and nonprime loans (i.e., subprime and Alt-A loans). The subprime market generally serves borrowers with blemished credit and features higher interest rates and fees than the prime market. The Alt-A market generally serves borrowers whose credit histories are close to prime, but the loans often have one or more higher-risk features, such as limited documentation of income or assets.

<sup>2</sup>Securitization allows lenders to sell loans from their portfolios, transferring credit risk to investors, and use the proceeds to make more loans. Private label MBS, which are bought and sold on the secondary market, are backed by mortgages that do not conform to government-sponsored enterprise (GSE) purchase requirements because they are too large or do not meet GSE underwriting criteria.

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As we reported in October 2007, an easing of underwriting standards for nonprime mortgages and wider use of certain loan features associated with poorer loan performance contributed to increases in mortgage delinquencies and foreclosures.<sup>3</sup> These features included mortgages with higher loan-to-value ratios (the amount of the loan divided by the value of the home), adjustable interest rates, limited or no documentation of borrower income or assets, and deferred payment of principal or interest. In some cases, lenders engaged in predatory practices that resulted in loans with onerous terms and conditions.<sup>4</sup> Often, borrowers could not repay these loans and found themselves facing foreclosure or bankruptcy. Some of these predatory practices included providing the borrower with misleading information, manipulating the borrower through aggressive sales tactics, or taking unfair advantage of the borrower's lack of information about the loan terms and their consequences.

To prevent a recurrence of problems in the mortgage market, the House of Representatives passed the Mortgage Reform and Anti-Predatory Lending Act of 2007 (bill) on November 15, 2007 (H.R. 3915). The Senate did not pass companion legislation by the end of the 110th Congress, so the bill did not become law.<sup>5</sup> The bill, among other things, would have set minimum standards for mortgages requiring that consumers had a “reasonable ability to repay” at the time the loan was made and that they received a “net tangible benefit” from mortgage refinancings. One of the key provisions of H.R. 3915 would have been the creation of a “safe harbor” from potential liability for assignees and securitizers of mortgages (i.e., entities that purchase or hold mortgages in the secondary market), provided that the loans met certain requirements.<sup>6</sup> Assignees would have

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<sup>3</sup>GAO, *Information on Recent Default and Foreclosure Trends for Home Mortgages and Associated Economic and Market Developments*, [GAO-08-78R](#) (Washington, D.C.: Oct. 16, 2007).

<sup>4</sup>While there is no uniformly accepted definition of predatory lending, a number of practices are widely acknowledged to be predatory. These include, among other things, charging excessive fees and interest rates, lending without regard to borrowers' ability to repay, refinancing borrowers' loans repeatedly over a short period of time without any economic gain for the borrower, and committing outright fraud or deception—for example, falsifying documents or intentionally misinforming borrowers about the terms of a loan.

<sup>5</sup>On May 7, 2009, the House of Representatives passed the Mortgage Reform and Anti-Predatory Lending Act of 2009 (H.R. 1728, 111th Congress), which has a similar purpose to H.R. 3915.

<sup>6</sup>For ease of presentation, we use the term “assignee” to mean either an assignee or a securitizer.

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been subject to limited liability if they securitized loans that fell outside the bill's safe harbor. Language in the bill and the accompanying House report suggests that the safe harbor and other provisions were intended to strengthen consumer protections for nonprime mortgage products associated with higher levels of default and foreclosure. Additionally, congressional hearings and debate about the bill highlighted, among other things, the challenge of designing safe harbor requirements that protect consumers from nonprime mortgage products that put them at high risk of default and foreclosure, while maintaining broad access to mortgage credit.

Given the serious problems facing the mortgage market, particularly those associated with nonprime mortgages, and congressional interest in protecting consumers and ensuring credit availability, you asked us to assess the potential impact of the bill were it to become law. Accordingly, this report (1) assesses the proportion of recent nonprime loans that would likely have met and not met the bill's safe harbor requirements, and how variables associated with those requirements affect loan performance, and (2) discusses relevant research and the views of mortgage industry stakeholders concerning the potential impact of key provisions of the bill on the mortgage market. The scope of our analysis was limited to nonprime mortgages.

To assess the proportions of recent nonprime loans that would likely have met and not met H.R. 3915's safe harbor requirements, we analyzed a proprietary database of securitized nonprime loans from LoanPerformance (LP).<sup>7</sup> This database covered about 87 percent of the subprime and 98 percent of the Alt-A securitized mortgage originations from January 2001 through July 2007. Nonprime mortgages that were not securitized (i.e., mortgages that lenders held in portfolio) may have different characteristics and performance histories than those that were securitized. In this report, we define subprime loans as mortgages in subprime securitization pools and Alt-A loans as mortgages in Alt-A securitization pools. Specifically, we analyzed loans in the LP database originated from 2000 through 2007. For each year, we estimated the proportion of mortgages with terms and underwriting characteristics that were consistent with the safe harbor requirements and those that were not consistent with such requirements. When the data did not allow us to duplicate a specific safe harbor requirement, we developed reasonable

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<sup>7</sup>LoanPerformance is a unit of First American CoreLogic, Inc.



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proxies. Additionally, incorporating data from the Census Bureau, we examined the proportions of safe harbor and non-safe harbor loans within different census tract and borrower groupings. Finally, to examine factors that could explain the performance of nonprime loans, we developed a statistical model to estimate the relationship between variables associated with the safe harbor requirements and other variables and the probability of loan default within 24 months of origination.

We assessed the reliability of the data by interviewing LP representatives about the methods they use to collect and ensure the integrity of the information. We also reviewed supporting documentation about the database, including LP's estimates of the database's market coverage. In addition, we conducted reasonableness checks on the data to identify any missing, erroneous, or outlying figures. We found the data elements we used to be sufficiently reliable.

To describe relevant research on the bill's potential effects on the nonprime mortgage market, we identified and reviewed empirical studies on the effects of state and local anti-predatory lending laws on key nonprime mortgage indicators. The indicators used in these studies included mortgage originations and the cost of credit. We reviewed the studies' overall conclusions concerning the impact of the laws and identified any limitations in the researchers' methodologies. We also interviewed selected authors to ensure that we interpreted their results correctly. To obtain the views of mortgage industry participants and stakeholders, we interviewed officials from organizations representing mortgage lenders, mortgage brokers, securitizers, and consumer interests. We also interviewed officials from a large mortgage lender and a major investment bank involved in the securitization of mortgages. Finally, we interviewed officials from the federal banking regulators, Department of Housing and Urban Development (HUD), Federal Trade Commission (FTC), and Securities and Exchange Commission (SEC).

We conducted this performance audit from March 2008 to July 2009, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Appendix I explains our objectives, scope, and methodology in greater detail.

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## Background

The primary mortgage market features a variety of loan products and relies, in part, on the process of securitization to provide funds for mortgage lending. Over the years, a number of federal and state laws and regulations were implemented to protect mortgage borrowers. In 2007, the bill was introduced to strengthen consumer protections and included provisions that would have created a safe harbor for loans that met certain requirements.

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## Mortgage Markets and Securitization

The primary mortgage market has several segments and offers a range of loan products:

- The prime market serves borrowers with strong credit histories and provides the most attractive interest rates and mortgage terms.
- The Alt-A market generally serves borrowers whose credit histories are close to prime, but the loans often have one or more higher-risk features, such as limited documentation of income or assets.
- The subprime market generally serves borrowers with blemished credit and features higher interest rates and fees than the prime market.
- Finally, the government-insured or -guaranteed market primarily serves borrowers who may have difficulty qualifying for prime mortgages but features interest rates competitive with prime loans in return for payment of insurance premiums or guarantee fees. HUD's Federal Housing Administration (FHA) and the Department of Veterans Affairs (VA) operate the two main federal programs that insure or guarantee mortgages.

Across all of these market segments, two types of loans are common: fixed-rate mortgages, which have interest rates that do not change over the life of the loans and adjustable-rate mortgages (ARM), which have interest rates that change periodically based on changes in a specified index. Other more unique loan products, referred to as nontraditional mortgage products, grew in popularity over the last decade (see table 1). Hybrid ARMs—which are fixed for a given period and then reset to an adjustable rate—also became popular in recent years, especially in the subprime market. In particular, a significant portion of subprime loans originated from 2003 through 2006 were 2/28 or 3/27 hybrid ARMs—that is, they were fixed for the first 2 or 3 years before resetting to often much higher interest rates and correspondingly higher mortgage payments. Other nontraditional mortgage products included interest-only or payment-

option loans, which allowed borrowers to defer repayment of principal and possibly part of the interest for the first few years of the loan.<sup>8</sup>

**Table 1: Nontraditional Mortgage Products**

Adjustable rate loans	Initial period	Remaining loan period
Hybrid ARMs (2/28s, 3/27s)	For an initial period of usually 2 or 3 years, loan is fixed at an introductory rate.	After the initial fixed period, the rate will eventually adjust to a “fully indexed” interest rate equal to a floating index, such as the London Interbank Offered Rate (LIBOR), plus a fixed margin. Although reaching the fully indexed rate is often a gradual process because incremental increases are capped, even the first increases, which average approximately 2 percent, can cause payment shock.
Interest-only mortgages	For an initial period, typically the first 3 to 10 years, borrowers can defer principal payments.	After the initial period, the mortgage is “recast” to require higher monthly payments that cover principal as well as interest and to pay off (amortize) the outstanding balance over the remaining term of the loan.
Payment-option mortgages	For an initial period of typically 5 years or when the loan balance reaches a specified cap, borrowers can make minimum payments that do not cover principal or all accrued interest, thereby, in some cases, resulting in increased loan balances over time (negative amortization).	After the initial period, payments are recast to include an amount that will fully amortize the outstanding balance over the remaining years of the loan.

Source: GAO.

A number of loan features also became more common over the past decade. While these features potentially expanded access to mortgage credit, they are often associated with higher default rates. These features included the following:

- *Low and no-documentation loans.* Originally intended for borrowers who had difficulty documenting income, such as the self-employed, these loans were made with little or no verification of a borrower’s income or assets.
- *High loan-to-value (LTV) ratios.* As homebuyers made smaller down payments, the ratio of loan amount to home value increased.

<sup>8</sup>GAO, *Alternative Mortgage Products: Impact on Defaults Remains Unclear, but Disclosure of Risks to Borrowers Could Be Improved*, [GAO-06-1021](#) (Washington, D.C.: Sept. 19, 2006).

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- *Prepayment penalties.* Some loans contained built-in penalties for repaying part or all of a loan in advance of the regular schedule.

Many loans were originated with a number of these features, a practice known as risk layering.

The secondary mortgage market and the process of securitization play important roles in providing liquidity for mortgage lending. Mortgage lenders originate and then sell their loans to third parties, freeing up funds to originate more loans. Securitization, in this context, is the bundling of mortgage loans into investment products called residential MBS that are bought and sold by investors. The secondary market consists of (1) Ginnie Mae-guaranteed MBS, which are backed by cash flows from federally-insured or -guaranteed mortgages; (2) government-sponsored enterprise (GSE) MBS, which are backed by mortgages that meet the criteria for purchase by Fannie Mae and Freddie Mac; and (3) private label MBS, which are backed by mortgages that do not conform to GSE purchase requirements because they are too large or do not meet GSE underwriting criteria.<sup>9</sup> Investment banks have traditionally bundled most subprime and Alt-A loans into private label MBS, although since 2007, the market has slowed dramatically.

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## Federal Mortgage Lending Laws

The Truth in Lending Act (TILA), which was enacted in 1968, and the Home Ownership and Equity Protection Act of 1994 (HOEPA), which amended TILA in 1994, are among the primary federal laws governing mortgage lending.<sup>10</sup> TILA was designed to provide consumers with accurate information about the cost of credit. Among other things, TILA requires lenders to disclose information about the terms of loans—including the amount financed, the finance charge, and the annual percentage rate (APR)—that can help borrowers understand the overall costs of their loans. Congress enacted HOEPA to amend TILA, in response to concerns about predatory lending. HOEPA regulates and restricts the terms and characteristics of certain kinds of high-cost mortgage loans that

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<sup>9</sup>The GSEs Fannie Mae and Freddie Mac are private, federally chartered companies created by Congress to, among other things, provide liquidity to home mortgage markets by purchasing mortgage loans, thus, enabling lenders to make additional loans. To be eligible for purchase by the GSEs, loans (and borrowers receiving the loans) must meet specified requirements. In September 2008, Fannie Mae and Freddie Mac were placed into federal government conservatorship.

<sup>10</sup>TILA, as amended, is codified at 15 U.S.C. §§ 1601 – 1666j.

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exceed certain thresholds in their APRs or fees (often referred to as “rate and fee triggers”). The Board of Governors of the Federal Reserve System (Federal Reserve) implements TILA and HOEPA through Regulation Z, which was amended in 2001 and 2008 with respect to high-cost lending. As a result of the most recent rulemaking in 2008, Regulation Z will restrict mortgage lending in the following ways, as of October 1, 2009:<sup>11</sup>

- *Higher-priced loans:* First-lien loans with APRs that equal or exceed an index of average prime offer rates by 1.5 percentage points above an index of average prime offer rates—a category meant to include virtually all loans in the subprime market, but generally exclude loans in the prime market—are called “higher-priced mortgage loans.”<sup>12</sup> Creditors are prohibited from making these loans without regard to the borrower’s ability to repay from income and assets other than the home’s value, and creditors must verify the income and assets they rely upon to determine a borrower’s repayment ability. Also, prepayment penalties are prohibited for these loans if the payment can change in the first 4 years of the loan; for loans where the payment is fixed for at least the first 4 years, prepayment penalties are limited to 2 years. In addition, creditors must establish escrow accounts for this category of loans for property taxes and homeowners’ insurance.
- *High-cost HOEPA loans:* First-lien loans with APRs that exceed the yield on Treasury securities of comparable maturity by more than 8 percentage points or with total points and fees that exceed the greater of 8 percent of the loan amount or \$583, are called “high-cost HOEPA loans.”<sup>13</sup> For these

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<sup>11</sup>HOEPA imposes substantive restrictions and special pre-closing disclosures on particularly high-cost refinancings and home equity loans secured by the borrower’s principal dwelling. These restrictions and disclosures have been in effect since 1995. When Congress enacted HOEPA in 1994, it authorized the Federal Reserve to adopt new or expanded restrictions, as needed, to protect consumers from unfairness, deception, or evasion of HOEPA in connection with mortgage loans. The Federal Reserve is also authorized to prohibit acts or practices in connection with refinancings that are associated with abusive lending practices or are otherwise not in the interest of the borrower. In 2008, the Federal Reserve used this authority to put in place special protections for certain higher-priced loans secured by the borrower’s principal dwelling, including home purchase loans, as well as refinancing and home equity loans.

<sup>12</sup>Second lien loans are also subject to TILA and HOEPA restrictions, but have higher rate triggers.

<sup>13</sup>HOEPA requires the Board of Governors of the Federal Reserve System to adjust this dollar figure, initially set at \$400, every year according to changes in the Consumer Price Index. For loans made in 2009, the adjusted dollar figure is \$583. 73 F.R. 46190 (Aug. 8, 2008).

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loans, the law restricts prepayment penalties, prohibits balloon payments (i.e., a large balance due at maturity of the loan term) for loans with terms of less than 5 years, prohibits negative amortization, and contains certain other restrictions on loan terms or payments.<sup>14</sup>

- *General provisions:* For all loans, regardless of whether they fall into one of the above categories, Regulation Z includes a number of basic disclosure requirements and prohibits certain activities considered to be unfair, deceptive, misleading, abusive, or otherwise problematic, such as coercing a real estate appraiser to misstate a home's value, and abusive collection practices by loan servicers.

Each federal banking regulator is charged with enforcing TILA and HOEPA with respect to the depository institutions it regulates, and the FTC has responsibility for enforcing the statutes for mortgage brokers and most financial entities other than banks, thrifts, and federal credit unions.<sup>15</sup> The Federal Reserve has concurrent authority to enforce TILA and HOEPA for non-bank subsidiaries of bank holding companies.

In addition to TILA and HOEPA, some other federal laws govern aspects of mortgage lending. For example, the Real Estate Settlement Procedures Act (RESPA), passed in 1974, seeks to protect consumers from unnecessarily high charges in the settlement of residential mortgages by requiring lenders to disclose details of the costs of settling a loan and by prohibiting kickbacks (payments made in exchange for referring a settlement service) and other costs. HUD has primary rule-writing authority and is responsible

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<sup>14</sup>Prepayment penalties are prohibited on high-cost HOEPA loans unless (a) the monthly payment will not change during the first 4 years of the loan; (b) the consumer's total monthly debts with the mortgage do not exceed 50 percent of the consumer's monthly gross income, as verified by the consumer's signed financial statement, a credit report, and payment records for employment income; (c) the penalty is limited to 2 years; and (d) the source of the prepayment funds is not a refinancing by the creditor or an affiliate of the creditor. Negative amortization occurs when loan payment amounts do not cover the interest accruing on a loan, resulting in an increasing outstanding principal balance over time. See 15 U.S.C. § 1639(f).

<sup>15</sup>In the context of this report, the term "federal banking regulators" refers to the Federal Reserve, the federal supervisory agency for state-chartered banks that are members of the Federal Reserve System; Office of the Comptroller of the Currency, which supervises national banks and their subsidiaries; Federal Deposit Insurance Corporation, the federal regulator responsible for insured state-chartered banks that are not members of the Federal Reserve System; Office of Thrift Supervision, the primary federal supervisory agency for federally insured thrifts and their subsidiaries; and National Credit Union Administration (NCUA), which supervises federally insured credit unions.

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for enforcing RESPA. HUD coordinates on RESPA issues, as it deems appropriate, with federal banking regulators and other federal agencies, such as the FTC and the Department of Justice. In addition, the federal banking agencies, under section 8 of the Federal Deposit Insurance Act, examine for and enforce compliance with RESPA's requirements with respect to the institutions they supervise.<sup>16</sup> Finally, the Federal Deposit Insurance Act and Federal Credit Union Act allow federal banking regulators to use their supervisory and enforcement authorities to ensure that an institution's conduct with respect to consumer protection laws does not affect its safety and soundness or that of an affiliated institution.<sup>17</sup>

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## Banking Regulator Guidance

In conjunction with enforcing federal statutes, federal banking regulators have issued guidance to their institutions—including federally-regulated banks, thrifts, credit unions, holding companies and their subsidiaries—about nontraditional and subprime lending.

- In September 2006, banking regulators issued final guidance clarifying how institutions can offer nontraditional mortgage products in a safe and sound manner, and in a way that clearly discloses the risks that borrowers may assume. The guidance provides specific steps institutions should take to help ensure that loan terms and underwriting standards are consistent with prudent lending practices, including considering a borrower's repayment capacity; ensuring strong risk management standards, including capital levels; and ensuring that consumers have sufficient information to clearly understand loan terms and associated risks.<sup>18</sup>
- In June 2007, banking regulators issued a final statement on subprime lending, in response to concerns about certain types of loans that could result in payment shock to borrowers. The statement warned institutions about risks associated with subprime loans with adjustable rates with low

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<sup>16</sup>See 24 C.F.R. § 3500.19(a), "It is the policy of the [HUD] Secretary regarding RESPA enforcement matters to cooperate with Federal, State, or local agencies having supervisory powers over lenders or other persons with responsibilities under RESPA. Federal agencies with supervisory powers over lenders may use their powers to require compliance with RESPA."

<sup>17</sup>For more information on federal laws and statutes related to mortgage lending, see GAO, *Consumer Protection: Federal and State Agencies Face Challenges in Combating Predatory Lending*, GAO-04-280 (Washington, D.C.: Jan. 30, 2004).

<sup>18</sup>71 Fed. Reg. 58609 "Interagency Guidance on Nontraditional Mortgage Product Risks," (Oct. 4, 2006).

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initial payments, based on fixed introductory rates that expire after a short period, limited or no documentation of income, prepayment penalties that were very high or that extended beyond the initial fixed rate period, and other product features likely to result in frequent refinancing to maintain an affordable monthly payment.<sup>19</sup>

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## State Mortgage Lending Laws

In response to concerns about the growth of predatory lending over the past decade, many states have enacted laws to restrict the terms or provisions of certain types of mortgage loans. According to the Congressional Research Service, at least 30 states and the District of Columbia had enacted a wide array of such laws, as of November 2008.<sup>20</sup> Many of these state laws are similar to HOEPA in that they regulate and restrict the terms and characteristics of certain kinds of high-cost mortgages exceeding certain interest rate or fee thresholds that require enhanced protections. Like HOEPA, these laws often restrict certain loan features that can, in certain cases, be abusive—such as prepayment penalties, balloon payments, negative amortization, and loan flipping—and many laws also require enhanced disclosures and credit counseling. While some laws are only minimally different than HOEPA, others are more comprehensive.

Significant debate has taken place as to the advantages and disadvantages of state predatory lending laws. In several cases, regulators of federally supervised financial institutions have determined that federal laws preempt state predatory lending laws for the institutions they regulate. In making these determinations, two regulators—the Office of the Comptroller of the Currency (OCC) and Office of Thrift Supervision (OTS)—have cited federal law that provides for uniform regulation of federally chartered institutions and have noted the potential harm that state predatory lending laws can do to legitimate lending. Many state officials and consumer advocates are opposed to federal preemption of state predatory lending laws.<sup>21</sup> They maintain that federal laws related to

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<sup>19</sup>72 Fed. Reg. 37569 “Statement on Subprime Mortgage Lending,” (Jul. 10, 2007). Banking regulators have issued other guidance on subprime lending, including *Interagency Guidance on Subprime Lending*, Mar. 1, 1999; and *Expanded Guidance for Subprime Lending Programs*, Jan. 31, 2001.

<sup>20</sup>Congressional Research Service, *A Predatory Lending Primer: The Homeownership and Equity Protection Act (HOEPA)*, RL34259 (Washington, D.C.: Nov. 2008).

<sup>21</sup>A recent Supreme Court case (*Cuomo v. The Clearing House Association*) allows states to bring lawsuits against national banks to enforce state fair lending and consumer protection laws.



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predatory lending are insufficient, and that preemption, therefore, interferes with their ability to protect consumers in their states.<sup>22</sup>

The first state predatory lending law, the North Carolina Anti-Predatory Lending Law of 1999, has been the subject of particular attention by researchers and policymakers. The law was more restrictive than HOEPA was at the time. Among other things, it banned prepayment penalties on all home loans with a principal amount of \$150,000 or less, and prohibited loan flipping (refinancings of consumer home loans that do not provide a reasonable, net tangible benefit to the borrower). It included more restrictions for a category of high-cost loans, which were defined to include lower points and fee triggers than HOEPA, as well as a third trigger that included any loan with a prepayment penalty that could be collected more than 30 months after closing or that was greater than 2 percent of the amount paid.

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## H.R. 3915

The U.S. House of Representatives passed H.R. 3915—the Mortgage Reform and Anti-Predatory Lending Act of 2007—on November 15, 2007, in response to significant increases in mortgage defaults and foreclosures, especially among subprime borrowers.<sup>23</sup> Although the bill was passed by the U.S. House of Representatives, it was not enacted into law before the end of the 110th Congress. The bill would have reformed mortgage lending by, among other things, setting minimum standards for residential mortgage loans (see fig. 1). The two standards included:

- *Reasonable ability to repay.* The bill would have created a “reasonable ability to repay” standard by prohibiting a creditor from making a residential mortgage loan without making a determination based on verified and documented information that a consumer was likely to be able to repay the loan, including all applicable taxes, insurance, and assessments. Such a determination was to be based on the consumer’s credit history, current and expected income, obligations, debt-service-to-

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<sup>22</sup>For more information about preemption, see [GAO-04-280](#); GAO, *OCC Preemption Rulemaking: Opportunities Existed to Enhance the Consultative Efforts and Better Document the Rulemaking Process*, [GAO-06-8](#) (Washington, D.C.: Oct. 17, 2005); and GAO, *OCC Preemption Rules: OCC Should Further Clarify the Applicability of State Consumer Protection Laws to National Banks*, [GAO-06-387](#) (Washington, D.C.: Apr. 28, 2006).

<sup>23</sup>H.R. 3915 was one of several bills introduced during the 110th Congress to address concerns about rising foreclosures and abusive lending practices. See also S. 2452, 110th Congress (2007), Home Ownership Preservation and Protection Act of 2007.

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income (DTI) ratio, employment status, and financial resources other than any equity in the real property securing the loan. Additionally, the bill would have required lenders making ARMs to qualify borrowers at the fully indexed rate. However, the actual standard was to be prescribed in regulation by the federal banking agencies, in consultation with the FTC.

- *Net tangible benefit.* The bill would have created a “net tangible benefit” standard by prohibiting a creditor from refinancing a loan without making a reasonable good faith determination that the loan would provide a net tangible benefit to the consumer. The bill stated that a loan would not meet the standard if the loan’s costs exceeded the amount of newly advanced principal, without any corresponding changes in the terms of the refinanced loan that were advantageous to the consumer. However, the term “net tangible benefit” was to be defined in regulation by the federal banking agencies.

The specific responsibilities of lenders to meet the standards, and the rights of consumers to take action against lenders to claim standards had not been met, depended on the category of the loan. Under the bill, loans are classified into three basic categories:

- *Qualified mortgages* would have had relatively low APRs, be insured by FHA, or made or guaranteed by VA. This category was intended to include most prime loans. Specifically, a loan would have been considered a qualified loan if either the APR was less than 3 percent above the yield on comparable Treasury securities, or less than 1.75 percent above the most recent conventional mortgage rate (a term that would have been more explicitly defined in regulation). For second-lien loans, the limits were 5 and 3.75 percent, respectively. Qualified mortgages would have been presumed under the law to meet the “ability to repay” and “net tangible benefit” standards, and for these loans, the creditor’s presumption could not be rebutted by borrowers.
- *Qualified safe harbor mortgages* would have fallen outside of the definition of qualified mortgages (i.e., would not have met this standard), but would have met certain underwriting requirements. This category was intended to include subprime loans that did not contain certain high-risk features. Specifically, these mortgages were required to (1) have full documentation, (2) be underwritten to the fully indexed rate, (3) not negatively amortize, and (4) have a fixed rate for at least 5 years, have a variable rate with an APR less than 3 percentage points over a generally accepted interest rate index, or meet a DTI ratio to be established in

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regulation.<sup>24</sup> Qualified safe harbor mortgages, like qualified mortgages, would have been presumed under the law to meet the “ability to repay” and “net tangible benefit” standards. Unlike borrowers with qualified mortgages, however, borrowers with these mortgages would have had the right to challenge a creditor’s presumption that these loans met the “ability to repay” and “net tangible benefit” standards.

- *Nonqualified mortgages* would have fallen outside of the two definitions above (i.e., would not have met either standard). This category was intended to include subprime loans with high-risk features. For these loans, the law would have required lenders to meet the reasonable ability to repay and net tangible benefit standards, as well as provide borrowers with the ability to challenge such determinations by creditors and assignees.

As shown in figure 1, the bill would also have imposed restrictions on specific loan terms, depending on the loan category. First, the bill would have prohibited prepayment penalties for loans that were not qualified mortgages and would have required the penalties on all qualified mortgages with an adjustable interest rate to expire 3 months before the initial interest rate adjustment. Second, negative amortization loans to first-time borrowers would have been prohibited, unless the creditor made certain disclosures to the consumer and the consumer had received homeownership counseling from a HUD-certified organization or counselor. Finally, single-premium credit insurance and mandatory arbitration on mortgage loans would have been prohibited for all loans.<sup>25</sup>

The bill would have established additional liability for creditors of qualified safe harbor and nonqualified mortgages (see fig. 1).<sup>26</sup> In addition,

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<sup>24</sup>The bill provided the federal banking agencies the authority to jointly prescribe regulations to revise, add to, or subtract from these safe harbor provisions to the extent necessary and appropriate to meet the purposes intended in the law, to prevent circumvention or evasion of the provisions, or to facilitate compliance with the provisions.

<sup>25</sup>Credit insurance is a loan product that repays the lender should the borrower die or become disabled. In the case of single-premium credit insurance, the full premium is paid all at once—by being added to the amount financed in the loan—rather than on a monthly basis. Because adding the full premium to the amount of the loan unnecessarily raises the amount of interest borrowers pay, single-premium credit insurance is generally considered inherently abusive.

<sup>26</sup>Under the terms of the bill, the liability of rescission faced by creditors would have been “[i]n addition to any other liability” under TILA for violating the minimum standards. H.R. 3915, § 204. Those additional liabilities include individual and class action damages. See 12 U.S.C. §1640.

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it would have established limited liability for assignees of nonqualified mortgages. Borrowers would have been able to bring civil actions against creditors or assignees if loans violated the “reasonable ability to repay” or “net tangible benefit” standards. Creditors would have been liable for the rescission of a loan and the borrower’s cost associated with the rescission unless they could make the loan conform to minimum standards within 90 days. In addition, assignees would have been liable for the rescission (i.e., cancellation) of a loan and for borrower costs associated with the rescission unless the loan could be made to conform to the minimum standards within 90 days, or unless the assignee (1) had a policy against buying loans that were not qualified loans or qualified safe harbor loans, (2) exercised reasonable due diligence, as defined in regulation by the federal banking agencies and the SEC, and (3) had agreements with the seller or assignees of loans requiring that certain standards be met and certain steps be taken. The bill included additional provisions to resolve situations in which the parties could not agree on loan changes and set certain time frames for addressing challenges to these changes. Liability would not have been extended to pools of loans, including the securitization vehicles, or investors in pools of loans. According to the House Committee Report on the bill, it was not intended to apply to trustees or titleholders who held loans solely for the benefit of the securitization vehicle.<sup>27</sup>

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<sup>27</sup>Committee Report, 110th Congress, 1st Session, Report 110-441.

**Figure 1: H.R. 3915 Loan Standards**

	Loan categories		
	<input checked="" type="checkbox"/> Qualified mortgages	<input checked="" type="checkbox"/> Qualified safe harbor mortgages	Nonqualified mortgages
<b>APR requirements and underwriting standards</b>	<ul style="list-style-type: none"> <li>• APR less than three percent above yield on comparable Treasury securities or less than 1.75 percent above most recent conventional mortgage rate (to be defined in regulation)</li> <li>• Second lien (subordinate loan): APR less than 5 percent above yield on comparable Treasury securities or 3.75 percent above most recent conventional mortgage rate (to be defined in regulation)</li> <li>• Loan is insured by FHA</li> <li>• Loan is made or guaranteed by VA</li> </ul>	<p>Mortgages must meet all four underwriting standards:</p> <ol style="list-style-type: none"> <li>(1) Full documentation</li> <li>(2) No negative amortization</li> <li>(3) Underwritten to the fully indexed rate</li> <li>(4) Have ONE of the following features:               <ul style="list-style-type: none"> <li>- fixed interest rate for at least 5 years, or</li> <li>- variable rate mortgage where the APR has a margin less than 3 percent over a generally-accepted interest rate index, or</li> <li>- meet a DTI ratio to be established in regulation</li> </ul> </li> </ol>	<ul style="list-style-type: none"> <li>• Do not meet standards established for qualified mortgages or qualified safe harbor mortgages</li> </ul>
<b>Loan terms and standards</b>	<ul style="list-style-type: none"> <li>• Limits on prepayment penalties for first 3 years</li> <li>• No prepayment penalties after initial fixed term expires on hybrid-ARM</li> </ul>	<ul style="list-style-type: none"> <li>• Prohibits prepayment penalties</li> </ul>	
		<ul style="list-style-type: none"> <li>• Prohibits single premium credit insurance from being financed</li> <li>• Prohibits requirement of arbitration</li> </ul>	
<b>Liability for creditors</b>	<ul style="list-style-type: none"> <li>• No liability for creditors</li> </ul>	<ul style="list-style-type: none"> <li>• Potential liability for rescission or cure of loans (presumption of having met minimum lending standards is rebuttable if borrower can prove a violation of the minimum lending criteria)<sup>a</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Potential liability for rescission or cure of loans if borrower can prove loan violation of minimum lending standards<sup>a</sup></li> </ul>
<b>Liability for assignees and securitizers</b>	<ul style="list-style-type: none"> <li>• No liability for assignees and securitizers</li> </ul>		

Presumed to meet minimum lending standards (i.e., “reasonable ability to repay” and “net tangible benefit”)  
Source: GAO.

<sup>a</sup>Liability of creditors for rescission would be in addition to other liabilities (e.g., damages) that currently exist in TILA.

The bill would also have expanded the definition of “high-cost” loans under HOEPA. Specifically, the bill would have included home purchase loans in the definition, reduced the points and fees trigger from 8 to 5 percent—the APR trigger would stay at 8—and expanded the definition of points and fees for high-cost mortgages. The bill would have also added a third high-cost trigger for loans with prepayment penalties that applied for more than 3 years or exceeded 2 percent of the prepaid amount. Further,

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the bill would have enhanced existing HOEPA restrictions on lending without repayment ability by presuming that creditors engaged in a pattern or practice of making high-cost mortgages without verifying or documenting consumers' repayment ability were violating HOEPA. Finally, the bill would have established a federal duty of care for mortgage originators; prohibited steering of consumers eligible for qualified mortgages to nonqualified mortgages; established a licensing and registration regime for loan originators; established an Office of Housing Counseling within HUD and imposed additional counseling requirements; made changes to mortgage servicing and appraisal requirements; and provided protections for renters in foreclosed properties.

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## Most Recent Nonprime Mortgages Would Not Have Been Safe Harbor Loans and Certain Variables Associated with the Safe Harbor Requirements and Other Factors Influenced Defaults

We estimate that almost three-quarters of securitized nonprime mortgages originated from 2000 through 2007 would not have been safe harbor loans. The extent to which mortgages would have met the individual safe harbor requirements varied substantially by origination year, reflecting changes in market conditions and lending practices over the 8-year period. We also found that the proportions of safe harbor and non-safe harbor loans varied across different census tract and borrower groupings. Our statistical analysis of loan data shows that certain variables associated with the safe harbor requirements—documentation of borrower income and assets, in particular—were associated with the probability of a loan default. We found that other variables, such as house price appreciation and borrower credit score, were also associated with default rates.

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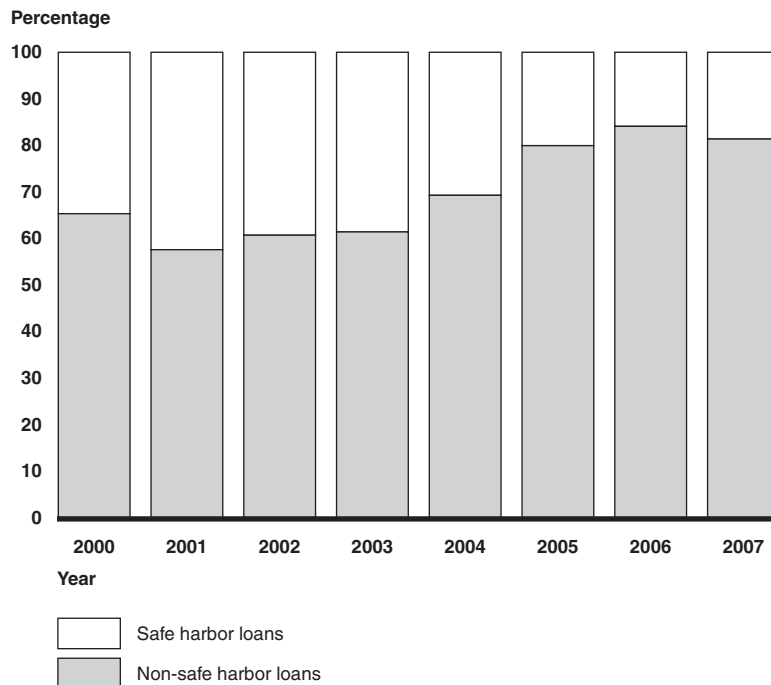
## Most Recent Nonprime Loans Would Not Have Met the Bill's Safe Harbor Requirements

To illustrate the potential significance of the safe harbor requirements under different lending environments and market conditions, we applied those requirements to nonprime mortgages originated from 2000 through 2007 and calculated the proportions of loans that likely would and would not have met the requirements. Because of data limitations and uncertainty about how federal regulators would have interpreted some of the safe harbor requirements, our analysis includes a number of assumptions discussed in this section. (See appendix I for details about our methodology.)

We estimate that almost 75 percent of nonprime mortgages originated from 2000 through 2007 would not have met the bill's safe harbor requirements. More specifically, the estimated proportion of non-safe harbor loans ranged from a low of 58 percent for 2001 to a high of 84

percent for 2006 (see fig. 2). The non-safe harbor loans were primarily ARMs, while the safe harbor loans were largely fixed-rate mortgages. For all 8 years combined, Alt-A mortgages represented about 37 percent of non-safe harbor loans, or slightly more than the Alt-A share of the nonprime market over this period (35 percent). Over this same period, subprime mortgages comprised about 63 percent of non-safe harbor loans, or slightly less than their 65 percent share of the nonprime market.

**Figure 2: Estimated Proportions of Nonprime Mortgages Meeting and Not Meeting the Safe Harbor Requirements, 2000-2007**



Source: GAO analysis of LP data.

The significance of particular safe harbor requirements varied by origination year. As previously noted, the safe harbor requirements include the following:

- *Documentation and amortization.* The mortgage would have to be underwritten based on full documentation of the borrower's income and assets and could not have a negative amortization feature.
- *Interest rate and debt burden.* The mortgage would be required to have either (1) a fixed interest rate for at least 5 years, (2) a DTI ratio within a

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level to be specified in regulation (we used the 41 percent ratio that serves as a guideline in underwriting FHA-insured mortgages), or (3) an ARM with an APR of less than 3 percentage points over a generally accepted interest rate index.<sup>28</sup> Because the loan data we used did not include APRs, we instead compared the initial interest rate on each loan to the relevant interest rate index.<sup>29</sup>

- *Fully indexed rate.* The mortgage would have to be underwritten to the fully indexed interest rate (which the bill defines as the initial interest rate index, plus the lender's margin). We could not determine from the data we used whether a mortgage was underwritten to the fully indexed rate. We created a proxy by assuming that the mortgage satisfied this requirement if the fully indexed rate was 1 percentage point or less over the initial interest rate, indicating a reasonable likelihood that the borrower could have qualified for a loan underwritten to the fully indexed rate.<sup>30</sup>

As shown in figure 3, there was an increasing trend in the proportion of nonprime loans originated from 2000 through 2007 that would not have met the safe harbor documentation and amortization requirements. More specifically, the estimated percentages of nonprime loans without full documentation ranged from a low of 27 percent in 2000 to a high of almost 60 percent in 2007.<sup>31</sup> Also, from 2004 through 2007, the proportion of nonprime loans with a negative amortization feature increased steadily. The growth in these percentages reflects the increased use of low-documentation mortgages in both the subprime and Alt-A markets and

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<sup>28</sup>We used the FHA guidelines because FHA primarily serves borrowers with credit characteristics somewhat similar to those of nonprime borrowers.

<sup>29</sup>Because the APR is generally higher than the initial interest rate, our results may overestimate the number of loans that would meet this requirement. The bill did not specify particular interest rate indexes, so we used the Treasury 2-year constant maturity rate for short-term hybrid ARMs (e.g., 2/28 and 3/27 mortgages), the Treasury 5-year constant maturity rate for longer-term ARMs, and the Treasury 10-year constant maturity rate for fixed-rate mortgages.

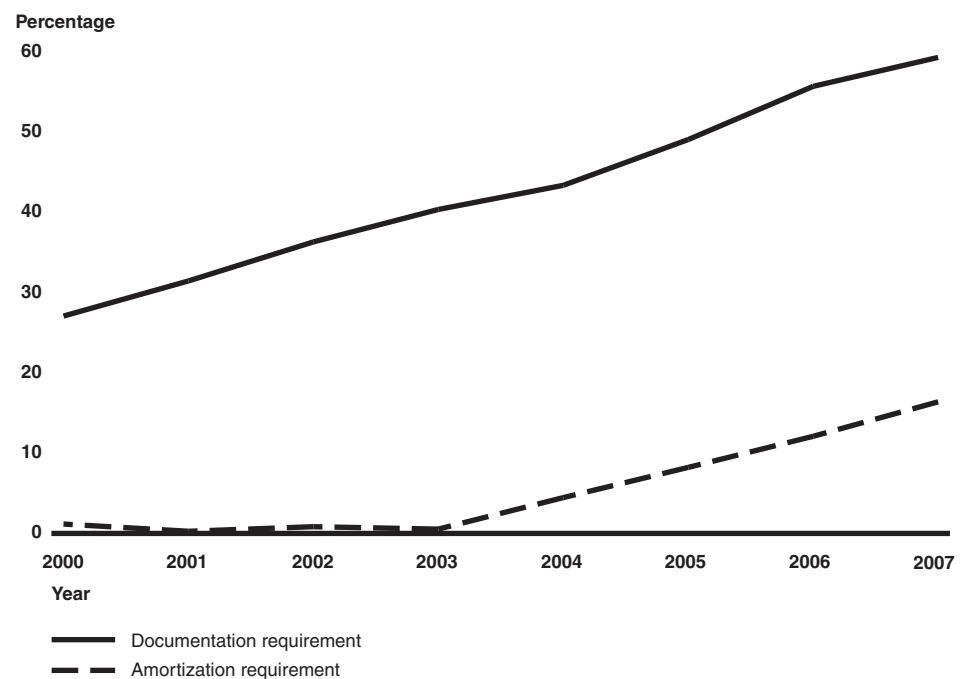
<sup>30</sup>One industry and one consumer group representative told us that nonprime lenders often underwrote loans to less than the fully indexed rate. We based our assumption on the policy of a major subprime lender, which underwrote its riskiest loans at one percentage point below the fully indexed rate. To the extent that lenders underwrote loans to more than one percentage point below that rate, our approach would tend to underestimate the proportion of loans meeting the fully indexed rate requirement.

<sup>31</sup>While our analysis examined the documentation requirement in the context of the bill's safe harbor provisions, the bill's minimum lending standards include a similar requirement, as discussed in the Background section of this report.



mortgages with negative amortization features (e.g., payment-option ARMs) in the Alt-A market. In both cases, these products were originally intended for a narrow population of borrowers but, ultimately, became more widespread. For example, as we reported in 2006, payment-option ARMs were once specialized products for financially sophisticated borrowers who wanted to minimize mortgage payments to invest funds elsewhere or borrowers with irregular earnings who could take advantage of minimum monthly payments during periods of lower income and could pay down principal when they received an increase in income.<sup>32</sup> However, according to federal banking regulators and a range of industry participants, as home prices increased rapidly in some areas of the country, lenders began marketing payment-option ARMs as affordability products and made them available to less creditworthy and lower income borrowers.

**Figure 3: Estimated Proportions of Nonprime Mortgages Not Meeting Documentation and Amortization Requirements, 2000-2007**



Source: GAO analysis of LP data.

<sup>32</sup> [GAO-06-1021](#).

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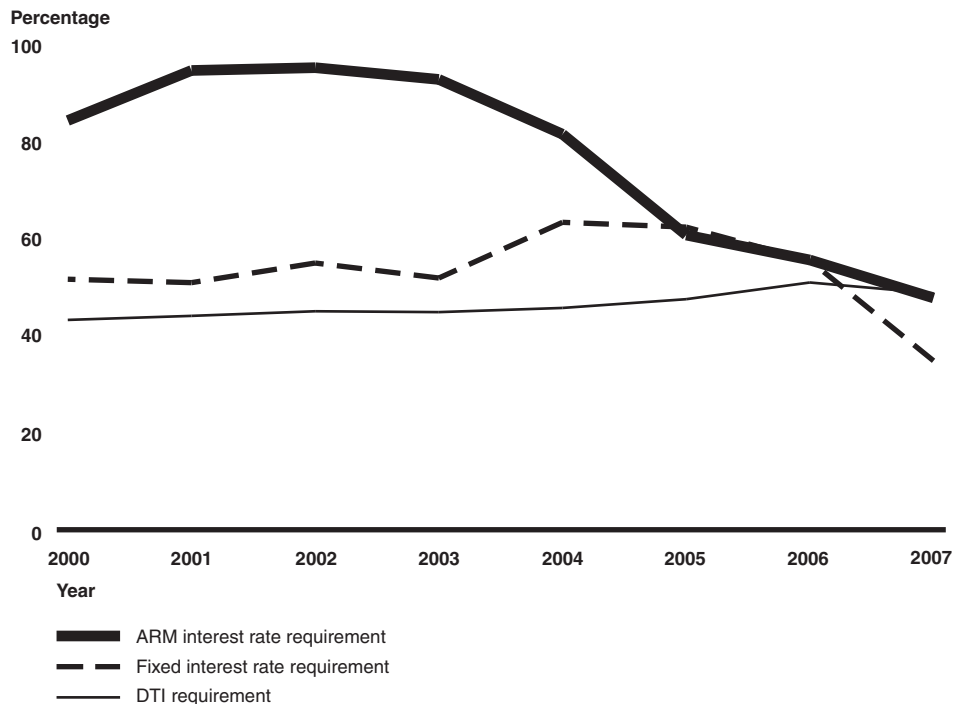
Substantial proportions of the nonprime loans made over the 8-year period we examined also did not meet the safe harbor interest rate and debt burden requirements, although the proportions varied by year:

- The proportion of nonprime originations that did not have a fixed interest rate for at least 5 years rose from 52 percent in 2000 to 64 percent in 2004 (see fig. 4). This increase can be attributed primarily to a shift in the Alt-A market away from fixed-rate mortgage products to adjustable-rate products. For example, in 2000 about 88 percent of Alt-A loans were fixed rate, but by 2004 this figure had dropped to about 38 percent. Beginning in 2005, the percentage of nonprime originations with adjustable rates began falling, reaching 37 percent in 2007. The decline was due in large part to a trend in the Alt-A market toward fixed-rate mortgages.
- As figure 4 also shows, the proportion of nonprime originations that did not have a DTI ratio under 41 percent grew over the 8-year period, rising from 43 percent in 2000 to 51 percent in 2006, although it fell slightly in 2007. The generally increasing trend is partly a result of house prices growing faster than borrowers' incomes over the period and of lenders allowing borrowers to take out larger mortgages relative to their incomes. For example, from 2000 through 2006, average home prices grew by 38 percent nationally, while over the same period, average incomes grew by just 23 percent.
- Finally, the proportion of nonprime ARM originations with initial interest rates not less than 3 percentage points over a generally accepted interest rate index (3 percent test) ranged from a high of 96 percent in 2002 to a low of 48 percent in 2007 (see fig. 4). The changing proportions over time were largely due to movements in the interest rate indexes used to set ARM interest rates that affected the size of the gap between the initial rates and the index values. For example, when the 2-year Treasury constant maturity rate (a common interest rate index) dropped from 2000 through 2002, the proportion of nonprime ARMs that did not meet the 3 percent test rose. But when the 2-year Treasury rate rose from 2004 through 2006, the proportion declined sharply.

The bill's interest rate and debt burden requirements for safe harbor mortgages were structured so that a loan would only have to meet one of the three requirements. As a result, some loans could have met one of the requirements, but not one or both of the other requirements and still could have qualified as safe harbor loans. To illustrate, of the safe harbor loans that met the bill's safe harbor requirements by having a fixed interest rate for 5 or more years, almost one-half would not have met the DTI ratio requirement, assuming the 41 percent ratio we used for our analysis. Some

of the banking regulators we interviewed said that the DTI ratio was an important factor in assessing a borrower's ability to repay a mortgage loan. They said that all borrowers should be required to meet some DTI ratio in order for their loans to be eligible for the bill's safe harbor. Consistent with this view, H.R. 1728, which was passed by the House earlier this year, requires borrowers of safe harbor loans to meet a DTI ratio to be established by regulation.

**Figure 4: Estimated Proportions of Nonprime Mortgages Not Meeting Interest Rate and Debt Burden Requirements, 2000-2007**



Source: GAO analysis of LP data.

Note: About 37 percent of the loans in the LP database did not have information on the DTI ratio. We compared the credit score distribution for loans with DTI data to the distribution for loans without this information, and found them to be very similar. As a result, we believe that the DTI data we present are a reasonable reflection of trends in the nonprime market as a whole.

Over the 8-year period we examined, about 38 percent of the nonprime loans originated would not have met the safe harbor fully indexed rate

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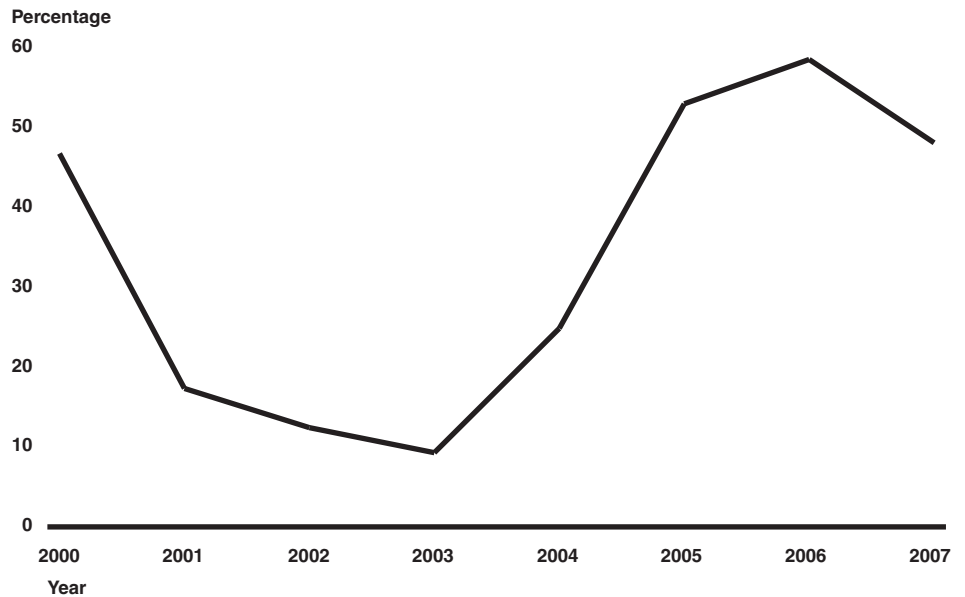
requirement, although the proportions varied by year (see fig. 5).<sup>33</sup> As previously noted, we assumed that if the fully indexed rate—that is, the index rate at origination plus the lender’s margin—was more than 1 percentage point above the initial interest rate, the mortgage did not meet the requirement. The variation by year largely reflected changes in the index used to determine the fully indexed rate. More specifically, during years in which a commonly used index such as the 6-month LIBOR was relatively high (e.g., 2000 and 2005 through 2006), a larger proportion of the nonprime loans would not have met the requirement because the fully indexed rate would have been well above the initial interest rate of the loan. In contrast, during years in which the index was low (e.g., 2001 through 2004), a greater proportion of loans would have met the requirement because the fully indexed rate would have been close to the initial rate. For example, in 2000, when the average 6-month LIBOR was 6.7 percent, the proportion of nonprime loans that did not meet the fully indexed rate requirement was 47 percent. In 2003, when the average 6-month LIBOR was 1.2 percent, the proportion was 9 percent. A potential shortcoming of this requirement is that many ARMs could meet this requirement when interest rates were low, but the mortgages could become unaffordable if interest rates were to rise and the borrower’s payments adjusted upward to reflect the higher rates. However, it may be difficult to design a more stringent fully indexed rate requirement to provide protection during low interest rate environments without possibly reducing the availability of ARMs during high interest rate environments.

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<sup>33</sup>While our analysis examined the fully indexed rate requirement in the context of the bill’s safe harbor provisions, the bill’s minimum lending standards include a similar requirement, as discussed in the Background section of this report.

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**Figure 5: Estimated Proportions of Nonprime Mortgages Not Meeting the Fully Indexed Rate Requirement, 2000-2007**



Source: GAO analysis of LP data.

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### The Proportions of Safe Harbor and Non-Safe Harbor Loans Differed across Zip Code and Borrower Groupings

Prior research has indicated that nonprime lending occurred disproportionately in areas with higher proportions of minority, low-income, and credit-impaired residents.<sup>34</sup> Therefore, in contemplating the potential impact of the Bill, one consideration is the extent to which nonprime mortgages made to these groups of borrowers would have fallen inside or outside of the safe harbor. For groups with higher proportions of non-safe harbor mortgages, the Bill's impact on the availability of these loans and consumer protections for them may be particularly important.

Accordingly, we examined the estimated proportions of safe harbor and non-safe harbor loans within various zip code and borrower groupings.<sup>35</sup>

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<sup>34</sup>GAO, *Federal Housing Administration: Decline in the Agency's Market Share Was Associated with Product and Process Developments of Other Mortgage Market Participants*, [GAO-07-645](#) (Washington, D.C.: June 29, 2007) and Mayer and Pence, "Subprime Mortgages: What, Where, and to Whom?", *Finance and Economics Discussion Series* 2008-29, Federal Reserve Board (2008).

<sup>35</sup>We did not examine the reasons for differences among the various groupings as part of our analysis.

Specifically, we looked at zip codes grouped by race, ethnicity, and income characteristics, as well as borrowers grouped by credit score.<sup>36</sup> Our analysis of safe harbor and non-safe harbor loans by race and ethnicity groupings found that zip codes with higher percentages of households that Census identified as black or African-American had lower percentages of non-safe harbor loans than the nonprime borrower population as a whole. For example, in zip codes where black or African-American households made up 75 percent or more of the household population, the proportion of non-safe harbor loans was 68 percent, compared with 75 percent for all nonprime borrowers (see table 2). In contrast, in zip codes with higher percentages of households that Census identified as Hispanic or Latino, the percentages of non-safe harbor loans were higher than for nonprime borrowers as a whole. For example, in zip codes where Hispanic or Latino households comprised 75 percent or more of the household population, the percentage of non-safe harbor loans was 80 percent, or 5 percentage points higher than for all nonprime borrowers.<sup>37</sup> Our analysis by income groupings found that the proportion of non-safe harbor loans for each grouping was essentially the same as that for the entire nonprime borrower population.<sup>38</sup>

**Table 2: Percentage of Nonprime Mortgages That Were Safe Harbor and Non-safe Harbor Loans by Racial, Ethnic, and Income Groupings, 2000-2007**

Zip code population grouping	Percentage of safe harbor loans	Percentage of non-safe harbor loans
<b>All nonprime borrowers</b>	25	75
<b>Black or African-American</b>		
Less than 5%	25	75
5% to 24%	26	74
25% to 74%	29	71
75% or greater	32	68

<sup>36</sup>We used the Census 2000 data for our analysis.

<sup>37</sup>Individuals who classify themselves as Hispanic or Latino include people of different racial backgrounds.

<sup>38</sup>We defined low-, moderate-, and upper-income census tracts as those with median incomes that were less than 80 percent, at least 80 percent but less than 120 percent, and 120 percent and above, respectively, of the median income for the associated metropolitan statistical area.

<b>Zip code population grouping</b>	<b>Percentage of safe harbor loans</b>	<b>Percentage of non-safe harbor loans</b>
<b>Hispanic or Latino</b>		
Less than 5%	31	69
5% to 24%	24	76
25% to 74%	20	80
75% or greater	20	80
<b>Median income</b>		
Low income	26	74
Moderate income	25	75
Upper income	24	76

Source: GAO analysis of LP and Census data.

We also analyzed safe harbor and non-safe harbor loans by credit score groupings. We used four groupings that ranged from the least creditworthy borrowers (scores of 599 and less) to the most creditworthy borrowers (scores of 720 and above). We found that borrowers with scores of 599 and less (the lowest category) had the smallest percentage of non-safe harbor loans (69 percent), while borrowers with scores of 600 to 719 (the second highest category) had the largest percentage of non-safe harbor loans (see table 3).

**Table 3: Percentage of Nonprime Mortgages That Were Safe Harbor and Non-Safe Harbor Loans by Credit Score Groupings, 2000-2007**

<b>Credit score grouping</b>	<b>Percentage of safe harbor loans</b>	<b>Percentage of non-safe harbor loans</b>
599 and less	31	69
600-659	25	75
660-719	22	78
720 and above	26	74

Source: GAO analysis of LP and Census data.

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## Some of the Safe Harbor Requirements and Other Factors Were Associated with the Likelihood of Default

Prior research has shown that a number of different loan, borrower, and economic variables influence the performance of a loan. To see if the bill's provisions appear to fulfill their consumer protection purpose, we developed a statistical model, based on the data available to us, to examine the relationship between safe harbor requirements, as well as a subset of other variables known to affect performance, and the probability of a loan defaulting within the first 24 months of origination.<sup>39</sup> We defined a loan as being in default if it was delinquent by at least 90 days, in the foreclosure process (including loans identified as in real-estate-owned status), paid off after being 90 days delinquent or in foreclosure, or had already terminated with evidence of a loss.

We focused on 24-month performance because a large proportion of nonprime borrowers—particularly those with hybrid ARMs—prepaid their loans (e.g., by refinancing) within 2 years. Using a 24-month time frame allowed us to include these loans in our model. The variables we used in the model included variables based on the individual safe harbor requirements, house price appreciation, borrower credit scores, and LTV ratios.<sup>40</sup> We developed the model using data on nonprime mortgages originated from 2000 through 2006 (the latest year for which we could examine 24-month performance). We produced separate estimates for four types of loan products: (1) short-term hybrid ARMs (i.e., 2/28 or 3/27 mortgages), which accounted for 54 percent of the loans originated during this period; (2) longer-term ARMs (i.e., ARMs with interest rates that were fixed for 5, 7, or 10 years before adjusting), which accounted for 10 percent of originations; (3) payment-option ARMs, which represented 6 percent of originations and (4) fixed-rate mortgages, which represented 30

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<sup>39</sup>As previously discussed, data limitations prevented us from developing variables that precisely replicated all of the safe harbor requirements. Had we been able to do so, the results of our statistical analysis might have been different. Additionally, certain variables associated with the risk of default (e.g., borrower income) were not contained in the data set we used and, therefore, are not reflected in our model.

<sup>40</sup>As an alternative specification for short-term hybrid ARMs, we included a variable indicating whether each mortgage was a safe harbor or a non-safe harbor loan, in contrast to including variables for separate safe harbor requirements. We found that this variable had a small marginal effect, most likely because many non-safe harbor loans met some of the safe harbor requirements. In particular, a substantial percentage of non-safe harbor loans had full documentation of borrower income and assets but failed to meet other safe harbor requirements.



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percent of originations.<sup>41</sup> Appendix II provides additional information about our model and estimation results.

Consistent with the consumer protection purpose of the bill's provisions, we found that two safe harbor variables were associated with the probability of default. Across all product types, the safe harbor variable with the largest estimated influence on default probability was documentation of borrower income and assets. For example, less than full documentation was associated with a 5.5 percentage point increase in the estimated probability of default for short-term hybrid ARMs used for home purchases, all other things being equal (see table 4). The corresponding increases in estimated default probabilities for longer-term ARMs, payment-option ARMs, and fixed-rate mortgages were 4.8 percent, 2.0 percent, and 4.6 percent, respectively. The higher default probabilities associated with no- and low-documentation loans may reflect use of this feature to overstate the financial resources of some borrowers and qualify them for larger, potentially unaffordable loans. Our results are generally consistent with prior research showing an association between a lack of documentation and higher default probabilities.<sup>42</sup>

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<sup>41</sup>For short-term hybrid ARMs, longer-term ARMs, and fixed-rate mortgages, we present estimation results for purchase loans in the body of the report, and results for both purchase and refinance loans in appendix II. In the body of the report and appendix II, the estimation results we present for payment-option ARMs are for purchase and refinance loans combined, and reflect mortgages originated from 2003 through 2006. We took this approach for payment-option ARMs because the proportion of purchase loans was relatively small and very few of these loans were made prior to 2003.

<sup>42</sup>Pennington-Cross and Ho, "The Termination of Subprime Hybrid and Fixed Rate Mortgages," *Federal Reserve Bank of St. Louis Working Paper Series* (2006), Sherlund, "The Past, Present, and Future of Subprime Mortgages," *Finance and Economic Discussion Series* 2008-63, *Federal Reserve Board* (2008), Demyanyk, "Quick Exits of Subprime Mortgages," *Federal Reserve Bank of St. Louis Review*, 91(2): (2009).

**Table 4: Estimated Probability of Nonprime Purchase Mortgages Defaulting within 24 months of Origination with and without Full Documentation, 2000-2006 Loans**

Product type	Estimated probability of default	
	Full documentation	Less than full documentation
Short-term hybrid ARMs	14.0%	19.5%
Longer-term ARMs	3.5	8.3
Payment-option ARMs <sup>a</sup>	2.1	4.1
Fixed-rate mortgages	4.7	9.3

Source: GAO analysis of LP data.

Note: The estimated default probabilities we present do not necessarily reflect the ultimate performance of any product type. For example, many payment-option ARMs do not recast to higher, fully amortized payments until 5 years after origination. Because we focused on 24-month performance, our analysis does not capture defaults on payment-option ARMs that may occur due to future increases in monthly payments.

<sup>a</sup>Includes purchase and refinance loans.

A second safe harbor variable that had a significant influence on default probability was the variable representing the difference between the loan’s initial interest rate and the relevant interest rate index (the spread). As previously noted, ARMs with a difference of 3 percentage points or more over a generally accepted interest rate index would not meet one of the bill’s safe harbor interest rate and debt burden requirements. To examine the effect of this variable for each product type, we estimated the default probability assuming the spread was near the 25th percentile (base assumption) for that product and compared this with the estimated default probability assuming the spread was near the 75th percentile (alternative assumption) for that product. We estimated that for short-term hybrid ARMs used for home purchases, moving from the lower spread to the higher one was associated with a 4.0 percentage point increase in default probability, all other things remaining equal (see table 5). The corresponding increases in estimated default probabilities for longer-term ARMs and fixed-rate mortgages were 1.8 percent and 2.6 percent, respectively. These results were generally consistent with other economic research showing a positive relationship between higher interest rates and default probabilities for nonprime mortgages.<sup>43</sup> This relationship may

<sup>43</sup>Demyanyk, “Quick Exits of Subprime Mortgages.”

reflect the higher monthly payments associated with higher interest rates and difficulties borrowers may face in making these payments, particularly during times of economic hardship.

**Table 5: Estimated Probability of Nonprime Purchase Mortgages Defaulting within 24 months of Origination under Different Assumptions for the Safe Harbor Spread Requirement, 2000-2006 Loans**

Variable (base assumption)	Estimated probability of default	Variable (alternative assumption)	Estimated probability of default
Short-term hybrid ARMs			
Spread of 3 percent	14.1%	Spread of 5 percent	18.1%
Longer-term ARMs			
Spread of 1.75 percent	5.2%	Spread of 2.5 percent	7.0%
Fixed-rate mortgages			
Spread of 2 percent	4.8%	Spread of 3.75 percent	7.4%

Source: GAO analysis of LP data.

Note: As indicated earlier, the relevant interest rate index we used for short-term hybrid ARMs was the Treasury 2-year constant maturity rate. For longer-term ARMs we used the Treasury 5-year constant maturity rate, and for fixed-rate mortgages we used the Treasury 10-year constant maturity rate.

We also estimated the effect of the DTI ratio at origination and found that for all product types, this variable did not have a strong influence on the probability of default within 24 months. This relatively weak association may be due, in part, to changes in borrower income or indebtedness after loan origination. For example, a mortgage that is affordable to the borrower at origination may become less so if the borrower experiences a decline in income or takes on additional nonmortgage debt.<sup>44</sup>

Finally, we estimated the effect of the proxy variable we developed for the safe harbor requirement that loans be underwritten to the fully indexed

<sup>44</sup>For a further discussion of this hypothesis, see Foote and others, *Reducing Foreclosures*, Federal Reserve Bank of Boston Public Policy Discussion Paper 09-2, (Apr. 2009).

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rate.<sup>45</sup> As previously noted, if the fully indexed rate was 1 percentage point or less over the initial interest rate, we assumed the loan met this requirement. For all product types, we found that this variable did not have a strong influence on the probability of default within 24 months (see app. II). It is possible that other model specifications—such as examining default probabilities beyond 24 months—would have yielded different results. For example, the difference between the initial interest rate and the fully indexed rate might have been more significant using such an alternative specification because the initial interest rates for many short-term hybrid ARMs begin adjusting upward after 24 months.

In examining the influence of safe harbor variables on the probability of default within 24 months, we controlled for other variables not associated with the safe harbor requirements, such as house price appreciation, borrower credit score, and the LTV ratio. Because these variables have been shown to influence default probabilities, it was important to control for their effects in order to properly analyze the implications of the safe harbor provisions. Consistent with other economic research, we found that house price appreciation, borrower credit score, and the LTV ratio were strongly associated with default probabilities.<sup>46</sup> The estimated influence of these variables on default probabilities for each product type were as follows:

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<sup>45</sup>We did not estimate the effect of the safe harbor variable representing whether a loan was fixed for at least 5 years because this feature is only associated with certain mortgage products. We only estimated the effect of the safe harbor variable representing whether a loan had a negative amortization feature for longer-term ARMs. We did not include it in the models for the other mortgage types because the negative amortization feature was, essentially, never present (in the case of fixed-rate mortgages and short-term hybrid ARMs) or was, essentially, always present (in the case of payment-option ARMs). The lack of variation within these mortgage types made estimating the marginal effects of the negative amortization variable problematic.

<sup>46</sup>Danis and Pennington-Cross, “The Delinquency of Subprime Mortgages,” *Federal Reserve Bank of St. Louis Working Paper 05-022A* (2005), and Sherlund, “The Past, Present, and Future of Subprime Mortgages.”

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- *House price appreciation.*<sup>47</sup> We found that lower rates of house price appreciation were associated with a higher likelihood of default. For each product type, we estimated the default probability assuming house price appreciation near the 75th percentile for that product (base assumption) and compared this with the estimated default probability assuming house price appreciation near the 25th percentile for that product (alternative assumption). For short-term hybrid ARMs used for home purchases, moving from the higher rate of appreciation to the lower rate was associated with a 13.5 percentage point increase in estimated default probability (see fig. 6). The corresponding figures for longer-term ARMs, payment-option ARMs, and fixed-rate mortgages were 3.7 percent, 1.3 percent, and 3.5 percent, respectively.
  - *Borrower credit score.* We found that lower credit scores were associated with a higher likelihood of default. For each product type, we estimated the default probability assuming a borrower credit score close to the 75th percentile for that product (base assumption) and compared this with the estimated default probability assuming a borrower credit score close to the 25th percentile for that product (alternative assumption). For short-term hybrid ARMs used for home purchases, moving from the higher credit score to the lower one was associated with a 7.3 percentage point increase in the estimated default probability (see fig. 6). For longer-term ARMs, payment-option ARMs, and fixed-rate mortgages, the corresponding figures were 3.3 percent, 2.1 percent, and 5.5 percent, respectively.
  - *LTV ratio.* We found that higher LTV ratios were associated with higher probabilities of default. For each product type, we estimated the default probability assuming a LTV ratio close to the 25th percentile for that product (base assumption) and compared this with the estimated default probability assuming a LTV ratio close to the 75th percentile for that product (alternative assumption). For short-term hybrid ARMs used for home purchases, moving from the lower ratio to the higher ratio was associated with a 4.4 percentage point increase in the estimated default

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<sup>47</sup>We used the Federal Housing Finance Agency (FHFA) house index (HPI), which is a broad measure of the movement of single-family house prices. The HPI is a measure designed to capture changes in the value of single-family homes in the U.S. as a whole, in various regions of the country, and in the individual states and the District of Columbia. The HPI is published by FHFA using data provided by Fannie Mae and Freddie Mac. The Office of Federal Housing Enterprise Oversight (OFHEO), one of FHFA's predecessor agencies, began publishing the HPI in the fourth quarter of 1995.

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probability (see fig. 6). The corresponding figures for longer-term ARMs, payment-option ARMs, and fixed-rate mortgages were 4.7 percent, 6.3 percent, and 3.7 percent, respectively.

**Figure 6: Estimated Probability of Nonprime Purchase Mortgages Defaulting within 24 Months under Different House Price Appreciation, Credit Score, and LTV Ratio Assumptions, 2000-2006 Loans**

	Variable	Assumption:		Estimated probability of default
		Base	Alternative	
<b>Short-term hybrid ARMs</b>	House price appreciation 24 months after origination:	25%		10.7%
			0%	24.2%
	Borrower credit score:	675		13.3
			600	20.6
	LTV ratio:	80%		13.6
			100%	18.0
<b>Longer-term ARMs</b>	House price appreciation 24 months after origination:	20%		3.3
			-10%	7.0
	Borrower credit score:	750		4.5
			675	7.8
	LTV ratio:	90%		3.4
			100%	8.1
<b>Payment - option ARMs<sup>a</sup></b>	House price appreciation 24 months after origination:	15%		2.3
			-10%	3.6
	Borrower credit score:	750		2.5
			675	4.6
	LTV ratio:	75%		2.7
			90%	9.0
<b>Fixed-rate mortgages</b>	House price appreciation 24 months after origination:	25%		4.4
			5%	7.9
	Borrower credit score:	725		4.1
			625	9.6
	LTV ratio:	80%		4.7
			100%	8.4

 Base estimated probability of default  
 Alternative estimated probability of default

Source: GAO analysis of LP data.

<sup>a</sup>Includes purchase and refinance loans.

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## Relevant Research and Stakeholder Perspectives Do Not Provide a Consensus View on the Bill's Potential Impact

While some research indicates that anti-predatory lending laws can reduce originations of problematic loans without overly restricting credit, research on state and local anti-predatory lending laws and the views of mortgage industry stakeholders do not provide a consensus view on the potential effects of the bill. The state and local anti-predatory lending laws we reviewed are, in some ways, similar to the bill, but the results of the research on these laws may have limited applicability to the bill for a number of reasons. Mortgage industry and consumer group representatives we interviewed disagreed on the bill's potential effect on credit availability and consumer protections. For example, mortgage industry representatives said that the safe harbor and assignee liability provisions were too stringent and would restrict and raise the cost of mortgage credit. In contrast, consumer group representatives indicated that the provisions were not strong enough to prevent predatory lending and, thereby, protect borrowers.

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## Research Shows That State and Local Laws Can Affect Mortgage Lending, but the Findings Are Difficult to Apply to the Bill

Several studies have examined the impact of state and local anti-predatory lending laws on subprime mortgage markets. Our review of eight such studies found evidence that anti-predatory lending laws can have the intended effect of reducing loans with problematic features without substantially affecting credit availability, but also that it is difficult to generalize these findings to all anti-predatory lending laws or to the potential effect of the bill.<sup>48</sup> The studies we reviewed fell into two broad categories: those that focused solely on the North Carolina law and those that examined laws in multiple states and localities. In general, the researchers measured the effect of the laws in terms of the volume of subprime originations, the probability of originating a subprime loan, or the probability of originating a loan with predatory characteristics.

The three studies on the North Carolina law (which was implemented in phases beginning in October 1999 and ending in July 2000) concluded that the law had a dampening effect on subprime originations in that state, but one found that the drop occurred primarily in the types of loans targeted by the law. For example, using data from nine subprime lenders and controlling for a number of demographic and housing market variables,

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<sup>48</sup>We identified a number of studies examining the impact of state and local anti-predatory lending laws on subprime mortgage lending. We narrowed our scope to eight studies that used control groups (e.g., comparison states without anti-predatory lending laws) or statistical techniques that controlled for factors other than the laws that could affect lending patterns.



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Ellehausen and Staten estimated that subprime originations fell by 14 percent after the law was first implemented.<sup>49</sup> A second study by Quercia, Stegman, and Davis that used an LP data set with broader coverage and used neighboring states as a control group, found that subprime originations declined 3 percent after the law was fully implemented and that subprime originations in four neighboring states without similar laws rose over the same period.<sup>50</sup> Importantly, the authors also determined that 90 percent of the decline in subprime originations resulted from a decrease in refinance loans with one or more “predatory” characteristics, such as prepayment penalties lasting 3 years or more, balloon payments, or LTV ratios over 110 percent. Finally, a study by Burnett, Finkel and Kaul, which used Home Mortgage Disclosure Act (HMDA) data and also used neighboring states as a control group, found a 0.2 percent increase in subprime originations in North Carolina after implementation of the law. Like the Quercia study, the study by Burnett and others concluded that subprime refinance loans fell sharply in North Carolina over the period examined and that states neighboring North Carolina experienced higher percentage increases in total subprime originations.<sup>51</sup> Additionally, the study noted that the volume of subprime originations in North Carolina fell in census tracts that were more than 50 percent minority but rose in other areas.

The five studies that examined multiple state and local anti-predatory lending laws found mixed results but provide insights into the importance of the specific attributes of the laws. For example, using HMDA data, Ho and Pennington-Cross calculated the percentage change in subprime originations in 10 states with anti-predatory lending laws over periods that captured each state’s experience before and after the laws were passed.<sup>52</sup>

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<sup>49</sup>Ellehausen and Staten, “Regulation of Subprime Mortgage Products: An Analysis of North Carolina’s Predatory Lending Law,” *Journal of Real Estate Finance and Economics* 29: (2004). The study used data covering the period from January 1997 through March 2000.

<sup>50</sup>Quercia, Stegman, and Davis, “Assessing the Impact of North Carolina’s Predatory Lending Law,” *Housing Policy Debate* 15: (2004). The study compared the volume of subprime originations in the seven quarters prior to the initial implementation of the law to the seven quarters after the law’s full implementation.

<sup>51</sup>Burnett, Finkel, and Kaul, “Mortgage Lending in North Carolina After the Anti-Predatory Lending Law,” *A Report from Abt Associates to the Mortgage Bankers Association of America*, (Cambridge, MA: 2004). The study used data covering 1997 through 1998 and 2000 through 2002.

<sup>52</sup>Ho and Pennington-Cross, “The Varying Effects of Predatory Lending Laws on High-Cost Mortgage Applications,” *Federal Reserve Bank of St. Louis Review* 89: (2007). The study used data covering 1999 through 2004.

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They compared the changes they found with the corresponding changes during the same periods in a control group of neighboring states without such laws. They found that in 5 of the 10 states (including North Carolina) with anti-predatory lending laws, subprime originations increased less than in the control group, but that in the other 5 states, subprime originations increased more. In another study, Ho and Pennington-Cross developed a legal index to measure the coverage and restrictions of anti-predatory lending laws, and examined how laws in 25 states and 3 localities affected the probability of originating a subprime loan.<sup>53</sup> They found that, controlling for other factors, anti-predatory lending laws can increase, decrease, or have no effect on the flow of mortgage credit. Specifically, they found that:

- laws with broader coverage (i.e., those affecting a larger portion of the market) increased the estimated likelihood of subprime originations;
- those with greater restrictions (i.e., those with stricter limits on high-risk loan features) decreased the estimated likelihood of subprime originations; and
- in some instances, these two effects appeared to cancel each other out.

As a result, they noted that the design of the law can have an important impact on the availability of credit in the subprime market. For example, the authors hypothesized that the effect of broader coverage may result from borrowers being more comfortable applying for a mortgage where there is a law to protect them from predatory loans.

A study by Bostic and others built on this research by refining the legal index previously discussed, adding an enforcement dimension to the index, and examining a larger set of laws.<sup>54</sup> The study confirmed the earlier findings regarding the impact of the coverage and restriction provisions of anti-predatory lending laws on the subprime market. Additionally, this study found that the strength of a law's enforcement provisions (e.g., the

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<sup>53</sup>Ho and Pennington-Cross, "The impact of local predatory lending laws on the flow of subprime credit," *Journal of Urban Economics* 60: (2006).

<sup>54</sup>Bostic and others, "State and Local Anti-Predatory Lending Laws: The Effect of Legal Enforcement Mechanisms," *Journal of Economics and Business* 60: (2007). The study examined 44 states with either anti-predatory lending laws or other laws or regulations regulating prepayment penalties, balloon clauses, or mandatory arbitration clauses in residential mortgages as of January 1, 2007.

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extent of potential liability for assignees) was not associated with changes in the estimated likelihood of subprime originations.

Li and Ernst examined anti-predatory lending laws in 33 states and used LP data on subprime mortgages made from January 1998 through March 2005 to examine the impact of these laws on the origination of loans with predatory features and the cost of subprime credit.<sup>55</sup> They concluded that state anti-predatory lending laws that provided greater consumer protections than HOEPA had the intended effect of reducing subprime mortgages with predatory features. They also concluded that such laws did not lead to any systematic increase in costs to consumers. Pennington-Cross and Ho also examined the impact of predatory lending laws on the cost of subprime credit by reviewing anti-predatory lending laws in 24 states and analyzing HMDA and LP data from 1998 through 2005.<sup>56</sup> They concluded that these laws resulted in, at most, a modest increase to consumers' cost of borrowing.

Although the bill is, in some ways, similar to the state and local laws analyzed in these studies, the results of these studies may have limited applicability to it, for a number of reasons. First, the legal indexes used by some researchers to assess the impact of state and local laws are based on an older set of laws that are similar to HOEPA. According to one of these researchers, the indexes do not take into account a newer generation of laws that, like the bill, have different thresholds and restrictions and cover products that were previously not common in the marketplace (e.g., low- and no-documentation loans). As a result, evaluating the bill, using these analytical tools, could be problematic. Additionally, the impact of a federal law could be different than the effects of state and local laws. For example, lenders or assignees may choose to exit a state or local market rather than comply with that jurisdiction's anti-predatory lending law but still conduct business in other markets. However, under a federal law, these entities would not have that option. Finally, prior studies examined the impact of laws during a relatively active period in the subprime lending market. If a law similar to the bill were to be passed in the near future, it would be implemented in the wake of a major contraction in the mortgage

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<sup>55</sup>Li and Ernst, "Do State Predatory Lending Laws Work? A Panel Analysis of Market Reforms," *Housing Policy Debate* 18: (2007).

<sup>56</sup>Pennington-Cross and Ho, "Predatory Lending Laws and the Cost of Credit," *Real Estate Economics*, 36: (2008).

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market that would likely affect the response of both the mortgage industry and consumers to new lending standards.

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### Views Differed Regarding the Bill's Long-Term Effect on the Mortgage Market

Mortgage industry representatives and consumer groups we interviewed generally agreed that the bill would have little short-term impact on the mortgage market because of existing market conditions. However, they held different views on the long-term impact that key provisions in the bill would have on consumer access to affordable credit and protection from predatory lending practices.

### Recent Market Conditions and Regulatory Initiatives

Representatives from both groups generally agreed that the bill would have very little impact on mortgage originations in the current financial environment because the overall primary market was highly constrained, with lenders tightening qualifications for all borrowers and the market for private label MBS virtually nonexistent. In addition, representatives from mortgage industry groups expected that the Federal Reserve's revisions to Regulation Z could lessen the impact of the bill.<sup>57</sup> Specifically, the groups stated that the revisions to Regulation Z would place lender requirements on nonprime loans that were similar to the bill's safe harbor requirements. For example, both the Regulation Z revisions and the bill's safe harbor require that borrowers obtaining loans with APRs over certain thresholds provide full documentation of income and assets and qualify for ARMs based on a monthly payment that takes into account scheduled interest rate increases.<sup>58</sup>

### Safe Harbor Requirements

Mortgage industry representatives we interviewed generally viewed the bill's safe harbor requirements as overly restrictive and said that these requirements would reduce mortgage options and increase the cost of credit for certain borrowers. Some of these representatives said that lenders would be unwilling to make loans that did not meet the safe harbor requirements. They cited the experience with HOEPA as an example of what might take place if the safe harbor requirements were put in place. Specifically, they noted that since the implementation of HOEPA,

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<sup>57</sup>The Federal Reserve Board made revisions in 2008 to Regulation Z, which implement the Truth in Lending Act and HOEPA.

<sup>58</sup>The bill's safe harbor requires lenders to qualify borrowers at the fully indexed rate, which is defined as the index rate at the time of origination plus the lender's margin. Regulation Z requires lenders to qualify borrowers at the highest possible payment in the first 7 years of the loan for both higher-priced and high-cost HOEPA loans. In addition, both the Act and Regulation Z limit, or in certain cases prohibit, prepayment penalties.

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very few lenders have been willing to make mortgages considered “high cost” loans under HOEPA’s provisions because they cannot sell them to the secondary market. For example, in 2006, less than 1 percent of mortgages were high cost loans, as defined by HOEPA regulations.

The industry representatives also said that specific safe harbor requirements would reduce access to credit for certain types of borrowers. For example, they said that the safe harbor requirement that would prohibit loans with less than full documentation of income and assets could restrict access to credit for borrowers with irregular income streams, such as some small business owners. Some industry representatives acknowledged that many low- and no-documentation mortgages should not have been made, but said that some flexibility should be allowed under this requirement to account for borrowers with nontraditional sources of income.

In addition, industry representatives said that borrowers who had responsibly used negative amortization loans in the past could face limited mortgage options under the bill, as the safe harbor requirement would prohibit these loans. Some industry representatives acknowledged that negative amortization products had been used inappropriately in recent years to allow some borrowers to buy homes that they might not have been able to afford, but added that prohibiting this feature would adversely impact borrowers who had used this product responsibly. For example, some borrowers with irregular income have taken out negative amortization loans in order to pay minimum amounts when their income was low and higher amounts when their income increased. One mortgage industry participant suggested that one way to address concerns that these loans subject borrowers to payment shock would be to limit the amount by which the mortgage payments could reset.

In contrast, representatives from consumer groups that we interviewed generally indicated that the safe harbor requirements would need to be strengthened and applied to a broader range of loans in order to prevent predatory lending practices to protect borrowers. For example, some representatives supported adding more consumer protection features to the bill, such as prohibiting prepayment penalties, balloon payments, and

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yield spread premiums.<sup>59</sup> They also said that the bill's safe harbor requirements should be applied to all mortgages, including FHA-insured mortgages and loans with relatively low APRs, because these loans could also contain predatory features.

Most of the consumer group representatives said that strengthening safe harbor requirements and applying them more broadly would not significantly affect the cost or availability of credit. For example, in response to industry concerns that requiring full documentation would restrict some borrowers' access to credit, consumer group representatives noted that full documentation had already become a marketplace standard. They generally believed that the majority of borrowers, including self-employed consumers, could provide sufficient documentation using their income tax records, but some groups supported limited flexibility in the types of documents that would be accepted. In addition, while industry groups were concerned that prohibiting loans with a negative amortization feature under the bill's safe harbor provisions could restrict credit to some borrowers, consumer groups supported prohibiting this feature in order to protect consumers from potential payment shock. Some of these representatives acknowledged that negative amortization loans could be suitable for certain borrowers, but they viewed these cases as exceptional and did not think the potential benefits to a small segment outweighed the potential costs to the larger portion of the market.

## Assignee Liability Provisions

Mortgage industry representatives we interviewed generally said that the bill's assignee liability provisions would increase the cost of credit for borrowers and deter secondary market participants from reentering the nonprime market. Specifically, these representatives said that the cost of complying with the bill's assignee liability provisions, including secondary market participants' cost of due diligence procedures, would increase the cost of credit and cause some secondary market participants to stop securitizing loans. Some industry representatives stated that mortgage originators were better positioned to conduct due diligence to ensure that loans were responsibly underwritten and argued that mortgage reform legislation should focus on enhancing the primary market's underwriting standards.

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<sup>59</sup> A more recent bill with similar purposes, the Mortgage Reform and Anti-Predatory Lending Act of 2009 (H.R. 1728) bans yield spread premiums for all mortgages. A "yield spread premium" is a payment a mortgage broker receives from a lender based on the difference between the actual interest rate on the loan and the rate the lender would have accepted on the loan given the risks and costs involved.

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Mortgage industry representatives also said that lack of certainty in what assignees could be held liable for under the bill would deter participants from reentering the secondary market. For example, some representatives noted that the bill did not clearly define the standards that assignees would be held to, such as “ability to repay” and “net tangible benefit.” They cited Georgia’s 2002 anti-predatory lending law as an example of how the lack of clarity concerning assignee liability could adversely impact the market. As we have reported, because of the uncertainty surrounding potential liability under the Georgia law, secondary market participants withdrew from the mortgage market in Georgia until the provisions were repealed.<sup>60</sup>

In contrast, consumer group representatives generally believed that enhanced regulation and accountability in the secondary market would provide consumers with greater protections against predatory lending practices. These representatives generally supported strengthening the bill’s assignee liability provisions. For example, some consumer group representatives said that the bill’s assignee liability provisions should not allow for any exemptions from liability, such as allowing assignees to cure a loan (i.e., modify or refinance the loan so that it meets the bill’s minimum lending standards) to avoid liability. They noted that some assignees might choose to cure the relatively few loans that violate the bill’s minimum lending standards, rather than invest the resources in due diligence policies and procedures that would help prevent predatory lending practices.

Further, consumer groups said that the bill should not preempt state assignee liability laws because these laws could potentially provide consumers with an ability to seek redress if they obtain a predatory loan. Finally, representatives of consumer groups also said that applying the assignee liability provisions more broadly, beyond the bill’s nonqualified mortgages, could also help prevent predatory lending on a wider variety of mortgages. They contended that stronger and broader assignee liability provisions would not significantly impact the cost of or access to credit and would set a standard to which secondary market participants would eventually adapt.

## Federal Preemption of State Anti-Predatory Lending Laws

Mortgage industry representatives preferred that any federal legislation on mortgage lending preempt all state anti-predatory lending laws, not just

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<sup>60</sup> [GAO-04-280](#).

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assignee liability laws, in order to reduce the cost of and increase the availability of credit. They stated that a uniform set of mortgage standards for lenders would significantly reduce the cost of doing business and that these savings could be passed on to consumers. According to one mortgage industry participant, under the current legal and regulatory environment, lenders' costs are higher because lenders are required to develop systems to track laws and regulations in up to 50 states, monitor these laws and regulations, and ensure they are in compliance with them. Some industry representatives stated that federal preemption could also lower consumer costs by applying uniform standards and supporting competition between state- and federally licensed mortgage originators. Mortgage industry representatives also said that full federal preemption would provide a uniform set of standards that would renew activity in the secondary market, thereby, allowing lenders to make more credit available to consumers.

In contrast, consumer group representatives generally believed that federal legislation should not preempt state laws, because consumers benefited from states' abilities to enact stronger consumer protection laws. For example, some consumer groups said that in the past, states had responded faster to predatory lending abuses than federal regulators in enacting anti-predatory lending laws, and expected this to continue if a federal bill did not preempt state laws. Further, some of these representatives said that state and federal regulations existed in a complementary framework in other areas, such as civil rights and the environment, and generally did not think that compliance costs would be significant in light of the benefits to consumers and the long-term sustainability of the mortgage market. They viewed states' experimentation with mortgage reform as an important source of useful information on changes in market conditions and industry responses to different approaches.

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## Agency Comments and Our Evaluation

We provided a draft of this report to the Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency, Office of Thrift Supervision, National Credit Union Administration, Department of Housing and Urban Development, Federal Trade Commission, and Securities and Exchange Commission. We received written comments from NCUA, which are summarized below. Appendix III contains a reprint of NCUA's letter. The Federal Reserve, FDIC, OCC, HUD, and FTC provided technical comments, which we incorporated into this report, where appropriate.



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In its written comments, NCUA reiterated several of our findings and noted that the findings supported its view that ensuring borrowers have a reasonable ability to repay is in the best interest of credit unions and their members.

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We are sending copies of this report to the Ranking Member, House Financial Services Committee and other interested parties. We will also send copies to the Federal Reserve, FDIC, OCC, OTS, NCUA, HUD, FTC, and SEC. The report also will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have questions about this report, please contact me at (202) 512-8678 or [shearw@gao.gov](mailto:shearw@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs are on the last page of this report. GAO staff who made major contributions to this report are listed in appendix IV.



William B. Shear  
Director, Financial Markets  
and Community Investment

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# Appendix I: Objectives, Scope, and Methodology

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Our objectives were to (1) assess the proportion of recent nonprime loans that would likely have met and not met the Mortgage Reform and Anti-Predatory Lending Act of 2007's (bill) safe harbor requirements, and how variables associated with those requirements affect loan performance; and (2) discuss relevant research and the views of mortgage industry stakeholders concerning the potential impact of key provisions of the bill on the mortgage market. The scope of our analysis was limited to the nonprime mortgages.

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## Nonprime Loans and the Safe Harbor Requirements

To assess the proportions of nonprime loans originated from 2000 through 2007 that would likely have met and not met the bill's safe harbor requirements, we analyzed data on subprime and Alt-A (nonprime) mortgages from that period. Specifically, we analyzed information from LoanPerformance's (LP) Asset-backed Securities database, which contains loan-level data on nonagency securitized mortgages in subprime and Alt-A pools.<sup>1</sup> About three-quarters of subprime mortgages were securitized in recent years. For purposes of this report, we defined subprime loans as mortgages in subprime pools and Alt-A loans as mortgages in Alt-A pools.<sup>2</sup> The LP database covers the vast majority of mortgages in nonagency subprime and Alt-A securitizations. For example, for the period 2001 through July 2007, the LP database contains information covering (in dollar terms) an estimated 87 percent of securitized subprime loans and 98 percent of securitized Alt-A loans (see table 6). Nonprime mortgages that were not securitized (i.e., mortgages that lenders held in portfolio) may have different characteristics and performance histories than those that were securitized.

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<sup>1</sup>Nonagency mortgage-backed securities (MBS), also known as private-label MBS, are backed by nonconforming mortgages securitized primarily by investment banks.

<sup>2</sup>We used this approach because the field in the LP database indicating whether a mortgage was subprime or Alt-A was not well-populated. According to mortgage researchers, some of the loans in subprime pools may not be subprime loans, and some of the loans in Alt-A pools may not be Alt-A loans.

**Table 6: Estimated Percentage of Nonagency Securitized Subprime and Alt-A Loans in the LP Database, 2001-2007**

	Year						
	2001	2002	2003	2004	2005	2006	2007 <sup>a</sup>
Subprime	83%	77%	87%	87%	88%	91%	85%
Alt-A	97	99	99	97	98	98	96

Source: LP.

Note: Percentages are in terms of dollar volume.

<sup>a</sup>Percentages reflect loans securitized as of the end of July 2007.

For our analysis, we used a random 2 percent sample of the database that amounted to almost 300,000 loans for the 2000 through 2007 period. Our sample included purchase and refinance mortgages and loans to owner-occupants and investors, and excluded second-lien mortgages.

We assessed the reliability of the data by interviewing LP representatives about the methods they use to collect and ensure the integrity of the information. We also reviewed supporting documentation about the database, including LP’s estimates of the database’s market coverage. In addition, we conducted reasonableness checks on the data to identify any missing, erroneous, or outlying figures. We found the data elements we used to be sufficiently reliable.

To estimate the proportion of loans that likely would have met and not met the safe harbor requirements, we used variables in the LP database that directly corresponded with the requirements and developed proxies when the database did not contain such variables (see table 7).

**Table 7: Safe Harbor Requirements and LP Variables Used to Duplicate the Requirements or Develop Proxies**

<b>Safe harbor requirement</b>	<b>LP variable used</b>	<b>Comments</b>
Loan must have full documentation of income and financial resources of borrower.	DOCUMENT: Specifies whether the loan has full, low, or no documentation.	Loans with full documentation met the requirement. Loans with low or no documentation did not meet the requirement.
Loan must be underwritten to the fully indexed rate. (This requirement only applies to adjustable rate mortgages (ARM)).	INDEX_ID: Specifies the type of interest rate index to which an ARM is tied (e.g., London Interbank Offered Rate (LIBOR)) MARGIN: Specifies the margin for ARMs. INIT_RATE: Specifies the initial interest rate as of the loan's first payment.	The LP data set did not have information on this safe harbor requirement. As a result, we developed a proxy by assuming that the mortgage met the requirement if the fully indexed rate (the index plus the margin) was 1 percentage point or less over the initial interest rate, indicating a reasonable likelihood that the borrower could have qualified at the fully indexed rate.
Loan must not negatively amortize.	NEGAM: Specifies whether the loan had a negative amortization feature.	Loans with a negative amortization feature did not meet the requirement. Loans without this feature met the requirement.
<b>Loans must meet one of the following three requirements</b>		
Loan must have a fixed interest rate for at least 5 years.	PROD_TYPE: Contains an indicator for fixed-rate mortgages. FIRST_RATE: Indicates the length of the initial fixed-rate period (in months) for ARMs.	For ARMs, if the length of the initial fixed-rate period was shorter than 60 months, the loan did not meet the requirement. All other ARMs and fixed-rate mortgages met the requirement.
Loan meets a debt-service-to-income (DTI) ratio to be established in regulation.	UNDER_RAT 1: Represents the borrower's total monthly debt service payments divided by monthly gross income.	For purposes of our analysis, we assumed that if the DTI ratio was 41 percent or less, the loan met the requirement. The 41 percent ratio serves as a guideline in underwriting mortgages insured by the Federal Housing Administration (FHA). Our analysis of this requirement only included loans for which DTI information was available. About 37 percent of the loans in the LP data did not have information on the DTI ratio.
Variable rate loans must have an Annual Percentage Rate (APR) less than 3 percentage points over a generally accepted interest rate index.	INIT_RATE: Initial or original interest rate as of the loan's first payment date.	The LP data did not include APRs, so we developed a proxy that compared the initial interest rate on the loan to the relevant interest rate index. For short-term hybrid ARMs (e.g., 2/28 and 3/27 mortgages), we used the Treasury 2-year constant maturity rate. For longer-term ARMs, we used the Treasury 5-year constant maturity rate. When the difference between the initial interest rate and the relevant interest rate index was less than 3 percentage points, we assumed that the loan met the requirement.

Source: GAO.

To compare the demographic characteristics (e.g., race, ethnicity, and income level) of safe harbor and nonsafe harbor loans, we incorporated

data from the Census Bureau. More specifically, whenever possible, we linked the zip code for each loan reported in the LP data to an associated census tract in a metropolitan statistical area (MSA).<sup>3</sup> We grouped the zip codes according to the percentage of households that Census identified as black or African-American and Hispanic or Latino. The groupings in our analysis were: (1) less than 5 percent, (2) 5 to 24 percent, (3) 25 to 74 percent, and (4) 75 percent or greater of household populations. We also grouped zip codes according to the median income of the MSA of a given zip code. The specific groupings in our analysis were low-, moderate-, and upper-income zip codes, defined as those with median incomes that were less than 80 percent, at least 80 percent but less than 120 percent, and 120 percent and above, respectively, of the median income for the associated MSA.

To analyze nonsafe harbor loans by borrower credit score, we used the FICO scores in the LP database. FICO scores, generally based on software developed Fair, Isaac and Company, are a numerical indicator of a borrower's creditworthiness. The scores range from 300 to 850, with higher scores indicating a better credit history. For our analysis, we used 4 ranges of scores: 599 and below, 600 to 659, 660 to 719, and 720 and above.

To examine factors affecting the performance of nonprime loans, we developed an econometric model to estimate the relationship between variables associated with the safe harbor requirements, as well as other variables, and the probability of a loan defaulting within 24 months of origination. We developed the model using data on mortgages originated from 2000 through 2006 (the latest year for which we could examine 24-month performance). Detailed information about our model and our estimation results are presented in appendix II.

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## Research on State and Local Anti-Predatory Lending Laws and Views of Mortgage Industry Stakeholders

To describe relevant research on the bill's potential effect on the mortgage market, we identified and reviewed empirical studies on the impact of state and local anti-predatory lending laws on key nonprime mortgage indicators, such as subprime mortgage originations and the cost of credit. While we identified a number of such studies, we narrowed our scope to eight studies that used control groups (e.g., comparison states without

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<sup>3</sup>We used the Census 2000 data for our analysis. We were able to link race and ethnicity information for about 98 percent of the loans and income information for about 89 percent of the loans.

anti-predatory lending laws) or statistical techniques that controlled for factors other than the laws that could affect lending patterns. The studies we reviewed fell into two broad categories: three studies that focused solely on North Carolina's 1999 anti-predatory lending law and five that examined laws in multiple states and localities. In general, the researchers measured the effects of the laws in terms of the volume of subprime originations, the probability of originating a subprime loan, or the probability of originating a loan with predatory characteristics. Our review of these eight studies included an examination of the methodologies used, the data and time periods used, the limitations of the studies, and the conclusions. We also interviewed selected authors to ensure that we interpreted their results correctly and to obtain their views on whether the results from their studies might apply to the potential impact of the bill on the mortgage market.

To obtain the views of mortgage industry stakeholders, we reviewed written statements and congressional testimony about the bill by officials from the federal banking regulatory agencies and organizations representing mortgage lenders, mortgage brokers, securitizers, and consumer interests. We also interviewed officials from a number of these organizations, including the Mortgage Bankers Association, American Securitization Forum, American Financial Services Association, American Bankers Association, Independent Community Bankers of America, National Association of Mortgage Brokers, Center for Responsible Lending, National Community Reinvestment Coalition, National Consumer Law Center, Neighborhood Association of Consumer Advocates, and Consumer Federation of America. In addition, we interviewed officials from a large mortgage lender and a major investment bank involved in the securitization of mortgages. Finally, we interviewed officials from the federal banking regulatory agencies, the Department of Housing and Urban Development (HUD), the Federal Trade Commission (FTC), and the Securities and Exchange Commission (SEC).

We conducted this performance audit from March 2008 to July 2009, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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# Appendix II: Description of the Econometric Analysis of Safe Harbor Requirements

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This appendix describes the econometric model we developed to examine the relationship between variables associated with the bill's safe harbor requirements, as well as other variables, and the probability of a loan entering default. Safe harbor requirements include features related to documentation of borrower income and assets, limits on debt-service-to-income (DTI) ratios, the duration before which any interest rate adjustments may occur, limits on the relationship between a loan's annual percentage rate and other prevailing interest rates at origination, and prohibitions on mortgages that allow negative amortization. The safe harbor requirements limit features that may increase the risk of default, but they may also restrict the number and types of mortgages lenders are willing to originate. Since the requirements were not in effect during the recent past, we do not know in what ways lenders and securitizers may have responded to their introduction. Therefore, we characterize our evaluation as an assessment of whether mortgages with safe harbor characteristics performed better than those without them, as opposed to an assessment of the effects of the introduction of a safe harbor. Our investigation focused on a recent set of nonprime mortgages and controlled for a variety of loan, borrower, and housing market conditions that are likely to affect mortgage performance.

To do this work, we analyzed a 2 percent random sample of securitized nonprime loans originated from 2000 through 2006 from LoanPerformance's (LP) Asset-backed Securities database. Our sample was comprised of the approximately 92 percent of loans for which the associated property was located in an area covered by the Federal Housing Finance Agency's house price indexes for metropolitan areas. The LP database has been used extensively by regulators and others to examine the characteristics and performance of nonprime loans. The database provides information on loan characteristics, from which we developed variables that indicated or measured relevant safe harbor requirements. We determined the status of each loan 24 months after the month of first payment. We used loan performance history through the end of December 2008. We defined a loan as being in default if it was delinquent by at least 90 days, in the foreclosure process (including loans identified as in real-estate-owned status), paid off after being 90-days delinquent or in foreclosure, or had already terminated with evidence of a loss.

We categorized loans as follows: short-term hybrid adjustable rate mortgages (ARM) (essentially 2/28 and 3/27 mortgages), fixed-rate mortgages, payment-option ARMs, and other longer-term ARMs (i.e., ARMs with 5-, 7-, and 10-year fixed-rate periods). We included only first-

lien loans for which the borrower is identified as an owner-occupant, and we estimated default probabilities for purchase money loans separately from loans for refinancing except for payment-option ARMs, for which we examined purchase and refinancing loans together. Our primary reason for examining performance by mortgage type is that borrower incentives and motivations may vary for loans with different characteristics. For example, short-term hybrid ARMs provide a strong incentive for a borrower to exit from a mortgage by the time the interest rate begins to reset.

We estimated separate default models for each mortgage type, although the general underlying structure of the models was similar. We used a logistic regression model to explain the probability of loan default, based on the observed pattern of actual defaults and the values of safe harbor variables and a subset of other variables known to be associated with loan performance (see table 8). Many loan and borrower characteristics are likely to influence the status of a mortgage over time. Some factors describe conditions at the time of mortgage origination, such as the loan-to-value (LTV) ratio and the borrower’s credit score. Other important factors may change over time, sometimes dramatically, without being observed by a lender, loan servicer, or researcher. For instance, an individual household’s income may change due to job loss, increasing the probability of default. Other conditions vary over time in ways that can be observed, or at least approximated. For example, greater house price appreciation (HPA) contributes to greater housing equity, thus reducing the probability that a borrower, if facing financial distress, views defaulting on a loan as a better option than prepaying. We focused on whether a loan defaulted within 24 months as our measure of performance because a large proportion of nonprime borrowers had hybrid ARMs and prepaid their loans (e.g., by refinancing) within 2 years. Using a 24-month time frame allowed us to include these loans in our model, as well as loans originated in 2006, a year in which many nonprime loans were originated.

**Table 8: Variables Used in the Model**

Variable	Variable description
Mortgage default (dependent variable)	1 if the mortgage was in default by 24 months, 0 otherwise. We defined a loan as in default if it was delinquent by at least 90 days, in the foreclosure process (including loans identified as in real-estate-owned status), paid off after being 90-days delinquent or in foreclosure, or had already terminated with evidence of a loss.
Origination year indicator	1 if the mortgage was originated in 2000, 0 otherwise
	1 if the mortgage was originated in 2001, 0 otherwise
	1 if the mortgage was originated in 2002, 0 otherwise



**Appendix II: Description of the Econometric  
Analysis of Safe Harbor Requirements**

<b>Variable</b>	<b>Variable description</b>
	1 if the mortgage was originated in 2003, 0 otherwise
	1 if the mortgage was originated in 2005, 0 otherwise
	1 if the mortgage was originated in 2006, 0 otherwise
Combined LTV ratio	Defined as a continuous variable. Represents the amount of the mortgage and any associated second lien divided by the house value. The LP data do not capture all second liens. As a result, the combined LTV ratios are likely understated for some loans.
FICO score	Defined as a continuous variable for payment-option ARMs. For other mortgage types, defined as a set of continuous variables split into low, middle, and high ranges. Specifically, for short-term hybrid ARMs and fixed-rate mortgages, the low FICO range was either 600 or the FICO score itself if the FICO score was below 600; the middle range varied between 0 and 60, with a minimum of 0 if the FICO score was below 600, a maximum of 60 if the FICO score was above 660, and between 0 and 60 if the FICO was between 600 and 660; and the high range was 0 for FICO scores below 660 and the difference between the FICO score and 660 for FICO scores above 660. Because Alt-A borrowers generally had higher credit scores, the range boundaries for longer-term ARMs were 660 and 720, rather than 600 and 660.
House price appreciation	Defined using the Federal Housing Finance Agency’s metropolitan house price indexes and split into two time periods: one measuring appreciation during the first four quarters after origination and the second measuring appreciation during the second four quarters after origination. We assigned each loan to a metropolitan area using the property zip code information in the LP database and data that relates zip codes to Core-based Statistical Areas.
Full documentation of borrower income and assets	1 if full documentation, 0 otherwise
Negative amortization feature	1 if allows negative amortization, 0 otherwise
Meets fully indexed proxy	1 if the fully indexed rate is 1 percentage point or less over the initial rate, 0 otherwise. Only used for ARMs.
DTI ratio	Defined as a continuous variable. Represented the borrower’s total monthly debt service payments divided by monthly gross income.
Spread over relevant interest rate index	Defined as a continuous variable. Represented the difference between a loan’s initial interest rate and the relevant Treasury rate at the time of origination. For short-term hybrid ARMs, we used the 2-year Treasury constant maturity rate, for fixed-rate mortgages we used the 10-year Treasury constant maturity rate, and for payment-option and longer-term ARMs, we used the 5-year Treasury constant maturity rate.
Interest-only loan	1 if loan type indicated interest-only feature, 0 otherwise

Source: GAO.

Note: In the case of longer-term ARMs and fixed-rate mortgages, we also included indicator variables for whether the loan was securitized in a subprime or Alt-A pool because these mortgage types appear in substantial numbers in both types of pools. In contrast, payment-option ARMs were almost entirely found in Alt-A pools, and short-term hybrid ARMs were substantially found in subprime pools. In the case of longer-term ARMs, we included indicator variables for loans with 7- and 10-year fixed-rate periods. In the case of payment-option ARMs, we included an indicator variable for whether the loan was a purchase or refinance loan.

For reasons described below, some of the variables associated with the safe harbor requirements are included in all four models, while others are only included in certain models:

- *Full documentation of borrower income and assets:* This variable is in all four models.
- *Negative amortization feature:* This variable is only in the model for longer-term ARMs. We did not include it in the models for the other mortgage types because the negative amortization feature was essentially never present (in the case of fixed-rate mortgages and short-term hybrid ARMs) or was essentially always present (in the case of payment-option ARMs). The lack of variation within these mortgage types made estimating the marginal effects of the negative amortization variable problematic.
- *Fully indexed proxy:* This variable is in three of the models, but we do not include it in the model for fixed-rate mortgages because it is only relevant to loans with adjustable interest rates.
- *DTI ratio:* In the context of the bill's safe harbor requirements, this variable would only apply to short-term hybrid ARMs and payment-option ARMs. However, we include it in all four models because the DTI ratio is an important measure of the borrower's ability to repay.
- *Spread over relevant interest rate index:* In the context of the bill's safe harbor requirements, this variable would only apply to short-term hybrid ARMs.<sup>1</sup> However, we include it in all four models because loans with higher interest rates may be at greater risk of default due to their higher monthly payments.

Tables 9 through 12 provide information on the number of loans and mean values for each of the mortgage types for which we estimated default probabilities. Short-term hybrid ARMs were the most prevalent type of mortgage, and refinance loans were more prevalent than purchase loans. In addition, more loans were originated in the later portion of the time period we examined than the earlier portion. Default rates were highest for short-term hybrid ARMs, lower for loans originated in the middle years of the time period and higher for purchase loans than for refinance loans.

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<sup>1</sup>As discussed earlier, this variable is one of three requirements in the bill's interest rate and debt burden requirements. Under the bill, safe harbor mortgages would only have to meet one of the three requirements. As a result, the "spread" requirement would not apply to fixed-rate mortgages and longer-term ARMs because they would meet the requirement that a loan have a fixed interest rate for at least 5 years. The spread requirement would also not apply to payment-option ARMs because they typically fail to meet the safe harbor requirement that loans not contain a negative amortization feature.

**Table 9: Mean Values for Short-term Hybrid ARMs with DTI Information**

	Purchase loans	Refinance loans
Number of observations	33,985	45,622
Mortgage in default by 24 months	0.208	0.146
Mortgage originated in 2000	0.027	0.029
Mortgage originated in 2001	0.034	0.049
Mortgage originated in 2002	0.051	0.081
Mortgage originated in 2003	0.100	0.142
Mortgage originated in 2005	0.303	0.256
Mortgage originated in 2006	0.257	0.205
Combined LTV ratio	93.008	80.292
DTI ratio	41.358	40.104
FICO score		
Low range	592.302	573.569
Middle range	33.245	15.665
High range	13.821	3.654
HPA: First four quarters after origination	1.095	1.098
HPA: Second four quarters after origination	1.033	1.044
Full documentation	0.545	0.658
Meets fully indexed proxy	0.374	0.446
Spread over 2-year Treasury constant maturity rate	4.174	4.663
Interest-only loan	0.254	0.118

Source: GAO analysis of LP data.

**Table 10: Mean Values for Fixed-rate mortgages with DTI Information**

	Purchase loans	Refinance loans
Number of observations	7,566	23,858
Mortgage in default by 24 months	0.104	0.074
Mortgage originated in 2000	0.053	0.042
Mortgage originated in 2001	0.069	0.065
Mortgage originated in 2002	0.077	0.092
Mortgage originated in 2003	0.128	0.194
Mortgage originated in 2005	0.221	0.196

**Appendix II: Description of the Econometric  
Analysis of Safe Harbor Requirements**

	<b>Purchase loans</b>	<b>Refinance loans</b>
Mortgage originated in 2006	0.278	0.202
Mortgage in subprime pool	0.547	0.854
Combined LTV ratio	90.427	75.599
DTI ratio	38.691	38.550
FICO score		
Low range	595.235	587.043
Middle range	43.275	30.122
High range	32.693	14.220
HPA: First four quarters after origination	1.085	1.098
HPA: Second four quarters after origination	1.049	1.059
Full documentation	0.567	0.701
Spread over 10-year Treasury constant maturity rate	3.121	3.234
Interest-only loan	0.135	0.045

Source: GAO analysis of LP data.

**Table 11: Mean Values for Longer-term ARMs with DTI Information**

	<b>Purchase loans</b>	<b>Refinance loans</b>
Number of observations	5,764	4,211
Mortgage in default by 24 months	0.129	0.082
Mortgage originated in 2000	0.005	0.005
Mortgage originated in 2001	0.005	0.013
Mortgage originated in 2002	0.018	0.035
Mortgage originated in 2003	0.053	0.084
Mortgage originated in 2005	0.317	0.278
Mortgage originated in 2006	0.433	0.427
Mortgage in a subprime pool	0.118	0.256
Initial rate fixed for 7 years	0.090	0.080
Initial rate fixed for 10 years	0.105	0.112
Combined LTV ratio	93.174	78.229
DTI ratio	38.549	37.527
FICO score		
Low range	656.300	647.370
Middle range	38.551	28.142
High range	15.246	9.465
HPA: First four quarters after origination	1.074	1.067

**Appendix II: Description of the Econometric Analysis of Safe Harbor Requirements**

	<b>Purchase loans</b>	<b>Refinance loans</b>
HPA: Second four quarters after origination	0.980	0.984
Full documentation	0.371	0.437
Meets fully indexed proxy	0.726	0.615
Spread over 5-year Treasury constant maturity rate	2.131	2.183
Negative amortization feature	0.027	0.059
Interest-only loan	0.797	0.669

Source: GAO analysis of LP data.

**Table 12: Mean Values for Payment-option ARMs with DTI Information**

Number of observations	6,623
Mortgage in default by 24 months	0.100
Mortgage originated in 2003	0.018
Mortgage originated in 2005	0.368
Mortgage originated in 2006	0.474
Purchase loan	0.262
Combined LTV ratio	78.716
DTI ratio	34.771
FICO score	702.505
HPA: First four quarters after origination	1.062
HPA: Second four quarters after origination	0.941
Full documentation	0.160
Meets fully indexed proxy	0.045
Spread over 5-year Treasury constant maturity rate	2.193

Source: GAO analysis of LP data.

The results of our analysis are presented in tables 13 through 16. We ran seven regressions: separate purchase loan and refinance loan regressions for three of the product types (short-term hybrid ARMs, fixed-rate mortgages, and longer-term ARMs) and a single regression combining purchase and refinance loans for payment-option ARMs.<sup>2</sup> For this set of regressions, we only included the 63 percent of loans for which DTI

<sup>2</sup>For our analysis of payment-option ARMs, we combined purchase and refinance loans and limited our analysis to mortgages originated from 2003 through 2006 because the proportion of purchase loans was relatively small and very few payment-option ARMs were made prior to 2003.

information was available. We also ran a second set of regressions that used all of the loans for each mortgage type and binary variables indicating DTI ranges, including categories for missing information. We found that the results were very similar to those for the first set of regressions. We presented coefficient estimates, as well as a transformation of the coefficients into a form that can be interpreted as the marginal effect of each variable on the estimated probability of default. This marginal effect is the calculation of the change in the estimated probability of default that would result if a variable's standard deviation were added to that variable's mean value, while all other variables are held at their mean values. This permits a comparison of the impact of different variables within and across mortgage types. In general, combined LTV ratio, HPA, and FICO score had substantial marginal effects across different mortgage types and loan purposes. Specifically, higher LTV ratios, lower HPA, and lower FICO scores were associated with higher likelihoods of default. The observed effects for DTI ratio were relatively small. Among safe harbor characteristics, documentation of borrower income and assets and a loan's spread over the applicable Treasury rate had substantial marginal effects. Less than full documentation and higher spreads were associated with higher default probabilities.

Our results for full documentation of borrower income and assets were not sensitive to alternative specifications. Including the loan amount as an additional variable, adding or substituting different interest rates, and changing the form in which house price appreciation or FICO scores entered the model all had no effect on our general conclusion that the presence of full documentation was strongly associated with lowering the probability of default. Our conclusion concerning high cost loans—that larger spreads over specified Treasury rates at the time of origination are associated with increased default probability—is somewhat more nuanced. In some respects, the spread variable is capturing something about the effect of higher interest rates generally. For example, alternative specifications which substituted the initial interest rate or the Treasury rate for the spread variable yielded similar results. However, when the Treasury rate and the spread variables are included in the model, both variables are significant and have large marginal effects.

As an alternative specification for short-term hybrid ARMs, we included a variable indicating whether each mortgage was a safe harbor or a non-safe harbor loan, in contrast to including variables for separate safe harbor requirements. We found that this variable had a small marginal effect, most likely because many non-safe harbor loans met some of the safe harbor requirements. In particular, a substantial percentage of non-safe

**Appendix II: Description of the Econometric  
Analysis of Safe Harbor Requirements**

harbor loans had full documentation of borrower income and assets but failed to meet other safe harbor requirements.<sup>3</sup>

**Table 13: Estimation Results for Short-term Hybrid ARMs with DTI Information**

	Purchase loans			Refinance loans		
	Coefficient	Significance	Marginal effect	Coefficient	Significance	Marginal effect
Number of observations			39,985			45,622
Intercept	7.74	***		3.83	***	
Mortgage originated in						
2000	0.57	***	1.32	1.10	***	2.00
2001	0.27	***	0.67	0.50	***	1.11
2002	-0.05		-0.16	-0.01		-0.03
2003	0.18	*	0.75	-0.08		-0.29
2005	0.27	***	1.75	0.25	***	1.12
2006	0.75	***	4.96	0.81	***	3.71
Combined LTV	0.02	***	2.27	0.03	***	4.24
FICO Low range	-0.01	***	-1.21	-0.01	***	-1.18
FICO Middle range	-0.01	***	-2.37	-0.01	***	-0.83
FICO High range	-0.01	***	-2.00	-0.01	***	-0.90
HPA: First four quarters	-3.54	***	-4.06	-3.89	***	-3.10
HPA: Second four quarters	-4.74	***	-6.05	-3.02	***	-2.92
DTI ratio	0.01	***	0.94	0.01	***	1.22
Full documentation	-0.39	***	-2.50	-0.44	***	-1.94
Meets fully indexed proxy	-0.08	*	-0.54	0.01		0.03
Spread over 2-year Treasury constant maturity rate	0.15	***	3.09	0.24	***	4.36
Interest-only loan	0.04		0.24	0.07		0.23

Source: GAO analysis of LP data.

Note: \*, \*\*, and \*\*\* indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

<sup>3</sup>This alternative specification was not well suited for other mortgage types. For payment-option ARMs, almost no loans were safe harbor loans because of the prevalence of the negative amortization feature. For fixed-rate mortgages, a safe harbor loan was identical to a loan that met the full documentation requirement because the fully indexed rate condition did not apply and these loans were fixed for an initial term of at least 5 years. Similarly, for longer-term ARMs, initial terms were fixed for at least 5 years, and, as a practical matter, about two-thirds of these loans met our fully indexed rate proxy, thus, making a single safe harbor test similar to a full documentation test.

**Appendix II: Description of the Econometric  
Analysis of Safe Harbor Requirements**

**Table 14: Estimation Results for Fixed-rate Mortgages with DTI Information**

	Purchase loans			Refinance loans		
	Coefficient	Significance	Marginal effect	Coefficient	Significance	Marginal effect
Number of observations			7,566			23,858
Intercept	3.84	**		4.57	***	
Mortgage originated in						
2000	0.28		0.38	0.77	***	0.76
2001	0.35		0.54	0.41	***	0.48
2002	0.22		0.36	0.20		0.27
2003	0.23		0.47	-0.15		-0.27
2005	-0.02		-0.04	0.03		0.05
2006	0.44	***	1.27	0.35	***	0.69
Combined LTV	0.03	***	0.97	-0.04		-0.07
FICO Low range	0.00	*	-0.39	-0.01	***	-0.59
FICO Middle range	-0.01	***	-1.42	-0.01	***	-0.65
FICO High range	-0.01	***	-1.67	-0.01	***	-0.72
HPA: First four quarters	-1.88	*	-0.87	-3.82	***	-1.33
HPA: Second four quarters	-4.92	***	-2.47	-2.55	***	-1.12
DTI ratio	0.01	**	0.57	0.01	***	0.61
Full documentation	-0.73	***	-1.85	-0.37	***	-0.71
Spread over 10-year Treasury constant maturity rate	0.26	***	2.40	0.25	***	1.82
Interest-only loan	0.26	**	0.56	0.27	**	0.26

Source: GAO analysis of LP data.

Note: \*, \*\*, and \*\*\* indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.



**Appendix II: Description of the Econometric  
Analysis of Safe Harbor Requirements**

**Table 15: Estimation Results for Longer-term ARMs with DTI Information**

	Purchase loans			Refinance loans		
	Coefficient	Significance	Marginal effect	Coefficient	Significance	Marginal effect
Number of observations			5,764			4,211
Intercept	1.74			4.51	**	
Mortgage originated in						
2000	0.97		0.38	1.92	***	0.48
2001	2.01	***	0.84	0.79		0.31
2002	-0.63		-0.46	0.22		0.14
2003	1.54	***	2.28	0.77	*	0.79
2005	0.46		1.32	0.06		0.08
2006	1.23	***	4.54	0.98	***	2.02
Mortgage in subprime pool	-0.10		-0.18	-0.03		-0.44
Initial rate fixed for 7 years	-0.15		-0.24	-0.02		-0.02
Initial rate fixed for 10 years	-0.29	*	-0.48	-0.46	*	-0.45
Combined LTV	0.05	***	3.31	0.06	***	4.12
FICO Low range	0.00		-0.34	-0.01	***	-0.75
FICO Middle range	0.00		-0.38	-0.01	***	-0.70
FICO High range	-0.01	***	-1.69	-0.01		-0.32
HPA: First four quarters	-2.29	**	-1.21	-3.78	**	-1.08
HPA: Second four quarters	-4.94	***	-2.69	-3.10	***	-1.13
DTI ratio	0.02	***	1.10	0.01		0.30
Full documentation	-0.92	***	-2.08	-0.86	***	-1.16
Meets fully indexed proxy	0.05		0.13	-0.11		-0.17
Negative amortization feature	0.77	***	0.74	0.40	*	0.32
Spread over 5-year Treasury constant maturity rate	0.42	***	2.28	0.19	***	0.84
Interest-only loan	-0.21	*	-0.46	0.15		0.24

Source: GAO analysis of LP data.

Note: \*, \*\*, and \*\*\* indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

**Appendix II: Description of the Econometric  
Analysis of Safe Harbor Requirements**

**Table 16: Estimation Results for Payment-option ARMs with DTI Information**

<b>All loans</b>			
Number of observations			6,623
	<b>Coefficient</b>	<b>Significance</b>	<b>Marginal effect</b>
Intercept	0.96		
<b>Mortgage originated in</b>			
2003	1.25		0.64
2005	0.35		0.64
2006	0.86	*	1.87
Purchase loan	-0.11		-0.16
Combined LTV	0.08	***	6.33
FICO score	-0.01	***	-1.20
HPA: First four quarters	-2.75	**	-0.89
HPA: Second four quarters	-3.58	***	-1.22
DTI ratio	0.00		0.05
Full documentation	-0.70	***	-0.81
Meets fully indexed proxy	-0.06		-0.05
Spread over 5-year Treasury constant maturity rate	0.48	***	1.97

Source: GAO analysis of LP data.

Note: \*, \*\*, and \*\*\* indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

# Appendix III: Comments from the National Credit Union Administration



## National Credit Union Administration

July 23, 2009

Office of the Chairman

Mr. William B. Shear, Director  
Financial Markets & Community Investment  
United States Government Accountability Office  
Washington, DC 20548

Dear Director Shear:

We appreciate the opportunity to review and provide our comments on your draft report entitled *Mortgage Reform: Provisions in H.R. 3915 (2007) Would Strengthen Borrower Protections but Views on Their Long-term Impact Differ* (GAO 09-741), dated July 2009. The report discusses the proportions of recent nonprime loans that likely would have met and not met the safe harbor requirements in the Mortgage Reform and Anti-Predatory Lending Act of 2007 (H.R. 3915), factors influencing the performance of these loans, and the views of mortgage industry stakeholders concerning the potential impact of key provisions of H.R. 3915 on the availability of mortgage credit.

H.R. 3915, among other things, would have set minimum standards for residential mortgage loans requiring that consumers have a reasonable ability to repay at the time the loan is made and that they receive a net tangible benefit from mortgage refinancings. H.R. 3915 also provided a safe harbor from potential liability for assignees and securitizers of mortgages, provided that the loans met certain requirements.

Based on an analysis of a proprietary database of securitized nonprime loans, the GAO estimates that almost 75 percent of securitized nonprime mortgages originated from 2000 to 2007 would not have met the safe harbor requirements of H.R. 3915. The analysis also shows that less than full documentation, higher interest rates, lower house price appreciation, lower borrower credit scores, and higher loan-to-value ratios were associated with higher probabilities of default.

We appreciate the research and analysis that went into the performance audit. Your findings support our continued belief that ensuring borrowers have a reasonable ability to repay at the time the loan is made is in the best interest of both credit unions and their members and is consistent with our mission of facilitating the availability of credit union services to all eligible consumers, especially those of modest means, through a regulatory environment that fosters a safe and sound credit union system.

Sincerely

A handwritten signature in black ink that reads "Michael E. Fryzel".

Michael E. Fryzel  
Chairman

1775 Duke Street - Alexandria, VA 22314-3428 - 703-518-6300

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# Appendix IV: GAO Contact and Staff Acknowledgments

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## GAO Contact

William B. Shear, (202) 512-8678, [shearw@gao.gov](mailto:shearw@gao.gov)

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## Staff Acknowledgments

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