Examination of Alternative FHA Mortgage Insurance Programs for Financing Single-Family Rental and Small Multifamily Rental Properties

FINAL REPORT

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

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Prepared for
U.S. Department of Housing and Urban Development

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Foreword

The Federal Housing Administration (FHA) has a long history of providing credit to creditworthy but underserved Americans with mortgage insurance for single-family, owner-occupied properties and large multifamily rental properties. During the recent financial crisis, FHA provided critical liquidity for single-family homebuyers and large multifamily rental property investors as private-sector capital retreated from capital markets. While FHA provided critical liquidity to these two segments of the market, the FHA was unable to provide support for single-family and small multifamily (5 to 49 units) rental housing, because it did not have active programs designed for these segments. The financial and ensuing credit crises elevated home foreclosures across the country, leaving many communities with unprecedented and growing inventories of vacant, neglected, and abandoned properties. The U.S. Department of Housing and Urban Development (HUD) therefore initiated this study to evaluate FHA's options for expanding credit and the supply of affordable single-family and small multifamily rental housing.

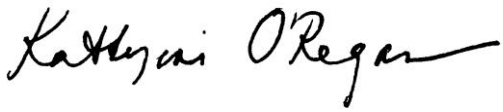
Although housing and mortgage markets have recovered from the depths of the financial crisis in 2008 and 2009, mortgage credit remains constrained in 2015, particularly for borrowers with imperfect credit, properties requiring rehabilitation, and rental properties. While FHA's multifamily insurance increases the supply and quality of large multifamily rental housing, the American Housing Survey reports that more than 87 percent of U.S. rental units are in single-family and small multifamily buildings. These options tend to provide more affordable rental units than large multifamily buildings, and HUD's Worst Case Housing Needs report documents the growing shortage of affordable rental housing.

FHA provided mortgage insurance for single-family rental properties for much of its history, until a period of high defaults in the 1980s and 1990s led Congress and FHA to close the 203(b) and 203(k) programs to rental property investors. Subsequent analysis, however, found that losses on single-family rental properties were similar to contemporaneous owner-occupied losses, and in the intervening years FHA underwriting and monitoring procedures have greatly improved.

FHA's multifamily mortgage insurance programs are available to finance both large and small multifamily properties. The underwriting requirements for FHA's main multifamily programs—221(d)(4), 223(f), 542(b), and 542(c)—are designed for large multifamily properties, however, which studies have found makes the underwriting and reporting requirements too expensive and burdensome to be feasible for many small multifamily properties.

This report combines knowledge gleaned from previous research and from FHA, government-sponsored enterprise, industry, and practitioner interviews; presents competing single-family and small multifamily stakeholder requirements; and characterizes the current state of single-family and small multifamily rental property finance. With that knowledge, the report identifies common ground between the competing interests of lenders, rental property investors, and FHA program and risk managers to recommend three options for FHA mortgage insurance for single-family rental properties and three options to expand FHA mortgage insurance for small multifamily rental properties. Although it does not specify all program parameters, this report provides a foundation that FHA can use to increase single-family and small multifamily rental financing options and access to high-quality, affordable rental housing.

Thank you to everyone who worked to produce this report.



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Contents

List of Exhibits

ES1 Introduction

More than one-half of all rentals are in single-family properties (those containing from 1 to 4 units). Although these properties are generally financed through the single-family mortgage market, investors' financing options are more limited than those of owner-occupants. Small multifamily properties also make up a large share of and play an important role in the rental market. They comprise nearly one-third of all unsubsidized rental housing and are more likely than larger properties to serve lower income households. Despite this fact, gaps in financing for small multifamily properties—often defined as those having from 5 to 49 units—have long been identified.

Reasons for concern that gaps may exist in financing for single-family and small multifamily rental properties include higher interest rates for mortgages and less use of leverage than is common in other segments of the housing market. The lack of leverage points to the possibility that new financing options could help create the capacity to invest in these rental properties by accommodating the use of more leverage. Financing options could also help maintain the rental housing stock and prevent its loss through deterioration if mortgage funds could be used for rehabilitation.

This study, commissioned by the U.S. Department of Housing and Urban Development (HUD), considers whether a program that provides Federal Housing Administration (FHA) mortgage insurance for loans on single-family rental property could help rebalance the nation's housing stock between renter- and owner-occupied. Further, although this study arose during a temporary—albeit prolonged—housing market downturn, it may be appropriate for FHA to increase its support for rental housing, given the newfound awareness of the benefits of renting for a sizeable share of the population.

This study also considers whether FHA should play a greater role in filling the long-documented gap in financing for small multifamily properties and, if so, proposes modifications to FHA's current multifamily insurance programs. Expanded financing options would benefit renters via provision of a greater supply of affordable rental housing, a more diverse stock of rental housing, and lower cost rental housing. Neighborhood stabilization benefits also may accrue if better financing options spur investment in distressed properties.

ES1.1 Study Organization

This study includes four main components for each property type: (1) a survey of the conventional market to understand the products available for financing investor purchases, (2) a review of FHA's current and past role in serving investors and the lessons that can be drawn from that experience, (3) a description of three possible new financing options for investors and their potential market impacts, and (4) an analysis of the performance of loans to investors.

ES1.2 Study Approach

The study draws on interviews with market participants; a literature review; and the Rental Housing Finance Survey (RHFS), which gathered information about the status of the owners' rental properties in late 2011 and 2012. The single-family loan performance analysis used McDash Mortgage Performance data from Black Knight Financial Services, Inc. Because FHA is a mortgage insurer, this analysis compares the performance of loans with and without mortgage insurance. Multifamily loan performance is also analyzed, using RealtyTrac® Inc. data and Freddie Mac's Multifamily Loan Performance Database. Like other studies that rely on publicly available data for analyzing multifamily loan performance, this study finds that the data are inadequate for the task and suggests that Fannie Mae loan-level multifamily performance data be made available to researchers and policymakers.

ES2 Financing for Single-Family Rental Property Investment

ES2.1 FHA's Role in Serving Single-Family Rental Property Investors

For all practical purposes, FHA currently does not serve investors in single-family properties. In the past, FHA offered two primary programs for investors: the ***203(b)*** mortgage insurance program, from 1934 to 1989, and the ***203(k)*** rehabilitation program, from 1974 to 1996. The only currently functioning vehicle FHA has to serve single-family investors is the ***Title I Property Improvement Loan*** program, a program with very little annual volume.

ES2.1.1 203(b) Mortgage Insurance Program

The 203(b) program for investors operated successfully until the 1980s. During the first half of that decade, interest rates climbed, house price appreciation slowed nationwide after a period of rapid growth, and some regions of the country (the oil patch states in particular) experienced housing market downturns. As a result, loan performance worsened for both owner-occupants and investors. An important study of FHA loan performance (Herzog, 1988) during this time found significantly higher claim rates among investor mortgages in the 203(b) program than among mortgages to owner-occupants, despite the fact that loan-to-value ratios (LTVs), an important predictor of default, were substantially lower. A later study documented roughly comparable performance between investor and owner-occupant mortgages, again despite the fact that investor LTVs were lower (PricewaterhouseCoopers, 1999).

HUD implemented several changes to the 203(b) program to address the shortcomings in investor performance, and indications are that these reforms had an impact on cumulative claim rates. Despite the reforms, Congress legislatively ended investor participation in 1989. Although there were differences between investor and owner-occupant loan performance, the prevailing understanding among FHA staff and industry representatives interviewed is that investors were eliminated from the 203(b) program for philosophical reasons rather than solely because of performance. The primary driver reportedly was a political conviction that the government should not be supporting individual private investors (although it continues to support investors in multifamily housing).

ES2.1.2 203(k) Rehabilitation Mortgage Insurance Program

The 203(k) program is modeled on the 203(b) program, with the addition of a rehabilitation component. Like 203(b), loans are originated by direct endorsement lenders that are responsible for underwriting, using FHA's guidelines. Mortgagors may borrow funds up to the amount of the property value before rehabilitation plus the rehabilitation costs, or they may borrow 110 percent of the post-rehabilitation appraised value, whichever is less. Borrowers in the 203(k) program must perform a minimum of $5,000 of substantial (noncosmetic) repairs within 6 months after closing.

Loan volume in the 203(k) program remained relatively low until the mid-1990s. To encourage the program's use, FHA streamlined the program in 1994 and 1995 and marketed the program to investors. The effort was successful in some ways: from 1994 to 1998, annual 203(k) loan volumes increased by more than 450 percent. Loan defaults within 12 months of closing also rose precipitously, however—from 2.2 percent of fiscal year (FY) 1994 loans to a peak of 5.5 percent of FY 1995 loans—and then leveled off. The overall claim rate for 203(k) loans endorsed from 1994 to 1996 was nearly double that of 203(b) loans, although the 203(k) program is understood to be inherently riskier than 203(b) because of the rehabilitation.

In October 1996, HUD issued a moratorium on investor use of the 203(k) program after an audit by the Office of the Inspector General (OIG, 1997) that determined the program was "highly vulnerable to waste, fraud, and abuse by investors and nonprofit borrowers." The moratorium did not extend to nonprofit borrowers, despite the fact that nonprofit organizations had higher average claim rates than investors. Agency staff and industry representatives agreed that the OIG audit was pivotal in prompting HUD to issue a moratorium on 203(k) investors, and one interviewee with knowledge of the process indicated that although losses were greater on non-owner-occupant loans, politics was also a factor.

FHA and the industry both have strong interest in reinstating the 203(k) program for investors. The Mortgage Bankers Association (MBA) has written to the Federal Housing Commissioner to express support for reinstating investors in the program and to highlight new controls in the 203(k) program since the late 1990s. Several FHA staff we interviewed thought that the 203(k) program for investors served an important social purpose; investors may be more willing to purchase properties than owner-occupants, especially in distressed neighborhoods, helping to stabilize property values and return housing to affordable rentals.

ES2.2 Market Survey of Single-Family Investor Financing Options

Fannie Mae and Freddie Mac (government-sponsored enterprises [GSEs]) are the primary sources of conventional single-family rental financing available. Both GSEs believe that lending to investors is higher risk than lending to owner-occupants, which is reflected in their underwriting requirements and pricing. Both entities charge an additional fee for delivery of an investor mortgage loan. Fannie Mae also offers a rehabilitation program to investors, although only four lenders participate, thus volume is limited. Financing is limited to 50 percent of the as-rehabilitated value (but up to 95 percent of the current value), and is for only one-unit properties.

In addition to limited offerings from the GSEs, the three other main sources of financing for investors are banks doing portfolio lending, hard money lenders, and equity lenders. Portfolio lending is done primarily by smaller banks, such as community banks, that lend their own funds. Some finance rehabilitation as well as purchase, require less than 20 percent downpayment, and have very short processing timelines. That said, portfolio loans are frequently of shorter duration (6 to 12 months), requiring borrowers to either resell or refinance the property in that period. Portfolio loans also sometimes have high interest rates and points.

Further, industry representatives told us that community banks' underwriting guidelines became more restrictive during the most recent housing market downturn. Lenders are also responding to a new regulatory environment put in place by the Dodd-Frank Wall Street Reform and Consumer Protection Act.[1] Industry representatives told us that uncertainty regarding implementation and interpretation of the new regulations is causing lenders to be cautious.

Hard money is provided by commercial lenders and individuals. The loan is typically provided on the basis of the real estate (or hard asset) and not the credit quality of the borrower. Financing can often be used to cover acquisition and rehabilitation. The borrower's financial situation is less important than in either portfolio or conventional lending. Maximum LTVs are typically low, and loan decisions are made

[1] Public Law 111–203.

quickly. An equity investor is simply a partner who lends to real estate investors in exchange for a fixed percentage of the investment and profit. Although arrangements are not standardized, the equity investor commonly provides all the financing; the borrower does the work of acquiring, rehabilitating, and reselling the property; and the two parties split the profits.

A comparison of loans to investors and to owner-occupants in a sample of loans from the Black Knight dataset provides some insight into the terms of conventional mortgages offered to investors. Differences between loans to investors and to owner-occupants in terms of the interest rate type and the downpayment size are minor. Investors are slightly more likely than owner-occupants to have adjustable-rate mortgages (ARMs), which comprise about 24 percent of all loans to investors compared with about 20 percent of loans to owner-occupants. Investors' downpayments are only slightly more than owner-occupants', with a mean LTV of 72 percent compared with 74 percent.

Differences in interest rates are much greater. The mean initial interest rate for fixed-rate loans to investors is 42 basis points higher than the rate for loans to owner-occupants; for ARMs, investors' mean initial interest rate is 85 basis points higher. Investors also have loans for smaller amounts relative to the median in the metropolitan statistical area (MSA) than owner-occupants. The mean investor loan is equal to the median in the MSA, whereas the mean owner-occupant loan is 33 percent more than the median in the MSA. Property types also differ. Investor loans in the sample are much more likely to be for a two- to four-family property than are loans to owner-occupants.

Investor loans appear less risky than loans to owner-occupants in two respects: investors have slightly higher credit scores than owner-occupants. In addition, investors are far less likely to have a second lien.

ES2.3 Investors' Role in the Recovery

Although financing options are somewhat limited, investors have been active during the foreclosure crisis and housing market recovery. According to RealtyTrac data, investors accounted for roughly 30 percent of single-family transactions from 2005 through 2009, but that figure climbed to nearly 34 percent in 2010 and reached more than 41 percent in 2011. In some markets, investor activity was much greater. This increase in investor activity occurred largely without either government or conventional financing sources. Tabulations of Black Knight data show that lending to investors contracted sharply during the recent housing market downturn, much more so than lending to owner-occupant purchasers. Cash purchases correspondingly increased during this period for both investors and owner-occupant buyers, but cash purchases were much more common among investors.

Relatively little is known about single-family investors and their motivations; some research is available from CoreLogic, Inc., and some information—perhaps more anecdotal than statistically reliable—is available from investor networking sites like http://www.biggerpockets.com. The limited information available indicates that 80 percent of single-family rental owners are individuals, sometimes referred to as "mom-and-pop" investors who are generally investing in their local market to generate rental income. These investors typically have another primary source of income and employment and often need financing to purchase the investment property.

Some investors apparently use cash to purchase property because of obstacles to obtaining financing. A BiggerPockets survey of real estate investors in 2012 indicated that small investors tend to be limited to commercial and small-business loans as financing options, which can be considerably more expensive than mortgage interest rates. Investors surveyed indicated that several factors would increase their activity in the market, including lower interest rates and the elimination of limits imposed by lenders on the

amount they will lend an investor. A sizeable share of investors would be willing to increase their downpayment significantly if they were able to borrow more to buy more properties.

In a situation unique to this housing market downturn, institutional and large-group investors—nonlenders with 10 or more property purchases during the previous 12 months—are currently playing an important role. The role of these investors has been concentrated in specific markets in Nevada and Arizona and in other places hard hit by foreclosures. Note that nearly all large institutional investor purchases are in cash. These investors are accessing cheap capital through private investors and innovative means such as securitizations of single-family rentals.

ES2.4 Rental Property Investor Financing Requirements

Among the people we interviewed, opinions were split on whether additional single-family financing options for investors are needed. Most lenders and REALTORS® supported an additional role for FHA; an industry representative for community banks expressed concern that it would increase competition for community banks. FHA staff members also had mixed opinions: some thought an expanded role would be useful; others were concerned about the difficulty of managing the risks to FHA.

Opinions of market participants aside, some evidence indicates a gap in financing for single-family investment properties. The evidence includes higher interest rates for investor loans compared with loans to owner-occupants, significant shares of cash purchases during the housing market downturn, and apparently limited interest by owner-occupants in two- to four-family properties.

The market participants we interviewed who supported new financing options suggested that they include—

- Unlimited number of properties financed.
- Rehabilitation financing with an option for the investor to perform, manage, or perform and manage some of the rehabilitation work.
- Ability to compete for properties with cash investors.
- Access to financing for inner-city properties.
- Ability to hold title as a limited liability company (LLC).
- Reasonable interest rates.

Based on this input, FHA's mission, and the financing gaps that seem to exist, this study proposes three options for single-family investor financing. Two are modifications to the existing FHA 203(k) program that served investors in previous decades. Some of these modifications are now being pursued by FHA staff and are supported by industry stakeholders such as MBA. A key reason for offering this option is that the political barriers to implementation are minimal; it would require simply that a moratorium on investor activity in the program be lifted. Although barriers to implementation are minimal, note that the 203(k) program is complex to administer and oversee, and even a streamlined version may have limited appeal to lenders.

The options provide features that respond to suggestions from lenders and investor representatives (exhibit ES1). Three features are designed to help investors using financing to compete with cash

investors: (1) "fast-track underwriting" for borrowers who make a downpayment of 50 percent or more, (2) allowing for streamlined refinances, and (3) allowing borrowers to refinance an investment property as a purchase. The latter two features, used in combination, could be very effective; they would allow investor-borrowers to use other forms of short-term financing, such as home equity lines of credit or bridge loans, to acquire the property with the speed of a cash investor and to convert to permanent financing after the property is acquired.

Exhibit ES1. Basic Elements of Single-Family Financing Options

Options 1, 2, and 3
• 30- or 15-year fixed-rate investor loan. • One- to four-unit properties. • FHA standard loan limits. • MIP an additional 1 percent more than owner occupied (cannot be financed). • Title may be held in LLC; however, note and mortgage/deed of trust must be signed by borrower(s) as individuals and in their capacity as members of the LLC. Nonprofit borrowers are not eligible. • Available for purchase, cash out, and no cash out (NCO) refinance transactions. • Maximum LTV/CLTV = 85% Purchase/75% NCO based on as-rehabilitated value for options 1 and 2 or the lesser of appraised value or purchase price for option 3; 60% for cash-out refinance. • Properties acquired using borrowers' own cash (no gifts or loans) within 6 months of loan application can be refinanced as NCO up to 85% of the lesser of purchase price plus rehabilitation cost (if applicable) or the as-appraised/as-rehabilitated value. • Fast-track underwriting waivers apply for ≤ 50% LTV in which borrower uses own funds for downpayment and settlement costs (no gifts or loans). • Prepayment penalty of 2% if loan is paid off with ownership transfer within the first 2 years and 1% if loan is paid off within the 3rd through 5th year.
Options 1 and 2
• Rehabilitation financing. • Streamlined refinances for existing FHA loans with up to $15,000 in rehabilitation. • Provides for rehabilitation financing up to FHA loan limit, subject to maximum mortgage amount for the current 203(k) program. • Basic eligibility and underwriting is the same as 203(k) for owner occupied with the exception of investor-specific underwriting requirements.
Option 3
• Basic eligibility and underwriting is the same as 203(b) for owner occupied with the exception of investor-specific underwriting requirements.

CLTV = combined loan-to-value ratio. FHA = Federal Housing Administration. LLC = Limited Liability Company. LTV = loan-to-value ratio. MIP = mortgage insurance premium. NCO = no cash out.

The third option opens FHA's 203(b) program to investors, but also offers fast-track underwriting for low-LTV borrowers. This idea faces much stiffer barriers to implementation. Reopening the 203(b) program to investors would require congressional approval. Industry stakeholders thought that was not feasible in the current political climate, but it may be worth starting a discussion about the vital role that investors have played in stabilizing the housing market during the foreclosure crisis and whether new financing could strengthen that role in future housing market cycles.

A key feature of all three single-family options is that they are geared to mom-and-pop investors who typically live in the community where their rental properties are located. They are literally invested in the communities and typically hold their rental properties long term. Given the increasing role of large-scale investors in the single-family market, it may also be worth considering the differences in motivation between large- and small-scale investors. It is not yet known how well large-scale investors in single-family properties will maintain properties, whether they will be responsible landlords, or whether their property investments are for the short or long term. FHA insurance would support financing for small-scale investors, which could level the playing field to some degree with large-scale investors, which may result in better outcomes for neighborhood stability.

ES2.5 Market Impact of Single-Family Rental Property Insurance Program

We considered five ways in which a new investor program for single-family investors could have market impacts: (1) rental housing supply, (2) the inventory of vacant or distressed single-family properties for sale, (3) first-time homebuyers and all owner-occupant buyers, (4) conventional lending, and (5) housing prices.

Demand is currently unusually high for investment in rental property—in large part because of low returns on other classes of investments—and for rental housing units because of a decline in the homeownership rate. Demand for new rental property financing options is evidenced by a 17-percent increase in the share of single-family properties that are renter occupied from 2007 to 2012.

Need for financing for rehabilitation in particular is evidenced by the condition of rental properties. RHFS data suggest that properties without access to financing may be the most likely to be lost from the housing stock. Nearly one-half (48 percent) of two- to four-unit rental properties did not have a mortgage. The nonmortgaged properties had much lower property values than the mortgaged properties, with reported median market values per unit of $107,000 compared with $222,000. Capital spending was higher than for properties with a mortgage, perhaps as a consequence of greater deficiencies needing to be remedied. The median amount of capital spending per unit from 2010 to 2011 was $5,000 for the nonmortgaged properties compared with $4,198 for properties with a mortgage. (Comparable data for one-unit properties are not available.)

That said, lenders' response to a new FHA financing program for investors will be a critical factor in the ultimate impacts of any new program on the market. Regardless of likely borrower interest, the two rehabilitation program options will probably not attract a significant number of new lender partners. Cumbersome to administer, the 203(k) program is something of a niche product within a suite of niche products (FHA), and the proposed programs will be as well. The most likely participants are lenders who currently offer 203(k) loans and have the staffing, institutional knowledge, and infrastructure in place to easily and quickly implement a new program.

Given this fact, the volume of loans to investors may be similar to 203(k) owner-occupant loan volumes, roughly 22,000, or 1,800 a month, in 2010. Financing for rehabilitation could help slow the loss of thousands of rentals—most of which would be lower cost rentals—from the housing stock and be valuable for that reason. Even if volume were double current 203(k) volume, however, no measurable overall market impacts are expected because program volume would be only 3,600 mortgages a month.

A 203(b)-like program for investment property could have much greater impacts, as discussed in the following section.

ES2.5.1 Rental Housing Supply

Option 3, the 203(b)-like program, is likely to encourage new investment by prompting investors to use more leverage. This option could slow the loss of rental units from the housing stock and speed the rate at which units are converted from distressed properties to rentals. Under some circumstances, the faster rate of property absorption back into the market could be significant. For example, during a period when house prices are falling, families are losing their homes to foreclosure, and neighborhoods are threatening to destabilize, FHA financing could be a stabilizing force.

Supply of Vacant or Distressed Single-Family Properties for Sale

Inventories of distressed properties vary a great deal across markets, and conditions have changed dramatically in some markets that were once flooded with distressed inventory. A number of markets, such as Nassau-Suffolk, New York, and Edison-New Brunswick, New Jersey, still had large inventories as of August 2013. Investors are more likely than owner-occupants to buy foreclosures, which are typically sold at auction. Auctions usually require settlement within 15 days, precluding the use of financing. All three program-design options could be used by auction buyers: they include a provision for financing a property acquired with cash within 6 months of acquisition as if it were a purchase transaction. This provision enables investors to use other forms of short-term financing such as home equity lines of credit or bridge loans to acquire the property with the speed of a cash investor and to convert to permanent financing after the property is acquired. Investors' use of leverage would enable them to purchase greater numbers of rental properties.

In addition, if the fast-track waivers offered by all three programs made it possible to compress underwriting and approval to less than 15 days, it would also enable mom-and-pop investors using financing to compete with cash investors. Such a compressed origination timeline may not be realistic, however.

The number of properties using FHA financing could be sizeable. Although investors are unlikely to use FHA financing directly to purchase vacant or distressed properties because of the need for quick transactions, they may use cash or higher cost financing for an initial purchase and then refinance into an FHA-insured mortgage. This practice is likely to induce new investment in single-family rental properties, speeding the rate at which properties are reabsorbed into the occupied housing stock. The inventory of vacant and distressed property varies greatly across markets and over time, as would the overall impact of a new financing option on the overall housing market.

First-Time Homebuyers and Owner-Occupant Buyers

A new mortgage insurance program for investors is unlikely to affect repeat owner-occupant buyers, because investors concentrate property acquisitions in the lower end of the market. Repeat buyers tend to purchase properties in a higher priced market segment.

Investors are more likely to compete with first-time homebuyers, who are more likely to be buying lower priced housing units. Evidence from Las Vegas indicates that cash investors—those not using financing—are crowding out first-time homebuyers. The competition is not from higher prices that investors can pay, but from a faster and simpler transaction that does not involve appraisals or mortgage contingencies.

That said, even unusually high investor activity in the segment of the housing market affordable to first-time homebuyers from 2009 to 2012 had little impact on the share of home purchases among this group. FHA financing is likely to increase investor activity only marginally.

ES2.5.2 Conventional Lending

The volume of conventional lending for investment properties is fairly limited, representing about 13 percent of conventional loans in 2012 according to Home Mortgage Disclosure Act data, despite the fact that more than 40 percent of home purchases in that year were by investors according to RealtyTrac data. The remainder of purchases are made using cash or sources of financing such as portfolio lenders, hard money lenders, and equity investors. These lenders are more likely to be affected by new FHA investor financing because of substantially lower costs and longer loan terms, although many of their borrowers may be unable to qualify for FHA financing because of insufficient income, low credit scores, or other deficiencies in their credit history.

ES2.5.3 Housing Prices

When investment properties qualified for the 203(b) program during the 1980s, the share of FHA's insurance endorsements for loans to investors ranged from about 7 percent, when underwriting guidelines for investors were fairly strict (capped at 75 percent LTV) and the program was being phased out, to about 19 percent, when other lenders were retreating from the market in response to weak loan performance. During the 1980s, FHA's overall market share was roughly 8 percent.

Even given these fairly sizeable volumes, it seems unlikely that 203(b)-like FHA financing for investors would affect housing prices in general. Evidence suggests that the GSEs' secondary market purchases do not have a statistically significant impact on house prices, and we expect the same to be true of FHA insurance endorsements, which are likely to have much smaller volumes than GSE purchases.

ES2.6 Mortgage Default Risk Analysis

The risk of loan default for insured loans is among the principal considerations in evaluating underwriting criteria and potential risks to FHA of products targeting single-family investors. We used an empirical model of mortgage default for single-family loans to respond to these research questions—

- How do the risks and underwriting considerations of one- to four-unit investor loans differ from those associated with owner-occupant lending?
- How could FHA expand single-family rental investor purchase options without subjecting FHA to significant risks?

The analysis relies on a competing-risk model, whereby loans can be terminated in each period by either default (the risk to the lender or insurer) or prepayment. The primary source of data for loan characteristics and payment history is the Black Knight dataset for loans originated from 2003 to 2011. The model is estimated separately for loans to owner-occupants and investors and those with and without mortgage insurance.

ES2.6.1 Multivariate Analysis of Single-Family Loan Performance Analysis

The model includes three variable types: (1) loan and borrower characteristics at origination; (2) variables that influence the value of the borrower's option to default or prepay the mortgage, such as current LTV and relative interest rate; and (3) MSA-level market indicators. All these variable types are found to be predictive of mortgage outcome.

For all groups, ARMs and refinanced mortgages are associated with higher odds of default relative to continuing to pay than are fixed-rate and purchase mortgages, and credit score at origination is strongly

predictive of default odds. The probability of default also differs based on origination year; not surprisingly, 2008-to-2011 loans have lower odds of default than loans originated from 2005 to 2007. We also find the expected positive relationship between LTV category and the odds of default.

Economic theory predicts that borrowers will (1) default if the value of their mortgaged property plus the value of the option to default or prepay in the future falls below their outstanding mortgage balance, and (2) prepay (refinance) when loan terms available in the market are more attractive than those on their existing loan. Estimates from our empirical model are consistent with this prediction. Both investors and owner-occupants default on and prepay their mortgages more frequently when changes in housing prices and mortgage interest rates increase their incentive to do so, even after controlling for a variety of underwriting and market factors. The estimates are consistent with the existing literature, which has focused on owner-occupants. The relationships also suggest that owner-occupants may be more apt to refinance when rates are favorable and that investors who are unable to refinance are more likely to default.

Housing market and economic indicators at the MSA level are generally predictive of mortgage outcome. Changing housing prices are most predictive, with relatively low default rates observed for loans in markets with rapidly rising prices. Unemployment rates and changes in unemployment rates, median income levels and changes, and ownership rates are predictive with the expected signs on the coefficients.

Our analysis also indicates that investors with mortgages carrying insurance defaulted more readily in the face of falling housing prices and rising unemployment than did investors with uninsured mortgages and owner-occupants. As FHA is a mortgage insurer, this finding may be important and further research is warranted.

For investors, condominiums and townhomes have slightly decreased default risk relative to two- to four-family properties. Owner-occupants also have a higher risk of default for two- to four-family properties than other types.

ES2.6.2 Implications for FHA Mortgage Insurance for Rental Property Loans

This analysis only partially addresses the question of whether FHA can expand single-family rental investor purchase options without being subjected to significant risks. Loans with the combination of features proposed are not observed in the Black Knight data, although as discussed, the loan performance analysis does provide some insight into the risk of loans with some of the features proposed.

One important risk factor is clearly the LTV of the loan at origination, and the proposed LTV limit of 85 percent would reduce the risk of default relative to loans with higher LTVs. Loans with mortgage insurance and an LTV of 85 percent or less are not commonly observed in the Black Knight data, which may suggest that borrower interest would be limited. Lenders typically require mortgage insurance only for LTVs greater than 80 percent, so by making a slightly larger downpayment (20 instead of 15 percent), borrowers can avoid the extra cost of mortgage insurance. This mortgage insurance requirement may be offset by the flexibilities offered in the proposed designs, such as the ability to finance more than four properties or a simplified cash-out conversion of a recent cash purchase into a low-LTV loan.

Credit scores are also a very important predictor of default for investor loans, so a minimum credit score could help mitigate the risk of loans to investors.

Note that the Black Knight data analysis cannot offer any insight into some important loan features of the proposed programs.

- *The performance of rehabilitation loans*. The Black Knight data contained few rehabilitation loans to investors, so we did not analyze them separately and cannot offer insight on differences in mortgage outcomes.
- *The performance of loans to borrowers with multiple mortgages*. Ownership of a large number of rental properties could increase the risk of default because of the added complexity of managing a greater number of rental properties. It may also mean increased use of professional management, which might decrease the risk of default.
- *The performance of loans owned by LLCs*, because this characteristic is not recorded in Black Knight data.
- *The performance of loans with prepayment penalties*, because we did not observe this loan feature in the Black Knight data.
- *The performance of loans that would qualify for fast-track underwriting* (50 percent or lower LTV). The dataset contained no loans to investors with mortgage insurance at this LTV, because lenders typically do not require mortgage insurance for properties with LTVs below 80 percent. Loans with LTVs this low have very little likelihood of default.
- *The performance of loans used to finance properties acquired using borrowers' own cash*, because we did not observe this loan feature in the Black Knight data. Given borrowers' demonstrated cash reserves, it may be the case that this feature reduces the likelihood of default. That said, refinance loans had a greater likelihood of default than purchase loans.

FHA and mortgage lenders ultimately have imperfect ability to control risk. An FHA investor financing program can establish loan features and underwriting guidelines that help mitigate risk, but economic conditions are also an important predictor of mortgage default that are beyond FHA's control. Economic downturns often occur in specific geographies, and FHA would be reluctant to withdraw credit. For example, unemployment rate, median income, ownership rate, and changes in the unemployment rate and median income in the MSA all affect loan performance. Conventional lenders sometimes respond to changing market conditions by restricting lending in some geographies, but FHA is unlikely to do so.

ES3 Financing for Investment in Small Multifamily Properties

ES3.1 Characteristics of Small Multifamily Properties

Based on Rental Housing Finance Survey and American Housing Survey data, approximately 577,000 multifamily properties are in the United States, and about 86 percent of these properties are small, meaning that that they contain from 5 to 49 units. These small multifamily rental properties represent about 5.9 million of the total 17.5 million rental units in multifamily properties.

Measuring property size by property value, 83.4 percent of multifamily properties are small, meaning they have a value of less than $3 million. Two-thirds of these small multifamily properties have a property value of less than $750,000, and the other one-third are valued at between $750,000 and $3 million.

Previous studies have found that small multifamily rental properties are generally more affordable than larger properties. The RHFS data show that annual average potential rent (the rent that can be collected if the property is occupied all year) for units in large multifamily properties is higher than those for smaller properties. It is not clear from the RHFS data whether this higher price is related to differences in the geographic distribution of large and small multifamily properties or to greater affordability of small multifamily properties compared with large multifamily properties in similar locations.

Small multifamily units are not distributed evenly around the country. Several MSAs have disproportionate shares of units in small multifamily structures compared with large multifamily structures. The Phoenix-Mesa-Scottsdale, AZ MSA, for example, has 1.6 percent of all units in small multifamily properties but only 0.8 percent of all units in large multifamily properties. The Atlanta-Sandy Springs-Roswell, GA and Riverside-San Bernardino-Ontario, CA MSAs have similarly disproportionate shares of units in small structures.

The data available are not sufficiently detailed to provide an indepth understanding of differences between the physical and financial conditions of small and large multifamily properties. Large multifamily properties have the highest median rental receipts as a percentage of property value, which suggests better financial health for these properties, and thus better cash flow for maintenance and improvements (although property owners may choose to use cash flow for other purposes).

The median value of capital improvements per housing unit made in 2010 and 2011, however, was highest for 5- to 24-unit properties and declined as property size increased. It is not easy to interpret differences in the value of capital improvements made. It may be that large multifamily properties are in the best condition and therefore need the least investment. Alternatively, these property owners may be less likely to invest in their properties than other property owners. The geographic distribution of different types of properties may also be a factor.

Industry stakeholders noted that small multifamily properties operate on thinner margins than large multifamily properties and have a higher risk of income fluctuation. Small multifamily properties' thin margins appear to persist over time, perhaps in part because these properties change hands less often than larger properties. For example, 27 percent of small multifamily properties were acquired by their current owner from 2005 through April 2012 compared with 37 percent of large multifamily properties.

ES3.2 Availability of Financing for Small Multifamily Properties

The literature has long noted a gap in financing for small multifamily properties. The GSEs, FHA, and community banks all provide some financing for these properties, but this analysis suggests that additional financing sources would help fill gaps. The principal barrier identified is that small multifamily properties must undergo the same due diligence underwriting procedures—such as physical needs assessment, audited financial statements, and third-party endorsements—as large properties, incurring the same fixed costs as much larger loans. Financing for small multifamily properties has been found to be more expensive both as a percentage of the loan and on a per-unit basis. This analysis does not show cost differences, but does find differences in use of financing.

ES3.2.1 FHA's Current and Historical Role in Financing for Small Multifamily Properties

FHA offers several financing options for new construction, refinance, and rehabilitation for multifamily residential properties, including the 221(d)(4), 223(f), 542(b), and 542(c) programs. Past FHA programs include Small Project Processing (SPP), an effort to expand access to FHA insurance for small multifamily properties, and coinsurance, a risk-sharing program that resulted in losses to FHA.

FHA's programs are used only rarely for small multifamily properties despite the fact that FHA's multifamily underwriting standards offer some of the flexibilities needed by small multifamily properties, including allowing for lower debt-service coverage ratios (DSCRs), lower downpayment requirements, higher LTVs, and longer loan terms. FHA's underwriting approach also involves fewer waivers—negotiated terms and conditions—than the conventional market. In theory, this approach could streamline underwriting by comparison with the private sector. Industry stakeholders we interviewed, however, reported that FHA retains control of the underwriting decision, which serves to delay loan processing and misses an opportunity to streamline the process without substantially increasing risks.

Section 221(d)(4), 223(f), and Small Project Processing

Section 221(d)(4) and Section 223(f) are FHA's largest multifamily mortgage insurance programs. Section 221(d)(4) insures mortgages for new construction or substantial rehabilitation on any type of multifamily rental housing. Section 223(f) provides mortgage insurance to purchase or refinance existing multifamily housing.

The programs in practice mainly serve large properties. Of 175 total 221(d)(4) endorsements in FY 2012, 9 (5 percent) were for small multifamily properties. Section 223(f) served a greater proportion of small properties in FY 2012—105 out of 644 new endorsements (16 percent) were small projects.

FHA's SPP initiative began in 1997, modifying procedures of the 221(d)(4) and 223(f) programs, streamlining where possible to make the program friendlier to small properties, and improving access to the secondary market. The initiative ultimately did not go far enough in streamlining the process, and lender interest was limited. Only a handful of loans were processed using SPP.

Risk-Sharing Programs: Coinsurance, 542(b), and 542(c)

From 1974 through 1990, FHA offered coinsurance on multifamily properties endorsed under 221(d)(4) or 223(f); coinsurance was designed to share risk between FHA and delegated underwriters. By delegating underwriting, FHA hoped to shorten loan processing times and reduce costs. Delegated underwriters were supposed to maintain equity reserves to cover the share of losses for which they were responsible. The incentive ultimately was not sufficient. Coinsurance created an incentive for delegated underwriters to focus on the volume of loans—and origination fees—rather than their quality. Further, the

coinsurance program did not require lenders to have adequate reserves to cover their portion of losses, which were substantial. Unacceptably large losses led to abandonment of the program and a significant decline in FHA's multifamily financing market share.

The 542 risk-sharing programs were designed to overcome problems with the coinsurance program and to advance the agency's affordable housing mission. The programs were designed with incentives and safeguards to avoid repeating the substantial losses of the coinsurance program. These safeguards included requiring that all participating entities have an affordable housing mission and be accountable to another entity besides FHA, requiring that lenders share more of the loss than under coinsurance, building in FHA oversight, and precluding loans from securitization through Ginnie Mae.

Qualified participating entities under 542(b) have been the GSEs, financial institutions, and the Federal Housing Finance Board, although the GSEs have been the only participants to date. FHA delegates most of the underwriting to the GSE partner, which uses its inhouse underwriting standards. Under 542(c), FHA shares risk with state and local housing finance authorities (HFAs) and offers two tiers of risk sharing, with more delegation for projects for which HFAs take higher levels of risk. Both programs are rarely used for small multifamily projects.

Current Efforts To Redesign 542(b) for Small Multifamily Loans

Efforts are under way to redesign the Section 542(b) program to make it more accessible for small multifamily loans. One lesson from the past is that FHA's Multifamily Accelerated Processing (MAP) lenders are not necessarily the right target audience for a small multifamily product. People we interviewed also reported that small multifamily lending requires a different skillset and focus than large multifamily lending, and separate staffing, infrastructure, and procedures are needed.

Current efforts are therefore targeting groups already doing small multifamily lending—such as HFAs and community development financial institutions (CDFIs)—that are capital constrained. These lenders are familiar with this property type, so they better understand the risks than lenders geared toward large multifamily lending. The redesign would also allow for securitization of those loans by Ginnie Mae to reduce the capital requirements for these smaller institutions and enable them to increase their loan volume. This change requires legislative approval, being sought under the President's FY 2015 budget request to Congress. In the meantime, a pilot program is under development for mission-based CDFIs and other HFAs without securitization.

ES3.2.2 Conventional Financing for Small Multifamily Properties

Conventional sources of financing for small multifamily loans include Freddie Mac, Fannie Mae, HFAs, community banks, and CDFIs. U.S. Department of Agriculture Rural Development also provides financing for small multifamily properties. A comparison of underwriting guidelines shows that, as expected, given government agencies' mission, these entities have the longest mortgage terms, usually offer fixed interest rates for the life of the loan, have lower DSCRs, allow for higher LTVs, and do not require a personal guaranty. To manage interest rate risk, conventional lenders generally prefer shorter term (for example, 5-, 7-, and 10-year) maturities with adjustable rates and balloon payments.

Compared with other sources of financing, the GSEs generally have more conservative underwriting criteria—lower permissible LTVs and higher required DSCR. Fannie Mae's Delegated Underwriting and Servicing, or DUS®, lenders share the risk of loss to support delegated underwriting and align the interests of Fannie Mae and lenders. Freddie Mac typically reunderwrites the loans originated by its Program Plus® Seller/Servicers rather than delegating this function.

Community-based lenders generally have more flexible underwriting criteria but balance this risk with the shortest mortgage term and by requiring a personal guaranty (recourse).

ES3.2.3 Availability of Subsidies for Small Multifamily Properties

People we interviewed cited less available government and other funding to reduce overall project costs for small multifamily properties. This finding is consistent with our analysis of RHFS data. Nearly 92 percent of properties with from 5 to 24 units report receiving no benefits compared with nearly 78 percent of properties with from 25 to 49 units. Large multifamily properties are least likely to have no benefits, at 72 percent.

For example, large multifamily properties are more likely to have low-income housing tax credits than other property types. Current subsidies are a poor fit for small multifamily properties for several reasons. People we interviewed told us that, in some cases, the costs of compliance with government funding are unsustainable for properties with lower total net operating income over which to spread costs. Perhaps for this reason, current efforts redesign 542(b) for small multifamily loans focus on properties that are affordable to working families without subsidies rather than those that need subsidies to be affordable.

ES3.2.4 Terms of Financing for Small Multifamily Properties

The greatest difference between large and small properties in terms of financing identified in this analysis is that large multifamily properties are more likely than small multifamily properties to be mortgaged. Nearly 88 percent of large multifamily properties are financed by a mortgage compared with 78 percent of properties with from 25 to 49 units and 59 percent of properties with from 5 to 24 units (exhibit ES2). Small multifamily properties do not appear to have uniform access—those with fewer units apparently have less access to financing. It is not clear from the RHFS data alone whether the smallest properties are less likely to be carrying debt because financing is not available, because the owners prefer not to carry a mortgage, or for other reasons. The magnitude of the differences in financing strategy by property size, however, suggests that less available financing probably plays some role.

Exhibit ES2. Percent of Multifamily Rental Properties Financed by a Mortgage

	5–24 Units	25–49 Units	50+ Units
Property has one or more mortgages	58.9%	78.0%	87.7%

Source: 2012 Rental Housing Finance Survey

Of properties that do have a mortgage, small multifamily properties are less likely to be insured: 30 percent of properties in debt with from 5 to 24 units are insured compared with 39 percent of 24- to 49-unit properties and 54 percent of properties with 50 or more units. They are also less likely to be insured by FHA or the U.S. Department of Veterans Affairs (VA). Of insured multifamily properties in 2011, FHA/VA was providing insurance for only 4 percent of properties with from 5 to 24 units compared with 16 percent of properties with from 25 to 49 units and 30 percent of large multifamily properties.

Small multifamily properties are also much more likely than large multifamily properties to have ARMs (exhibit ES3). Our study shows no important differences in rates of ARM use between small multifamily properties with from 5 to 24 units and those with from 25 to 49 units. Unlike previous studies, our analysis does not find differences in interest rates between small and large multifamily loans originated from 2005 to 2012, although the sample of loans available was small. It may be that small multifamily properties are subject to higher financing costs, but that those costs are reflected in the points paid at origination rather than the interest rate.

Exhibit ES3. Percent of Multifamily Rental Properties With an ARM in 2011

	5–24 Units	25–49 Units	50+ Units
Share of mortgaged properties with an ARM	27.5%	26.7%	15.5%

ARM = adjustable-rate mortgage.
Source: 2012 RHFS

Differences in financing decisions among multifamily properties of varying sizes may be attributable to differences in their owners. Small multifamily properties are much more likely than large multifamily properties to be owned by an individual investor and less likely to be owned by a legal structure such as an LLC or limited liability partnership.

ES3.2.5 Successful Approaches to Financing Small Multifamily Projects

Community banks are an important source of financing for small multifamily properties, as are the GSEs. Several unusual approaches we learned about in interviews are also instructive about how to successfully serve the financing needs of small multifamily properties.

One Chicago community lender focuses on unsubsidized—but affordable—small multifamily properties because the costs of complying with affordable housing subsidies can be high. This lender successfully originates small multifamily purchase and rehabilitation loans using capital from a pool of local financial institutions. Construction is funded using a line of credit and, after construction is complete and the loan converts to permanent, the mortgages are bundled and collateral trust notes secured by those mortgages are sold to the participating financial institutions. The local financial institutions are motivated to participate by CRA credit. The loans use recourse to the borrower as a credit enhancement. Note that the lender also offers assistance and training to borrowers to help make up for the lack of property management experience.

One west coast insurance company prefers small multifamily lending to large multifamily lending, which is unusual for an insurance company. They find that small multifamily loans perform well, offer diversification, and have developed expertise in that market segment. Their specialized approach to small multifamily lending includes in-person property visits and a trusted network of correspondent mortgage brokers to finance properties around the country. They have a particular focus on stable, often midsized markets such as Portland, Oregon, Tulsa, Oklahoma, and Fayetteville, Arkansas. They view these markets as having less competition than larger markets and, therefore, offering better yields. They take a fairly conservative underwriting approach, provide only permanent loans, and focus on experienced, repeat borrowers, and whenever possible, require a personal guaranty from the borrower. Brokers are located in the markets where they originate loans, and an insurance company staff member with responsibility for the geographical area visits every property at least once.

One of the largest mortgage lenders in the country successfully serves the small multifamily market by using an extremely streamlined process and by focusing on geographies with particular characteristics. The lender uses a well-designed, highly standardized process it described as “credit card real estate.” The lender heavily emphasizes the credit quality of the borrower and has clearly defined credit standards. Each staff member is assigned responsibility for a geographical area and is typically physically located in the assigned market. This particular lender focuses on large markets with high rates of rentership and those where long-term renters are not uncommon. They also explicitly avoid smaller markets or those with limited demand for additional multifamily housing units, as evidenced by vacancy rates.

ES3.3 Multifamily Insurance Designs for Investors

Interview respondents expressed a range of opinions about whether financing was adequate to meet needs for 5- to 49-unit properties. Some interview participants did not identify financing gaps, but others did, highlighting specific segments of the market, such as small multifamily properties in rural areas, in secondary and tertiary markets, those needing rehabilitation, or those with fewer than 20 units. The RHFS data provide several pieces of evidence to support the need for additional financing for small multifamily properties and those with 5 to 24 units in particular; they do not contain sufficient geographic and other detail to test other possibilities.

A great deal of evidence suggests that financing for small multifamily properties is not consistently available. The foreclosure crisis demonstrated that small multifamily properties lacked a failsafe mechanism during the downturn, and large multifamily properties did not. The backstop for large multifamily property financing is formed by both the GSEs and FHA, but none of these organizations provided a safety net for small multifamily properties.

Three options of modifications to FHA's multifamily programs to accommodate small multifamily properties are proposed to address the following key issues that currently inhibit financing for small multifamily properties:

- High costs of origination and servicing and lengthy loan approval times.
- Lack of a secondary market outlet for small multifamily loans.
- Lack of financing for rehabilitation of small multifamily properties.
- Need for more flexible underwriting than for larger multifamily properties.

Option 1 suggests modifications to FHA's 221(d)(4) and 223(f) programs to delegate underwriting, processing, and the insuring decision to MAP lenders, who would share the risk of loss on small multifamily loans with FHA to varying degrees, depending on the level of delegation.

Option 2 proposes modifications to FHA's 542(b) and (c) risk-sharing programs to allow for securitization of loans originated under the program and add CDFIs to the list of entities qualified to use the program. It also broadens application of the delegation and risk sharing to loans insured under FHA's leading production programs, 221(d)(4) and 223(f).

Option 3 is a hybrid single-family/multifamily financing program that would allow for 5- to 10-unit properties to be underwritten using some of the same underwriting standards currently applied to 2- to 4-unit properties. Like FHA's other single-family programs, it does not incorporate risk sharing but adds a personal guaranty to mitigate risk.

All three options were designed for implementation as standard FHA programs, so they also provide funding for rehabilitation. Under design option 1, the duties of the MAP lender are increased to include processing, underwriting, and servicing of originated loans and the decision to insure the loan. MAP lenders currently make insuring recommendations based only on their loan processing and underwriting using Section 221(d)(4) or Section 223(f) program requirements.

Some of these options may require statutory changes, which would greatly increase the difficulty of implementing them. Option 2 probably requires only regulatory change, which may make this option the path of least resistance. The terms and features of each option are summarized in exhibit ES4.

Exhibit ES4. Summary of Program Features and Requirements

Requirement	Option 1	Option 2	Option 3
Loan term	35–40 years.	Relies on organization's own underwriting standards negotiated w/ FHA.	30 years.
Property type	5+ units.	5–50 units.	5–10 units.
Loan purpose	New construction or substantial rehabilitation; purchase or refinance of existing multifamily housing.		
Loan size	No maximum loan size.	Relies on organization's own underwriting standards negotiated w/ FHA.	Maximum loan amount that is supportable by net rental income.
Maximum mortgage limitation	85–90% for purchase and 80% for refinance.	No maximum.	Maximum loan amount that is supportable by net rental income.
Debt-service coverage ratio	1.11 for affordable housing and 1.20 for market rate housing.	Relies on organization's own underwriting standards negotiated w/ FHA.	1.25–1.30.
Loan-to-value ratio	83.3 to 90.0% for purchase and 80.0% for refinance (based on as-rehabilitated value or as-constructed value).	Relies on organization's own underwriting standards negotiated with FHA.	Maximum of 75%.
Delegated processing, underwriting, and insurance	Approved MAP lenders of more than a certain net worth (TBD) and additional approval requirements.	HFAs and GSEs—and TBD others.	FHA-approved lenders
Eligible borrowers	MAP lenders.	542(c)—Single asset, sole purpose mortgagors eligible under FHA guidelines; and well-capitalized CDFIs. 542(b)—GSE guidelines.	Same as current 2–4 unit eligible borrowers, but with increased reserve requirements—6 months reserves equal to PITI.
Risk sharing	• 50/50. • 90/10.	• 50/50. • 90/10.	N/A.
Securitization	No risk share loans are included in Ginnie Mae pools.	Lenders approved by Ginnie Mae could securitize loans.	If the lender choses securitization, a di minimus number of these loans may be placed in either single-family or multifamily Ginnie Mae pools.
MIP	Standard rates.	Standard rates.	2–4 unit rates with an increase in premiums (TBD).

CDFI = community development financial institution. FHA = Federal Housing Administration. GSE = government-sponsored enterprise. HFA = housing finance agency. MAP = Multifamily Accelerated Processing. MIP = mortgage insurance premium. N/A = not applicable. PITI = principal, interest, taxes, and insurance. TBD = to be determined.

ES3.4 Multifamily Loan Performance

Industry stakeholders we interviewed did not identify the risk of small multifamily properties as a barrier to financing. In fact, lenders indicated that they may have lower default rates. Our very limited analysis of multifamily loan performance using data from RealtyTrac and Freddie Mac's Multifamily Loan Performance Database, however, shows that small multifamily loans have not performed as well as large multifamily loans in recent years.

Larger loans in RealtyTrac had lower foreclosure rates within 5 years than smaller loans. This finding was true both comparing large and small multifamily loans and across loan values within both property types. Among small multifamily loans, loans in the top quartile of loan amount had a cumulative foreclosure rate of 13 percent compared with 16 percent for loans in the smallest loan amount quartile. Among large multifamily loans, the difference was more pronounced: loans in the top quartile of loan amount had a cumulative foreclosure rate after 5 years of 6 percent compared with 14 percent for loans in the lowest quartile of loan amount.

As with single-family loan performance, economic conditions are an important factor in multifamily loan performance. Small multifamily loans in the RealtyTrac dataset that were originated in 2007, at the peak of multifamily property values, had the highest rates of foreclosure within 5 years, followed by loans originated in 2006. Among large multifamily loans in RealtyTrac, 2006 was the worst performing cohort.

The risks to FHA of these options are not well understood. The data available to this study were inadequate to understand the relationships between specific loan characteristics described in the three options and loan performance. Although one of the data sources available was from Freddie Mac, defaults were too rarely observed to conduct multivariate loan performance analysis. Data from Fannie Mae, which has a much larger portfolio of multifamily loans more likely to accommodate robust statistical analysis, were not available. If Fannie Mae's data were made available, the program implemented would benefit greatly from a much-improved understanding of the risks to FHA.

ES3.5 Multifamily Market Impacts

We considered three ways in which modifications to FHA's multifamily insurance programs could have market impacts: (1) housing supply, (2) rents, and (3) conventional lending.

ES3.5.1 Housing Supply

New programs could affect housing supply through one of two mechanisms: (1) by encouraging new construction of small multifamily projects; or (2) by preserving small multifamily properties, thereby reducing the likelihood that they deteriorate and eventually leave the housing stock. Use of FHA financing for new construction or substantial rehabilitation of small multifamily projects is unlikely because of Davis-Bacon wage rate requirements associated with federally funded development programs. A number of industry stakeholders told us that these requirements add significant expenses to a project. Unless FHA was to attempt to waive Davis-Bacon requirements, these added expenses would outweigh any benefit of using an FHA program for small multifamily construction or substantial rehabilitation.

An FHA program could, however, slow the deterioration of small multifamily properties in need of more minor rehabilitation. Even if financing was not used to fund repairs, FHA financing—with its lower interest rate and longer fixed term compared with alternative financing sources—would improve net

operating income for owners, who might then be more likely to maintain their properties. Recent spreads between FHA interest rates and conventional interest rates are substantial—more than 100 basis points—and could have a significant impact on the cash flows of small multifamily projects. Access to lower cost FHA financing in turn could slow losses to the stock of units in small multifamily projects.

ES3.5.2 Rents

New FHA financing is not likely to have an impact on rents. Rents are influenced by many factors including the price of land, the degree of local land regulation, local preferences for homeownership versus renting, rates of household formation, and local economic conditions. A program large enough to affect rents would have to affect some significant portion of the housing stock—perhaps as many as 1 percent of units in a specific rental market. Any FHA financing program is unlikely to have sufficient volume to have such an effect. An impact on the quality of housing units, but limited to the units financed using the program, is more likely.

ES3.5.3 Conventional Lending

New insurance options, if implemented by lenders, could affect conventional lending. Small multifamily financing is primarily the province of community banks, which generally do not meet the requirements to become MAP lenders and cannot offer terms that would be competitive with the terms and pricing of FHA financing. These lenders would probably lose some business to FHA lenders.

That being said, small multifamily lending is often described as relationship lending, or a product that community banks and other lenders offer to their customers who primarily use other products. This relationship is valuable to borrowers, because of the convenience it offers. Many small multifamily investors may prefer to maintain this one-stop relationship with their banker.

ES4 Conclusion

New single-family and small multifamily investor programs face considerable challenges: they need to respond to dramatic changes in market conditions brought on by the foreclosure crisis and to avoid repeating design and scale issues that have posed problems for FHA and investors in past programs. Any new programs will need to build on the considerable past work of FHA, synthesizing lessons learned about how to tailor single-family programs to investors and about issues particular to small multifamily projects. Further, any program needs to balance risk to FHA's insurance funds against the agency's mission to serve the underserved—goals that do not always mesh easily.

This tension is underscored by the analysis of loan performance in this study, which indicates that economic conditions are an important predictor of both single-family and multifamily mortgage default. Any new program to serve investors should be cognizant of this fact. One lesson from previous housing market downturns is that a nimble response to deteriorating economic conditions—to tighten underwriting criteria and eligibility—will be important to containing poor loan performance.

The risks to FHA of the new financing options discussed here are not well understood. This study explored the performance of multifamily loans but with inadequate data to understand the relationships between specific loan characteristics described in the three options and loan performance.

Although the data available for single-family mortgage performance analysis were comprehensive and detailed, many of the features of single-family financing options discussed are also not observable in the data because they are not currently offered in the market. Pilot programs may be the best way to introduce new financing options and gather data about loan performance.

1. Introduction

Small multifamily properties play an important role in the rental housing market. The properties make up nearly one-third of all unsubsidized rental housing and are more likely to serve lower income households than larger properties (Joint Center for Housing Studies, 2011). Despite the large market share, financing for small multifamily properties—often defined as those having 5 to 49 units—has long been a thorny problem, inspiring treatises on the subject with titles like "Why Do Small Multifamily Properties Bedevil Us?" (Narasimhan, 2001).

Previous studies point to evidence of a gap in financing for small multifamily properties. Among other things observed, these studies note that small multifamily properties are less likely to have a mortgage than large multifamily properties. When they do have a mortgage, these mortgages have higher costs, are more likely to have an adjustable rate, and have shorter terms than large multifamily properties. This evidence raises concern that small multifamily properties lack access to reasonably priced financing and that, without this financing, some of these units may be lost to the housing stock.[2]

Likewise, a gap in financing may exist for single-family rental properties. More than one-half of all rental properties are single-family properties (containing one to four units). Although these properties generally are financed through the single-family mortgage market, rental property financing options are more limited than those for owner-occupied properties. As a case in point, in contrast to the significant role the Federal Housing Administration (FHA) now plays in providing financing to owner-occupants, for all practical purposes FHA has not served investors in single-family rental properties since 1989. Instead, rental property investors rely on the thin supply of conventional financing available, and then on an assortment of other types of more costly financing or cash.

This study is not a response to the foreclosure crisis, but the crisis has highlighted the lack of financing options for small multifamily and single-family rental property investors. The crisis has led to large inventories of vacant single-family homes in some cities and a growing demand for rental units. In light of these conditions, is the market in need of new financing options for rental housing?

This study, commissioned by the U.S. Department of Housing and Urban Development, considers whether a program that provides FHA mortgage insurance for loans on single-family rental property could help rebalance the nation's housing stock between renter- and owner-occupied properties. Further, although this study arose during a temporary—albeit prolonged—housing market downturn, given the newfound awareness of the benefits of renting for a sizeable share of the population, it may be appropriate for FHA to increase its support for rental housing.

This study also considers whether FHA should play a greater role in filling the long-documented gap in financing for small multifamily properties and, if so, proposes modifications to FHA's current multifamily insurance programs. Expanded financing options would be intended for rental property investors. However, renters are the ultimate beneficiaries of the financing via provision of a greater supply of affordable rental housing, a more diverse stock of rental housing, and lower cost rental housing. There may also be neighborhood stabilization benefits if better financing options spur investment in distressed properties.

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[2] See, for example, Herbert (2001), Apgar and Narasimhan (2007), and Narasimhan (2001).

New single-family and small multifamily rental property mortgage insurance programs face considerable challenges: they need to respond to dramatic changes in market conditions brought on by the foreclosure crisis and to avoid repeating design and scale issues that have posed problems for FHA and rental property investors in past programs. Any new programs will need to build on the considerable past work of FHA, synthesizing lessons learned about how to tailor single-family programs to rental property investors and about issues particular to small multifamily projects. Further, any program will need to balance risk to FHA's insurance funds against the agency's mission to serve the underserved—goals that do not always mesh easily.

1.1 Study Organization

This report is organized into two main sections: the first relates to single-family rental property financing, and the second relates to small multifamily rental property financing. The single-family and multifamily sections proceed on parallel tracks with each including the following elements—

- A survey of the conventional market to understand the products available for financing investor purchases.
- A review of FHA's current and past role in serving rental property investors and the lessons that can be drawn from that experience.
- A description of three possible new financing options for rental property investors.
- An analysis of the performance of loans to rental property investors.
- A qualitative assessment of the market impacts of new financing options.

A final section concludes.

1.2 Study Approach

The study relies on qualitative research and data analysis. We conducted 26 interviews: 9 with FHA staff and 17 with other mortgage market participants (often involving multiple people) to understand the current market options for single-family and multifamily rental property investor financing and the adequacy of these options. Participants were selected to ensure that each of four market segments was represented: (1) rental property investors, (2) lenders, (3) the secondary market, and (4) FHA.

We interviewed the following groups of participants:

- Staff at the National Association of Realtors® (NAR) and a housing policy expert with experience in the small rental property investor market. These interviews were intended to represent rental property investors' perspectives, because the scope of this project did not allow for a direct survey of rental property investors. Realtors often help rental property investors identify sources of financing, so NAR was able to offer opinions on the types of financing that would be useful to their rental property investor clients and the transaction characteristics that lead to a successful sale for buyers and sellers. These interviews were supplemented by an interview with a housing policy expert and secondary sources.
- Lenders, who offered perspectives on the adequacy and challenges of current rental property loan offerings and desirable program features and requirements. Lenders interviewed

included housing finance agencies, community banks, conventional lenders, and the Mortgage Bankers Association.

- Government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac, which, based on their past experience and current program offerings, provided insights on lending to rental property investors regarding adequacy and performance, financing gaps in the rental property investor market, and default and economic considerations for any new program.
- Current and past FHA staff members, who provided information on an initiative under way to determine the feasibility of expanding its offerings to include rental property investors, regulatory barriers and political realities, operational challenges, current risk tolerance, and portfolio management considerations.

A complete list of the interviews conducted is in appendix A.

Each section is also based on a literature review; a review of underwriting guidelines; a review of lender websites; and analysis of data from the American Housing Survey, the decennial census, and other sources. We also use data from the Rental Housing Finance Survey (RHFS), which surveyed owners of rental properties with two or more units. Roughly 4,000 owners were randomly selected by the Census Bureau to participate in the RHFS in early 2012, which gathered information about the status of the owners' rental properties in late 2011 and early 2012.[3]

We use data from Black Knight Financial Services, Inc. (hereafter, Black Knight; formerly Lender Processing Services) to analyze the performance of single-family loans. Because FHA is a mortgage insurer, this analysis compares the performance of loans with and without mortgage insurance. Multifamily loan performance is also analyzed, although the two sources of data available to this study had serious limitations. These sources were RealtyTrac data on multifamily transactions and foreclosure filings and Freddie Mac's Multifamily Loan Performance Database. Like other studies that rely on publicly available data for analyzing multifamily loan performance, the data in this study are inadequate for the task, prompting us to suggest that GSE loan-level data be made available to researchers and policymakers.

[3] The final sample size is 2,264. The responses were weighted so that the overall picture provided from the surveys should reflect the characteristics of the national inventory of multifamily (two+ units) rental housing; all the tabulations we provide in this report were constructed using these provided weights.

2. Financing for Single-Family Property Investment

Although it is not entirely behind us, the foreclosure crisis that started in 2007 is showing clear signs of abating. House prices rose more than 12 percent year over year from May 2012 to May 2013 (CoreLogic, Inc., 2013). The share of households with negative equity has declined sharply, sales have rebounded, and the number of preforeclosure filings is dropping.

FHA has played a critical role in insuring loans during this foreclosure crisis. Although private market mortgage insurers substantially reduced their activity, FHA continued to underwrite loans, moving from 3.1 percent of mortgage originations in 2005 to 21.1 percent in 2009. FHA was limited, however, in its ability to prevent foreclosures or insure rental property investor mortgages.

Many of these foreclosed properties became bank REO (Real Estate Owned), often in need of renovation, and, importantly, many were either guaranteed by the government or held by the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac. For example, in the third quarter of 2011, more than one-half (51 percent) of the 1.3 million loans in the process of foreclosure were GSE-held or government guaranteed, and many were concentrated in low-income neighborhoods and neighborhoods with large minority populations (Ranieri et al., 2012). Although owner-occupants occasionally bought these homes using FHA financing, FHA could not provide financing to investors intending to redeploy these distressed properties as rental housing because it does not have a single-family program that investors can use.

Some observers are concerned that rental property investors can be detrimental to communities—that they will speculate that housing prices will rise, fail to maintain properties, and walk away from unprofitable properties without hesitation (Greenberg et al., 2009; Edelman, 2013). There is some foundation to this concern, but, as we will see in section 2.2, a poor reputation is not entirely deserved. Among other things, rental property investors—roughly 28 million of them (BiggerPockets.com/Memphis Invest, 2012)—own the millions of single-family rental housing units in the country that house one-third of the nation's renter households (exhibit 2-1). These homes offer a set of housing services that are important to many households and that generally are not provided by multifamily buildings. Although multifamily buildings are more suited to frequent tenant turnover, single-family homes are more suited to extended occupancy. They are almost by definition located in lower density places and represent a type of housing that many households prefer.

Individual rental property investors are motivated by profit, but many are also committed to their communities. "Mom and pop" investors typically own a few rental housing units, typically in the community where they live. According to a recent survey of individual rental property investors, one-half plan to own the investment properties they buy for 5 years or more. Most are not full-time rental property investors but have other jobs and invest in real estate to fund their retirements or their children's college education (Sorohan, 2011).[4]

[4] Sorohan, Mike. 2011. "Investors Ready to 'Heat Up' Local Market." *MBA NewsLink*. http://www.mortgagebankers.org/tools/fullstory.aspx?articleid=22987.

Exhibit 2-1. Occupied Rental Housing Units

Units in Structure	Share of Rental Units (%)
1, detached	28.6
1, attached	6.8
2 to 4	19.4
Subtotal	***54.8***
5 to 9	12.4
10 to 19	11.6
20 to 49	8.4
Subtotal	***32.5***
50 or more	8.8
Manufactured/mobile home or trailer	3.9
Total	***100.0***

Source: 2011 American Housing Survey

During this foreclosure crisis individual investors have relied on limited conventional financing available, and then on an assortment of other types of financing or cash to absorb some of the excess inventory, set a floor on house prices in many markets, and convert foreclosed homeownership units into single-family rental housing units needed to accommodate increasing rates of rentership (Gopal and Gittelsohn, 2013).

The effects of the foreclosure crisis are still being felt, with more than 2 million units in shadow inventory, and another significant downturn could occur in the future. Housing markets have always been cyclical, with the downward portion of the cycle characterized by private market withdrawal from the housing market, the departure of capital and liquidity from the market exacerbating the contraction. In a thinly traded stock such as housing, small impacts reverberate throughout the housing market.

The purpose of this portion of the study is to research current market conditions and provide input from industry participants including lenders, real estate agents, borrowers, and secondary market representatives about how FHA can serve rental property investors who need financing for their property purchases. We designed three rental property investor financing programs based on this input, and analyzed single-family property loan performance data from Black Knight to understand the factors that affect investor and owner-occupied property loan performance.

This report provides the findings from our research, the input we received from industry participants, and our data analysis and loan performance modeling. The exercise was informed in important ways by lenders, who as a group are practically minded and firmly grounded in the current context of the political climate and a housing finance system that is very much in flux. Lenders saw a current need for rental property investors using financing to purchase REO, but focused even more on the ongoing need for investment in properties requiring significant repairs, whether REO or not, which is reflected in the proposed program designs.

The next section, section 2.1, recounts FHA's past role in insuring mortgages for single-family rental properties. Section 2.2 provides a brief description of single-family investors' role in the housing market recovery. Section 2.3 provides an overview of the market to understand the financing available for rental property investors in single-family properties. Based on the market survey and input from market

participants, section 2.4 summarizes rental property investors' financing needs. Section 2.5 offers three designs for single-family rental property insurance, and section 2.6 discusses some possible market impacts of these designs. Section 2.7 summarizes findings from an analysis of single-family loan performance to inform future efforts to create a financing program for rental property investors.

2.1 FHA's Role in Serving Single-Family Rental Property Investors

For all practical purposes, FHA currently does not serve investors in single-family rental properties. In the past, FHA offered two primary programs for rental property investors: (1) the ***203(b) Mortgage Insurance Program***, from 1934 to 1989, and (2) the ***203(k) Rehabilitation Program***, from 1974 to 1996. Both investor programs experienced weak loan performance in their last decade, but as discussed in the following section, political concerns also played a role in ending most investor participation in the programs. The only currently functioning vehicle FHA has to serve single-family rental property investors is ***Title I Property Improvement***, a program with very little annual volume. This program, which also serves investors in multifamily rental properties, is briefly described in appendix G.

2.1.1 203(b) Mortgage Insurance Program

The 203(b) program, the principal program in the FHA's Mutual Mortgage Insurance (MMI) Fund, provides insurance for private lenders against losses on mortgages that finance single-family residences. While this program is credited with helping millions of Americans become homeowners, it does not currently serve *investors* purchasing single-family rental properties. The 203(b) program included mortgages for investor single-family rental properties from its inception in 1934 until late 1989, when rental property investor participation in the program was discontinued by congressional action.[5]

While in effect, the 203(b) underwriting guidelines for rental property investors were very similar to those for owner-occupants. The primary difference was the requirement for a higher downpayment. Although owner-occupants could obtain a mortgage with as little as 3-percent down, rental property investors could only borrow up to 85 percent of the owner-occupant maximum. As with an owner-occupant's mortgage application, a rental property investor's mortgage application was evaluated for the borrower's capacity to pay and his or her credit history. Additional underwriting requirements for rental property investors included a schedule of real estate, a maximum vacancy rate of 15 percent for the area in which the property was located, restrictions on second liens so the total debt did not exceed FHA limits, and verification of rental income, if applicable.[6] Rental property investors were also limited to owning seven properties. Comprehensive underwriting criteria and program features for 203(b) and 203(k) are presented in exhibit 2-6.

Although FHA underwriting often uses compensating factors to allow for flexibility in a specific requirement such as the debt-to-income ratio, FHA program staff in the 1980s, "… stayed within ratios

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[5] Public Law 101-235: Department of Housing and Urban Development Reform Act of 1989 (H.R. 1.EAS; 12/15/1989). The relevant section is Title I, Subtitle C: Federal Housing Administration Reforms, Section 143: Elimination of Private Investor-Owners from Single-Family Mortgage Insurance Program. Full text available from the U.S. Library of Congress: http://thomas.loc.gov/cgi-bin/query/D?c101:5:./temp/~c101w9SzIW. Accessed March 28, 2013.

[6] Rental property income could be documented by tax returns or signed copies of leases. FHA staff interview, January 8, 2013 and HUD Housing Handbook 4551.1REV-5.

because investors were thought to be riskier," according to one former underwriter.[7] Compared with present-day underwriting standards, those used for rental property loans were very basic and FHA did not offer much guidance to agency staff implementing the program.[8]

The 203(b) program operated successfully until the 1980s. During the first half of this decade, interest rates climbed, house price appreciation slowed nationwide after a period of rapid growth, and some regions of the country (the oil patch states in particular) experienced housing market downturns. As a result, loan performance worsened for owner-occupants and rental property investors. Likely because of a lack of other alternatives, insurance for rental property investors as a share of all endorsements increased during the first half of the 1980s, peaking in 1984-85 at 19.1 percent of all FHA single-family endorsements (exhibit 2-2).

Exhibit 2-2. Distribution of Loan Endorsements, by LTV in the 203(b) Program

LTV Category	1980–81	1982–83	1984–85	1986–87	1988–89
Owner-Occupied Property	(%)	(%)	(%)	(%)	(%)
Less than 75%	8.7	15.6	10.9	11.6	5.6
75-85%	8.6	12.9	7.7	10.9	5.4
85-90%	10.9	11.8	10.5	10.7	10.0
90-93%	10.5	10.8	10.6	10.0	11.6
93-95%	16.2	14.1	13.6	12.4	16.5
95-97%	28.9	18.8	22.8	26.0	36.7
97% or more	3.2	1.7	4.8	3.9	7.0
Rental property	**12.9**	**14.4**	**19.1**	**14.6**	**7.3**
Total	**99.9**	**100.1**	**100.0**	**100.1**	**100.1**

LTV = loan to value.
Note: Figures may not sum to 100 because of rounding.
Source: Hendershott and Waddell (1992)

Private mortgage insurers responded to the increase in default rates by no longer insuring loans to rental property investors, loans with deep buy downs, or cash-out refinance loans. They also pursued business less aggressively in regions experiencing house price declines (Hendershott and Waddell, 1992).

The MMI Fund is mandated by statute to be financially self-sustaining, but HUD's response was more muted than that of the private sector. However, HUD did implement several changes to the 203(b) investor program to address the shortcomings in rental property investor performance.

First, in 1985, HUD prohibited investors from making cash-out refinances, citing internal analysis that showed that investor loans originated in the previous 3 years had a claim rate twice as high as its overall portfolio (Hendershott and Waddell, 1992).[9] The next year, HUD issued three changes to prevent rental

[7] FHA staff interview, January 8, 2013.

[8] FHA staff interview, November 1, 2012.

[9] HUD, "Mortgagee Letter 85-12," U.S. Department of Housing and Urban Development. Washington, D.C.

property investor activities it believed "circumvent[ed] the intent of our programs."[10] The department concluded that, to work around the prohibition on cash-out refinances, investors were selling properties to their associates—that is, parties with a preexisting interest in the property—and sharing the proceeds. HUD therefore banned such identity-of-interest transactions for 203(b) rental property loans. At the same time, HUD implemented two program changes to reduce investor property flipping. Finally, in 1988, in a last ditch effort to respond to worsening loan performance, HUD restricted rental property loans to 75 percent of the owner-occupant's maximum loan-to-value (LTV) ratio.

HUD's adjustments to the 203(b) program may have prompted a decline in the share of rental property loans after 1985 (as shown in exhibit 2-2). After the cash-out refinancing ban of 1985, the share of rental property loans dropped by 4.5 percentage points. The decline in the share of endorsements for investor loans in 1988 and 1989 probably has two explanations. Rental property investors were ultimately excluded entirely from the 203(b) program by congressional action in 1989, but the 1988 LTV restriction may also have contributed.

While HUD made changes to restrict the 203(b) program for investors prior to 1989, adjustments for mortgages to owner-occupants were more modest and included restricting seller financing and temporary buy downs. [11] But during the same period, HUD eased qualification standards for owner-occupants, reduced downpayment for some loans, and converted its annual mortgage insurance premium into a borrowable upfront premium (Hendershott and Waddell, 1992). Perhaps because of these changes, during the late 1980s the share of loans to owner-occupants in the highest LTV categories (95 to 97 percent and 97 percent or more) climbed, with a corresponding drop in lower risk categories (exhibit 2-2).

An important study of FHA loan performance (Herzog, 1988) during this time found significantly higher claim rates among investor mortgages in the 203(b) program than among mortgages to owner-occupants despite the fact that LTVs, an important predictor of default, were substantially lower. According to this analysis, shown in exhibit 2-3, as of 1988 rental property loans endorsed in 1981 and 1983 experienced claim rates about 68 percent higher than all owner-occupant loans in the same book of business.

Exhibit 2-3. Claim Rates Through 1988 on Sampled Section 203(b) 30-Year Term Level Payment Mortgages

	Rental Property Loans			Owner-Occupied Property Loans		
Endorsement Year	Number of Claims	Number of Endorsements	Claim Rate (%)	Number of Claims	Number of Endorsements	Claim Rate (%)
1979	11	352	3.1	76	1,595	4.8
1981	281	1,105	25.4	140	925	15.1
1983	82	1,061	7.7	42	914	4.6

Source: Adapted from Herzog, 1988

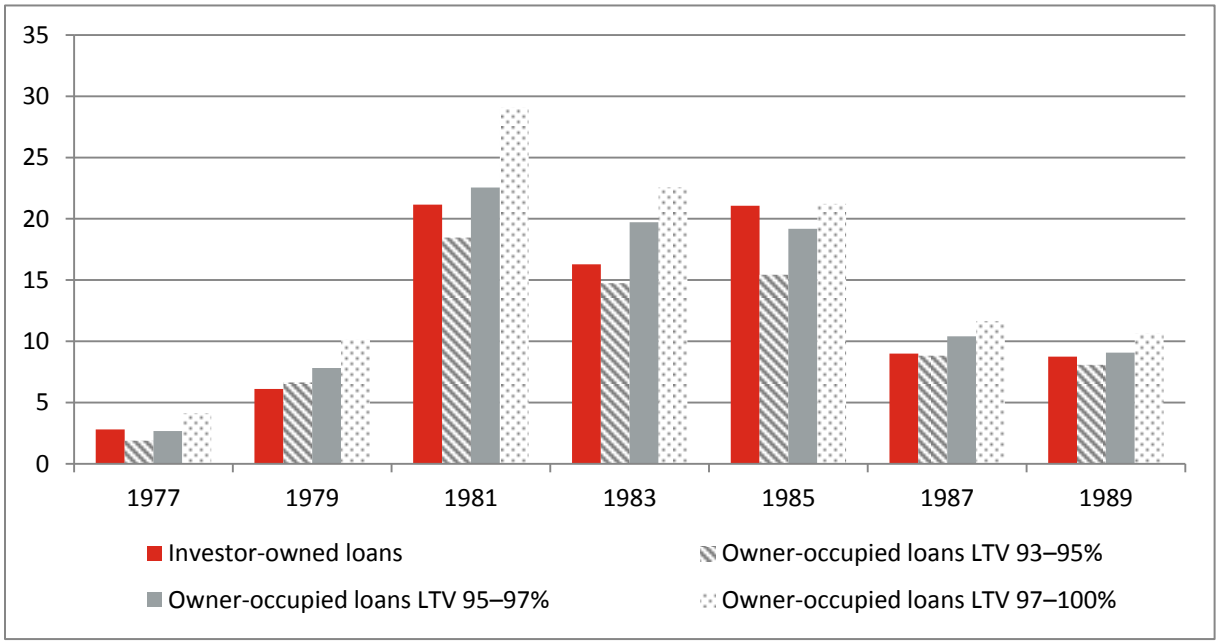
[10] HUD, "Mortgagee Letter 86-5," U.S. Department of Housing and Urban Development. Washington, D.C.

[11] HUD, "Mortgagee Letter 86-15," U.S. Department of Housing and Urban Development. Washington, D.C.

Exhibit 2-4 shows the performance of loans 11 years after endorsement.[12] The exhibit suggests that the MMI Fund's performance problems were widespread, associated with high-LTV loans as well as loans to rental property investors. In general, claim experience of rental property loans in most endorsement years was worse than owner-occupied property loans with LTVs from 93 to 95 percent but somewhat better than that of owner-occupied property loans with LTVs from 95 to 97 percent.

The analysis in the PricewaterhouseCoopers (1999) actuarial review of the MMI Fund—based on more years of actual performance history—shows a different pattern than that documented in the 1988 Herzog analysis. The actuarial review shows that rental property loan performance was about the same as that of mortgages to owner-occupants, again despite the fact that rental property investor LTVs were substantially lower.[13]

Exhibit 2-4. Cumulative Claim Rates After 11 Years on 203(b) 30-Year Fixed-Rate Mortgages



LTV = loan to value.
Source: Adapted from PricewaterhouseCoopers, 1999

Exhibit 2-4 shows a clear pattern related to year of endorsement, which suggests that loan performance was influenced strongly by external factors common to all loans as well as by the type of loan (owner-occupant or rental property investor) and the LTV. That is, high-LTV and rental property loans endorsed in 1977 had very low cumulative claim rates; those endorsed in 1979 had roughly double the cumulative claim rates of those in 1977; and cumulative claim rates roughly doubled again between 1979 and 1981. The performance of loans to owner-occupants with 93- to 95-percent LTV loans experienced the most marked deterioration (nearly 10-fold increase from 1977 to 1981), but loan performance was declined rapidly across the board.

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[12] This point was selected for two reasons: by this point, almost all loans that will default already have; and because actual performance data are available for comparison.

[13] Note that FHA's data system did not identify rental property loans; rather, rental property status was inferred from other data.

Performance of loans to owner-occupants and rental property investors endorsed in later years improved substantially, and the improvement, in general, was more pronounced among rental property loans than among high-LTV loans. The disproportionate improvement among rental property loans (declines of more than 50 percent) may indicate that specific reforms undertaken to tighten standards for loans to rental property investors had an impact on cumulative claim rates. Similarly, improvements in the performance of high-LTV loans to owner-occupants may have been related to HUD's restrictions on seller financing and changes in buy down policies as well as rising appreciation.

The poor performance of rental and owner-occupied loans during the 1980s resulted in a steep decline in the financial position of the MMI Fund. The economic value of the Fund to insurance in force (the capital ratio) declined from 5.3 percent in 1978 to 0.8 percent by 1989. One study also attributes FHA's continuing high losses in the late 1980s to its failure to raise premiums after it became clear rental property investors had higher initial claim rates (Hendershott and Waddell, 1992).

Despite the reforms, in 1989, Congress legislatively ended rental property investor participation as part of the Department of Housing and Urban Development Reform Act of 1989. Although rental property loan performance was worse than owner-occupant loan performance,[14] the prevailing understanding among agency staff and industry representatives interviewed was that the primary motivation for eliminating rental property investors from the 203(b) program was a belief that the government should not support investors in single-family rental housing (although FHA continued to support investors in multifamily rental housing) rather than poor performance.

One agency official reflected on the moratorium, "There may have been higher claim rates but that was never biggest concern. The concern was is it appropriate for the government to provide mortgage insurance for private investors."[15]

2.1.2 203(k) Rehabilitation Mortgage Insurance Program

The 203(k) program is FHA's primary program for single-family purchase and rehabilitation. Preservation and rehabilitation are particularly important issues for one- to four-unit rental properties, because that housing stock is older than other housing on average and in need of more maintenance (Mallach, 2007). The 203(k) program was authorized in 1978, and served owner-occupants, rental property investors, and nonprofit organizations. Rental property investors were eligible for the 203(k) program until 1996, when HUD issued a moratorium[16] preventing their participation in response to an audit by the Office of Inspector General (OIG) determining that the program was "highly vulnerable to waste, fraud, and abuse by investors and non-profit borrowers" (OIG, 1997). As discussed in the following section, philosophical concerns were probably also a factor.

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[14] The 1998 Actuarial Review was not available to policymakers in 1989, so the conclusion that rental property loans had worse performance than loans to owner-occupants was based on shorter experience: about 7 years for loans originated in 1981, about 5 years for loans originated in 1983 and 3 years for loans originated in 1985. The Herzog, 1988 study was probably an important factor.

[15] FHA staff interview, November 1, 2012.

[16] HUD, 1996, "Mortgagee Letter 96-59," Washington, D.C.: U.S. Department of Housing and Urban Development.

Program Features

The 203(k) program is modeled on the 203(b) program, with the addition of a rehabilitation component. Like 203(b), loans are originated by direct endorsement lenders that are responsible for underwriting using FHA's guidelines. Mortgagors may borrow funds up to the amount of the property value before rehabilitation plus the rehabilitation costs, or 110 percent of the post-rehabilitation appraised value, whichever is less. 203(k) borrowers must perform a minimum of $5,000 of substantial (noncosmetic) repairs within 6 months after closing. As in 203(b), owner-occupants may make a downpayment of as little as 3 percent. At the time of the moratorium, the maximum LTV for rental property investors was 85 percent of the owner-occupant maximum. (For more detail, see exhibit 2-6.)

The rehabilitation component of the program makes 203(k) complex to administer and oversee. In addition to standard underwriting, 203(k) lenders are responsible for a wide array of functions related to the rehabilitation. They must ensure that borrowers obtain an accurate appraisal (or two appraisals, depending on the scope of repairs). Borrowers contract with a HUD-approved 203(k) consultant who determines the scope of rehabilitation work, its feasibility and cost, and the property's estimated post-renovation value.[17] The lenders must then ensure that borrowers hire a contractor to complete the repairs in the scope of work (or are capable of doing so themselves). Lenders are also responsible for monitoring the progress of the repair work through HUD-approved consultants. Lenders hold the rehabilitation funds in an escrow account and authorize withdrawals from that account as the work is completed. To compensate lenders for the complexity of originating and servicing 203(k) loans, the loans carry a supplemental origination fee of 1.0 percent, plus 1.5 percent of the mortgage to be used for rehabilitation.[18]

The FHA staff interviewed suggested that centralizing so many functions with loan officers and consultants could pose a conflict of interest. If, for example, the loan officer steers borrowers toward a particular contractor and chooses the appraiser, the agents' shared interest in the project may mean that "[m]oney is released but work is not being done."[19] Lenders are required to run the program according to FHA's guidelines but stand to profit from originating a high volume of loans; further, FHA had weak oversight of consultants through the 1990s. The profit motives of lenders, appraisers, consultants, and rental property investors (nonprofit and profit-motivated) are what in the 1990s presented the opportunity for "undetected excess" in the program (OIG, 1997). HUD has undertaken various efforts to improve the performance of approved consultants and the 203(k) program, including adding new consultant qualification requirements.

Program Abuses and Moratorium

203(k) loan volume remained relatively low until the mid-1990s. To encourage the program's use, FHA streamlined the program in 1994 and 1995. Programmatic changes included making it easier to request an

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[17] FHA approves the 203(k) consultants based on experience as contractors or inspectors. These requirements were updated in HUD, 2000, "Mortgagee Letter 00-25," Washington, D.C.: U.S. Department of Housing and Urban Development.

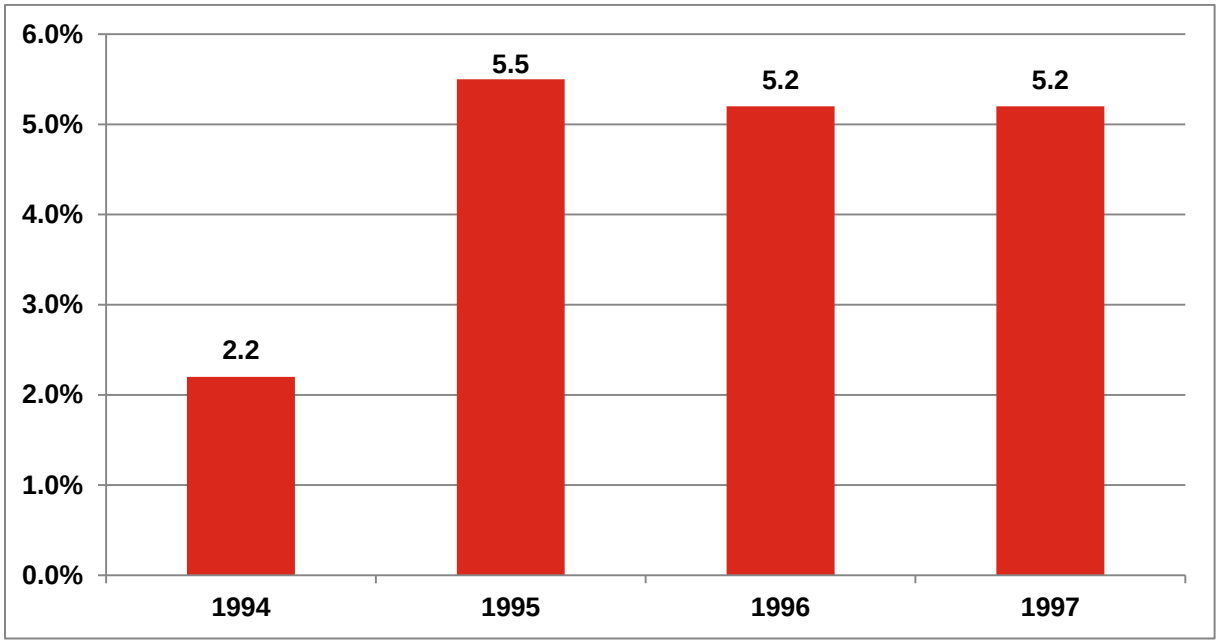
[18] The supplemental origination fee will be 1.5 percent of the mortgage amount for rehabilitation or $350, whichever is greater. HUD, 1991, "Handbook 4240.4 REV-2," Washington, D.C.: U.S. Department of Housing and Urban Development.

[19] FHA staff interview, November 1, 2012.

extension for the rehabilitation, making HUD offices responsible for training consultants, letting consultants act as inspectors to reduce processing time, and centralizing operations that used to be in 81 field offices to HUD's four homeownership centers (HOCs).

FHA also embarked on a marketing strategy to encourage more rental property investor participation, which increased volume but ultimately generated $25 million in losses.[20] From 1994 to 1998, annual 203(k) loan volumes increased by more than 450 percent—from 4,000 to 18,000 loans. Early loan defaults (within 12 months of closing) also rose precipitously—from 2.2 percent of FY 1994 loans, peaking at 5.5 percent of loans in FY 1995, and remaining high at 5.2 percent in FY 1996 and 1997. Early defaults tend to indicate underwriting problems in the loan; later defaults, in contrast, may not reflect an underwriting problem but rather a change in the borrower's finances or in the market. Exhibit 2-5 shows that 203(k) loans originated from FY 1994 through 1996 had high early default rates—indicating troublesome underwriting. The overall claim rate for 203(k) loans endorsed from 1994 to 1996 was nearly double that of 203(b) loans, although the 203(k) program is understood to be inherently riskier than 203(b) because of the rehabilitation.

Exhibit 2-5. Early Default Rates for 203(k) Program for Loans Endorsed in Fiscal Years 1994 Through 1997



Source: Reproduced from General Accounting Office, 1999

In 1997, the OIG released an audit of the 203(k) program that found evidence of program fraud, particularly in Florida and New York. Rental property investors, nonprofit organizations, and lenders were colluding to inflate 203(k) sales prices by flipping properties within a week. Appraisers used inappropriate properties as comparable sales to inflate the value, lenders falsified documents for underwriting, and nonprofit organizations received kickbacks for falsifying loan documents. Conspirators would share the sales proceeds, and escrow withdrawals would be made for repairs that were largely not

[20] FHA staff interview, November 1, 2012.

completed (Goves, 2001). The substance of the audit findings included poor origination decisions, data entry errors in FHA systems and records, poor administration of the rehabilitation process, and a lack of controls at FHA.

Program abuse in the 1990s was most problematic among nonprofit organizations according to agency staff and a 1992 General Accounting Office (GAO) report on the program (GAO, 1992). After elimination of rental property investors from the program, abuse by nonprofit organizations continued to rise. One staffer recalled how the rental property investor and nonprofit issues built on one another: "In South Florida and New York, there were two non-profits that had 600 203(k) units insured. Investors were probably doing some of the same thing, not disposing of properties. They [non-profits] were keeping the units, not making the mortgage payments. We'd seen degradation and non-compliance. We didn't have good controls in place. When investors were eliminated, many of them formed their own non-profits."[21]

The GAO's analysis found that, "While they represent only about 5 percent of the 203(k) program's loan volume, non-profit organizations' participation is just as problematic as investors' participation. Nonprofit organizations' claim rate, on average, is more than double that of any other borrower type in the 203(k) program, including investors" (GAO, 1992). One FHA staff person familiar with 203(k) suggested that nonprofit organizations remained eligible for 203(k), while rental property investors were eliminated because of the perception that nonprofit organizations "were dealing with affordable housing and the agency mission."[22]

OIG and GAO reports cited HUD for failing to properly monitor the 203(k) program in the mid-1990s and late 1990s. At the time, HUD was undergoing significant restructuring as part of Secretary Andrew Cuomo's HUD 2020 strategy. The restructuring called for downsizing HUD staff by 25 percent and concentrating field activities from 81 field offices into the four HOCs. OIG was concerned that this rapid shift was causing many senior and midlevel staff with institutional knowledge to leave—HUD was not only understaffed, but also it was staffed with inexperienced people who were fighting to keep or get jobs in the "new HUD." Because direct endorsement lenders do all the originations, HUD's staffing constraints did not affect the ability to originate loans, only to oversee compliance (Goves, 2001).

Agency staff and industry representatives agreed that the OIG audit was pivotal in prompting HUD to issue a moratorium on 203(k) rental property investors. One interviewee with knowledge of the process indicated that while losses were higher on non-owner-occupant loans, politics was also a factor.

Program Reform and Potential Reinstatement

There is strong interest from FHA and the housing industry to reinstate the 203(k) program for rental property investors.[23] Several agency staff we interviewed thought that the 203(k) program for rental property investors serves an important social purpose, especially in distressed neighborhoods, where rental property investors may be more willing to purchase properties than owner-occupants, helping to stabilize property values and return housing to affordable rentals.[24]

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[21] FHA staff interview, January 8, 2013.

[22] FHA staff interview, February 15, 2013.

[23] On industry interest, see, for example, Mortgage Bankers Association, 2012, "Support for an Investor 203(k) Program Comments to Carol Galante." Washington, D.C.

[24] FHA staff interviews, January 8, 2013.

MBA and agency staff we interviewed emphasized the controls they have established on nonprofit and other 203(k) borrowers since the late 1990s. Some of the systems improvements follow:

- Post-endorsement technical reviews of loans are now conducted.
- Nonprofit organizations are certified by HOCs every 2 years.
- Increased monitoring and reporting requirements, including a system for identifying high-risk lenders.
- Active 203(k) loans are limited to 10 per borrower to ensure nonprofit organizations do not overstretch financial or management capacities.
- Oversight of 203(k) consultants was tightened, including a requirement that the registered consultant be identified on every loan.
- SSN and borrower name validation number and case number assignment are automated.
- Additional appraisal data are collected to detect potential property flipping.
- Evidence of prior ownership to detect undisclosed identity-of-interest transactions.[25]

Advancements in automated underwriting and HUD's data collection systems further enhance FHA's ability to monitor. One staffer stressed the usefulness of a requirement instituted by a 203(k) lender that borrowers obtain a second appraisal to ensure that the proposed work was actually completed.[26]

Some confusion remains, though, regarding which entity is responsible for ensuring the rehabilitation is done and how to underwrite nonprofit organizations. Partially because of the lack of FHA guidance on these questions, no nonprofit 203(k) loans have been issued in the past 3 years.[27] HUD staff from several divisions emphasized the importance of HUD issuing clear guidance about any renewed rental property investor program up front, so that the agency did not repeat its history of having to respond to problems after the agency began amassing losses.[28] Because HUD voluntarily issued the moratorium on 203(k) rental property investors via a mortgagee letter, the program could be reinstated with the issuance of a new mortgagee letter.

MBA representatives believe all REO properties should be eligible for the program, but they would also support a phased-in approach that would begin with FHA REO only.[29]

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[25] HUD, "Mortgagee Letter 00-08," Washington, D.C.: U.S. Department of Housing and Urban Development. HUD, "Mortgagee Letter 00-25," Washington, D.C.: U.S. Department of Housing and Urban Development. FHA staff interview, February 15, 2013.

[26] FHA staff interview, November 1, 2012.

[27] It may be possible, however, that housing recovery programs such as the Neighborhood Stabilization Program are providing funding for activities that might otherwise be conducted with 203(k) financing.

[28] FHA staff interviews, January 8 and February 15, 2013.

[29] Mortgage Bankers Association, Letter to Carol Galante, Acting Assistant Secretary for Housing—Federal Housing Commissioner, June 5, 2012. Washington, D.C.

Exhibit 2-6. Past FHA Single-Family Rental Property Investor Program Features

	FHA 203(b)	FHA 203(k)*[30]	Title I Property Improvement
Property type	One- to four-unit, single-family detached, semidetached, or attached residential; condominium; modular home, manufactured home (unless purchased from a manufactured home dealer); leasehold.	One- to four-unit, single-family detached, semidetached, or attached residential; modular home, manufactured home (on a permanent foundation); leasehold. HUD REOs are eligible if listed as uninsurable or insurable with repairs.	Individual homes, apartment buildings, and nonresidential structures, as well as new construction of nonresidential buildings.
Loan purpose	Purchase or refinance	Purchase with rehabilitation or rehabilitation only; minimum $5,000 in improvements	Improvements, alterations, and repairs
Program status	Rental property investors eligible until 1989; currently only for owner-occupants	Rental property investors eligible until 1996; currently only for owner-occupants or qualified nonprofit organizations.	Active
Loan amount	Limited to the statutory loan limit for the area; may be increased when housing costs for the area support higher limit. The upfront mortgage insurance premium may be financed.	Same as 203(b); maximum for rental property investors is 85% of amount for owner-occupants.	- Single-family loans—$25,000. - Historic preservation loans—the lesser of $15,000 per dwelling unit in a residential structure or $45,000 per residential structure. - Fire safety equipment—$50,000.
LTV ratio	Rental property investors' LTV limited to— Until 1988: 85% of owner-occupant maximum 1988–1989: 75% of owner-occupant maximum	Same as 203(b), but for rental property investors, maximum LTV was 85% of owner-occupant maximum until moratorium. Cash-out refinances are not allowed.	No maximum
Interest rate and type	Negotiated with lender; fixed or adjustable	Negotiated with lender; fixed or adjustable	Fixed; negotiated with lender
Loan term/amortization	Maximum term of 30 years; refinances without an appraisal are limited to the remaining term of the existing mortgage plus 12 years (not to exceed 30 years). Self-amortizing.	Amortization: same as 203(b)	Up to 20 years; self-amortizing
Debt-to-income ratio	Limited to 29% of gross effective income; a higher ratio may be acceptable with significant compensating factors.	Same as 203(b)	Maximum 45% total debt to income
Minimum credit score	None specified. Based on overall pattern of credit behavior; minor derogatories 2+ years old do not require explanation; major derogatories require sufficient written explanation from the borrower.	Same as 203(b)	No minimum; borrower must be "acceptable credit risk"
Housing payment history	The lender must determine the borrower's payment history of housing obligations for the most recent 12-month period.	Same as 203(b)	Borrower must not be more than 30 days delinquent on subject property

[30] The Streamline 203(k) program was introduced in 2005.

	FHA 203(b)	FHA 203(k)*[30]	Title I Property Improvement
Foreclosure	Borrowers with foreclosure or deed-in-lieu in the previous 3 years, in general, are not eligible.	Same as 203(b)	Past foreclosure not specifically mentioned as a factor
Credit verification	Required; does not have to be based on a traditional credit history	Same as 203(b)	Required
Financial reserves	Reserves equivalent to 3 months' PITI after closing on purchase transactions.	Mortgagors must have sufficient assets to close the loan and have 3 months debt service in reserve.	Not required
Income documentation	Lender must document stability of income, primarily by verifying borrower's employment for the previous 2 years. Other income must be expected to continue through at least the first 3 years of the mortgage loan.	Same as 203(b)	Written verification of 2 years of employment and income required
Asset documentation	All funds for the borrower's investment in the property must be verified and documented. Funds can be from a gift, but the gift donor must not have an interest in the sale of the property.	Same as 203(b)	Source of funds for initial payment must be documented
Recourse	Nonrecourse	Nonrecourse	Nonrecourse
Secondary market access	Ginnie Mae	Ginnie Mae	Ginnie Mae
Subordinate financing	For refinances, other liens may remain in place as long as they will clearly be subordinate to the new FHA-insured refinance mortgage. For purchases, secondary financing must be documented. The combined first and second mortgage cannot exceed the applicable LTV ratio and the maximum mortgage limit.	If used for purchase or refinance, mortgage must be in first position. For rehabilitation only, first or second position.	Loan must be in first or second position
Additional investor provisions	Maximum vacancy rate for area of 15%. Rental property investors limited to seven total properties except under specific conditions.	Rental property investors limited to seven total properties except under specific conditions	
Other		Rehabilitation work must be completed within 6 months.	Loan more than $7,500 must be secured by mortgage or deed of trust. Risk of default insured for up to 90% of any single loan
Premium	Until 1983: 0.50% of the loan amount per year. 1983: 3.8% upfront premium. 1995: 2.25% upfront premium and 0.5 or 0.55% annual premiums.	Same as 203(b)	0.50% of the loan amount per year; increased to 1.0% in FY 2012

	FHA 203(b)	FHA 203(k)*[30]	Title I Property Improvement
Debt-service coverage requirements	Three- and four-unit properties must be self-sufficient (that is, the maximum mortgage is limited so that the ratio of the monthly mortgage payment, divided by the monthly net rental property income, does not exceed 100%).	Three- and four-unit properties must be self-sustaining (that is, net rent from all units must equal or exceed the monthly debt service). The debt-service coverage ratio may not exceed 100%. Net rent is calculated using all units, even if one unit is to be occupied by the mortgagor(s).	N/A
Lender requirements		DE lenders eligible to process 203(k), but underwriters must be trained and submit 203(k) test cases before full approval for DE processing is granted.	Must be approved Title I lender lending in specific geographic area
Loan volume	FY 2012 1,162,260 FY 2011 1,175,917	FY 2012 22,476 FY 2011 21,266	FY 2012 7,050 FY 2011 5,563

DE = Direct Endorsement. FHA = Federal Housing Administration. FY = fiscal year. LTV = loan to value. PITI = principal, interest, taxes, and insurance.

2.2 Investors' Role in the Recovery

Investors have been active in the foreclosure crisis and housing market recovery, absorbing some of the excess inventory and helping to establish a price floor in a number of markets, while converting vacant single-family homes into rental housing needed to accommodate increasing rates of rentership (Gopal and Gittelsohn, 2013). According to RealtyTrac data, rental property investors accounted for roughly 30 percent of single-family transactions in 2005 through 2009, but jumped beginning in 2010, reaching 41 percent in 2011 (exhibit 2-7). In some markets, investor activity was much higher.

Exhibit 2-7. Owner-Occupied and Investor Single-Family Property Transactions, by Year

Transaction Year	Owner-Occupied Property Transactions		Investor Transactions		Total Transactions
	Number	Percent of Total Transactions	Number	Percent of Total Transactions	
2005	5,216,505	69.6	2,280,416	30.4	7,496,921
2006	4,840,149	70.0	2,072,809	30.0	6,912,958
2007	4,127,954	70.4	1,732,182	29.6	5,860,136
2008	3,528,282	69.8	1,528,563	30.2	5,056,845
2009	3,298,651	69.5	1,450,887	30.5	4,749,538
2010	3,016,173	66.1	1,547,642	33.9	4,563,815
2011	1,324,474	58.6	933,984	41.4	2,258,458
2012	1,101,311	59.4	753,112	40.6	1,854,423
2005-2012	26,453,499	68.3	12,299,595	31.7	38,753,094

Notes: Owner-occupied property transactions are those for which the owner's address matches the property's address. Investor transactions are defined as those for which the owner's address does not match the property's address.
Source: RealtyTrac data

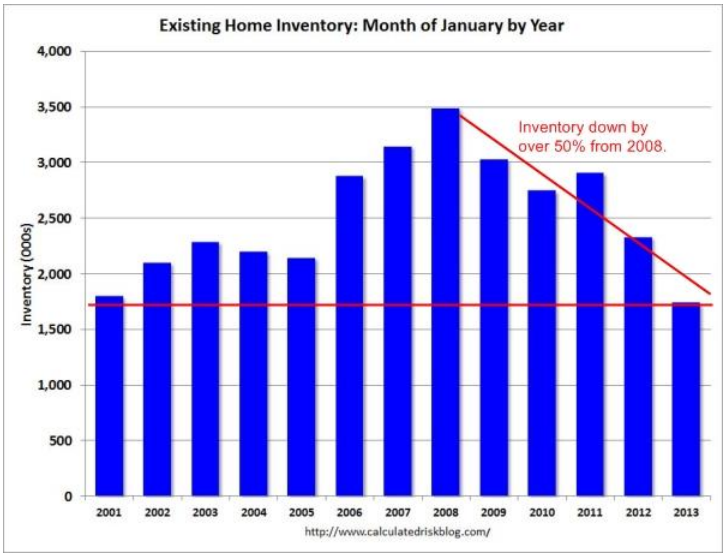
In fact, the resurgence in demand many housing markets are experiencing has been driven by single-family rental property investors. Correspondingly, the National Association of Realtors is reporting a continuing decline in housing inventories. As of January 2013, the national inventory fell 4.9 percent from the previous month to a 4.2-month supply.[31] This figure is down from a 4.5-month supply in December, which represents the lowest supply since April 2005[32] and a decline in inventory of more than 50 percent from 2008 (see exhibit 2-8).

[31] The "months' supply" indicates the number of months it would take to sell existing inventory on the open market at current sales rates.

[32] Mlynski, Christina, "Existing-home sales stay firm, tight inventory remains a factor: NAR," Housingwire, February 21, 2013.

Most single-family rental property investors have historically been individuals. In fact, 80 percent of single-family rental property owners are individuals (Khater, 2012b). These rental property investors, sometimes referred to as mom-and-pop investors, are generally investing in their local market to generate rental property income that will be realized as immediate cashflow or later in their retirement years. They typically have another primary source of income and employment and they need financing to purchase the investment property.

Exhibit 2-8. Housing Inventory, 2001–2013



Other kinds of rental property investors have recently increased activity: large group and institutional rental property investors that buy single-family properties with cash and sometimes in bulk. Because of persistent low interest rates, fixed-income investments that generate reasonable returns are currently limited. In this economic environment, real estate is an attractive investing alternative (Brennan, 2011).

The role of *institutional* rental property investors (nonlenders with 10 or more property purchases during the previous 12 months) has been very market specific. In June 2013, institutional rental property investors were most active in Georgia (23 percent of all sales), Nevada (16 percent), Arizona (15 percent), and Oklahoma (13 percent).[33] Importantly, institutional rental property investors are accessing cheap capital through private rental property investors and innovative means such as securitizations of single-family rental properties (Edelman, 2013). Access to these sources of capital give institutional rental property investors an advantage over mom-and-pop rental property investors in acquiring investment properties.

Despite the role of institutional rental property investors, which is unique to this housing market downturn, noninstitutional rental property investors (those purchasing fewer than 10 properties) are active in markets largely ignored by institutional rental property investors such as Fulton County, Georgia; Cuyahoga County, Ohio; and San Diego, California (Immergluck, 2013).

Rental property investor purchases are concentrated in distressed real estate, which includes short sales, foreclosures, and deeds-in-lieu of foreclosure. Among the distressed inventory, rental property investor activity is highest in the damaged REO property segment, where rental property investors accounted for 59 percent of all property transactions in March 2011 compared with 24 percent of move-in ready REO sales, 22 percent of short sales, and only 10 percent of nondistressed sales.[34] The inventory of distressed

[33] RealtyTrac staff, "All-Cash and Institutional Investor Purchases Down From Year Ago in June but Short Sales Continue to Increase," realtytrac.com, July 23, 2013.

[34] Campbell Communications, "Tracking Real Estate Market Conditions Using the HousingPulse Survey," Campbell/Inside Mortgage Finance, May 2011.

homes varies dramatically by MSA, so, again, rental property investors' role is very market specific. For example, in Phoenix, about 36 percent of homes purchased in July 2013 were bought with cash, a proxy for investor purchases. In Las Vegas, the share was almost 55 percent (McBride, 2013).

Investors have a poor reputation in the real estate market, shouldering much of the blame for large increases in property values in some markets (Edelman, 2013). Because of this poor reputation, public policy responses to the foreclosure crisis, such as President Obama's $75 billion foreclosure prevention package, have pointedly excluded rental property investors.[35] One result of this response is that nearly as many renters as owner-occupants have been evicted because of foreclosures.

A comparison of renter- and owner-occupied property loans in southern New England (Massachusetts, Connecticut, and Rhode Island), however, found that rental property loan performance, in general, was better than that of owner-occupants (Greenberg et al., 2009). The study examined loans for two- to four-unit properties, which makes up almost 22 percent of the housing stock in the region, and found that among loans originated in 2005, rental property investors were less likely to receive foreclosure petitions than owner-occupants by Q1 2009. Among loans originated in Q1 2005 through Q1 2009, rental property investors had lower LTV ratios, higher credit scores, and were much less likely to have a subprime loan than owner-occupants. They were more likely to receive a foreclosure petition on a one-unit property, however, than owner-occupants. In southern New England at least, any reputation for irresponsible behavior is more fairly placed on owner-occupants than on rental property investors.

2.3 Market Survey of Single-Family Investor Financing Options

Investors have played a key role in the post-foreclosure crisis recovery, but with surprisingly little support from either government or conventional financing sources. In fact, based on tabulations of Black Knight data for loans originated from 2003-2011, lending to investors contracted sharply during the housing market downturn, much more so than lending to owner-occupant purchasers. The volume of lending to investors fell by 75 percent from 2005 to 2009 (exhibit 2-9), but *insured* loans to rental property investors virtually vanished altogether, dropping from 22 percent of investor loans in 2008 to 3 percent in 2009 and then 1 percent in 2010. At the same time, loans to owner-occupants with mortgage insurance remained available, largely through government programs (exhibit 2-10).[36]

This section summarizes the sources of financing investors in single-family rental properties have used in recent years and describes some of their features. It also reports on various stakeholders' perspectives on the need for FHA investor financing for single-family rental properties.

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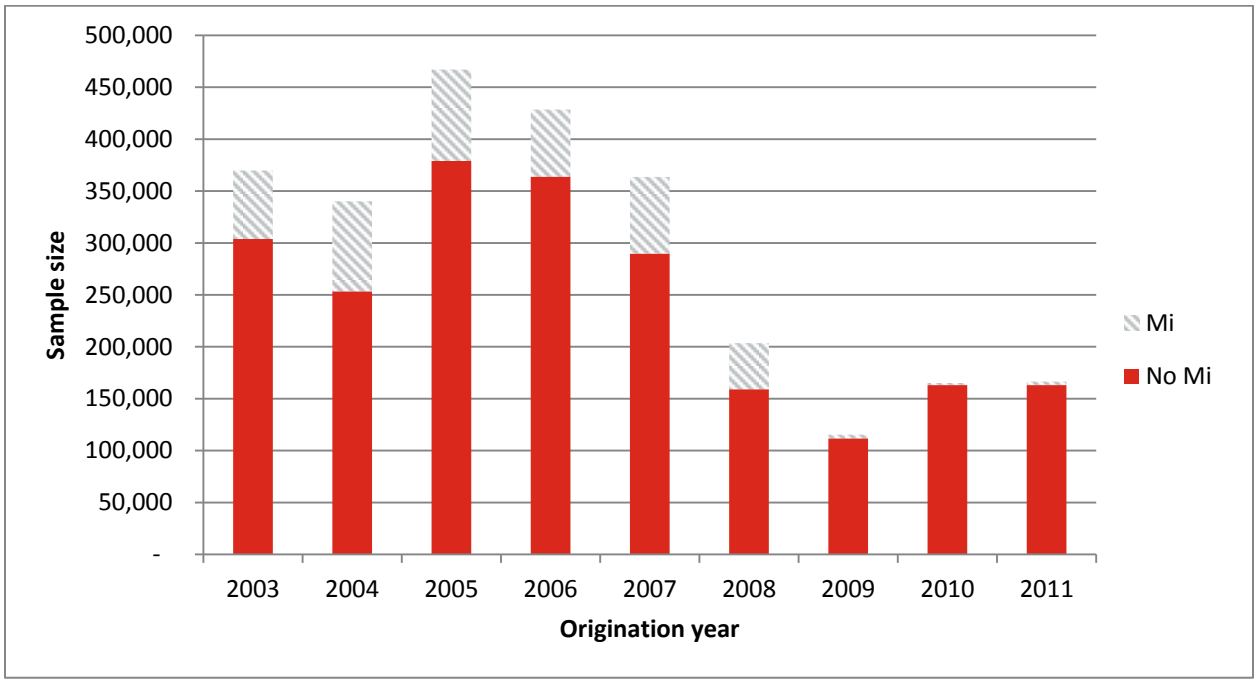
[35] Fletcher, Michael A. and Renae Merle, "Obama Proposes Package to Stave off Foreclosures," *The Washington Post*, February 19, 2009.

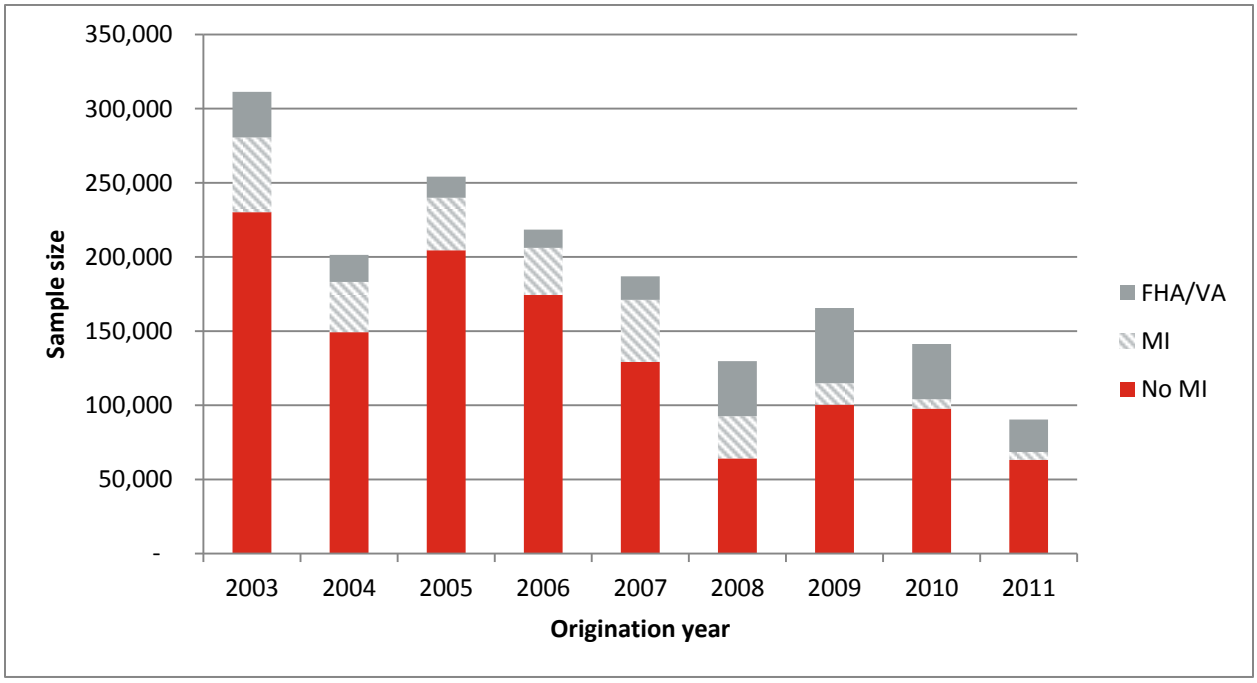
[36] Our LPS/Black Knight sample may not be representative of the market as a whole for a number of reasons. The data represents loans serviced by members of a consortium that contributes data to LPS/Black Knight. It is not clear whether any servicer practices may have changed during our time period in ways that influenced the mix of loans represented in the data. Although it appears that data completeness and consistency improves over time, it is not clear whether practices resulting in, for example, a loan being classified as "investor," "non-owner," and "unknown" changed over time.

Exhibit 2-9. Number of Investor Loans by MI Status and Origination Year



MI = mortgage insurance.

Exhibit 2-10. Number of Owner-Occupied Property Loans (5-percent sample), by MI Status and Origination Year



FHA = Federal Housing Administration. MI = mortgage insurance. VA = U.S. Department of Veterans Affairs.
Source: Authors' tabulations of Black Knight data

2.3.1 Rental Property Investor Use of Cash and Mortgage Loans

Cash property purchases made by owner-occupants and rental property investors increased during the foreclosure crisis. In many places, increases in cash purchases indicate tightening mortgage credit; in others, such as Detroit where property values are very low, this trend may reflect a reduced need for financing. It is probably also a sign of relatively lower expected returns on cash in other asset markets. In August 2010, all-cash sales comprised 28 percent of all home sales compared with 18 percent in late 2008. All-cash purchases were much more common among rental property investors than owner-occupants. In December 2012, 74 percent of rental property investors were all-cash buyers.[37] Among large institutional rental property investors, or buyers that purchased at least 1,000 properties from 2011 through 2013, nearly all purchases (93 percent) were entirely cash.[38]

Individual rental property investors are much less likely to use cash than institutional rental property investors, but may prefer to make property purchases with cash because they believe it gives them a negotiating advantage with sellers. According to one survey, most rental property investors (80.5 percent) expect a discount from sellers if they pay cash.[39] Real estate agents we interviewed reinforced this view, noting that sellers prefer cash offers because of the greater certainty that the sale will go through and the greater speed of the transaction, and are often willing to accept a cash offer over a higher offer involving mortgage financing.

Although many rental property investor purchases are made with cash, some rental property investors are able to finance purchases of investment properties using mortgage loans. The share of conventional home-purchase loans reported as not being for owner-occupancy increased to 22.5 percent in 2011, from an average share of 15.7 percent during the period from 2000 to 2010. Including government-insured loans, the non-owner-occupant share of all mortgages for home purchases in 2011 was 12.9 percent (exhibit 2-11).

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[37] Cook, Steve, "Real Estate Trend: More Buyers Pay In Cash," realestateeconomywatch.com.

[38] RealtyTrac Staff, "RealtyTrac Unveils Exclusive New Investor Insight Report at Mortgage Bankers Convention Showing Investors Purchased More than $1 Trillion in U.S. Real Estate Since 2011," RealtyTrac, October 30, 2013.

[39] Sorohan, Mike, "Investors Ready to 'Heat Up' Local Market," MBA NewsLink, Accessed at http://www.mortgagebankers.org/tools/fullstory.aspx?articleid=22987.

Exhibit 2-11. Comparison of Non-Owner Occupant Home Purchase Activity in HMDA and RealtyTrac

	Non-Owner Occupant Share of Purchase Originations in HMDA (financed with mortgage loans)	Investor Share of Purchase Transactions in RealtyTrac (financed with cash and mortgage loans)
2008	13.2	30.2
2009	10.2	30.5
2010	11.1	33.9
2011	12.9	41.4
2012	12.9	40.6

HMDA = Home Mortgage Disclosure Act.
Source: Tabulations of HMDA and RealtyTrac data

Tabulations using Home Mortgage Disclosure Act (HMDA) data provide some indication of the use of mortgage financing by rental property investors. Beyond HMDA, reliable sources of information on rental property investor financing are not consistently available.[40] Exhibit 2-11 compares the share of mortgages to investors reported in HMDA, a proxy for rental property investor purchases using mortgage financing, with the share of investor transactions (which would include transactions financed using cash and a mortgage loan) tabulated using RealtyTrac data. Although not all mortgage originations are reported in HMDA, the sizeable differences between the share of transactions that are non-owner/rental property investor in HMDA and RealtyTrac do suggest that a significant share of rental property investor transactions is made without mortgage financing.

Surveys provide some information about how investor purchases are financed in addition to the conventional financing reported in HMDA, but results vary depending on whether real estate agents or investors are surveyed. Two surveys of real estate agents produced similar results. A National Association of Realtors® survey reported that 74 percent of sales to investors in September 2013 and September 2012 were paid with cash,[41] and another survey, also of real estate agents, similarly found that 77 percent of investor purchases were made using cash in March 2011. The balance of purchases was made with FHA financing (2 percent); GSE financing (5 percent); or another source (15 percent).[42]

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[40] We could not use property-level transactions data from RealtyTrac to estimate the share of single-family rental property purchases made using cash, because of high rates of missing data. In theory, cash transactions in either DataQuick or RealtyTrac could be indicated by (1) a record of the transaction (for example, transaction date) and (2) a missing value for the loan amount. In practice, high rates of missing data for the loan amount (> 50 percent missing values) meant that we were unable to disentangle whether a given transaction was in cash or simply missing data. For this reason, RealtyTrac strongly dissuaded us from trying to uncover cash transactions in the data. Relatedly, our understanding is that variables used to identify cash transaction in CoreLogic, Inc., also have high rates of missing data.

[41] "Realtors® Confidence Index," September 2013 and September 2012, National Association of Realtors® Research Division.

[42] Campbell Communications, "Tracking Real Estate Market Conditions Using the HousingPulse Survey," Campbell/Inside Mortgage Finance, May 2011.

Surveys of investors tell a different story. A survey of investors conducted for BiggerPockets.com and Memphis Invest (BiggerPockets.com/Memphis Invest, 2012) indicates that only 24 percent of investors intend to use all cash for their next investment property purchase, 7 percent intend to use financing with a downpayment of 50 percent or more, 44 percent intend to use financing with a downpayment of 20 to 50 percent, 7 percent intend to use an SDRA (self-directed retirement account), 4 percent intend to use 1031 Exchanges, and 8 percent indicated other or no answer.

A second investor survey, conducted for Move, Inc., reported that 75.5 percent of investors surveyed planned to use a combination of cash and credit to acquire properties. Nearly 60 percent planned to put less than one-half down on their next property purchase and finance the rest. Those planning to use more than 50 percent cash for the downpayment and finance the remainder accounted for 16 percent of investors, but 57 percent of investors reported difficulty in finding financing.[43]

The apparent inconsistency between the first two surveys and the third may stem from differences in the definition of a cash transaction. Some "cash" transactions are not actually made with the investor's own money but involve financing that is arranged separately from the purchase transaction. This financing is often not from a conventional source but uses commercial or private equity financing.

Some rental property investors may use cash despite having a preference for mortgage financing because of obstacles to obtaining financing. The Bigger Pockets.com/Memphis Invest survey of real estate investors in 2012 indicated that small investors tend to be limited to commercial and small business loans as financing options, which can be considerably more expensive than mortgage interest rates. Perhaps as a result, 70 percent of investors surveyed indicated that lower interest rates would increase their activity in the market. Additional tax incentives for capital spent to purchase, rehabilitate, or renovate investment properties were also cited as being important by 54 percent of those surveyed. Importantly, 46 percent of rental property investors said elimination of limits imposed by lenders on the amount they will lend an investor would motivate them to make additional real estate investments. Most of these (44 percent of all investors surveyed) would be willing to increase their downpayment to 25 percent if they were able to borrow more to buy more properties. Nearly one-third (32 percent) of investors would be willing to put down more than 50 percent if there were no borrowing limits.

Interestingly, this survey reports that the use of cash varies by age and income level. Specifically, investors under the age of 55 were more likely to use financing (82 percent) than older rental property investors and those with incomes more than $100,000 are more likely to use all cash than those with lower incomes (BiggerPockets.com/Memphis Invest, 2012). This evidence suggests that the use of cash has less to do with investors being flush with cash, because they are often described in the media, and more to do with access to financing. Wealthier investors may be more financially savvy and better connected to sources of financing—such as commercial and private equity financing—than lower-income investors.

2.3.2 Conventional Financing Options for Rental Property Investors

Mortgage financing options for rental property investors are limited; products that finance rehabilitation of an investment property are even more limited. Rental property investor financing for non-REO transactions is primarily provided by the GSEs, and, to a lesser extent, community banks.

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[43] Sorohan, Mike, "Investors Ready to 'Heat Up' Local Market," MBA NewsLink, Accessed at http://www.mortgagebankers.org/tools/fullstory.aspx?articleid=22987.

Each GSE offers guarantee programs for financing one- to four-unit rental properties that enable mortgage lenders to originate loans that are then packaged and securitized for sale in the capital markets. The guarantee provides assurance to rental property investors that if the loan should default the MBS purchaser will not lose their principal investment. Rental property investor financing is a very small segment of the GSEs' activity, however, representing 7.1 percent of Fannie Mae's[44] portfolio and 5 percent of Freddie Mac's portfolio.[45] Fannie Mae and Freddie Mac each reported poor experience with their rental property loan portfolios for their older books (before the foreclosure crisis), but their more recent books are performing as expected. The GSEs' past experience may be a factor in the conservative underwriting for rental property investor financing offerings.

Community banks also provide financing for rental property investors, but to a much lesser extent than the GSEs. Rather than sell loans on the secondary market, community banks tend to originate loans and retain them in their portfolios.

Our discussions with lenders and the Mortgage Bankers Association and our review of lender websites confirm that rental property loan programs are limited. The few advertised rental property loan programs we were able to find placed interest rates from 0.5 to 1 percentage points higher than owner-occupied pricing. Given new regulations that have recently been introduced by the Consumer Finance Protection Bureau, lenders are not aggressively pursuing rental property loan originations. Therefore, it is no surprise that they are not broadly advertising programs to attract rental property investor borrowers. Exhibit 2-12 provides an overview of the key programmatic features of current rental property investor financing options.

Exhibit 2-12. Rental Property Financing Options (non-REO)

	Max LTV (%)	Max # Prop	Rehabilitation	Min Credit Score	Max Term (years)	Reserves (months)	Max # Units	Refi	Delivery Fee/ Price Adjustment (%)
Fannie Mae—Rental property investor (purchase and refinance)	85	10	No	640	30	2 to 6 per unit	4	Cash out	1.75 to 3.75
Fannie Mae—HomeStyle (rehabilitation)	95	4	Yes	680	30	2 to 6 per unit	1	NCO Rehabilitation only	1.75 to 3.75
Freddie Mac—Rental property investor (purchase and refinance)	85	4	No	620	30	6 + 2 per extra unit	4	Cash out	1.75 to 3.75
Other—Internet search of lender programs	90	Not found	No	Not stated	15–30	Not stated	Not stated	Not stated	Interest rate trended 0.5% to 1.0% more than owner-occupied

LTV = loan to value. max = maximum. min = minimum. NCO = no cash out. prop = property. refi = refinance.
Source: Zillow and individual lender website search as of March 8, 2013

[44] Fannie Mae 2012 Third Quarter 10Q Credit Supplement, November 2012.

[45] Freddie Mac 2012 Fourth Quarter 1-Q Credit Supplement, February 2013.

Although we found one program that offered an LTV up to 95 percent, in general, underwriting guidelines are somewhat conservative. Fannie Mae and Freddie Mac each believe that lending to rental property investors is significantly more risky than owner-occupied financing and this philosophy is reflected in their underwriting requirements and pricing. Each entity charges an additional fee for delivery of a rental property investor mortgage loan. Freddie Mac's offerings, in general, are more conservative than Fannie Mae's.

Unlike Freddie Mac, Fannie Mae also offers a rehabilitation program to rental property investors. Fannie Mae's HomeStyle Renovation Mortgage is the primary conventional source of financing for rental property investor purchase and rehabilitation. It is similar to FHA's 203(k) program (described in detail in section 2.1), which offered financing to rental property investors at one time but is currently limited to owner-occupants. Financing is limited to 50 percent of the as-rehabilitated value (but up to 95 percent of the current value) and is only for one-unit properties. The number of properties rental property investors can finance is also limited. Lenders must obtain special approval to deliver this type of mortgage to Fannie Mae. The volume of loans originated under HomeStyle is not available, but a Fannie Mae representative reported that only four lenders use the HomeStyle program and those lenders do not use it very much. Fannie Mae does not appear to promote the program.

A member of the Independent Community Bankers Association (ICBA) explained that a barrier to using the program is the requirement to use a contractor for the rehabilitation, because it is common practice for rental property investors to self-contract rehabilitation. He pointed out that the use of a third-party contractor in many cases pushes the total project costs for rehabilitation to a point where the project does not make financial sense.

Fannie Mae has another program for rental property investors, HomePath Renovation Mortgage, which is limited to Fannie Mae's REO. By Fannie Mae's own admission, the HomeStyle and HomePath program offerings each have overly strict risk controls. As a result, production has been very limited. A pilot that allowed for a different class of borrower (limited liability companies, LLCs) and increased the number of financed properties to 20 was introduced to increase the reach of HomePath. So far, Fannie Mae has had only a few transactions under the program.

Freddie Mac takes an entirely different market approach to selling its REO than Fannie Mae. Freddie Mac offers its REO properties in move-in, rentable condition. Although Freddie Mac recognizes the need for rehabilitation of REO properties, it has chosen to address this need by repairing the properties itself. This decision does not appear to have an economic basis. In fact, the Freddie Mac representative interviewed reported that repairing the properties is "not a huge driver of value." The preference for using this disposition approach appears rooted in Freddie Mac's desire to protect its reputation. The risk is that offering REO properties to the market in poor rentable condition may hurt the neighborhood if the buyers do not make repairs to the properties in a timely manner.

In summary, the sentiment from our lender interviews was that Fannie Mae and Freddie Mac were by far the primary source for investment property financing and that, in fact, rental property investors had no measurable offerings other than the GSE offerings. Further, because of current regulatory pressures and future uncertainty, lenders are reluctant to offer more liberal programs for their portfolios. The ICBA representative said that because of regulatory pressures, community banks' underwriting guidelines have become more restrictive and some community banks are not offering financing for investment. One community banker offering rental property investor financing expressed concern about larger banks regaining interest, thereby increasing competition and perhaps stretching prudent lending practices.

Rental property investors may be getting access to conventional financing through another mechanism. A recent analysis by Haughwout et al. (2012) suggests that, at least during the housing bubble, a significant number of rental property investors may have misreported themselves as owner-occupant borrowers. By comparing loan performance data on subprime loans with borrowers' credit reports, this study found an increasing discrepancy during the housing bubble between self-reported intentions to occupy the property, and the number of first mortgages on primary residences. Conditioned on borrowers' self-reported intentions to occupy the property, the authors found that 73 percent of those with a single first lien moved to an address corresponding to the property's ZIP Code within 2 years, while only 43 percent of those borrowers holding four or more first liens did so.

The study authors note, "While this cannot be definitive, we take this as suggestive of significant occupancy misrepresentation in nonprime mortgages during the boom."[46] Some FHA borrowers may have similarly misreported their occupancy status. This misreporting may highlight the lack of conventional financing options for rental property investors.

2.3.3 Other Sources of Financing for Rental Property Investors

In addition to having limited offerings from the GSEs, rental property investors have three other main sources of financing: (1) smaller banks doing portfolio or investment lending, (2) hard-money lenders, and (3) equity lenders.

Portfolio or investment lending, as the name suggests, is an offering of smaller banks (such as the community banks mentioned previously) that lend their own funds. Because they are lending their own funds, these banks can create their own lending criteria, which often combine the borrower's financial situation with the financials of the investment. For example, they may not require that the borrower's income be able to cover the debt but may rely more heavily on expected cashflows from the property as well as the borrower's credit and cash reserves.

Some portfolio lenders will finance property rehabilitation as well as purchase, and they often will require less than a 20-percent downpayment. Because they regularly work with investors, many have processing timelines of as little as 7 to 10 days to close a loan. On the down side, portfolio loans are often as short as 6 to 12 months, meaning that borrowers must either resell the property in that period or be able to refinance it. Portfolio loans also sometimes have high interest rates and points. Real estate experience is typically important to portfolio lenders, and inexperienced borrowers may face more scrutiny as well as higher fees.[47]

Hard money is provided by commercial lenders and individuals. The loan is typically provided on the basis of the real estate (or hard asset) and not the credit quality of the borrower, so these loans are sometimes also called "no doc" loans. Financing can often be used to cover acquisition as well as rehabilitation. The borrower's financial situation is less important than in either portfolio or conventional lending. The potential for good returns in the specific deal being financed is correspondingly more

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[46] The authors did not analyze the rate of misreporting separately for FHA endorsements; however, they found FHA, GSE, VA, and other federally endorsed loans in their overall sample.

[47] Steinhorn, Scott J. "The Four Types of Investor Lending," 123flip.com.

important, as is the borrower's real estate experience and therefore ability to execute the deal.[48] For example, Fairview Commercial Lending offers hard-money residential loans with no minimum FICO score, and no documentation related to the borrower's income or assets (other than the asset being financed). The maximum LTV is 60 percent. Loan decisions are typically made quickly—sometimes in as few as 3 or 4 days. The entire loan process typically takes fewer than 10 days.[49]

In exchange for lenient borrower underwriting standards, hard money is typically expensive. Interest rates can be higher than 15 percent in addition to upfront fees of 7 to 10 points (although Fairview Commercial Lending does not charge upfront fees).[50]

An ***equity investor*** is simply a partner who lends to real estate investors in exchange for a fixed percentage of the investment and profit. Although arrangements are not standardized, the equity investor commonly provides all the financing; the borrower does the work of acquiring, rehabilitating, and reselling the property; and the profits are split equally between the two investors.

Equity investors are often friends or family members, and borrowers have no underwriting standards or requirements to meet. Finding an equity investor is dependent on the borrower's personal relationships, however—and if the two partners have disagreement about each other's appropriate roles, the relationship can become strained. In addition, although the borrower has no upfront costs, the 50-percent share of profits paid to the rental property investor can make the loan more expensive than other types of high-interest loans.[51]

The alternatives to conventional financing for real estate investment are costly. Importantly, they are also short term, and seem better designed to support property flipping than longer term ownership of rental property that can provide a flow of income to the borrower and a supply of rental housing to a community. As a point of comparison, 203(k) loans to owner-occupants carry a supplemental origination fee of 1 percent, plus 1.5 percent of the mortgage to be used for rehabilitation. The interest rate is negotiated between the lender and the borrower.

2.3.4 Terms of Conventional Financing for Investors in Black Knight Dataset

A comparison of loans to investors and owner-occupants in a sample of loans from the Black Knight dataset provides insight into the terms of conventional mortgages offered to investors.

The Black Knight data show that mortgage insurance is not uncommon among loans to investors, but is much more frequently observed among loans to owner-occupants (exhibit 2-13). About 17 percent of investor loans in our sample have mortgage insurance compared with almost 29 percent of loans to owner-occupants. Differences between loans to investors and owner-occupants in terms of interest rate

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48 Some hard-money lenders reject first-time homebuyers because of their lack of experience. See, for example, Sherman Bridge Lending, http://www.investorsbeat.com/hard-money-loans-sherman-bridge-lending/. Accessed June 27, 2014.

49 Fairview Commercial Lending website, http://www.fairviewlending.com/residential_hard_money.htm. Accessed June 27, 2014.

50 Steinhorn, Scott J., "The Four Types of Investor Lending," 123flip.com.

51 Steinhorn, Scott J., "The Four Types of Investor Lending," 123flip.com.

Exhibit 2-13. Characteristics of Loans at Origination

	Owner-Occupied Property	Investors Property
Loan Characteristic	**Share (%)**	**Share (%)**
Mortgage insurance		
Mortgage insurance	28.6	16.5
Loan purpose		
Purchase	34.0	40.3
Other (construction, rehabilitation, remodeling, etc.)	10.0	5.2
Rate/term finance	3.8	3.6
Cash out refinance	11.6	13.3
Other refinance	28.5	22.3
Unknown	12.3	15.3
Interest rate type		
Fixed	80.3	76.2
ARM	19.7	23.8
Property type		
Single-family property	88.1	70.2
Condominium or townhome	10.4	15.2
Two- to four-family property	1.6	14.5
Product type		
FHA	11.1	NA
VA	2.9	NA
Conventional w/MI	14.6	NA
Additional lien		
One lien only	9.9	86.0
Multiple liens	90.1	14.0
Loan characteristic	**Mean**	**Mean**
Loan amount	217,890	169,698
LTV at origination	0.74	0.72
Initial interest rate, ARM loans	5.71%	6.56%
Initial interest rate, fixed loans	5.77%	6.19%
Credit score	720	731
Relative value of property (to MSA median) at origination	1.33	1.01
Number of loans	1,699,843	2,619,360

ARM = adjustable rate mortgage. FHA = Federal Housing Administration. LTV = loan to value. MI = mortgage insurance. MSA = metropolitan statistical area. NA = not applicable. VA = U.S. Department of Veterans Affairs.
Source: Authors' tabulations of Black Knight data, including loans originated from 2003 through 2011

type and the downpayment size are minor. Investors are slightly more likely than owners to have an adjustable-rate mortgage, with about 24 percent of all loans compared with about 20 percent of loans to owner-occupants. Investors' downpayments are only slightly larger than owner-occupants' downpayments, with a mean LTV of 72 percent compared with 74 percent.

Differences in interest rates are much larger. The mean initial interest rate for fixed-rate loans to investors is 42 basis points higher than the rate for loans to owner-occupants; for adjustable-rate mortgages, investors' mean initial interest rate is 85 basis points higher (exhibit 2-13). Investors also have loans for smaller amounts relative to the median in the MSA than owner-occupants. The mean investor loan is equal to the median in the MSA, but the mean owner-occupant loan is 33 percent higher than the median in the MSA.

Property types also differ. Investor loans in the sample are much more likely to be for a two- to four-family property than are loans to owner-occupants. Only 1.6 percent of loans to owner-occupants were for two- to four-family properties compared with 14.5 percent of loans to investors.

In our sample, investor loans appear less risky than loans to owner-occupants in two respects: (1) investors have slightly higher credit scores than owner-occupants (731 on average compared with 720) and (2) investors are less likely to have a second lien at origination.[52]

2.3.5 Perspectives on the Need for New FHA Investor Financing for Single-Family Rental Properties

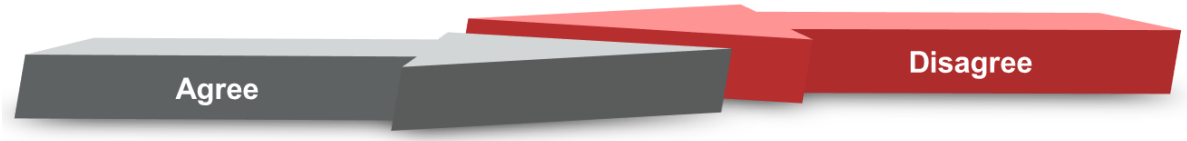
It is clear from the market survey of current offerings that rental property investor financing options are quite limited. Despite limited financing options, the market participants we interviewed expressed varying levels of support for a new FHA rental property investor financing program. In general, people we interviewed expressed one of three perspectives (not necessarily mutually exclusive). One view is that available financing is adequate to serve the market. Others believe a gap exists in financing for small rental property investors for purchase and rehabilitation, but not necessarily for plain vanilla purchase financing. The third group of people we interviewed thought that regardless of any existing gap in financing options, the risks of rental property investor financing are too high and the political realities are such that a new program is not feasible.

Adequate Financing

We found varying views on the adequacy of current financing options, depending in part on the participant's place in the value chain. Individuals involved with sales and origination (including product development) are more customer-centric and were more likely to indicate a need for additional financing. Individuals whose position in the value chain is insulated from direct customer interaction tended to be more focused on reducing losses and minimizing risk. They were more likely to assert that financing is adequate, although generally without offering evidence of that. Opinions are summarized in exhibit 2-14.

[52] Not having a way to link first liens to subordinate liens, we infer the existence of an additional lien if the loan origination data show (OriginalLoanAmount/OriginalPropertyValue) = LTV < CLTV. This formula shows more than 90 percent of owner-occupant loans in our sample had multiple liens compared with only 14 percent of rental property loans.

Exhibit 2-14. Comparison of Views: Existing Financing Options Are Adequate



Fannie Mae
Lenders have not been asking for additional financing options. If there were demand, you would hear from them.

FHA REO
FHA has adequate programs to handle its REO. We do not have an inventory issue that a new program can solve.

Lender/Community Banks
There are gaps in financing of rental properties that are healthy and should remain. FHA insurance of these types of loans will just introduce more competition and induce more loose lending.

Investor
Borrower View
Limited financing alternatives forces investors to seek small business and commercial loans with higher interest rates than mortgages. Investors indicate that lower interest alternatives would increase their participation in the market. Programmatic limitations on the number of properties that an investor borrower can finance simultaneously is prohibitive

Realtor View
While inventories are low in many markets, the investors that are purchasing these properties are paying in cash and purchasing in bulk. This is not good for communities.

- We need a financing option for the small investor. With financing they could acquire properties the cash investors do not want.
- There is demand for an investor rehab product. The properties left on the market need rehab.

Freddie Mac
Does not offer rehab financing for investors and believes it is a gap. Seller/Servicers indicate that underwriting is too restrictive, especially LTV limitation. A higher LTV program could be good for small investors buying REO.

Lenders/MBA
Indicates an oversupply of housing that needs rehabilitation. Financing available is inadequate to address need.

FHA = Federal Housing Administration. LTV = loan-to-value. MBA = Mortgage Bankers Association. REO = Real Estate Owned.

Support for FHA-Insured Financing

Lenders, Realtors, and our market expert all supported a new FHA program for rental property investors. In our discussions, lenders and Realtors focused on reopening FHA's 203(k) program to rental property investors, an idea they have lobbied for during the past several years. In two letters to FHA Commissioner Carol Galante, the MBA advocated for the reintroduction of the 203(k) rehabilitation program for rental property investors, arguing that doing so would produce significant benefits such as stabilizing home prices, reducing vacancies and abandoned properties, creating affordable housing, and providing job opportunities. NAR supports rehabilitation financing for rental property investors for similar reasons.

Actual use of a new FHA rental property investor program would depend on the underwriting guidelines—including FHA's ability to underwrite borrowers without sophisticated business credit histories—whether an outlet exists for securitization—and lender and borrower awareness of the new program. Our market expert suggested that a new program would need to be carefully designed to incentivize "responsible landlording" and lay the groundwork for a self-sustaining rental housing market in areas with particularly low property values, such as Rustbelt cities.

The results of the survey of investors by Bigger Pockets.com/Memphis Invest (2012) indicate that investors desire financing options that would provide for lower interest rates. Aside from the current

options mentioned in this report, rental property investors use business and commercial loan financing, which tends to have higher interest rates than mortgages. The survey results also suggest that investors would be willing to increase their downpayments if lenders would raise the limit on the number of properties that can be financed simultaneously.

Freddie Mac representatives agreed with lenders and realtors that more financing options are needed for rental property investors to purchase and rehabilitate properties. The Fannie Mae interviewees, on the other hand, reported that they are not hearing requests from lenders to expand financing options. It is possible that the GSEs' conservatorship status and lenders' awareness of the resulting constraints on the GSEs is discouraging suggestions for new programs.

In contrast, the community bank representative thought community banks were adequately providing prudent, limited financing to rental property investors. This person was very focused on the competition that large lenders may present if given a vehicle to originate loans without shouldering the risk.

Other market observers also saw a need for expanded credit availability to respond to the housing market crisis. In 2010, senior staff from Amherst Securities Group, a secondary market advisory services division of Amherst, argued that, "… the prudent expansion of credit to the investor community is the single most important demand side action that can be taken" to respond to the housing crisis. Their view was that supply and demand responses to the crisis were necessary, and that rental property investors' increasing use of cash to purchase single-family properties was an indication that credit was not sufficiently available to purchase foreclosed properties (Goodman, 2010).

Opinions among FHA staffers varied. Some saw a potential need for a rehabilitation program for rental property investors, and that the program could be especially useful in areas that have suffered from natural disasters. Others did not see the need for a new program.

Rehabilitation Financing Gap for Small Rental Property Investors

The Realtors, lenders, and MBA staff we interviewed supported more rehabilitation financing opportunities. The Realtors suggested that this type of financing was needed to provide an entrance back into the market for small rental property investors. They argued that cash transactions in markets such as Arizona, Nevada, and California have all but eliminated small rental property investors—even if they are willing to pay more. The higher offering prices of the small—financed—rental property investor cannot compete with the faster execution and closing of the cash transactions. The Realtors indicated that the properties that are left for the small rental property investor are in disrepair and need rehabilitation. Analysis by CoreLogic, Inc. (hereafter, CoreLogic) further confirms that the composition of REO sales is shifting and that the stock of REO properties now tends to be in worse condition.[53]

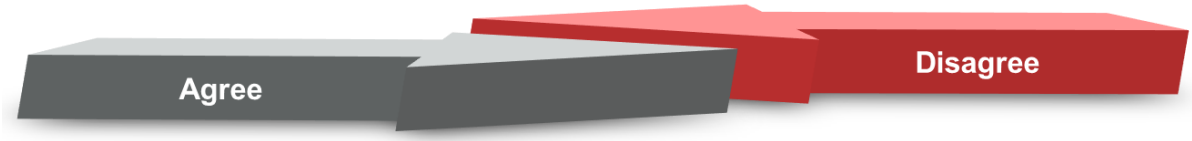
Fannie Mae, whose representatives said they do not believe additional financing is needed, offers two rehabilitation programs described previously: (1) HomeStyle, which is available to all borrowers seeking rehabilitation financing, and (2) HomePath Renovation Mortgage, which is for Fannie Mae's REO. Use of both programs is quite limited.

[53] Fleming, Mark, "Pleasant Surprises and Hopeful Futures," CoreLogic, Inc., *The MarketPulse*, Volume 2, Issue 1, January, 14, 2013.

Freddie Mac does not see a need to finance rehabilitation for its own REO inventory, because Freddie Mac repairs its own REO and offers these properties in move-in, rentable condition. Freddie Mac does not have a rehabilitation program for other institutions' REO or for non-REO property in need of rehabilitation, which could be indicative of a financing gap in the market.

On the other side of the ledger, the community bank representative we talked to supported additional financing options but without any FHA involvement. This perspective may result from the fact that FHA involvement would not necessarily serve community bank interests as the community bank representative considered FHA's servicing qualification requirements as being beyond the staffing capacity of their smaller members. The representative also argued that their loan programs had enabled neighborhood improvement through the purchase and rehabilitation of properties. In other words, community banks were serving the rural market. The range of perspectives is summarized in exhibit 2-15.

Exhibit 2-15. Comparison of Views: Financing Is Adequate for Small Rental Property Rehabilitation Loans



Fannie Mae
Expanded HomePath Renovation Mortgage financing opportunities are available for investor LLC borrowers—up to a total of 20 financed properties; and individual investors for up to 4 total financed properties.

FHA REO
FHA has adequate programs to handle its REO. We do not have an inventory issue that a new program can solve.

FHA Credit Officer
FHA is leaning toward investor participation on both single investor sales and bulk sales with an emphasis on note sales and short sales. Someone who owns a home may act differently than someone who treats it as a business.

Lender/Community Banks
Non-FHA loans have helped improve neighborhoods as investors have used our current loan structure to purchase and rehabilitate property. FHA programs will pull loans away from smaller community banks that do not have the manpower to become an FHA servicer.

Investor (Realtor View)
A rehabilitation financing option is need for small investors both to acquire properties and to make them rentable.

Freddie Mac
Does not offer rehab financing for investors and believes it is a gap. Our orientation is toward the mom and pop investor versus the wholesaler investor with lots of properties.

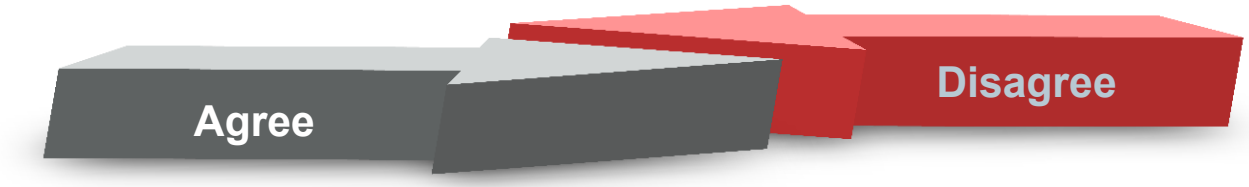
Lenders/MBA
A belief that there is a demand, it's just hard to quantify how much demand—it would be a result of the offering.

FHA = Federal Housing Administration. LLC = limited liability corporation. MBA = Mortgage Bankers Association. REO = Real Estate Owned.

Barriers: Performance Risk and Politics

The HUD/FHA interviewees who represent the risk management perspective indicated that FHA does not currently have the proper risk control structures to adequately manage a new rental property investor program. They thought FHA does not have adequate systems or resources to manage current offerings effectively (exhibit 2-16).

Exhibit 2-16. Comparison of Views: A New Insurance Program Represents Too Much Risk and Is Politically Infeasible



FHA Lender Activities
FHA does not have the appropriate controls to implement and monitor a new program. By the time FHA is able to identify and react to problems with a program it is too late.

FHA Credit Officer
FHA does not have the staffing, infrastructure or data to conduct the required analysis for an investor program.

FHA Program Officer
FHA does not have adequate data to determine the risk of a new investor program.

Realtors
Politically the 203b program for investors would be "dead on arrival" and may tarnish other possibilities for a new investor program.

Investor (Realtor View)
The moratorium on FHA's rehabilitation program (203k) for investors was more political than substantive. The program has been markedly improved from a risk perspective and contribute to solving the foreclosure issue. It does not need Congressional approval to be reintroduced.

Lenders/MBA
The MBA has identified risk mitigation techniques and shared them with FHA. These techniques are designed to address every stated risk issue that lead to the moratorium.

Other Perspectives From FHA Staff
FHA's 203k moratorium following the OIG audit findings was without discussion of ways to implement risk controls to allow the program to continue .

FHA = Federal Housing Administration. MBA = Mortgage Bankers Association. OIG = HUD Office of the Inspector General. REO = Real Estate Owned.

The interviewees from the government relations department for the NAR indicated that any new program that needed congressional approval was "dead on arrival." Our market expert suggested, however, that FHA could try to build a bipartisan coalition to support a rental property investor product, because it would simultaneously improve the stock of quality, affordable rental housing units and incentivize a sustainable market for private enterprise. Most of our interviewees thought that no political barriers block the reintroduction of the FHA rehabilitation program for rental property investors (203[k]) with the proper risk controls. Furthermore, the MBA indicated in discussions with us and through written correspondence to the FHA Commissioner, that risks that were cited before the 203(k) moratorium for rental property investors can be mitigated and have provided suggested techniques to eliminate any risk related barriers to reintroduction. FHA representatives who had first-hand knowledge of the reasons for the 203(k) rental property investor moratorium supported the MBA position.

2.4 Rental Property Investor Financing Requirements

Based on market research, interviews, and data analysis, we identified some key attributes and requirements, or design drivers, of an attractive rental property loan program from the perspective of stakeholders and market participants including rental property investors, lenders, and industry risk management. The requirements we identified were used to develop three single-family rental property loan programs, which are described in section 2.5. As discussed in the following section, the demands of borrowers and lenders are sometimes in conflict. These conflicts are balanced in the program designs.

2.4.1 Approach to Identifying Requirements

When designing new programs, we considered the requirements of all aspects of the mortgage value chain from the borrower to origination, securitization, servicing, and government risk tolerance.

We gathered information about **borrowers'** requirements indirectly, from discussions with real estate agents and lenders who interface directly with borrowers, and from existing data and surveys of borrowers. Based on our survey of the financing currently available in the market, and feedback from the lender and Realtor® community on market demand, we identified a particular need for financing for properties in need of rehabilitation, a gap that could be addressed by a new FHA single-family rental property loan program. Market participants described this need as being a "203(k) program for investors," referring to FHA's current 203(k) program that currently serves only owner-occupants.

Our discussions with **lenders** also included topics that gave us an understanding of their financial, operational and risk management/exposure requirements and limitations associated with a new program and their perspectives on the market need and requirements for a new FHA single-family rental property loan program.

Having developed an understanding of the primary market requirements, we held discussions with **secondary market** executives to understand the flexibilities and expected response from the secondary and capital markets. In these discussions, we considered the implications of the preliminary designs on pooling, securitization and capital market performance. These determine the extent to which program designs are attractive to lenders and borrowers from the perspectives of costs (interest rates and fees) and liquidity (the ease with which a lender can profitably dispose of the asset in the secondary and capital markets).

We interviewed FHA staff for their input on the **risks to FHA**, and considered a variety of risk mitigation strategies. This input reflected feedback received from FHA on their experience with prior rental property loan programs (203(b) and 203(k)), existing programs, and FHA's perspectives on the requirements for a new program. An assessment of the risk of default of loans to rental property investors based on analysis of Black Knight data is in section 2.7.

A key consideration underlying our discussions with all stakeholders was regulatory and political realities, such as stricter underwriting standards and capital requirements that are shaping the future of mortgage finance and that affect the possibilities for a new program.

Our initial interviews with market participants served as input into two preliminary programs options. We contacted market participants again, convening a focus group of lenders. This focus group of lenders provided feedback on the preliminary design options on the likelihood of market acceptance, pricing competitiveness in light of any fee, pooling or disclosure requirements, and any operational limitations or barriers given origination or servicing requirements. We also met with HUD to discuss their perspectives on feasibility from risk, regulatory, and legislative perspectives.

The outcomes of these discussions determined our design recommendations, although we also considered the possibility that a new single-family rental property loan product may not be feasible. Our synthesis of the product design, risk assessment, and market impacts is provided in the concluding section.

2.4.2 Rental Property Investor Design Drivers

In our survey of current financing options for rental property investors, realtors and rental property investors cited a gap in the availability of financing for small rental property investors. Stakeholders were careful to make a distinction between long-term rental property investors, who will contribute to the affordable rental housing stock in their communities, and predatory investors who often live outside of the community and are not incented to maintain the property. The former are typically individuals or small groups of investors investing in their local market to generate rental property income to be used as extra income or for their retirement. These rental property investors are targeted for the design options presented in this report.

This group of rental property investors expressed a need for six financing program features described in exhibit 2-17.

Exhibit 2-17. Program Features Desired by Small Rental Property Investors

Feature	Rationale
1. Unlimited number of properties financed	Available financing for investment properties generally limits rental property investors to four financed properties. (Although Fannie Mae will allow up to 10 financed properties, it is rare that a lender will allow more than 4.) Rental property investor surveys and market participants interviewed report that rental property investors would be willing to make larger downpayments to finance more properties.
2. Rehabilitation financing with an option for the rental property investor to perform and/or manage some of the rehabilitation work	Very limited financing for rehabilitation is currently available. The financing available (primarily Fannie Mae) requires that a third-party contractor be used to complete the rehabilitation work. The use of a third-party contractor can increase total project costs and make projects unprofitable.
3. Ability to compete for properties with cash investors	Realtors reported that sellers often accept a cash offer over an offer that requires financing, even if the cash offer is considerably lower. Sellers tend to opt for the greater certainty and faster closing that a cash transaction offers.
4. Access to financing for inner-city properties	Rental property investors reported difficulty getting mortgage approvals in inner-city areas. Property prices in those areas tend to be low, it can be hard to find comparable properties for appraisals, and banks are sometimes reluctant to lend in those areas.
5. Ability to hold title as an LLC	To protect their personal assets, many rental property investors prefer to hold the asset in a limited liability corporation. The LLC structure protects personal assets against lawsuits by renters or others.
6. Reasonable interest rates	Lenders and realtors reported that the scarcity of rental property investor financing leads small rental property investors to community banks for financing. This financing tends to mirror business loan financing with real estate as collateral. This financing structure has higher interest rates than the typical real estate loan.

LLC = limited liability corporation.

2.4.3 Lender Design Drivers

Lenders we interviewed expressed an interest in a rental property loan program with a rehabilitation feature. Lenders were optimistic that such a program would be in high demand given the number of foreclosure properties that need rehabilitation, but several considerations would be important in their decision to implement and market any program, shown in exhibit 2-18.

Exhibit 2-18. Program Features Desired by Lenders

Feature	Rationale
1. Expectation of moderate to high volume.	Lenders incur costs to effectively roll-out and market any new program. Lenders evaluate the profitability of offering a program based on their own analysis of market demand.
2. Implementation/integration costs commensurate with volume projections.	For any new program, lenders must integrate the program into their origination and servicing systems and provide training to their origination and production staff on the features, use, risks and guidelines associated with the program. The cost of implementation/integration increases with program complexity.
3. Low buy-back or indemnification risk.	Lenders have experienced an exceptional level of buy back and indemnification requests during the past several years. Therefore, lenders are very conservative in their lending practices even when the insurer or rental property investor guidelines suggest that a more liberal decision would be acceptable.
4. Good servicing value.	High loan defaults in recent years have depressed the value of lenders' servicing portfolios. Nonperforming loans adversely affect lender profits as they incur the costs of collection, foreclosure and disposition. Lenders are less likely to take on risky loans that have a higher probability of nonperformance, even if the rental property investor or insurer guidelines suggest that a more liberal decision is acceptable.
5. Ability to securitize.	Most lenders seek to securitize loans rather than hold them in portfolio. The timing of the option to securitize is also important; lenders would like to have the option of securitizing after closing, as they have with other FHA loans including 203(k), rather than waiting until the rehabilitation is complete.

FHA = Federal Housing Administration.

2.4.4 Risk Mitigation Design Drivers

Interviews with entities with experience managing the risk associated with rental property investor financing programs, including Fannie Mae and Freddie Mac, encouraged consideration of several design features to mitigate default risks. These risk mitigation features are summarized in exhibit 2-19. The rental property investor stake in the property (Feature 2) may be the most important. As detailed in section 2.7, even during a period of unprecedented mortgage market upheaval, default risks are very low for loans with an LTV of 60 percent or less. At an LTV this low, other design features intended to mitigate risk are less important.

Exhibit 2-19. Program Features Needed To Mitigate Risk

Feature	Rationale
1. Property and financing represents a sound "economic business decision" as a self-contained investment.	Investor behavior is based on an ongoing objective assessment of whether an investment is profitable. Rental property investors are more likely than owner-occupants to default if the investment is no longer financially attractive.
2. Rental property investor has a significant personal investment at stake.	A rental property investor who has a significant investment in the property is less likely to default because they have more to lose.
3. Rental property investor has investment property management experience, or the lack of experience is offset by compensating factors (for example, cash reserves, downpayment).	Particularly for rental property investors who own more than one property, property management experience avoids mistakes that can lead to default. Lack of experience can be offset with additional cash reserves or a larger downpayment to provide a cushion against mistakes.
4. Borrowers' assets and property cashflows can comfortably accommodate property vacancies.	Investment properties are likely to experience vacancies and the borrower will need liquidity to pay the mortgage.
5. Borrowers' assets and property cashflows can comfortably accommodate capital needs.	Major repairs and replacement of mechanical systems require readily available cash assets. The source of these funds is usually borrower cash and property cashflows.

Perhaps surprisingly, lenders also encouraged us to consider several strategies to mitigate risk. Their conservative attitude toward risk is a result of several factors. The foreclosure crisis and the ensuing enactment of a number of financial industry reforms have dramatically changed the landscape of the mortgage industry. These reforms include changes in the availability of mortgage credit and the relationships between government agencies, the GSEs, and mortgage lenders.

Before the great recession, Fannie Mae, Freddie Mac and FHA set the standards that determined the definition and characteristics of a "good credit risk." During the crisis, lenders were subject to buy back and indemnification requests on loans that they deemed to have met the then-current guidelines. Our interviews with mortgage lenders suggest that they are now much less influenced by the programmatic policies issued by these entities. Lenders now conduct their own evaluation and in many cases take a more conservative approach to underwriting. That is, lenders issue what they refer to as "overlays" to agency and GSE guidelines, and implement their own, more conservative, version of the programs.

Lenders are also subject to a new regulatory environment headed by a new government entity created by the Dodd–Frank Wall Street Reform and Consumer Protection Act, the Consumer Finance Protection Bureau (CFPB). Two new regulations issued by this entity took effect in January 2014: (1) the Qualified Mortgage (QM) Standard and (2) the Ability To Repay (ATR) rule. The ATR rule requires the lender to make a reasonable and good faith determination of the consumer's ability to repay the mortgage. This rule means that the lender must verify that the consumer's income is sufficient to support the mortgage payment and related obligations, current debt and have sufficient residual income or assets to meet living expenses.

The QM Standard is a category of loan where the borrower has the most protection. To meet the QM Standard, the loan cannot be interest only or carry excessive fees, and the borrower debt-to-income ratio cannot exceed 43 percent. If the loan meets the QM Standard, the lender is conclusively presumed to have complied with the ATR requirements. If the loan does not meet the QM Standard and the borrower defaults, the borrower can claim that the creditor did not make a reasonable and good faith determination of their ability to repay, and the lender must defend their legal rights regarding the mortgage. The FHA has established their own definition of QM that will identify loan characteristics that make the loan eligible for "safe harbor" protections.[54] Lenders' reaction to the QM rules, which affect FHA and conventional mortgages, is unknown because they have only recently been implemented; however, some are concerned that these rules could constrict mortgage credit for consumers.

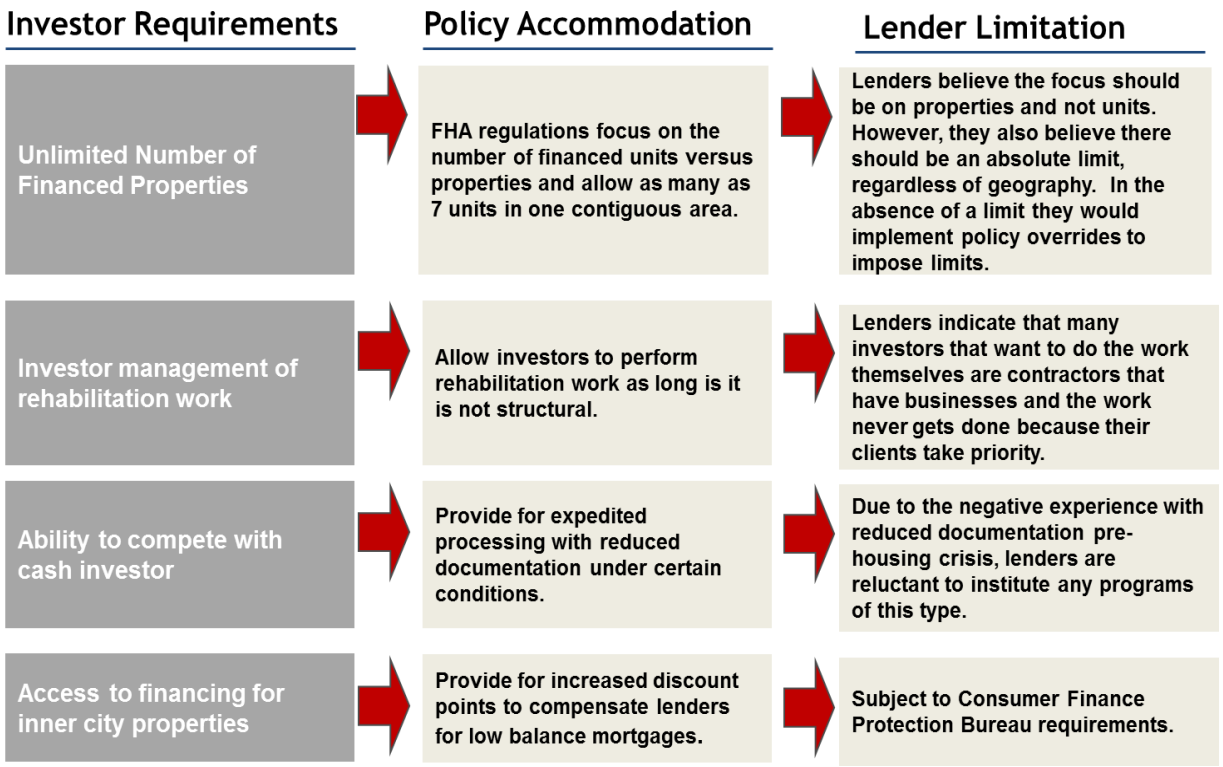
2.4.5 Tensions Between Rental Property Investor Market Requirements and Lender Limitations

The Abt team presented draft FHA rental property loan program designs to a focus group of lenders. These lenders highlighted conflicts between rental property investor requirements and lenders' needs (exhibit 2-20). The most critical of these conflicts are—

1. Maximum number of units that can be financed.
2. Rehabilitation management.
3. Fast-track processing.

[54] HUD has established two types of Qualified Mortgages that have different protective features based on the loans' Annual Percentage Rate and its relationship to the Average Prime Offer Rate (APOR). If the interest rate on the loan exceeds the APOR + 115 basis points the loan is classified as a "Rebuttable Presumption Qualified Mortgage," meaning the consumer can challenge the ability-to-repay presumption. Loans with interest rates less than or equal to the APOR +115 basis points are classified as a "Safe Harbor Qualified Mortgage." Although this classification provides lenders with the greatest legal certainty, the consumer can still challenge the ability-to-repay presumption.

Exhibit 2-20. Tensions Between Rental Property Investor Requirements and Lender Limitations



FHA = Federal Housing Administration.

The program designs described in section 2.5 balance the tensions between lenders and rental property investors, but they tilt slightly toward one group of stakeholders or the other:

- Options 1 and 3, if implemented, would be attractive to rental property investors and presumably generate market demand.
- Option 2 does not meet all rental property investor needs, but it would meet the requirements of the lenders who control the distribution channel for the program.

All options provide a fast-track underwriting process for borrowers who make at least a 50-percent downpayment.

Maximum Number of Units/Properties Financed

FHA's previous rental property loan programs—203(k) and 203(b)—allowed rental property investors to have a financial interest in an unlimited number of units, although the number of units (not properties) that could be geographically concentrated was limited to seven.[55]

[55] The current FHA regulation 24 CFR Ch. II 203.42 indicates that "A mortgage on property upon which there is a dwelling to be rented by the mortgagor shall not be eligible for insurance if the property is a part of, or adjacent or contiguous to, a project, or group of similar rental properties, in which the mortgagor has a financial interest in eight or more dwelling **units**."

Lenders and other market participants believed strongly that the number of properties financed should be limited. First, FHA's previous experience with rental property investors in the 203(k) program was that individual and institutional rental property investors with large numbers of loans outstanding compounded the abuse of the program in the 1990s. The MBA pointed out that some rental property investors had 20 or more 203(k) loans outstanding, increasing the risk of losses in the case of default or fraud.[56] Second, a limit on the number of units or properties financed mitigates the risk to lenders of portfolio exposure or concentration to a single borrower. As a consequence, lenders indicated that the limitation should be based on number of properties, and should be absolute versus based on the geographic concentration of the properties.

Rental property investors, on the other hand, are looking for financing options that relax or even lift the limits on the number of properties owned. Lenders and borrower representatives we interviewed as well as secondary sources suggest that rental property investors are willing to increase their downpayment to as much as 50 percent or more if they could finance more properties. At this level of downpayment, loan performance analysis indicates that the risk of default is very low (see section 2.7). Some industry observers note that the GSEs' tight limits on the number of financed properties prevent real estate investment from being a scalable business for rental property investors who requires financing. Freddie Mac's limit is 4 properties, and, although Fannie Mae's limit is 10 properties, lenders we interviewed told us the practical limit is often 4 because of the additional review required for more than 4 properties.

Design options 2 and 3 each require an additional downpayment when a rental property investor has a financial interest in more than 4 properties. Design option 1 allows for an unlimited number of properties to be financed with the caveat that no more than 7 units can be contiguous. Design options 2 and 3 accommodate the lender's desire for an absolute cap of 16 units in a maximum of 12 properties (again, no more than 7 of the units can be contiguous).

Rehabilitation Management

Interviewees representing the rental property investor community stressed the importance of minimizing rehabilitation costs to achieve profitability in an investment property. A requirement that a third-party contractor perform all the work increases costs, particularly for properties in which much of the work to be done is cosmetic and can be done without a contractor.

Lenders have a different perspective, and indicated that many rental property investors who want to do the work themselves are contractors by trade. They believe these contractors tend to prioritize their client work and fail to finish the rehabilitation work in a timely manner. They further expressed that a design option that provided for a simple dollar limit to distinguish when rehabilitation can be managed by the rental property investor and when a third-party contractor has to be engaged is not acceptable because some apparently low-cost repairs can be grossly underestimated if they involve a high degree of technical expertise such as repairs to structural damage. Because it can be difficult to properly estimate the costs of this type of work, and upward revisions may be made to the actual costs, the financial viability of the project can be put at risk.

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[56] Mortgage Bankers Association, Letter to Carol Galante, Acting Assistant Secretary for Housing—Federal Housing Commissioner, June 5, 2012.

Design option 1 accommodates rental property investors' interest in conducting some of the work without using a third-party contractor. To address lender concerns, however, the design also provides for controls to ensure that the work being attempted is not structural or would not otherwise require the use of a licensed contractor by the local code enforcement bodies. The design also addresses lenders' concern for timely completion of the work by retaining a substantial escrow without interim draws until the work is completed and by allowing the principal balance to be reduced using the escrowed funds if the work is not completed on time.

Fast-Track Processing

Rental property investors using financing are at a disadvantage compared with cash investors. Realtors told us that sellers are willing to accept a lower offer for cash because of the uncertainty associated a buyer who has to obtain financing from the perspective of time to settlement and loan approval. This prospect disadvantages small rental property investors who need financing.

One way to address the timing and uncertainty of loan approval is to process the loan application faster. Before the foreclosure crisis, some lenders sought to reduce processing timeline by reducing or even eliminating documentation for income and assets. Lenders initially granted this type of concession only when the rental property investor borrower had a significant investment in the property. Over time, this risk control eroded, and this concession was granted regardless of the stake the rental property investor had in the property. Instead, lenders relied on pricing. Lenders believed that they could price for the risk and require higher interest rates and upfront fees.

The painful lesson of the foreclosure crisis was that lenders underestimated the significance of an investor's personal stake in the property as a risk-mitigating factor. This underestimation, coupled with faulty assessments of property value, resulted in increased defaults with large losses and sometimes resulted in related demands from the GSEs to buy back loans. Therefore, although in theory fast-track underwriting could be an attractive loan feature for borrowers and lenders, lenders we interviewed were reluctant to consider this processing concession again, regardless of the downpayment percentage. Lenders are also reluctant to reduce documentation until they have some experience with new Consumer Financial Protection Bureau regulations that require lenders to determine a borrower's ability to repay. These rules became effective in January 2014. Instead, all three design options provide for some documentation concessions that are less income centric: for loans with LTVs of less than 50 percent, verification of cash reserves is not required and debt-service coverage ratio (DSCR) limits do not apply. These documentation concessions are not likely to reduce the processing timeline enough to change the behavior of sellers regarding their preference for a cash offer, however.

The analysis of loan performance in section 2.7 suggests that the fast-track underwriting guidelines would carry very little risk to FHA, because loans with LTVs of 60 percent or less have very low default rates. The faster underwriting process could also improve mom-and-pop rental property investors' ability to compete with cash buyers by reducing the timeline for completing a transaction.

Streamline Refinancing

Importantly, in an attempt to offer some relief to rental property investors who need financing, the designs also include a provision for financing a property acquired with cash within 6 months of acquisition as if it were a purchase transaction. This approach enables those who finance investment properties to use other forms of short-term financing such as home equity lines of credit or a bridge loan to acquire the property with the speed of a cash investor and to convert to permanent financing after the property is acquired.

2.5 Program Design Options

Three single-family rental property program design options are presented in this section. The first two are intended for purchase and rehabilitation and both are essentially modifications of FHA's 203(k) program for owner-occupants. They have similar key features:

- Provide financing for purchase and rehabilitation of single-family properties to rental property investors.
- Loosen the limit on the number of properties rental property investors are allowed to finance.
- Allow fast-track underwriting for borrowers who make a downpayment of 50 percent[57].
- Allow streamline refinances.
- Impose a penalty for prepayment within 5 years of loan origination.
- Allow borrowers to refinance an investment property as a purchase.
- Allow rental property investors to hold title in the property as an LLC.

In addition, option 1 allows investors to do their own rehabilitation work up to a limit of $25,000. It also imposes no limit on the maximum number of units that can be financed. Option 2 is slightly more conservative, reflecting critical lender feedback to option 1. In addition to not allowing investors to do their own rehabilitation work, option 2 also limits borrowers to financing a maximum of 16 units in up to 12 properties.

The third option is essentially FHA's 203(b) program made available to investors and, as such, does not allow rehabilitation to be financed but, otherwise, has some of the same key features as options 1 and 2. Significantly, it also offers fast-track underwriting for low-LTV borrowers. It is subject to the current 203(b) eligibility and underwriting requirements not addressed as investor-specific program requirements in this section.[58]

All three options are subject to a set of basic program elements (exhibit 2-21). Beyond that, exhibit 2-22 lists key underwriting requirements specific to the investor-focused purchase and rehabilitation program. Exhibit 2-23, Program Design Option 2, and exhibit 2-24, Program Design Option 3, list only the underwriting requirements that *differ* from program design option 1. Program design options 1 and 2 are also subject to the current 203(k) eligibility and underwriting requirements not addressed as investor-specific requirements in this section.[59]

A discussion of how the designs address the lender, investor, and risk mitigation requirements is in section 2.4.5.

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[57] Black Knight data show that from 2004 to 2014, the serious delinquent (90 days or more delinquent or in foreclosure) rate for mortgages with a downpayment of 50 percent ranged between 0.18 and 1.46 percent.

[58] Section 203(b) technical guidance for eligibility and underwriting can be found in HUD Handbooks 4145.1; 4150.1 and 2; 4155.2 and 2 as well as mortgagee letter updates through February 2014.

[59] Section 203(k) technical guidance for eligibility and underwriting is available in HUD Handbook 4240.4, "203k Rehabilitation Home Mortgage Insurance," dated December 1991, as well as mortgagee letter updates through November 2013.

Exhibit 2-21. Basic Program Elements

Options 1, 2, and 3
• 30-year or 15-year fixed-rate rental property loan. • One- to four-unit properties. • FHA standard loan limits. • MIP an additional 1% more than owner-occupied (cannot be financed). • Title may be held in LLC; however, note and mortgage/deed of trust must be signed by the borrower(s) as individuals as well as in their capacity as members of the LLC. Nonprofit borrowers are not eligible. • Available for purchase, cash-out, and no cash-out refinance transactions. • Maximum LTV/CLTV = 85% Purchase/75% NCO-based on as-rehabilitated value for options 1 and 2 or the lesser of appraised value or purchase price for option 3; 60% for cash-out refinance. • Properties acquired using borrowers' own cash (no gifts or loans) within 6 months of loan application can be refinanced as NCO up to 85% of the lesser of purchase price plus rehabilitation cost (if applicable) or the as-appraised/rehabilitated value. • Fast-track underwriting waivers apply for ≤ 50% LTV where borrower uses own funds for downpayment and settlement costs (no gifts or loans). • Prepayment penalty of 2% if loan is paid off with ownership transfer within the first 2 years and 1% if loan is paid off within the 3rd to 5th year.
Options 1 and 2
• Rehabilitation financing. • Streamlined refinances for existing FHA loans with up to $15,000 in rehabilitation. • Provides for rehabilitation financing up to FHA loan limit, subject to maximum mortgage amount for the current 203(k) program. • Basic eligibility and underwriting is the same as 203(k) for owner-occupied borrowers with the exception of investor-specific underwriting requirements in exhibits 2-22 and 2-23.
Option 3
• Basic eligibility and underwriting is the same as 203(b) for owner-occupied borrowers with the exception of the investor-specific underwriting requirements in exhibit 2-24.

FHA = Federal Housing Authority. CLTV = combined loan to value. LTV = loan to value. LLC = limited liability corporation. MIP = mortgage insurance premium. NCO = no cash out. REO = Real Estate Owned.

The penalty for prepayment within 5 years of loan origination is not likely to be popular with borrowers but serves two important purposes. It discourages investors who are primarily interested in property flipping, mitigating risk to the neighborhoods where the properties are located as well as to FHA in meeting its mission to finance affordable housing. For options 1 and 2, it may also encourage lender interest in the program by guaranteeing servicing income for 5 years on loans that incur high upfront costs for lenders.

Exhibit 2-22. Program Design Option 1: Purchase and Rehabilitation, Investor-Focused Underwriting Requirements

Requirement	Limits	Caveats
****LTV—based on as-rehabilitated value**	85% purchase 75% no cash-out refinance 60% cash-out refinance ≤ 50%	Additional 5% downpayment for each financed investment property after the first four capped at an • Additional 35% downpayment to 50% LTV for purchase. • 25% additional equity to 50% LTV for no cash-out refinance. • 10% additional equity to 50% LTV for cash-out refinance. Fast-track waivers may apply
Maximum DTI ratio	40% if fewer than 4 properties financed 36% if more than 4 properties financed	• Rental property income may be used in qualifying only if based on 2-year history using tax returns. Must use the lesser of net amount on schedule E or 75% of gross amount on schedule E. May not exceed market rents estimated on appraisal. • The borrower can demonstrate, using tax returns, at least a 2-year history of successful rental property management as evidenced by positive cashflow on other rental property(ies). Borrower must provide a current lease[60] agreement for the subject property. May use 75% of gross rent as stated on the lease. • The borrower can demonstrate, using tax returns, at least a 2-year history of successful rental property management as evidenced by positive cashflow on other rental property(ies); LTV is ≤ 50%; and, per the appraisal, rents are not declining in the market. May use 75% of estimated rent as stated on the appraisal.
Debt-service coverage ratio	Minimum	85% based on actual or market rents as estimated by appraiser.[61]

[60] For properties currently occupied by tenants.

[61] Debt service coverage ratio is calculated by dividing 75 percent of the gross rent by the monthly mortgage obligation to include principal, interest, taxes, insurance and any required homeowners association or condominium fees. In qualifying the borrower, any negative cashflow resulting from the debt service calculation must be treated as a long-term debt.

Requirement	Limits	Caveats
Cash reserves	4 months PITI for subject property plus 2 months PITI for each additional investment property financed	Additional reserves may be required based on property capital needs within first 24 months if not included in the rehabilitation plan associated with the subject financing transaction. Cash reserve requirements may be reduced or waived if borrower agrees to a capital needs escrow account administered by the lender. Subject property reserves may be reduced for higher DSCRs at the rate of 1 month for each 5% increase to a minimum of 2 months.
FICO credit score	Minimum 680	Any collections, liens, and delinquent accounts must be satisfied or brought current before settlement.
Maximum number of financed units	Seven contiguous units excluding primary residence (otherwise no maximum)	Additional 5% downpayment for each financed investment property after the first four capped at an additional 35% downpayment to 50% LTV.
Appraisal		Must include an estimate of market rents. > 70% LTV must require capital needs assessment for major mechanical systems. Borrower to provide appraiser with list of proposed repairs and estimated costs to determine the as-repaired value.
Rehabilitation limits	Minimum $1K in rehabilitation. Maximum based on current 203(k) guidelines (up to 50 percent of loan amount)	
Rehabilitation management	**For rehabilitation of $25K or less**, the borrower may conduct work for any cosmetic or other home improvement that is not structural and/or would not require a licensed contractor to perform the work to pass local government inspections on a newly built house; borrower does not have to prove qualifications to perform work **For rehabilitation > $25k**, a contractor is required Borrower cannot have more than two FHA loans on properties in the rehabilitation phase simultaneously outstanding	Lender retains 60% of rehabilitation funds in escrow until work is complete. Lender must arrange for inspection of the work completed unless borrower uses a contractor and receipts are provided. Work must be completed within 3 months. If work is not completed in 3 months, escrowed funds will be applied to reduce the principal balance of the loan. Lender will rely on 203(k) consultant to substantiate borrower's estimate of rehabilitation costs. Receipt from contractor plus inspections per standard 203(k) guidelines. Lender must determine reasonableness of estimates as detailed in 203(k) guidelines. Must complete work within 6 months.

Requirement	Limits	Caveats
Fast-track waivers for ≤ 50% LTV	Verification of cash reserves is not required DSCR ratio limits do not apply Regardless of repair costs, the borrower may conduct work for any cosmetic or other home improvement that is not structural and would not require a licensed contractor to perform the work to pass local government inspections on a newly built house; borrower does not have to prove qualifications to perform the work Use of estimated rental property income	Lender will rely on 203(k) consultant to substantiate borrower's estimate of rehabilitation costs. Lender retains 60% of rehabilitation funds in escrow until work is complete. Lender must arrange for inspection of the work completed unless borrower uses a contractor and receipts are provided. Work must be completed within 6 months. If work is not completed in 6 months, escrowed funds will be applied to reduce the principal balance of the loan. The borrower can demonstrate, using tax returns, at least a 2-year history of successful rental property management as evidenced by positive cashflow on other rental property(ies); LTV is ≤ 50%; and, per the appraisal, rents are not declining in the market. May use 75% of estimated rent as stated on the appraisal to qualify.

DSCR = debt service coverage ratio. DTI = debt to income. FICO = Fair Isaac Company credit score. FHA = Federal Housing Authority. LTV = loan to value. PITI = principal, interest, taxes, and insurance. REO = Real Estate Owned. **For all LTV levels lenders must verify source of funds for downpayment and settlement costs. Funds may not be borrowed from unsecured sources. Gift funds may not be used for downpayment and settlement costs for loans that are processed using fast-track processing waivers.

Exhibit 2-23. Program Design Option 2: Purchase and Rehabilitation, Lender-Focused Underwriting Requirements

Requirement	Limits	Caveats
Maximum DTI ratio	40% if fewer than four properties financed 36% if more than four properties financed	Rental property income may be used in qualifying only if based on 2-year history using tax returns. Must use the lesser of net amount on schedule E or 75% of gross amount on schedule E. May not exceed market rents estimated on appraisal.
Maximum number of financed units	7 contiguous units excluding primary residence to a maximum of 16 units comprising up to 12 properties regardless of geography	Additional 5% downpayment for each investment property after the first 4 capped at an additional 35% downpayment to 50% LTV.
Rehabilitation management	Contractor required for all rehabilitation work Borrower cannot have more than two FHA loans on properties in the rehabilitation phase simultaneously outstanding	Lender must arrange for inspection of the work completed unless borrower uses a contractor and receipts are provided. Work must be completed within 6 months. If work is not completed in 6 months, escrowed funds will be applied to reduce the principal balance of the loan. Lender will rely on 203(k) consultant to substantiate borrower's estimate of rehabilitation costs.
Fast-track waivers for ≤ 50% LTV	Verification of cash reserves is not required DSCR ratio limits do not apply	

DSCR = debt-service coverage ratio. DTI = debt to income. FHA = Federal Housing Authority. LTV = loan to value.
Note: Loan terms are the same as option 1, except for the differences specified in this exhibit.

Exhibit 2-24. Program Design Option 3: Investor Underwriting Requirements Without Rehabilitation

Requirement	Limits	Caveats
LTV	85% purchase 75% no cash-out refinance 60% cash-out refinance ≤ 50%	Additional 5% downpayment for each financed investment property after the first four capped at an • Additional 35% downpayment to 50% LTV for purchase. • 25% additional equity to 50% LTV for no cash-out refinance. • 10% additional equity to 50% LTV for cash-out refinance. Identity-of-interest transactions not allowed. Fast-track waivers may apply.
Appraisal		Must include an estimate of market rents. > 70% LTV requires capital needs assessment for major mechanical systems.
Maximum number of financed units	7 contiguous units excluding primary residence to a maximum of 16 units comprising up to 12 properties regardless of geography	Additional 5% downpayment for each investment property after the first 4 capped at an additional 35% downpayment to 50% LTV.
Fast-track wavers for ≤50% LTV	Verification of cash reserves is not required DSCR ratio limits do not apply Use of estimated rental property income	The borrower can demonstrate, using tax returns, at least a 2-year history of successful rental property management as evidenced by positive cashflow on **other** rental property(s), LTV is ≤ 50% and per the appraisal, rents are not declining in the market. May use 75% of estimated rent as stated on the appraisal to qualify.

DSCR = debt-service coverage ratio. LTV = loan to value.
Note: Other Loan terms are the same as option 1, except for the differences specified in this exhibit.

Three considerations will determine the success of any new financing program. They are the extent to which the—

1. Program attracts a sufficient number of lenders to distribute and provide rental property investors (borrowers) with access to the program.
2. Program meets the financing needs of investors who are focused on acquiring homes to rent at affordable rates (otherwise, investors will not use the program).
3. Loans originated through the program perform (otherwise, the program will incur unacceptably high losses to the FHA insurance fund).

To ensure that the program is distributed, HUD/FHA will need to determine that lenders will deploy the program *as designed* so that investors' financing needs are met. Therefore, any of the key requirements that were discussed in the previous section must be addressed for any new program to be successful. Lenders must believe that loans originated under the program will not be subject to indemnification or to "ability to repay" requirements as long as the loans were originated to guidelines. This level of comfort may be difficult to achieve in the near to midterm, until lenders have experience with these requirements. Therefore, if HUD/FHA intends to introduce a new rental property loan program, introduction as a direct loan and a lender-managed demonstration program may be advisable. In fact, the 2015 HUD budget request calls for a demonstration of 203(k) rehabilitation financing for investors.

A demonstration can also help quantify the risks of the program. As discussed in the next section, the performance data on investor loans are generally limited to LTV, credit score, and geography. The significance of all the proposed underwriting guidelines can be obtained only by conducting a controlled demonstration.

2.6 Market Impact of an FHA Single-Family Rental Property Insurance Program

The first step in estimating the market impact of new FHA investor programs (and the foundation for the rest of this portion of the analysis) is to consider market demand for these programs. Building on estimated demand, we also examined the potential impact of each program option on—

- Rental housing supply.
- The supply of vacant or distressed single-family properties for sale.
- First-time homebuyers and all owner-occupants.
- Conventional lending.
- Housing prices.

This qualitative description of the likely impacts of new FHA small investor insurance programs on the market is based on (1) a review of the literature, including collecting published data characterizing the current state of the housing market as well as forecasts and trends; (2) tabulated data from national surveys; (3) analysis of investor mortgage loan performance in section 2.7; and (4) interviews with industry stakeholders.

FHA's single-family mortgage insurance, the 203(b) program, has played a key role during the housing downturn as other financing options dried up. FHA's market share peaked at 28.7 percent of all single-family transactions in the third quarter of 2008. It has declined since then as lenders have loosened

underwriting guidelines, to 14.6 percent of all single-family transactions in 2012, but remains more than the average from 1993 through 2002 of about 13 percent (Integrated Financial Engineering, 2009).

By comparison, FHA plays a more limited role in distressed transactions, which have increased in numbers and significance in recent years. These transactions, foreclosures sales, short sales, and sales of REO (foreclosed properties purchased by the lender at foreclosure sales),[62] often are for properties in need of funding for capital improvements as well as purchase. Lack of adequate financing, raises issues of preservation, housing quality, energy, and perhaps health and public safety. As discussed in the following section, single-family rental properties, in general, are older than owner-occupied homes, with greater needs for rehabilitation and energy efficiency improvements.

As discussed in the following section, the financing of foreclosed properties, including FHA's REO, is by all accounts more difficult than financing small rental properties overall. Facilitating those sales is important to resolving the housing crisis, and to managing REO inventories. Given that few financing alternatives exist for properties in need of rehabilitation, an FHA program that included financing for rehabilitation could fill an important gap.

Broadly speaking, one goal of a proposed single-family investor program is to increase the overall number of property transactions by inducing investors to purchase properties that otherwise might not be sold—or sold as quickly. This increased activity, in turn, may reduce the stock of vacant properties, which is the intended outcome. In addition to this intended outcome, an FHA program might affect the *composition* of observed transactions in less desirable ways. For example, investor purchases may replace homeowner purchases among one- to four-unit properties if investors outbid potential homeowners. In addition, FHA financing may replace conventional financing, seller financing, or cash transactions among investor purchases if FHA financing terms are more attractive than investors' alternative options. These possibilities are discussed in the following section.

The next sections describe the context for a single-family investor insurance program including market conditions for single-family investors and borrower demand for such a program. It then describes the features of the three single-family design proposals that are most likely to affect borrower demand for the program. The final section summarizes the likely direction of the market impacts.

2.6.1 Market Conditions for Single-family Investors

Investors are a constant presence in the housing market, regularly accounting for 15 to 20 percent of home purchases. The need for increased investor participation arises when, as in recent years, excess inventory drives down prices and banks have large inventories of REO. This section first describes recent changes in single-family rental housing supply and quality, and then changes in inventories of distressed properties, where investors generally play an important role.

Single-Family Rental Housing Supply and Quality

Increased shares of the single-family housing stock have shifted out of owner-occupancy in recent years, facilitated by investor purchases of formerly owner-occupied properties. Investor property purchases and

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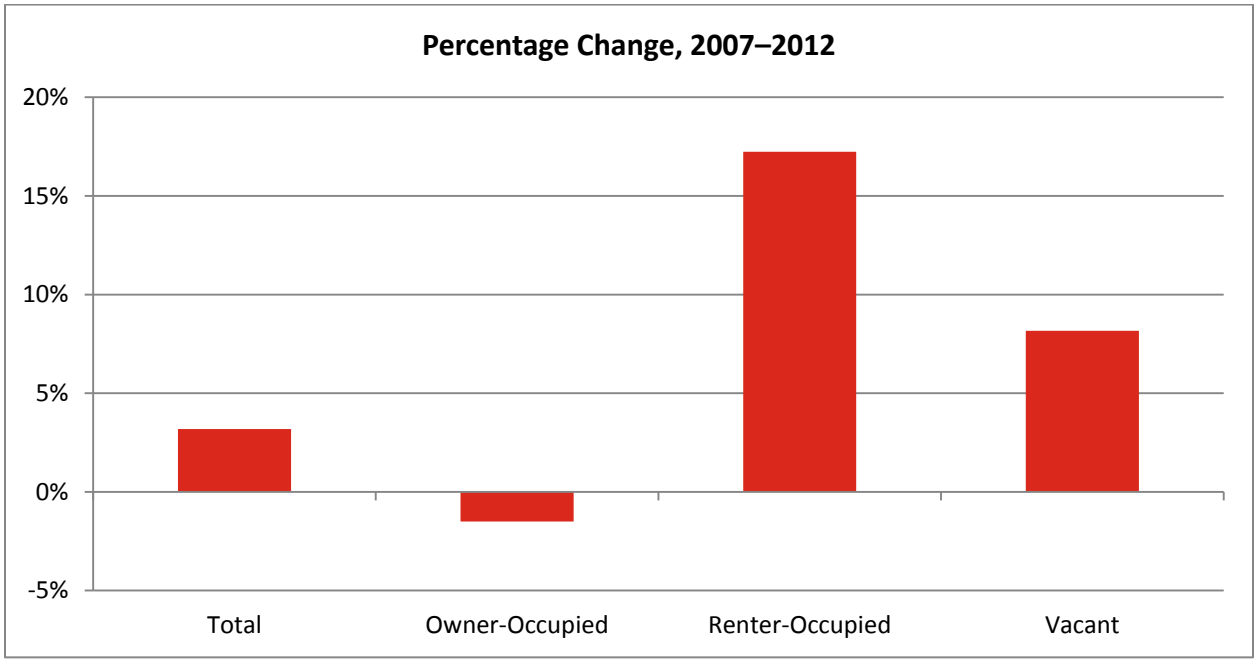
[62] Theologides, Stergios, "Servicing REO Properties: The Servicer's Role and Incentives," in *REO Vacant Properties Strategies for Neighborhood Stabilization*, A Joint Publication of the Federal Reserve Banks of Boston and Cleveland and the Federal Reserve Board, 2010.

rental housing occupancy have helped absorb excess housing inventory, stabilizing neighborhoods and markets, as well as providing rental housing to households, especially families.

This shift has been dramatic, as shown in exhibit 2-25. From 2007 to 2012, the total number of renter-occupied housing units in structures of one to four units increased by more than 3 million, from 18.9 million to 22.2 million, an increase of more than 17 percent. During the same period, the number of vacant units in structures of one to four units rose from 10.3 million to 11.1 million, about 8 percent. Meanwhile, the number of owner-occupied units in structures of one to four units declined from 67.8 million to 65.4 million.

Exhibit 2-25. Percentage Change in Single-Family Housing Stock by Tenure



Source: Tabulations of American Housing Survey data

Single-family detached homes currently represent about 29 percent of all rental housing units, even though less than 15 percent of all such units are rented (13.3 percent in 2009). In general, new single-family detached properties tend to be owner-occupied, with a net movement into renter occupancy as the units age. Overbuilding and the jump in mortgage defaults, as well as heightened investor interest in single-family homes beginning in the precrisis period, have changed that dynamic in recent years.

Although it is still true that the rental housing share is higher among single-family older detached homes, the share of new, or nearly new, single-family detached homes that are rented has grown, while the share among older homes is about the same as it was in the previous decade (exhibit 2-26). For example, the share of single-family detached homes less than 4.5 years old that were renter-occupied nearly tripled, jumping from 3.4 to 9.3 percent. This shift to newer properties means somewhat higher valued homes with less age-related deterioration and less obsolescence have been receiving investment and financing. Such late-vintage homes may also be more likely to shift (back) into owner-occupancy as homebuyer demand recovers.

Exhibit 2-26. Share of Single-Family Detached, Renter-Occupied Units, by Age of Stock

	1999 (%)	2009 (%)	Difference (%)
Age (years)	**12.5**	**13.3**	**0.9**
0–4.5	3.4	9.3	5.9
4.5–9.5	4.8	7.9	3.1
9.5–14.5	6.2	6.7	0.5
14.5–19.5	9.1	6.5	– 2.6
19.5–24.5	9.0	7.6	– 1.4
24.5–29.5	9.6	8.7	– 0.9
29.5–39.5	11.5	12.2	0.8
39.5–49.5	14.6	13.1	– 1.4
49.5–59.5	19.8	16.8	– 3.1
59.5–69.5	23.7	21.1	– 2.6
69.5–79.5	18.7	23.3	4.6
79.5 +	18.1	20.1	2.1

Source: Tabulations of 1999 and 2009 American Housing Survey data

The median age of the rental housing stock was approximately 39 years in 2011 compared with about 35 years for owner-occupied units, according to the American Housing Survey (AHS). For rental housing units in structures with one to four units, however, the median age was 46 years, while rental housing units in structures with five or more units had a median age of 35 years (exhibit 2-27). The greater age of the single-family rental housing stock compared with owner-occupied single-family properties and with multifamily properties likely means a greater need for capital improvements.

Exhibit 2-27. Rental Housing Units by Date of Construction, 2011

(Units in thousands)

	Units in One- to Four-Unit Properties		Units in Five-Unit + Properties	
	#	Percentile	#	Percentile
2010 to 2011	60	0	82	1
2005 to 2009	978	5	883	6
2000 to 2004	860	9	925	12
1995 to 1999	788	13	825	17
1990 to 1994	681	16	648	21
1985 to 1989	974	20	1,579	31
1980 to 1984	1,078	25	1,229	39
1975 to 1979	2,227	36	2,081	52
1970 to 1974	1671	44	2055	64
1960 to 1969	2,556	56	2,216	78
1950 to 1959	2,470	67	873	84
1940 to 1949	1,818	76	600	87
1930 to 1939	1,467	83	522	91
1920 to 1929	1,387	89	627	95
1919 or earlier	2,275	100	866	100
Total units	**21,290**		**16,013**	
Median (year)	**1965**		**1976**	
Median age in 2011 (years)	**46**		**35**	

Source: Tabulations of 2011 American Housing Survey data

Without such capital improvements, as well as maintenance, the chances that those housing units will provide substandard housing services is increased, as is the likelihood that those units will be lost from the housing stock. Inadequate supply of financing for acquisition and for improvements increases the likelihood of single-family rental housing units deteriorating and/or disappearing.

Rental properties without access to financing may be the most likely to be lost from the housing stock. The 2012 Rental Housing Finance Survey (RHFS) shows that among two- to four-unit rental properties without a mortgage, median market values were lower and capital spending was higher, perhaps as a consequence of greater deficiencies needing to be remedied. Specifically, 48.2 percent of two- to four-unit rental properties did not have a mortgage. The nonmortgaged properties had much lower property values than the mortgaged properties, with reported median market values per unit of $107,000 compared with $222,000. The median amount of capital spending per unit during 2010 and 2011 was $5,000 for the nonmortgaged properties compared with $4,198 for properties with a mortgage.

Data from the 2009 Residential Energy Consumption Survey provides further evidence of the condition of rental units in single-family buildings. One-unit rental properties and units in two to four unit rental property structures exhibit lower energy efficiency than either owner-occupied homes or multifamily rental properties, with BTUs per square foot that are 13 to 51 percent higher than the average among all housing units, providing further evidence of the needs for capital improvements.

2.6.2 Demand for a Single-Family Investor Insurance Program

Demand for FHA single-family investor insurance is determined by a number of factors, one of which is returns to single-family investment property, which is affected by single-family rental housing demand. Other factors include the availability of other financing options and the magnitude of the impact a new insurance program would have on financing costs for investors. Whether borrowers can actually use a new finance program depends critically on lenders' interest in offering the product.

Returns to Residential Investment Property

The decision to purchase and rent a single-family property is an investment decision, and as such is driven by the same factors that influence other investment decisions, the expected risk and return compared with the risk and return of alternative investments. Single-family investment property returns are commonly measured by the cap rate, or capitalization rate. The cap rate, which can also be thought of as a dividend yield on a fixed-income investment, is the annual cashflow relative to the acquisition price. A property with an acquisition price of $100,000 that generates net cashflow of $10,000 per year has a cap rate of 10 percent. A property could also appreciate in value, which would offer an additional source of return to investors upon sale.

Alternative investments include government and corporate bonds, and these returns have often been attractive compared with the higher risk of single-family investment properties. Recently, yields on alternative investments have made single-family rental properties relatively more attractive. Before the foreclosure crisis, cap rates were around 9 percent; since then, cap rates have peaked at more than 13 percent. Cap rates have declined slightly since then, but remain high relative to historical norms (Khater, 2012a). More importantly, these yields are much higher than other asset classes such as investment-grade bonds.

Rising cap rates have resulted from falling acquisition costs as well as increasing demand for rental housing created by homeowners displaced by foreclosure, most of whom move from homeownership to single-family rental housing units.[63] The pressure on single-family rental housing units is apparent from declining vacancy rates, shown in exhibit 2-28. The change in vacancy rates from 2010 to 2011 is the largest one-year decline in 40 years, and the decline in the vacancy rate among two- to four-unit properties is even larger. High demand for single-family rental housing units is likely to persist as long as wage income and job growth are weak, making it difficult for households to purchase homes (Khater, 2012a).

[63] Khater, Sam, "What Markets Offer the Best Return for Single-Family Rental Investors?" *The MarketPulse*, Vol. 1, Issue 12, CoreLogic, Inc., Dec. 12, 2012.

Exhibit 2-28. Vacancy Rates for Rental Housing Units

Year	One Unit		Two to Four Units	
	Vacancy Rate (%)	Percent Change From Previous Year	Vacancy Rate (%)	Percent Change From Previous Year
2000	7.0	0.0	8.7	0.0
2001	7.9	12.9	8.9	2.3
2002	8.0	1.3	9.7	9.0
2003	8.4	5.0	10.7	10.3
2004	9.3	10.7	10.9	1.9
2005	9.9	6.5	10.0	– 8.3
2006	10.0	1.0	9.8	– 2.0
2007	9.6	– 4.0	10.0	2.0
2008	9.7	1.0	10.4	4.0
2009	9.8	1.0	11.3	8.7
2010	9.6	– 2.0	10.8	– 4.4
2011	8.9	– 7.3	10.0	– 7.4
2012	8.5	– 4.5	9.0	– 10.0

Source: Bureau of the Census, Current Population Survey/Housing Vacancies and Homeownership, Series H-111

Cap rates, and thus investor interest, vary by market. A CoreLogic study of 26 rental housing markets showed that the markets with the highest cap rates were, in general, either in Florida or the Midwest. Cities with the highest cap rates as of December 2011 were West Palm Beach, Cleveland, Fort Lauderdale, Chicago, and Las Vegas.[64] Cities with low cap rates, in general, were places where prices had improved recently, increasing property acquisition costs. Cities that are attractive to investors often have a large share of REO, such as Chicago and other midwestern cities, because REO properties are sold at sizeable discounts relative to nondistressed property.

According to the National Association of Realtors®, the discount on foreclosed property sales was 16 percent in September 2013, and the discount on short sales was 12 percent (exhibit 2-29), although this

Exhibit 2-29. Price Discount on Foreclosures and Short Sales

September	Discount* on Foreclosed Property Sales (%)	Discount on Short Sales (%)
2009	21	16
2010	19	15
2011	23	15
2012	21	14
2013	16	12

*The discount is based on an estimate of what the property would have sold for if it had not been distressed.
Source: NAR Confidence Index Reports

[64] Khater, Sam, "What Markets Offer the Best Return for Single-Family Rental Investors?" *The MarketPulse*, Vol. 1, Issue 12, CoreLogic, Inc.

discount varies depending on location, property type, and property condition.[65] The discount on short sales has consistently been lower than the discount on foreclosures, and each discount has declined somewhat recently, as demand has increased and inventories of distressed properties have declined.

As discussed in the following section, demand for investment property may or may not translate into demand for FHA mortgage insurance.

Magnitude of Impact on Financing Costs for Investors

Another factor in determining the demand for an FHA program is the magnitude of the impact it has on financing costs for investors. As discussed in section 2.3, sources of conventional financing for real estate investment are limited, and the alternatives to conventional financing are typically costly.

Not surprisingly, a recent survey of investors suggests that demand for an FHA investor program could be high if it has the effect of reducing interest rates. Specifically, among a menu of incentives that would make active single-family real estate investors more willing to invest in additional properties, more investors cited lower interest rates (70 percent) than any other incentive. This increased willingness may be in response to the high effective interest rates on portfolio or hard-money loans and equity investments. Other options were additional tax incentives for capital spent to purchase, rehabilitate, or renovate investment properties (selected by 54 percent of survey respondents); elimination of lender limits on the amount they will lend an investor (46 percent); easing rules on Section 1031 Exchanges (44 percent); and easing securities laws limiting the pooling of capital by investors for purchases (30 percent; BiggerPockets.com/Memphis Invest, 2012).

Lender Interest in Offering the Program

Although it is clear that investors' financing options are limited and often expensive, demand for an FHA investor financing program would ultimately depend on the willingness of lenders to offer the program. Two of the proposed designs are variations on FHA's 203(k) program, so lenders' use of this program is useful in considering how they would respond to a similar product for investors.

The 203(k) program requires lenders to provide fairly intensive oversight of the rehabilitation process including the use of HUD-approved 203(k) consultants, monitoring the progress of repair work, and authorizing rehabilitation funds from an escrow account. Because of the extensive monitoring involved, 203(k) is described as a "niche product within a niche product." FHA financing is not a standard product for many lenders, and the 203(k) product is even less so. As discussed in the following section, however, lenders who already offer FHA's 203(k) program to owner-occupants are very likely to adopt a new program that extends this program to investors. It would build on their existing infrastructure and require little, if any, new infrastructure or staffing.

The third design is a variation on FHA's 203(b) program. A similar program was in widespread use before 1990, and could be readily adopted by the market. It relies on the 203(b) underwriting and processing infrastructure, which is already in place and widely used—especially since the foreclosure crisis began—by many lenders.

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[65] "Realtors® Confidence Index," September 2013 and September 2012, National Association of Realtors® Research Division.

2.6.3 Market Impacts

We considered five ways in which a new investor program for single-family investors could have market impacts: (1) rental housing supply, (2) inventory of vacant or distressed single-family properties for sale, (3) first-time homebuyers and all owner-occupants, (4) conventional lending, and (5) housing prices.

Based on the discussion of the single-family rental housing market and the proposed design options, a review of each of these possible impacts is addressed in the following section.

Rental Housing Supply

The proposed purchase and rehabilitation designs could affect housing supply in two ways. First, bank REO and other distressed single-family properties could be returned to productive use more quickly than they would otherwise by investors with increased capacity because of access to FHA financing.

As with house prices, the impact of a new financing program on rental housing supply will depend in part on the extent to which it induces new investment property purchases as opposed to substituting FHA financing for some other source of financing. For the rehabilitation program options, unless volumes are much larger than expected, a measurable impact on rental housing supply seems unlikely unless properties are concentrated. As a point of comparison, in August 2013, about 885,000 distressed properties were sold nationwide. At a rate of about 2,000 per month—about the volume of the FHA 203(k) program in 2010—properties financed using an FHA program would barely register. On the other hand, if the FHA-financed rehabilitation properties were located in a few markets, FHA financing could be significant in redeploying bank REO and short sales as rental housing in certain geographies. That kind of geographic concentration would also increase risk to FHA.

Second, single-family properties that might otherwise be lost to the housing stock because of deterioration might be rehabilitated by investors using FHA financing. This effect is likely to be greatest among the lowest cost rental housing units. Loss rates of rental housing units decline as rents increase, with the lowest cost units—those renting for less than $400—being nearly twice as likely to be lost from the housing stock between 2001 and 2011 as rental housing units in general (Joint Center for Housing Studies, 2013). If new FHA financing had even a minor impact on loss rates, thousands of rental housing units might be preserved.

Option 3, a 203(b)-like program, could also slow the loss of rental housing units from the housing stock, and the magnitude of the impact also depends on whether investors simply substitute FHA financing for another source of financing or whether it prompts new investment. As noted previously, 203(b) has been fraudulently used for some investment properties in the past, so a FHA 203(b)-investor program could shift some borrowers from the owner-occupied FHA 203(b) program into the FHA 203(b)-investor program. Alternatively, investors who would otherwise use cash could instead use leverage, potentially doubling the number of rental properties they own (assuming a downpayment of 50 percent).

In any case, new financing is less likely to increase the overall number of housing units than to speed up the rate at which they are converted from distressed properties to rental properties. Under some circumstances, the faster rate of property absorption back into the market could be significant. For example, during a period when house prices are falling, families are losing their homes to foreclosure, and neighborhoods are threatening to destabilize, FHA financing could be a stabilizing force.

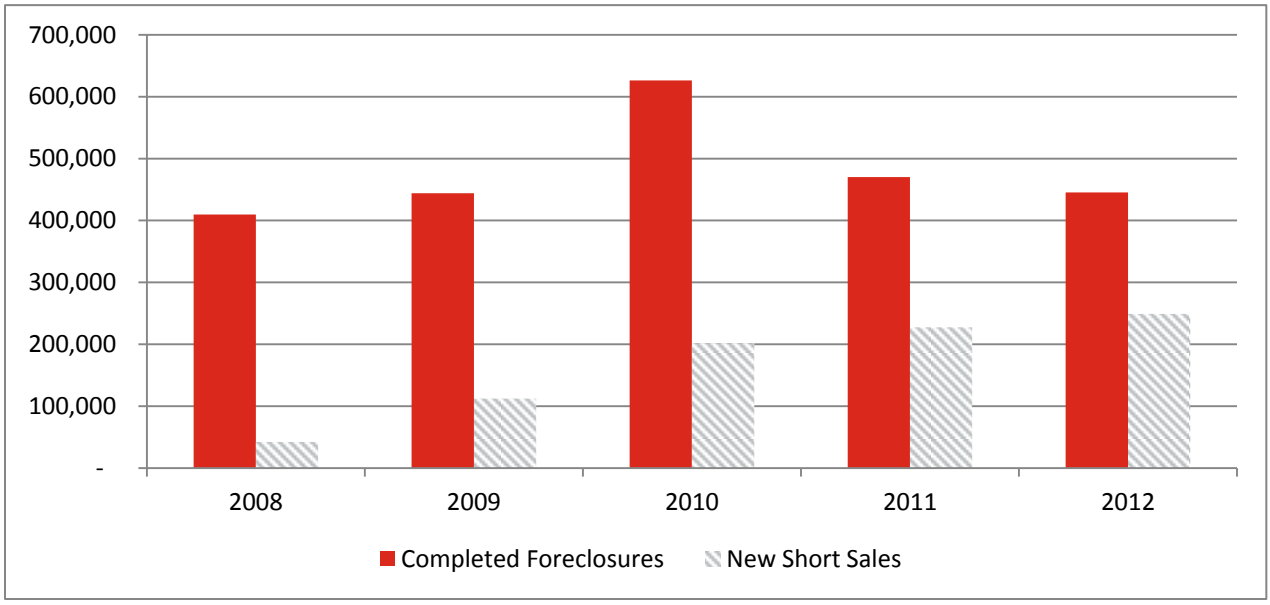
Inventory of Vacant or Distressed Single-Family Properties for Sale

The inventory of vacant or distressed single-family properties is a factor in the demand for an FHA single-family investor program. REO could also have a significant impact on overall housing market supply and house prices depending on the timing, volume, and geographic concentration with which banks, the GSEs and government agencies release the properties to the market for sale—as well as the extent to which property prices are discounted.

Exhibit 2-30 shows home forfeiture actions, which contribute to the distressed inventory, from 2008 to 2012. Home forfeiture actions peaked in 2010 and have declined significantly, but were still elevated in 2012. The exhibit excludes new deed-in-lieu foreclosure actions, which are negligible.

Short sales have become an increasingly important method of resolving a serious delinquency. This trend is shown in exhibits 2-30 and 2-31, where one source of data indicates that short sales have increased from 9.2 percent of all home forfeitures in 2008 to 35.4 percent in 2012. Other data sources covering different portions of the market show even higher shares of short sales. Short sales allow banks to avoid adding a property to their REO inventory with the management and disposition expense that incurs, and short sales can be less damaging to a borrower's credit history than a foreclosure. Given the increasing importance of short sales, one consideration in any new financing option may be whether it can be used to purchase short sales.

Exhibit 2-30. Home Forfeiture Actions by Type, 2008–2012



Source: Office of the Comptroller of the Currency Mortgage Metrics Reports, 2009–2013

Exhibit 2-31. Completed Foreclosures and Other Home Forfeiture Actions

	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)	2013 (%)
Completed foreclosures	89.7	79.2	75.0	66.5	63.4	68.0
New short sales	9.2	20.0	24.1	32.1	35.4	29.7
New deed-in-lieu-of-foreclosure actions	1.1	0.8	0.8	1.4	1.2	2.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Office of the Comptroller of the Currency Mortgage Metrics Reports, 2009–2014

As would be expected, inventories of distressed properties vary a great deal across markets, and conditions have changed dramatically in some markets that were once flooded with distressed inventory (exhibit 2-32). The stock of foreclosures in the Phoenix CBSA (core based statistical area) is down almost 86 percent from the peak, and only a 2-month supply of distressed homes remains. The story is similar, although not quite as dramatic, in places like Riverside, Oakland, and San Diego. The markets with the largest supply of distressed homes are primarily in judicial states, which have been slower to recover from the foreclosure crisis because of the slower process involved. The change in the stock of foreclosures is down only 13 percent in Nassau-Suffolk, for example, with a 20.5-month supply of distressed homes.[66]

Exhibit 2-32. Inventory of Distressed Homes and Change in Foreclosures in 25 Largest CBSAs, August 2013

CBSA	Percent Change Stock of Foreclosures From Peak	Months of Supply of Distressed Homes
Chicago-Joliet-Naperville, IL	– 45.2	11.1
Los Angeles-Long Beach-Glendale, CA	– 70.1	5.4
Atlanta-Sandy Springs-Marietta, GA	– 51.4	6.6
New York-White Plains-Wayne, NY-NJ	– 17.4	12.3
Washington-Arlington-Alexandria, DC-VA-MD-WV	– 32.9	6.3
Houston-Sugar Land-Baytown, TX	– 42.1	2.8
Phoenix-Mesa-Glendale, AZ	– 85.8	2.0
Riverside-San Bernardino-Ontario, CA	– 79.3	4.9
Dallas-Plano-Irving, TX	– 31.9	3.1
Minneapolis-St. Paul-Bloomington, MN-WI	– 64.9	3.6
Philadelphia, PA	– 16.8	NA
Seattle, Bellevue-Everett, WA	– 33.4	5.6
Denver-Aurora-Broomfield, CO	– 67.4	2.0
Baltimore-Towson, MD	– 19.6	10.6
San Diego-Carlsbad-San Marcos, CA	– 76.0	3.2
Santa Ana-Anaheim-Irvine, CA	– 72.6	3.1
St. Louis, MO-IL	– 47.1	4.1
Nassau-Suffolk, NY	– 13.0	20.5
Oakland-Fremont-Hayward, CA	– 76.6	3.7
Tampa-St. Petersburg-Clearwater, FL	– 37.8	9.5
Warren-Troy-Farmington Hills, MI	– 73.8	NA
Portland-Vancouver-Hillsboro, OR-WA	– 24.5	5.1
Sacramento--Arden-Arcade--Roseville, CA	– 77.0	3.5
Edison-New Brunswick, NJ	– 18.0	13.2
Orlando-Kissimmee-Sanford, FL	– 45.6	9.8

CBSA = core based statistical area. NA = data not available.
Sources: CoreLogic, Inc.; *The MarketPulse*, Volume 2, Issue 10, October 25, 2013

[66] CoreLogic, Inc. *The MarketPulse*, Volume 2, Issue 10, October 25, 2013.

Investors are more likely than owner-occupants to buy foreclosures, which are typically sold at auction. Auctions usually require settlement within 15 days, precluding the use of financing. Auction buyers could use all three program design options in section 2.5 via the provision for financing a property acquired with cash within 6 months of acquisition as if it were a purchase transaction. This set of options enables rental property investors to use other forms of short-term financing, such as home equity lines of credit or a bridge loan, to acquire the property with the speed of a cash investor and to convert to permanent financing after the property is acquired. Increased demand at foreclosure auctions could be expected to increases foreclosure prices and thus recoveries to lenders and insurers. In addition, the ability to purchase at foreclosure auction should speed the conversion of vacant properties to rental housing as investors previously unable to bid due to financing constraints, would be able to purchase at the foreclosure auction thereby reducing the time unsold properties remain as REO and use of leverage would allow investors to purchase greater numbers of rental properties.

If the fast-track waivers offered by all three programs made it possible to compress underwriting and approval to fewer than 15 days, this compressed timeline would enable mom-and-pop investors using financing to compete with cash investors. Such a compressed origination timeline may not be realistic, however.

The number of properties using FHA financing could be sizeable. Although investors are unlikely to use FHA financing directly to purchase vacant or distressed properties because of the need for quick transactions, they may use cash or higher cost financing for an initial purchase and then refinance into an FHA-insured mortgage. This approach is likely to induce new investment in single-family rental properties, speeding the rate at which properties are reabsorbed into the occupied housing stock. The inventory of vacant and distressed property varies greatly across markets and over time, as would the overall impact of a new financing option on the overall housing market.

FHA Financing Could Reduce Use of Bulk Sales

The shadow inventory plus the inventory of bank-owned properties that are currently listed for sale represents the total inventory of distressed properties. Distressed inventory can have a significant impact on the market supply and house prices depending on the timing, volume, and geographic concentration with which banks, the GSEs and government agencies release the properties to the market for sale—as well as the extent to which property prices are discounted.

If properties are geographically concentrated, bulk sales of REO may impact market supply and prices. Bulk sales typically involve an economic tradeoff: properties are sold faster, which reduces property maintenance and carrying costs, but they attract lower prices. Fannie Mae, FHA, and banks all sometimes use bulk sales to move REO, and Freddie Mac indicated that it is considering bulk sales for this purpose. Freddie Mac staff interviewed said they see an additional cost to bulk sales: the lower prices of properties sold through bulk sales could negatively affect their other REO in the same market. They also view "dumping" properties as having the potential to depress home prices of other properties, hurting the communities they are charged with serving.

NAR representatives also see the possibility that bulk sales could hurt a community. In addition to generally depressing home prices, investors may write off a sizeable share of the properties they purchase—perhaps 20 percent—because their financial models indicate they will generate insufficient returns on their investment. These write-offs can have a negative impact on communities in some cases if vacant properties are left to further deteriorate. In other cases, bulk sales may be unnecessary. NAR staff members argue that in communities that have rebounded and where sellers are getting multiple offers

bulk sales unnecessarily dampen values and crowd out first-time homebuyers. Although bulk investors, including hedge funds, are having a significant impact in some markets, their activity may not signal a fundamental, long-term shift away from mom-and-pop investors.[67] The latter investors, familiar with and committed to the community, are more likely to be emotionally invested in making their properties successful—and stabilizing communities.

First-Time Homebuyers and Owner-Occupants

In recent years, investors have, by a number of accounts, been crowding out first-time homebuyers.[68] Investors are primarily interested in lower priced properties, because the rent/price ratio is usually higher than in higher priced properties, meaning that the properties generate a greater return on investment. The lower end of the housing market is also the one most accessible to first-time homeowners.

Exhibits 2-33 and 2-34 compare the price of homes purchased by owner-occupants with those purchased by investors using RealtyTrac data. As shown, the median sale price for investor purchases during the 2005-through-2012 period was $152,000, more than 25 percent less than the owner-occupant median price of $208,000. Differences in prices of properties purchased by investors and owner-occupants were fairly consistent in each year.

Mallach (2012) studied investor activity in Las Vegas and concluded that although investors are crowding out first-time homebuyers, it is not because they can pay more, but because they are using cash for transactions rather than mortgage financing. First-time homebuyers almost always use financing (90 percent of transactions), which, Mallach points out, typically lengthens the time to close the sale and almost always requires an appraisal; in addition, first-time homebuyers' offers sometimes include a mortgage contingency. This process can cause a sale to fall through because, in the current tight lending environment, some potential first-time homebuyers may not qualify for mortgage financing (Mallach, 2013).

Despite some evidence that investors are crowding out first-time homebuyers, the first-time homebuyer share of home purchases has been fairly consistent during the past 10 years. Compared with a historical norm of about 40 percent, first-time homebuyer shares dropped significantly only in 2006 and 2011. The share of first-time homebuyers rose substantially during 2009 and 2010, in response to the first-time homebuyer tax credit, and otherwise has been relatively stable. The 2 years with significant departures from the norm, 2006 and 2011, had unusually high investor activity in the market (exhibit 2-35).

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[67] Interview, June 27, 2013.

[68] See, for example, Alejandro Lazo, "Number of low-price homes plummets in state," *LA Times*, October 12, 2012; Lily Leung, "Investors are putting cash to work in residential real estate, crowding out first-time homebuyers," *The San Diego Union-Tribune*, Aug. 19, 2012; Ben Hallman, "As Housing Markets Recover, Wall Street Beats Families to Homes," HuffPost Business, May 20, 2013, available at http://www.huffingtonpost.com/2013/05/20/housing-markets-wall-street_n_3281563.html.

Exhibit 2-33. Sale Price Distribution for Single-Family Owner-Occupied Property Transactions

	Origination Year								
	2005–2012	2005	2006	2007	2008	2009	2010	2011	2012
25th percentile	$129,900	$140,980	$145,000	$142,000	$132,300	$111,900	$109,000	$80,962	$95,841
50th percentile	$208,000	$227,500	$233,000	$225,000	$205,000	$175,000	$175,000	$144,000	$167,000
75th percentile	$330,000	$360,000	$365,000	$352,000	$317,000	$275,000	$281,698	$235,587	$277,238
Mean value	$247,488	$266,705	$271,051	$264,019	$241,369	$212,167	$214,363	$178,757	$207,092
Number of observations	15,011,737	3,304,696	2,956,574	2,444,741	2,064,649	1,882,889	1,616,962	386,300	354,926

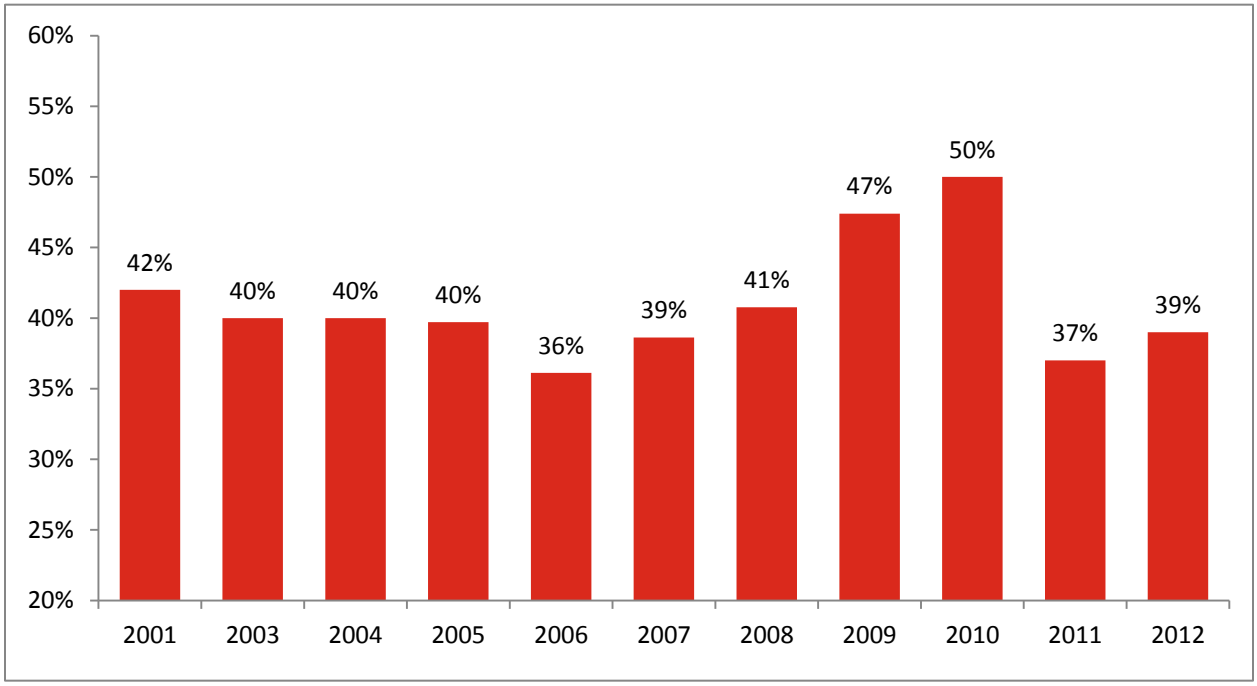
Source: Tabulations of RealtyTrac data

Exhibit 2-34. Sale Price Distribution for Single-Family Investor Transactions

	Origination Year								
	2005–2012	2005	2006	2007	2008	2009	2010	2011	2012
25th percentile	$76,000	$102,809	$100,000	$88,000	$75,000	$55,979	$56,200	$53,100	$60,000
50th percentile	$152,000	$184,000	$186,000	$171,539	$145,000	$111,000	$112,500	$105,000	$119,900
75th percentile	$265,000	$302,000	$303,500	$290,000	$250,000	$204,000	$205,000	$195,000	$215,000
Mean value	$194,912	$223,880	$224,391	$212,779	$185,099	$154,759	$155,957	$149,662	$162,303
Number of observations	6,239,546	1,364,802	1,160,408	884,818	740,009	699,542	746,694	327,322	315,951

Notes: Sales price information appeared to be unreliable in the upper and lower tails of the distribution. For example, a number of modest single-family properties had sales prices listed in the hundreds of millions. For this reason, we dropped the bottom and top 5 percent of the sales price distribution from the sample used to create this table. Removing the tails of the distribution is unlikely to affect the analysis, because we are primarily focused on the means of the distributions of sales prices for owner-occupant and investor transactions, and understanding how the sales price distributions changed over time.
Source: Tabulations of RealtyTrac data

Exhibit 2-35. First-Time Homebuyer Share of Home Purchases



Source: National Association of Realtors®. 2012. "Profile of Home Buyers and Sellers 2012." Press release. November 10, 2012. Washington, DC: National Association of Realtors.

It is unlikely that a new mortgage financing program would affect first-time homebuyers simply because even unusually high investor activity in the segment of the housing market affordable to first-time homebuyers from 2009 through 2012 had little impact on the share of home purchases among this group. FHA financing is likely to only marginally increase investor activity.

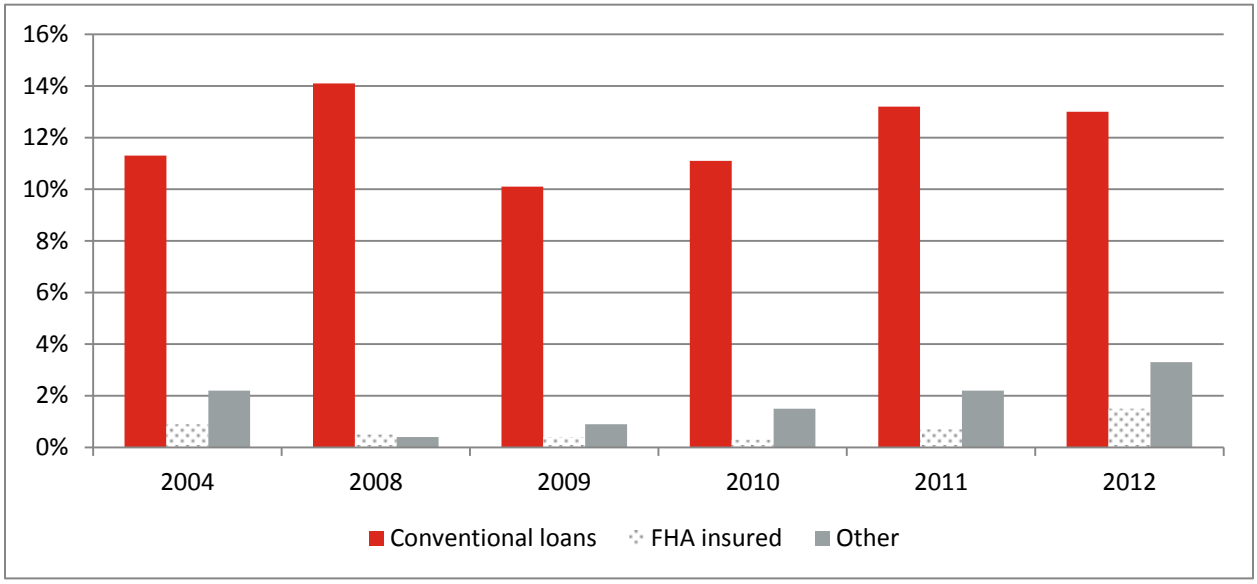
Similarly, a new mortgage insurance program for rental property investors is unlikely to affect other owner-occupants. Rental property investors concentrate acquisitions in the lower end of the market, and are less likely to compete in the higher priced market segment where repeat buyers tend to purchase.

Conventional Lending

The two rehabilitation program designs proposed in section 2.5 are unlikely to significantly affect conventional lending. As discussed, a 2011 survey of real estate agents by Campbell Communications found that only about 5 percent of investor purchases are made with GSE financing, and another 2 percent are made with FHA financing.[69] It is likely that fewer still investor purchases of properties in need of rehabilitation use GSE or FHA financing. Exhibit 2-36 shows the percentage of loans to non-owner-occupants by lender type that were reported in HMDA in 2004 and 2008-2012. Investor loans made up about 13 percent of conventional loans in 2012, less than 2 percent of FHA loans, and about 3 percent of mortgage loans by other types of lenders.

[69] Campbell Communications, "Tracking Real Estate Market Conditions Using the HousingPulse Survey," Campbell/Inside Mortgage Finance, May 2011.

Exhibit 2-36. Share of Loans to Non-Owner-Occupants, by Lender Type



Source: Tabulations of Home Mortgage Disclosure Act data

That being said, the proposed programs described in this section would be more attractive to investors than would conventional loans for several reasons: they give borrowers the ability to finance more properties, to refinance an investment property as a purchase, and to perform their own rehabilitation work (in option 1). Given the limited volume of conventional lending for purchase and purchase/rehabilitation to investors, however, the impact of an FHA investor program on conventional lending is expected to be small.

The remainder of purchases is made using cash or nonconventional sources of financing such as portfolio lenders, hard-money lenders, and equity investors. These lenders are more likely to be affected by new FHA investor financing because of substantially lower costs and longer loan terms, although many of these lenders' borrowers will be unable to qualify for FHA financing because of insufficient income, low credit scores, or other deficiencies in their credit history.

Housing Prices

Whether a new FHA financing program for investors would affect housing prices depends on a number of factors, including annual production, the geographic concentration of new loans, and how many loans substitute for some other source of financing or induce new investment property purchases. As discussed previously, projects for purchase and rehabilitation have few financing alternatives, and the options that do exist (other than conventional mortgage financing) are costly. Many borrowers, particularly those using cash, hard-money loans, and equity partners, may not be able to qualify for FHA financing. Borrowers using loans from portfolio lenders are more likely to be able to qualify, and may substitute FHA financing for portfolio loans. These same borrowers may also invest in additional properties, which is suggested by results of investor surveys that report that borrowers would make higher down-payments in exchange for higher limits on the number of properties that can be purchased (BiggerPockets.com/Memphis Invest, 2012).

From an implementation standpoint, the total volume of 203(k) loans in 2010 was 22,491 loans and it seems reasonable to assume that the annual volume of loans originated under a new FHA investor program that includes financing for purchase and rehabilitation could be similar, given that a new program seems likely to attract existing 203(k) lenders but perhaps not additional lender partners.

Given this volume and the likelihood that some properties financed would have been purchased without the program using some other financing, options 1 and 2 will have no impact on housing prices overall, or even at an MSA level, unless loans are highly geographically concentrated. For context, total sales in the Chicago CBSA in the 12 months ending in August 2013 were around 105,000; in Nassau-Suffolk they were about 25,000.[70] If there is a concentration of FHA loans in a neighborhood within a short period of time, and there are few non-FHA transactions in that period, perhaps due to similar borrower credit constraints/characteristics, a new program could affect local house prices. HUD's Neighborhood Stabilization Program has served to set a price floor in some areas that have no or few other transactions to be used as comparable properties in appraisals.

In general, however, a new FHA financing program for investor purchase and rehabilitation is unlikely to affect housing prices.

A 203(b) program for investors could have much larger volume. When investors were allowed to use the 203(b) program during the 1980s, the share of FHA's insurance endorsements for loans to investors ranged from about 7 percent, when underwriting guidelines for investors were fairly strict (capped at 75-percent LTV) and the program was being phased out, to about 19 percent, when other lenders were retreating from the market in response to weak loan performance. During the 1980s, FHA's overall market share was roughly 8 percent.

Even given these fairly sizeable volumes, it seems unlikely that 203(b)-like FHA financing for investors would affect housing prices in general (Freeman et al., 2006). Evidence suggests that the GSEs' secondary market purchases do not have a statistically significant impact on house prices, and we expect the same to be true of FHA insurance endorsements, which are likely to have smaller volumes than GSE purchases.

Summary of Market Impacts

Lenders' response to a new FHA financing program for investors will be a critical factor in the ultimate impacts of the new program on the market. The proposed designs have several features that make them attractive to mom-and-pop investors, including those who are competing against cash purchasers.

Regardless of likely borrower interest, the two rehabilitation program options are not likely to attract a significant number of new lender partners. The 203(k) program is something of a niche product within a suite of niche products (FHA), and the proposed programs will be as well. Instead, the most likely participants are lenders who currently offer 203(k) loans. These lenders have the staffing, institutional knowledge, and infrastructure in place to easily and quickly implement a new program.

Given this, the volume of loans to investors could be similar to 203(k) owner-occupant loan volumes, roughly 22,000 in 2010. At this loan volume, market impacts will be limited unless new FHA originations are concentrated within a short period of time in close proximity to one another. In these cases, the program could temporarily put some upward pressure on house prices in the neighborhood. Similarly, the program will not measurably impact rental housing supply or the inventory of vacant or distressed single-family properties for sale except perhaps at the neighborhood level. The program could help speed the disposition of REO and vacant properties, which could help stabilize neighborhoods with high concentrations of distressed properties.

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[70] CoreLogic, Inc. *The MarketPulse*, Volume 2, Issue 10, October 25, 2013.

Impacts on conventional lending will be minimal, because of the very minor role played by conventional lenders in financing investors for purchase and rehabilitation. It is more likely to affect portfolio lenders, whose borrowers are likely to have similar credit profiles to those who could qualify for FHA financing, and who play a larger role in providing such financing. Borrowers who use other sources of financing, such as hard-money lenders and equity investors, are not as likely to qualify for FHA financing because of their generally lower credit profile.[71]

A new FHA financing program is also not likely to crowd out first-time homebuyers or owner-occupants, again because of the relatively small volume of loans likely to be originated. Rental property investors also tend to concentrate their purchases in distressed properties, which are less accessible to owner-occupants.

Last, the FHA 203(b) owner-occupant program could be impacted by a reduction in loan numbers as borrowers who misrepresent themselves as owner-occupants switch to the new 203(b) rental property program. Investors may believe the only way to get reasonable rate financing is to misrepresent property tenure. More accurate reporting of property tenure could help FHA better manage the risks to the Mutual Mortgage Insurance Fund.

2.7 Mortgage Default Risk Analysis

The risk of loan default for insured loans is among the principal considerations in evaluating underwriting criteria and potential risks to FHA of products targeting single-family investors. In this section we report the results of an empirical model of mortgage default for single-family loans. This model responds to the following research questions:

- How do the risks and underwriting considerations of one- to four-unit rental property loans differ from those associated with owner-occupied property lending?
- How could FHA expand single-family rental property investor purchase options without subjecting FHA to significant risks?

The analysis relies on a competing-risk model, where loans can be terminated in each period by either default (the risk to the lender or insurer) or prepayment. We approach the first question by estimating our empirical model separately for loans to investors and for loans to owner-occupants. Because FHA is a mortgage insurer, we further segment our analysis by whether the loan has mortgage insurance.

Our empirical analysis includes loans originated from 2003 to 2011. As with any analysis of loans during the housing market boom and bust, this period represents periods of extreme fluctuation in most housing and associated credit markets. We hope future market conditions are not so similarly volatile that our findings based on this period are directly applicable. Regardless, analyzing this period is informative for two reasons. First, the extreme fluctuations provide substantial variation in the incentives for mortgage default not observed in other periods, so we are able to correlate these incentives with measurable variation in borrower behavior. Second, FHA plays a critical role in providing a countercyclical influence to housing markets. This role—and the risk it represents to the public—is particularly relevant during periods of unusual housing market distress.

[71] Steinhorn, Scott J., "The Four Types of Investor Lending," 123flip.com.

Our primary source of data for loan characteristics and payment history is the Black Knight dataset. This dataset represents the most comprehensive resource for examining the characteristics and performance of mortgages in the United States, with more than 30 million of the nation's estimated 50 million active mortgages as of September 30, 2013.[72] We used a sample from this dataset of more than 2.6 million loans to investors and nearly 1.7 million loans to owner-occupants to analyze the performance of loans to investors. In this analysis, we define default as delinquency of more than 90 days, which means the borrower has missed at least three payments. Although these loans may eventually become reperforming (paid on time as agreed), the data show that the majority of loans that become 90 days delinquent do not recover.[73]

This section first uses a univariate description of how a mortgage's eventual outcome—default, prepayment, or continued payment—correlates with each of a number of key loan and borrower characteristics, many of which relate to our product designs presented in section 2.5. Next, the section presents findings from a multivariate empirical model of default using a broad set of predictors, including loan and borrower characteristics and market conditions. We use the results of this model to discuss risk factors that might be expected if FHA were to expand financing options for single-family investors. The full details of the analysis, including an overview of the standard option-theoretic framework for empirically describing the relationships between observable loan and market characteristics and mortgage default, are in appendix C.

2.7.1 Univariate Analysis of Single-Family Loan Performance Analysis

Our analysis of more than 2.6 million loans to investors and nearly 1.7 million loans to owner-occupants produced a number of interesting findings related to the performance of loans to investors. We found that performance of loans in our sample is consistently correlated with loan and mortgage characteristics as might be expected. This section describes the loan performance with mortgage characteristics observed one at a time.

First, and not surprisingly, loans to owners and investors performed poorly during the housing market crisis (exhibit 2-37). Loans originated in 2005 through 2007 had cumulative default rates much higher than those originated in other years as of 2011, and higher default rates were true for loans with and without mortgage insurance. Investor loans often had lower cumulative default rates than loans to owner-occupants. For investors and owners, loans with mortgage insurance often had higher cumulative default rates than loans without. The exceptions were for loans originated in 2005 and 2006; for investors and owner-occupants, cumulative default rates for insured loans were slightly lower than for uninsured loans. Uninsured loans to investors had higher cumulative default rates than uninsured loans to owner-occupants for all origination years except 2010. With 1 year of seasoning, the performance of investor and owner-occupant loans without mortgage insurance was the same as of 2011.

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[72] *LPS Mortgage Monitor, October 2013 Mortgage Performance Observation*. Downloaded from http://www.lpsvcs.com/LPSCorporateInformation/CommunicationCenter/DataReports/MortgageMonitor/20130 9MortgageMonitor/MortgageMonitorSeptember2013.pdf.

[73] See, for example, Goodman et al., 2010. They conclude that among loans that become at least 61 days delinquent in this housing market downturn, 95 percent will eventually default. By the time a loan has become 90+ days delinquent, the likelihood of reperforming is even lower.

Exhibit 2-37. Cumulative Default Rates, by Age of Loan Across Sample

	Origination Year	Years Since Origination								
		1	2	3	4	5	6	7	8	9
Investor Loans										
With MI	**2003**	0.1%	0.8%	1.8%	2.6%	3.7%	5.6%	7.1%	8.3%	**8.7%**
	2004	0.6%	2.1%	3.4%	5.2%	7.6%	9.4%	10.7%	**11.2%**	
	2005	1.5%	3.4%	6.5%	10.5%	13.1%	14.7%	**15.4%**		
	2006	2.1%	8.2%	16.2%	21.0%	24.0%	**25.2%**			
	2007	4.8%	15.1%	21.9%	25.8%	**27.4%**				
	2008	3.8%	8.7%	11.8%	**13.5%**					
	2009	0.4%	1.5%	**2.1%**						
	2010	1.3%	**2.2%**							
	2011	**0.5%**								
Without MI	**2003**	0.1%	0.3%	0.9%	1.4%	2.1%	3.4%	4.5%	5.3%	**5.7%**
	2004	0.4%	1.4%	2.4%	4.3%	6.9%	8.9%	10.2%	**10.9%**	
	2005	0.9%	3.0%	7.3%	12.6%	15.9%	17.9%	**18.7%**		
	2006	2.7%	9.8%	18.6%	23.6%	26.4%	**27.6%**			
	2007	3.8%	13.0%	19.5%	23.2%	**24.8%**				
	2008	2.4%	6.1%	8.6%	**10.0%**					
	2009	0.4%	0.9%	**1.2%**						
	2010	0.2%	**0.4%**							
	2011	**0.2%**								

	Origination Year	Years Since Origination								
		1	2	3	4	5	6	7	8	9
Owner-Occupied Property Loans										
With MI	**2003**	0.4%	1.7%	3.0%	3.9%	5.0%	6.7%	8.3%	9.3%	**9.8%**
	2004	1.4%	3.0%	4.3%	5.8%	7.9%	9.7%	10.8%	**11.3%**	
	2005	1.7%	3.5%	6.1%	9.9%	12.5%	14.1%	**14.8%**		
	2006	2.2%	6.4%	12.4%	16.2%	18.1%	**18.8%**			
	2007	5.5%	14.8%	20.8%	23.5%	**24.6%**				
	2008	5.6%	11.6%	15.1%	**16.8%**					
	2009	2.6%	6.1%	**8.1%**						
	2010	1.4%	**2.9%**							
	2011	**0.9%**								
Without MI	**2003**	0.1%	0.3%	0.6%	0.9%	1.3%	2.0%	2.7%	3.2%	**3.4%**
	2004	0.4%	1.1%	1.8%	2.8%	4.5%	6.0%	6.8%	**7.2%**	
	2005	1.1%	3.0%	6.5%	10.7%	13.6%	15.4%	**16.0%**		
	2006	2.9%	9.6%	18.1%	23.2%	25.7%	**26.7%**			
	2007	3.4%	11.8%	18.3%	21.5%	**22.9%**				
	2008	1.7%	4.7%	6.5%	**7.5%**					
	2009	0.3%	0.7%	**1.0%**						
	2010	0.2%	**0.4%**							
	2011	**0.1%**								

MI = mortgage insurance.
Notes: Each cell reports the cumulative share of all loans originated in each year observed as defaulting within the column number of years since origination. As such, the right-most table entry (in bold) is the total number of loans that default through 2011 as a share of the number of loans in the data originated in the year.
Source: Authors' tabulations of Black Knight data

Not surprisingly, refinanced loans performed worse than purchase loans (exhibit 2-38). The single worst performing group of loans we analyzed was refinances to investors with mortgage insurance originated in 2007. The share of these loans that ultimately experienced a 90-day delinquency (through 2011) grew rapidly in comparison with other groups, from 6.0 percent for loans originated in 2005 to 43.8 percent for loans originated in 2007. Insured refinance loans to owner-occupants also performed poorly, with the share experiencing a 90-day delinquency increasing from 21.0 percent of loans originated in 2005 to 33.6 percent of loans originated in 2007. The weighted average performance of loans across all origination years reflect the fact that very few investor loans had mortgage insurance in 2009, 2010, and 2011, so overall default rates for investors with mortgage insurance are dominated by loans originated in years with very high default rates.

Exhibit 2-38. Share of Loans That Ever Default Through 2011, by Loan Purpose and Origination Year

Group	Purpose	Origination Year									Weighted Average, All Years (%)
		2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	
Investor Property Loan											
With MI	Purchase	9.9	11.3	17.8	26.8	25.4	15.0	2.9	0.0	0.0	17.4
	Refinance	4.3	4.9	6.0	27.2	43.8	28.6	7.3	2.8	0.6	11.5
Without MI	Purchase	5.2	8.0	18.0	24.9	17.9	6.5	0.9	0.1	0.0	13.3
	Refinance	5.6	9.7	18.1	29.5	27.9	13.1	1.7	0.6	0.2	15.2
Owner-Occupied Property Loan											
With MI	Purchase	13.9	16.8	21.5	26.0	29.2	15.9	6.2	2.9	0.8	15.3
	Refinance	10.2	14.7	21.0	30.5	33.6	23.4	10.8	2.6	0.7	15.7
Without MI	Purchase	4.0	7.0	17.2	26.0	18.6	5.8	0.9	0.3	0.1	13.6
	Refinance	3.5	7.4	14.6	26.0	24.8	8.8	1.1	0.4	0.1	10.8

MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

Also not surprisingly, ARMs performed worse than fixed-rate mortgages (exhibit 2-39), and the performance of adjustable-rate mortgages to investors and owner-occupants was abysmal during the housing market downturn. For example, among adjustable-rate loans to investors with mortgage insurance, 47.7 percent of those originated in 2007 had defaulted by the end of 2011. Among owners, 44.1 percent of such loans had defaulted.

Exhibit 2-39. Share of Loans That Ever Default Through 2011, by Interest Rate Type and Origination Year

		Origination Year									Weighted Average, All Years (%)
		2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	
Investor Property Loan											
With MI	Fixed rate	7.9	10.6	15.6	21.2	24.3	13.0	2.1	2.2	0.5	15.3
	ARM	5.0	7.6	13.4	36.6	47.7	20.5	14.3	0.0	0.0	16.9
Without MI	Fixed rate	4.7	8.2	12.0	20.7	21.8	9.8	1.2	0.4	0.2	9.9
	ARM	6.1	11.1	25.4	37.1	35.4	11.2	1.7	0.4	0.1	25.0
Owner-Occupied Property Loan											
With MI	Fixed rate	10.2	14.3	18.5	22.5	26.6	17.0	8.1	2.8	0.8	13.8
	ARM	11.9	14.6	23.9	39.9	44.1	20.7	12.4	3.6	1.6	21.3
Without MI	Fixed rate	3.5	6.6	11.4	19.0	20.2	7.8	1.2	0.7	0.5	7.7
	ARM	4.6	9.8	25.0	40.7	38.5	13.4	1.2	0.5	0.1	23.8

ARM = adjustable rate mortgage. MI = mortgage insurance.
Notes: Weighted averages reflect the fact that very few rental property loans had mortgage insurance in 2009, 2010, and 2011, so overall default rates for investors with mortgage insurance are dominated by loans originated in years with very high default rates.
Source: Authors' tabulations of Black Knight data

Also as expected, mortgages that defaulted had higher interest rates on average than all loans (exhibit 2-40). For example, among loans to investors with mortgage insurance, the median interest rate was 7.0 percent compared with 6.5 percent for all loans to investors with mortgage insurance. Among owner-occupants, the median interest rate among loans that defaulted was 6.35 percent for loans with mortgage insurance compared with 5.88 percent for all loans to owner-occupants with mortgage insurance.

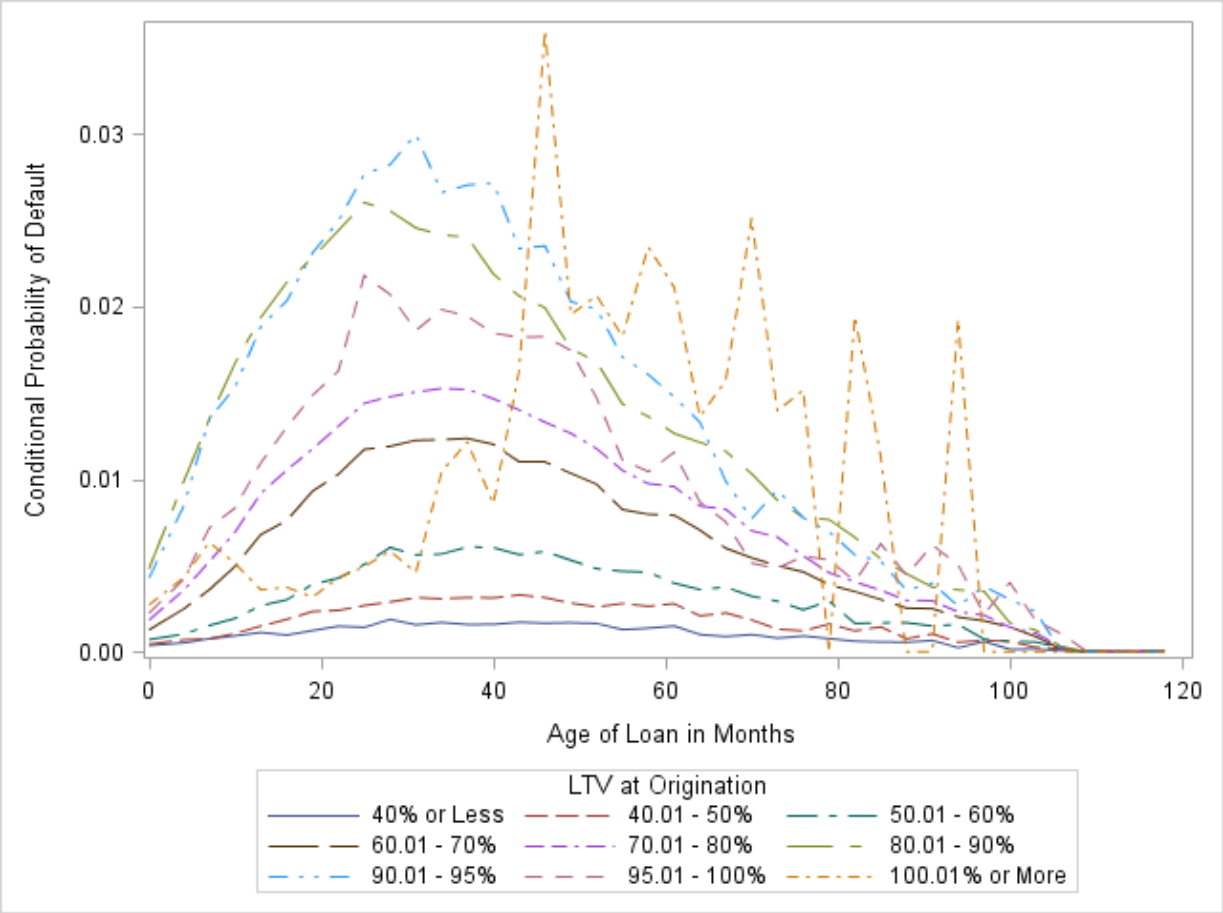
Exhibit 2-40. Interest Rate Quartile of Loans That Ever Default Through 2011

		Mean (%)	Std Dev (%)	25th Percentile (%)	50th Percentile (%)	75th Percentile (%)
Investor Property Loan						
With MI	Default	7.10	1.07	6.38	7.00	7.75
	All	6.50	1.12	5.88	6.50	7.13
Without MI	Default	7.24	1.28	6.50	7.13	8.00
	All	6.23	1.18	5.50	6.25	6.88
Owner-Occupied Property Loan						
With MI	Default	6.31	0.92	5.75	6.35	6.75
	All	5.76	0.92	5.00	5.88	6.38
Without MI	Default	6.73	1.45	6.00	6.55	7.50
	All	5.69	1.17	5.00	5.74	6.25

MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

The amount of leverage at origination was also correlated with the likelihood of default (exhibit 2-41). Among loans to investors, higher LTV ratio loans, in general, have a higher conditional probability of default at every age, although loans with greater than 95-percent LTV have somewhat lower CPDs than do loans with 80- to 95-percent LTV. Loans with LTVs greater than 97 percent in our sample have a relatively low conditional probability of default in the first 3 years and then spike. The default probability profile for loans with a 60-percent LTV or lower is markedly less than that for loans with even 60- to 70-percent LTV. Default rates for loans to investors by LTV and origination year are provided in appendix D.

Exhibit 2-41. Conditional Default Probabilities for Investors, by LTV at Origination



LTV = loan to value.
Source: Authors' tabulations of Black Knight data

Loan size at origination is also correlated with the eventual outcome of the loan. This correlation is true for loans to investors and owner-occupants. Exhibit 2-42 shows loan values relative to the MSA median. For example, the mean loan size for investor loans with mortgage insurance that defaulted was 82.5 percent of the median property value in the MSA. By comparison, the mean value among all loans to investors with mortgage insurance was 87.8 percent of the median property value in the MSA. In each comparison, the median loan to an investor is smaller than to an owner-occupant. Overall, the median original loan amount to investors is $135,000 compared with $180,000 for owner-occupants.

Exhibit 2-42. Price Relative to Metropolitan Statistical Area Median Value of Loans That Ever Default Through 2011

		Mean (%)	Standard Deviation (%)	25th Percentile (%)	50th Percentile (%)	75th Percentile (%)
Investor Property Loan						
With MI	**Default**	82.4	44.0	54.5	73.7	98.4
	All	87.8	50.1	57.4	78.2	104.1
Without MI	**Default**	96.9	56.7	62.9	85.0	114.3
	All	102.6	62.1	65.8	88.7	120.8
Owner-Occupied Property Loan						
With MI	**Default**	97.5	46.9	69.4	88.0	113.0
	All	107.1	58.2	72.5	94.4	125.6
Without MI	**Default**	120.8	76.6	79.6	101.1	136.1
	All	143.4	96.4	87.5	117.5	167.6

MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

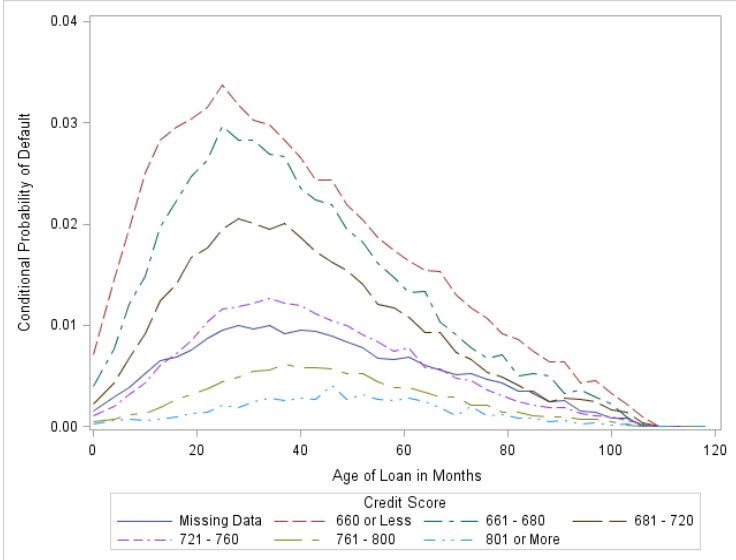
In addition to loan characteristics, the borrower's credit score at origination is an important predictor of whether loans default. Exhibit 2-43 presents conditional default probability (CDP) plots for each data group by credit score group. The plots are ordered by credit score, as in each instance plots of CDPs for lower credit scores lie above those for lower credit score groups, indicating that at each loan age, lower credit score loans have higher default probabilities.

Perhaps in response to worse loan performance, the share of investor loans made to borrowers with credit scores of more than 720, had a sharp increase from 39 and 41 percent in 2006 to 73 percent in 2011 for loans with and without mortgage insurance, respectively. Many of the loans that experienced a default exhibited a combination of these features. We will see in our multivariate survival analysis in the following section, however, that these factors remain distinctly predictive in a combined model.

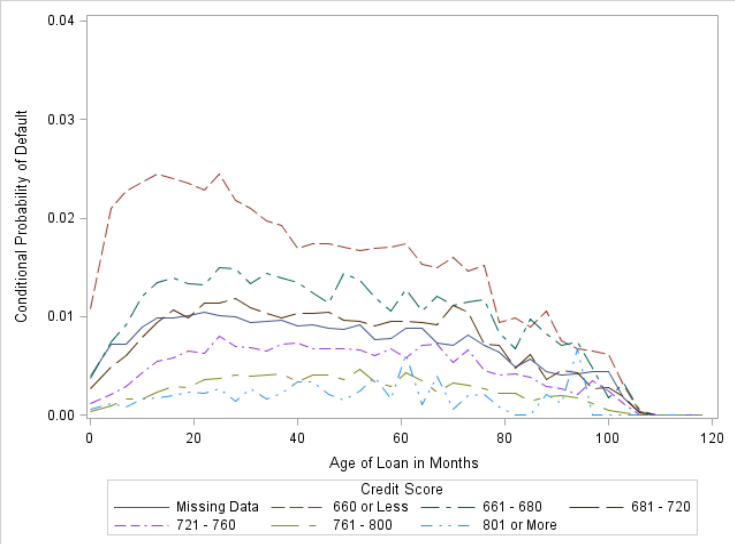
Exhibit 2-43. Conditional Probability of Default, by Credit Score Category

Investor Property With MI

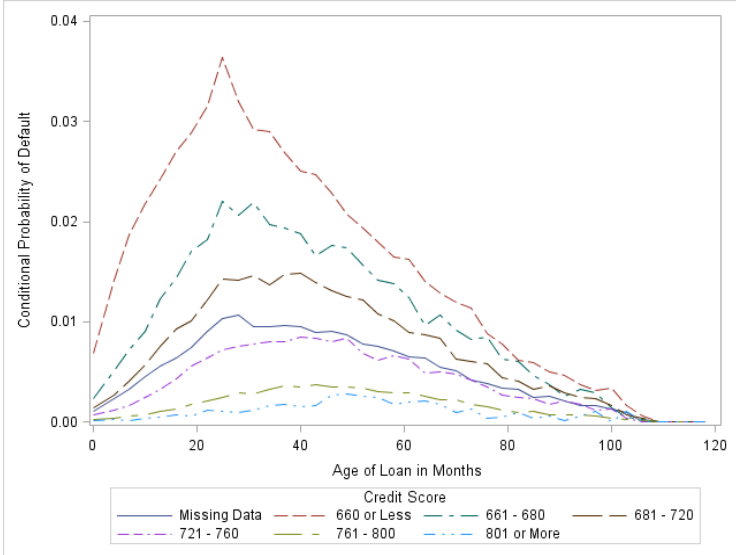
Investor Property Without MI



Owner-Occupied Property With MI



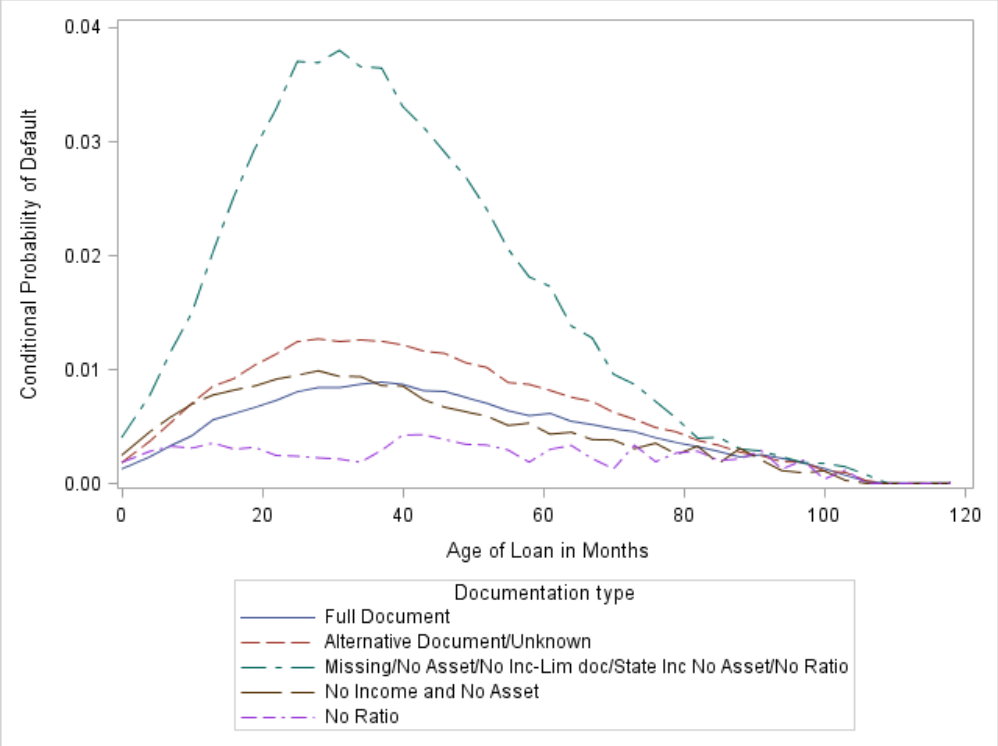
Owner-Occupied Property Without MI



MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

Documentation type added an important layering of credit risk during the housing market boom and bust. Loans with either missing documentation type, no asset, no income or limited documentation, or stated income and no asset had much higher default rates than loans with full documentation, as shown in exhibit 2-44. Loans with alternative or unknown documentation had default rates very similar to loans with full documentation. Documentation type is not included in the multivariate model of loan performance, because information on documentation type is missing or unknown for one-half of the loans in the dataset.

Exhibit 2-44. Conditional Probability of Default for Investor Property Loans, by Documentation Type

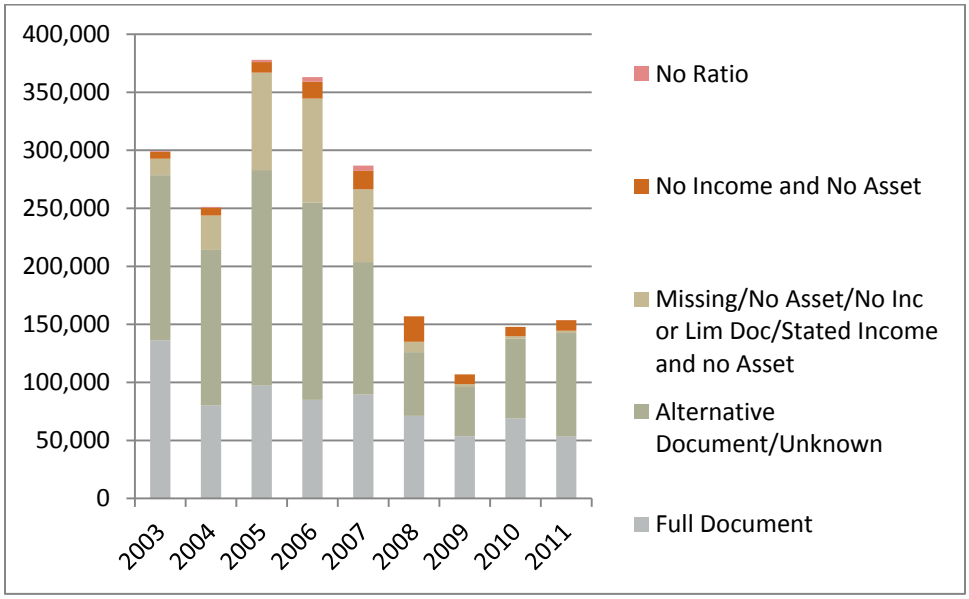


Source: Authors' tabulations of Black Knight data

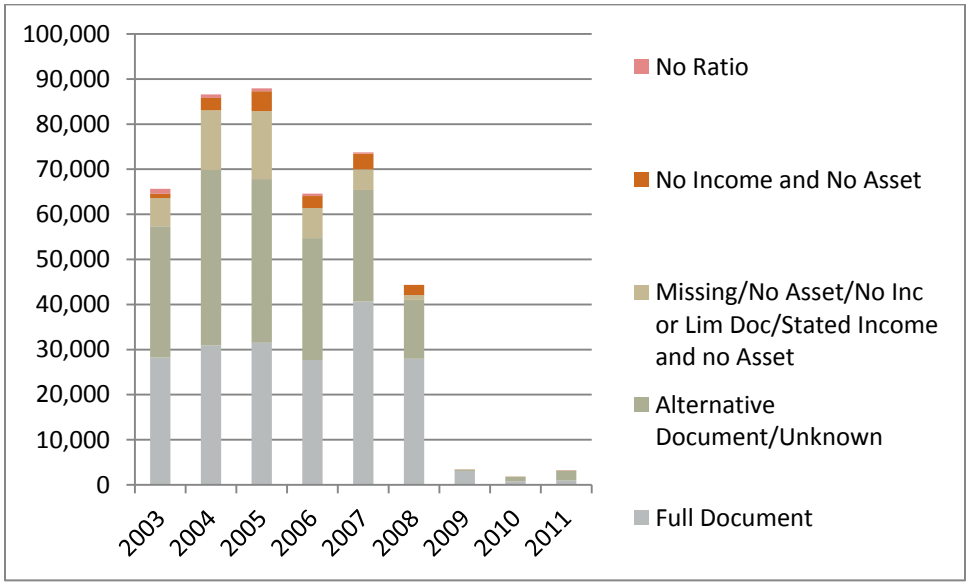
The omission of this variable does not have a significant effect on the estimates of loan performance, because as shown in exhibits 2-45 and 2-46, very few loans in our dataset to either investors or owner-occupants were either no ratio or no income and no asset in any origination year, and the volume of these lines declined as lenders tightened underwriting guidelines in response to the housing market downturn. More loans were either missing documentation type, no asset, no income or limited documentation, or stated income and no asset. The share of loans with these characteristics also shrank considerably in 2008-2011 to very small shares of loan originations.

Exhibit 2-45. Volume of Loans, by Documentation Type

Investor Without MI



Investor With MI

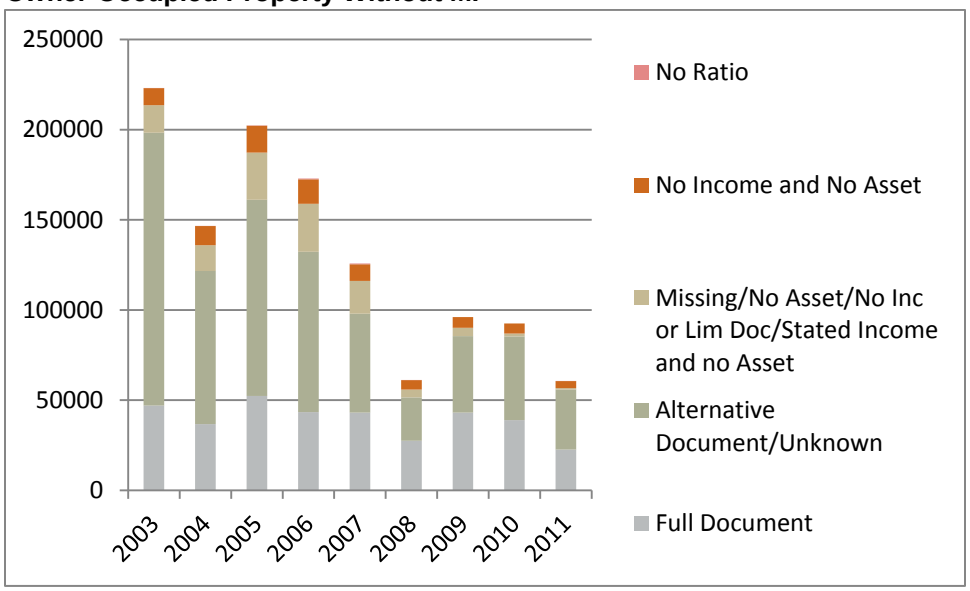


MI = mortgage insurance.

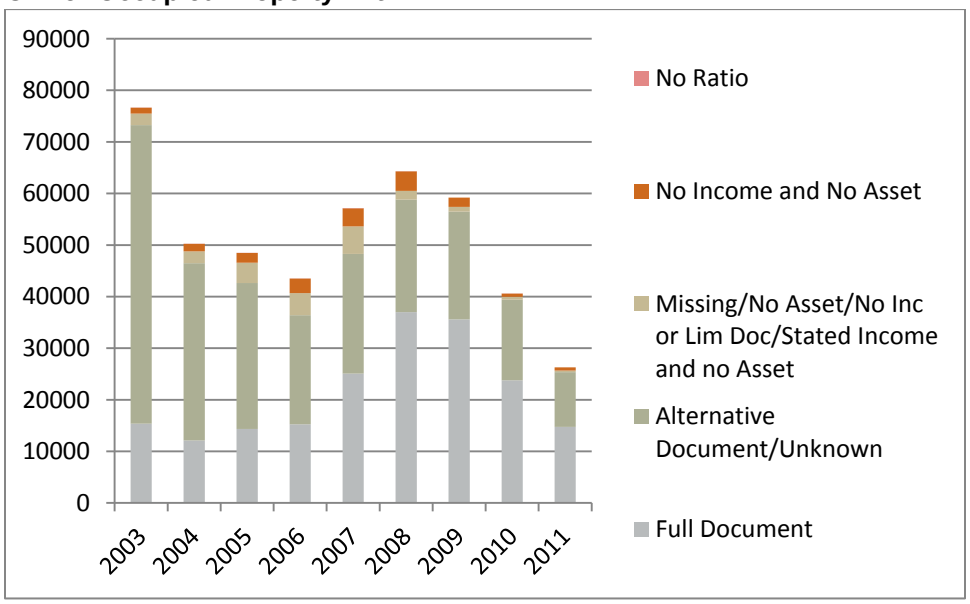
Source: Authors' tabulations of Black Knight data

Exhibit 2-46. Volume of Owner-Occupied Property Loans, by Documentation Type

Owner-Occupied Property Without MI



Owner-Occupied Property With MI



MI = mortgage insurance.

Source: Authors' tabulations of Black Knight data

Relationship Between Varying Economic Conditions and Loan Performance

In addition to loan characteristics at origination, we also found relationships between default and economic conditions that change over time. These relationships were consistent with expectations of theory, particular as it relates to default. For example, mortgages with a high current LTV in a given quarter have a systematically higher incidence of default than mortgages with a greater borrower share of equity. In the case of prepayment, the unconditional correlations with the mortgage premium and burnout factor we observed are consistent with the idea that falling prices worked to "lock in" borrowers to relatively high interest rate mortgages. Because they had too little equity (or negative equity) to refinance, these borrowers appear to have walked away from the property and loan instead.

Relationship Between Housing Market Trends and Loan Performance

MSA-level indicators of economic well-being and housing market trends are also clearly associated with quarter-by-quarter mortgage performance. One-year housing price changes, unemployment rate and changes in unemployment rates, changes in median rent, and changes in income all indicate that local market conditions are predictive of mortgage performance.

We have considered these variables in isolation, however. The variables are correlated with each other, with the individual option-theoretic loan variables that we most expect to relate to loan performance, and with the origination characteristics of the loans that we expect to describe borrower heterogeneity and relate to lender expectations about the probable outcome of particular loans. We now turn to our multivariate model of loan performance, which includes each of our variables concurrently in predicting the probability of default and prepayment relative to continued payment.

2.7.2 Multivariate Analysis of Single-Family Loan Performance Analysis

Our multivariate competing-risk model of default and prepayment enables us to determine the extent to which each of our variables is predictive of default and prepayment in the presence of the others. We estimate the model on each of our data groups—investors with and without mortgage insurance and owner-occupants with and without mortgage insurance—to explore how observed predictive relationships might differ across the borrower and loan type. The model includes three variable types:

1. Loan and borrower characteristics at origination.
2. Variables that influence the value of the borrower's option to default or prepay the mortgage, such as current LTV ratio and relative interest rate.
3. MSA-level market indicators.

The results, shown in exhibit 2-47, indicate that all three types of variables are predictive of mortgage outcome. Exhibit 2-47 reports coefficients predicting mortgage default; the coefficients are from a model predicting default, prepayment, or continued payment (the baseline outcome) in each quarter; complete results that include the estimated coefficients for mortgage prepayment are in appendix table C-30. The findings for each type of variable are discussed in the following section.

Coefficients for Loan Characteristics at Origination

Loan characteristics at origination remain predictive of the relative odds of default in our multivariate model. Adjustable rate and refinanced mortgages across all four datasets, and FHA and conventional loans for owner-occupant loans with mortgage insurance, have positive coefficients for default. Each of these characteristics is associated with higher log odds of default relative to prepayment as compared with

fixed-rate, purchase, and VA loans, respectively. The content of the coefficients for these variables is generally similar across data groups, with the coefficient for interest rate type suggesting a stronger predictive relationship for owner-occupants without mortgage insurance, and investors without mortgage insurance showing stronger relationship for the refinances, particularly for cash out refinances.

The coefficient on our property type variable shows a slightly decreased default risk for condominiums and townhomes relative to two- to four-family properties for investors. For owner-occupants, the decreased risk of default for single-family properties, townhomes, and condominiums is larger, with a coefficient indicating that default by owner-occupants with no insurance for a condominium/townhome only 0.61 times as likely relative to continued payment as it is for a two- to four-family property. Interestingly, combined LTV at origination is less consistently predictive across our data groups. For investor loans with no mortgage insurance, extremely high LTV at origination (over more than 100 percent) is strongly predictive of increased log relative default odds relative to an LTV at 60 percent or less, with coefficients indicating risk between 2.7 and 3.1 higher for loans in the highest LTV categories. Investors with default risk see a smaller but still meaningful 0.42 coefficient (1.5 times higher relative risk) for only the highest LTV at origination group. A similar, but much less pronounced pattern is observed for owner-occupant loans without mortgage insurance, with owner-occupants with mortgage insurance exhibiting small, marginally statistically significant (or insignificant) coefficients.

Credit score at origination is strongly predictive of log relative default odds. Coefficients across data groups suggest a similar relationship, with some indication that owner-occupant loans to borrowers with credit scores of more than 800 are the least likely to default relative to continued payment among the loan types. The magnitudes of the coefficients for this model are noteworthy. For investors with mortgage insurance, the difference between the 0.79 coefficient for borrowers with initial credit scores of less than 660 and the coefficient of -0.91 for borrowers with credit scores of more than 800 suggests that the former are *5.5 times* more likely to default relative to continued payment, after controlling for the rest of the factors in our model.

The value of a property relative to the MSA median remains predictive in the multivariate model for loans to investors, particularly for those with mortgage insurance, and to a lesser extent for owners without mortgage insurance. In the unconditional statistics it is the relatively small properties that eventually experience a default, however, after conditioning for our other predictors and jointly modeling the option to prepay, it is the relatively large properties that have a higher log relative default odds. Although the coefficients are statistically and economically significant, we note that relatively few investor properties in our sample are in the highest, greater than 1.5 times the MSA median category that is driving this result (the 75th percentile for this group was 1.04). The remaining differences between category coefficients, while statistically significant, are relatively small in magnitude.

Our model also finds stark differences in the log relative default odds based on a mortgages' origination year, particularly for the more recent years. After controlling for the other factors in our model (including our flexible specification for loan age), the differences between default log odds for loans originated in 2005, 2006, and 2007 are relatively small. The largest coefficient is for investor loans with mortgage insurance in 2007, indicating that these loans are predicted to have default odds 0.88 times as large as those for loans in the same group in the baseline years of 2003 and 2004. The 2008 and 2009 and 2011 years show markedly lower default odds, however, with loans without insurance to investors between 2009 and 2011 having 0.30 times the default odds than the 2003 and 2004 loans. Differences are relatively muted for owner-occupant loans with mortgage insurance, which may have had more

consistency in underwriting standards across cohorts. Although the coefficient in the latest years is greatest for investors with mortgage insurance, very few loans were issued to this group in later years.

Together, the estimated coefficients on variables describing loan characteristics at origination indicate that observable loan and borrower characteristics at origination predict performance even after controlling for time-varying option theoretic variables and market trends. For all the variables in our model, but for these time-invariant variables particularly, we note that the predictive relationships captured by our model are not causal in the sense that they include selection into products and loan characteristics by borrowers and lenders. Rather than predicting the subsequent performance if a particular mortgage had been issued to an arbitrary borrower, our model predicts performance given that a particular borrower and some lender agreed to a mortgage with the characteristics in our model under the existing market conditions.

Coefficients for Option-Theoretic Variables

For our first option-theoretic variable, the estimated percent LTV in each quarter, our estimated model finds the expected positive relationship between LTV category and the log odds of default. Exponentiating the coefficient of 2.17 for the default coefficient in the investor with mortgage insurance model indicates that loans with greater than 110-percent estimated LTV in a given quarter (clearly in a negative equity position) are 8.74 times more likely to default relative to continuing to pay than are loans in our baseline category, with current LTV of less than 60 percent. The next category, loans with current LTV between 100 and 110, has a coefficient of 1.73, indicating that loans in this category are 5.6 times more likely to default relative to prepayment than the baseline less than 60-percent-LTV category. So, investors with mortgage insurance moving from a near-zero equity to a negative equity position increase the relative odds of default by a factor of 1.6.

Coefficient estimates are remarkably similar across the four groups, and increase with each increasing category of current LTV.[74] In fact, no clear differences are evident across the four models, except for in the highest category, where owner-occupied and investor loans with mortgage insurance are noticeably greater (implying between 12 and 17 percent greater default odds) than the value of the coefficient estimate in the models for loans without mortgage insurance. This evidence suggests that mortgage insurance plays a role in which underwater loans become 90 days delinquent. Further investigation (using additional data on servicer actions) would be necessary to determine whether the moral hazard inherent in insurance is reflected in servicer treatment of underwater and 30- or 60-day delinquent borrowers as discussed previously.

The interest rate premium variable, which captures the value of the prepayment option, also has a positive correlation with the log odds of default relative to continued payment. For insured loans to investors, exponentiating the coefficient for the greater than 30-percent premium group of 0.71 gives an estimate that loans in this category are twice as likely as loans with a relatively low (30 percent or more below the current market refinance median) interest rate and are 1.42 times more likely than rates that are on par with current rates to default relative to continued payment. For this variable, owner-occupants without

[74] Unfortunately, because our four models are estimated separately out of computational necessity, statistical tests for equality of individual coefficients in different models cannot be conducted. As evidenced by the small differences in the intercept coefficients, differences likely exist in the "omitted category" baseline default rates for each factor discussed. As such, comparisons across models throughout this section can be made only with respect to how each category within each group compares with the own group's baseline.

mortgage insurance have the greatest magnitude of coefficients, while coefficients for investors without mortgage insurance indicate a relatively smaller, but still substantive relationship (the coefficient on the 30 percent or more category of 0.48, for example, suggests loans are 1.62 times as likely as the baseline category of -30 percent or less to default relative to continued payment).

Because the interest rate premium variable is associated with the prepayment option, we note briefly that the associated coefficient estimates are indeed strongly predictive of prepayment. Coefficients for owners are larger than for investors, with loans to owner-occupants without insurance in the greatest category predicted to have a 2.35 times greater probability of prepayment to continued payment than for the lowest premium category. Differences in the relationship observed across models suggest differences in the prepayment and refinancing timing of owners and investors that may be of interest for future investigation.

The burnout factor variable captures whether a borrower has not exercised the refinance option when the mortgage premium has been positive. Coefficients estimated for this variable indicate it is also predictive of subsequent default. The coefficient magnitudes are largest for investors with mortgage insurance. Exponentiating the highest burnout factor category coefficient, 0.96 indicates that the highest group is 2.62 times more likely to default relative to continued payment than is a loan with no missed refinancing opportunities during the previous eight quarters. The stronger relationship indicated for burnout factor for investors in the highest basis point burnout factor categories are consistent with the narrative that investors with mortgages with unsatisfactory terms are more “ruthless” in exercising their default option.

Our fitted model indicates that investors and owner-occupants respond as expected to “in the money” default and prepayment incentives, even after controlling for a variety of underwriting and market factors. Particularly for owner-occupants, this finding is consistent with the existing literature. Although we do not make rigorous statistical comparisons of coefficients across models, the relationships among categories of our option theoretic variables within models suggest that loans with mortgage insurance default with greater frequency when the property has negative equity. The relationships also suggest that owners may be more apt to refinance when rates are favorable, and that investors who are unable to refinance are more likely to default.

Coefficients for Housing Market and Economic Indicator Variables

We now review the estimates from our model for the housing market and economic indicators. First, the yield curve slope remains predictive of default and prepayment, with the largest coefficients estimated for investors with mortgage insurance. We again note that the extreme ranges for this variable during the period bring into question whether it remains the reliable measure of interest rate expectations, however, which it has been in the past. Recent high values of the variable come at a time of historically low interest rates in general and mortgage rates specifically, which are indeed expected to rise in the medium to long term. It appears that relatively low mortgage rates today are associated with lower log odds of default relative to continued payment.

Year-over-year housing price changes, which are included to capture expectations for housing prices moving forward, are also predictive in our model, with the largest coefficients estimated for loans to investors. As a contrast, the coefficients for owner-occupant mortgages with insurance suggest a 1.53 times greater and 0.76 times lower log relative default odds in periods of falling and rapidly increasing prices, respectively. Meanwhile, for investors without mortgage insurance (our largest data group, with coverage across all origination years), log relative default odds are a similar 1.42 times greater in falling

markets, and a more extreme 0.30 times lower in markets with rapidly increasing prices. This year-over-year measure varies over time and across MSAs. In quarters and MSAs in which prices are declining, the probability of default relative to continued payment *in that quarter* is much higher than when prices are rising.

MSA-level employment statistics are not available in ACS and census data for some MSAs in the first years of our sample. Our model estimates are consistent with these areas, like the others for which data is available, having relatively low default rates in these early quarters. The coefficients on the quartile groups are relevant for most of our sample, and indicate that high unemployment is associated with higher log relative default odds except for owner-occupant loans with insurance. For this group, however, a top quartile (increase) change in unemployment rates is most strongly predictive.

Our percent change in median rent variable shows no consistent pattern, except perhaps a somewhat decreased (0.89 times for loans with insurance) default odds for loans to investors in the highest (growth) quartile. The relatively small estimated coefficients for this variable indicate that no additional relevant correlation of default odds is made with rent after controlling for our other variables.

Median income, particularly for investors, and percent change in median income across all data groups show a stronger relationship. Interestingly, lower median income levels predict lower log relative default odds, particularly for investor loans with mortgage insurance. Change in median income clearly aligns with expectations based on economic trigger events, although coefficient magnitudes are modest relative to other predictors. Loans in MSAs in years with low or falling incomes (bottom quartiles) have elevated log odds of default. Finally, the ownership rate in an MSA in a given year is predictive of default for loans to investors, with modestly sized coefficients, while the coefficients on the change in ownership rate quartiles are sometimes statistically significant, but economically less meaningful relative to other variables in our model. Low ownership areas have lower log odds of default.

To summarize, housing market and economic indicators at the MSA level generally maintain predictability for log relative default odds in our model, which includes a broad set of controls. Changing housing prices are most predictive, with relatively low default rates observed for investors in markets with rapidly rising prices. Not surprisingly, because they are based on MSA-level measures, coefficients for economic indicators are smaller in magnitude than for loan-level option-theoretic variables. Still, unemployment rates and changes in unemployment rates, median income levels and changes, and ownership rates are predictive for loans to investors with the expected signs on the coefficients. Except for unemployment rates and changes, however, the economic indicator variables predict relatively small differences across quartiles compared with other variables in the model.

Exhibit 2-47. Estimated Parameters for Default (jointly estimated prepayment coefficients in appendix C)

	Investor With MI			Investor Without MI			Owner-Occupied With MI			Owner-Occupied Without MI		
	Default	Exp	Percent Increase	Default	Exp	Percent Increase	Default	Exp	Percent Increase	Default	Exp	Percent Increase
Intercept	– 6.88**	0.001	– 100	– 7.37**	0.001	– 100	– 6.98**	0.001	– 100	6.97**	0.001	– 100
Estimated LTV in t												
60% or less	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
60.01 to 70.00%	0.63**	1.878	88	0.59**	1.804	80	0.6**	1.822	82	0.62**	1.859	86
70.01 to 80.00%	0.95**	2.586	159	0.88**	2.411	141	0.9**	2.460	146	0.92**	2.509	151
80.01 to 90.00%	1.21**	3.353	235	1.2**	3.320	232	1.16**	3.190	219	1.21**	3.353	235
90.01 to 95.00%	1.44**	4.221	322	1.41**	4.096	310	1.4**	4.055	306	1.41**	4.096	310
95.01 to 100.00%	1.51**	4.527	353	1.56**	4.759	376	1.58**	4.855	385	1.54**	4.665	366
100.01 to 110.00%	1.73**	5.641	464	1.74**	5.697	470	1.78**	5.930	493	1.72**	5.585	458
110.01% or more	2.17**	8.758	776	2.06**	7.846	685	2.21**	9.116	812	2.05**	7.768	677
Interest Rate Premium in t												
Appendix A – 30% or less	0.00[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
– 30.09	– 0.04**	0.961	– 4	– 0.15**	0.861	– 14	0.05**	1.051	5	0.12**	0.887	– 11
Appendix B – 9.99	0.13**	1.139	14	– 0.11**	0.896	– 10	0.18**	1.197	20	0.07**	1.073	7
0.01 to 10.00%	0.36**	1.433	43	0.11**	1.116	12	0.36**	1.433	43	0.36**	1.433	43
10.01 to 20.00%	0.59**	1.804	80	0.21**	1.234	23	0.57**	1.768	77	0.58**	1.786	79
20.01 to 30.00%	0.64**	1.896	90	0.33**	1.391	39	0.69**	1.994	99	0.68**	1.974	97
30.01% or more	0.71**	2.034	103	0.48**	1.616	62	0.73**	2.075	108	0.86**	2.363	136

Burnout Factor in t											
BF = 0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
0 < BF ≤ 50	0.31	1.363	36	0.36**	1.433	43	0.18**	1.197	20	0.35**	1.419	42
50 < BF ≤ 100	0.54	1.716	72	0.61**	1.840	84	0.33**	1.391	39	0.59**	1.804	80
100 < BF ≤ 150	0.72**	2.054	105	0.71**	2.034	103	0.46**	1.584	58	0.67**	1.954	95
150 < BF ≤ 200	0.83**	2.293	129	0.75**	2.117	112	0.57**	1.768	77	0.65**	1.916	92
BF > 200	0.96**	2.612	161	0.83**	2.293	129	0.68**	1.974	97	0.79**	2.203	120
Age Spline (quarters)											
Age_t ≤ 2	0.02	1.020	2	0.07**	1.073	7	0.18**	1.197	20	0.08**	1.083	8
2 < Age_t ≤ 6	0.06**	1.062	6	0.05**	1.051	5	0.03**	1.030	3	0.02**	1.020	2
6 < Age_t ≤ 8	0	1.000	0	0	1.000	0	0	1.000	0	0.05**	1.051	5
8 < Age_t ≤ 10	– 0.02*	0.980	– 2	– 0.02**	0.980	– 2	– 0.02	0.980	– 2	0.05**	0.951	– 5
10 < Age_t ≤ 12	– 0.03*	0.970	– 3	– 0.03**	0.970	– 3	– 0.03**	0.970	– 3	0.05**	0.951	– 5
12 < Age_t ≤ 14	– 0.01	0.990	– 1	– 0.03**	0.970	– 3	– 0.03*	0.970	– 3	0.03**	0.970	– 3
14 < Age_t ≤ 16	– 0.04**	0.961	– 4	– 0.03**	0.970	– 3	– 0.02	0.980	– 2	0.05**	0.951	– 5
16 < Age_t ≤ 18	– 0.01	0.990	– 1	– 0.05**	0.951	– 5	– 0.02	0.980	– 2	0.03**	0.970	– 3
Age_t > 18	– 0.01**	0.990	– 1	– 0.01**	0.990	– 1	– 0.01**	0.990	– 1	0.02**	– 0.01**	
Interest Rate Type											
Fixed rate	0[a]	1.000	0	0[a]	0[a]		0	0[a]		0[a]	0[a]	
ARM	0.48**	1.616	62	0.5**	1.649	65	0.52**	1.682	68	0.66**	1.935	93
Loan Purpose											
Purchase	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
Other (construction, rehabilitation, remodeling, etc.)	0.17**	1.185	19	0.11**	1.116	12	– 0.05*	0.951	– 5	0.03**	0.970	– 3
Rate/term finance	0.29**	1.336	34	0.32**	1.377	38	0.23**	1.259	26	0.06**	1.062	6
Cash out refinance	0.09**	1.094	9	0.24**	1.271	27	0.14**	1.150	15	0.03**	1.030	3
Other refinance	0.14**	1.150	15	0.21**	1.234	23	0.14**	1.150	15	0.01	1.010	1
Unknown	– 0.2**	0.819	– 18	0.03*	1.030	3	0.04*	1.041	4	0.08**	1.083	8

Property Type											
Single-family home	– 0.06**	0.942	– 6	0.01	1.010	1	– 0.26**	0.771	– 23	0.35**	0.705	– 30
Condominium or townhome	– 0.12**	0.887	– 11	– 0.09**	0.914	– 9	– 0.39**	0.677	– 32	0.49**	0.613	– 39
Two- to four-family property	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
Product Type											
FHA							0.17**	1.185	19			
VA							– 0.3**	0.741	– 26			
Conventional with MI							0[a]	1.000	0			
LTV at Origination											
60% or less	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
60.01 to 70.00%	0.2**	1.221	22	0.34**	1.405	40	0.25**	1.284	28	0.21**	1.234	23
70.01 to 80.00%	– 0.09**	0.914	– 9	0.36**	1.433	43	0.14**	1.150	15	0.26**	1.297	30
80.01 to 90.00%	0.09**	1.094	9	0.67**	1.954	95	0.11**	1.116	12	0.33**	1.391	39
90.01 to 95.00%	0.01	1.010	1	0.88**	2.411	141	0.09*	1.094	9	0.27**	1.310	31
95.01 to 97.00%	0.13**	1.139	14	1.14**	3.127	213	0.01	1.010	1	0.58**	1.786	79
97.01 to 100.00%	– 0.08*	0.923	– 8	0.06	1.062	6	0.05	1.051	5	0.05	1.051	5
100.01% or more	0.42**	1.522	52	0.98**	2.664	166	– 0.03	0.970	– 3	0.36**	1.433	43
Additional Lien											
Multiple liens	0[a]	1	0	0[a]	0[a]		0[a]	0[a]		0[a]	0[a]	
One lien only	– 0.23**	0.795	– 21	0.08**	1.083	8	0.08**	1.083	8	0.11**	1.116	12
Credit Score											
Missing data	0.05**	1.051	5	0.18**	1.197	20	0.6**	1.822	82	0.31**	1.363	36
660 or less	0.79**	2.203	120	0.9**	2.460	146	1.07**	2.915	192	0.95**	2.586	159
661 to 680	0.51**	1.665	67	0.65**	1.916	92	0.63**	1.878	88	0.63**	1.878	88
681 to 720	0.26**	1.297	30	0.38**	1.462	46	0.38**	1.462	46	0.38**	1.462	46
721 to 760	0[a]	1.000	0	0[a]	1.000	0	0	1.000	0	0[a]	1.000	0
760 to 800	– 0.49**	0.613	– 39	– 0.58**	0.560	– 44	– 0.49**	0.613	– 39	0.62**	0.538	– 46
800 or More	– 0.91**	0.403	– 60	– 1.09**	0.336	– 66	– 0.76**	0.468	– 53	1.07**	0.343	– 66

Quarter of Year											
First	– 0.23**	0.795	– 21	– 0.12**	0.887	– 11	– 0.34**	0.712	– 29	0.14**	0.869	– 13
Second	0[a]	1.000	0	0[a]	1.000	0	0	1.000	0	0[a]	1.000	0
Third	0.17**	1.185	19	0.12**	1.127	13	0.1**	1.105	11	0.13**	1.139	14
Fourth	0.12**	1.127	13	0.13**	1.139	14	– 0.02*	0.980	– 2	0.11**	1.116	12
Origination Year											
2003–2004	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
2005–2006	– 0.08**	0.923	– 8	0.04**	1.041	4	– 0.07**	0.932	– 7	0.03	1.030	3
2007	– 0.13**	0.878	– 12	– 0.09**	0.914	– 9	– 0.09**	0.914	– 9	0.11**	0.896	– 10
2008	– 0.29**	0.748	– 25	– 0.49**	0.613	– 39	– 0.37	0.691	– 31	0.52**	0.595	– 41
2009–2011	– 1.19**	0.304	– 70	– 1.71**	0.181	– 82	– 0.69**	0.502	– 50	1.55**	0.212	– 79
Relative Value to MSA Median at Origination											
Rel Price $\leq$ 0.5	– 0.08**	0.923	– 8	– 0.02*	0.980	– 2	– 0.2**	0.819	– 18	0.16**	0.852	– 15
0.5 < Rel Price ≤ 0.75	0.05**	1.051	5	0.06**	1.062	6	0	1.000	0	0.01	0.990	– 1
0.75 < Rel Price ≤ 1	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
1 < Rel Price ≤ 1.25	0.04**	1.041	4	0.03**	1.030	3	– 0.03**	0.970	– 3	0.06**	0.942	– 6
1.25 < Rel Price ≤ 1.5	0.16**	1.174	17	0.09**	1.094	9	– 0.01	0.990	– 1	– 0.1**	0.905	– 10
Rel Price > 1.5	0.34**	1.405	40	0.19**	1.209	21	– 0.03	0.970	– 3	0.12**	0.887	– 11
Yield Curve Slope in t											
YC Slope ≤ 1	– 0.11**	0.896	– 10	– 0.26**	0.771	– 23	– 0.12**	0.887	– 11	– 0.2**	0.819	– 18
1 < YC Slope ≤ 1.5	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
1.5 < YC Slope ≤ 5	0.01	1.010	1	0.2**	1.221	22	– 0.03	0.970	– 3	0.05**	1.051	5
5 < YC Slope ≤ 12.5	– 0.84**	0.432	– 57	– 0.46**	0.631	– 37	– 0.59**	0.554	– 45	– 0.4**	0.670	– 33
YC Slope > 12.5	– 1.24**	0.289	– 71	– 0.83**	0.436	– 56	– 0.89**	0.411	– 59	0.65**	0.522	– 48

Year-Over-Year Change in House Price Index											
dHPI ≤ – 3%	0.51**	1.665	67	0.35**	1.419	42	0.42**	1.522	52	0.42**	1.522	52
– 3% < dHPI ≤ 0	0.22**	1.246	25	0.14**	1.150	15	0.13**	1.139	14	0.14**	1.150	15
0 < dHPI ≤ 4%	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
4% < dHPI ≤ 11%	– 0.31**	0.733	– 27	– 0.27**	0.763	– 24	– 0.03	0.970	– 3	0.12**	0.887	– 11
> 11%	– 1.02**	0.361	– 64	– 1.22**	0.295	– 70	– 0.28**	0.756	– 24	0.59**	0.554	– 45
Percent Change in Median Rent											
Missing	– 0.34**	0.712	– 29	– 0.24**	0.787	– 21	0.04	1.041	4	0.03	0.970	– 3
Bottom quartile	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
2nd quartile	– 0.04**	0.961	– 4	0.02**	1.020	2	– 0.01	0.990	– 1	0.05**	0.951	– 5
3rd quartile	0.01	1.010	1	0.04**	1.041	4	0.07**	1.073	7	0.05**	1.051	5
Top quartile	– 0.11**	0.896	– 10	– 0.07**	0.932	– 7	0.06**	1.062	6	0.13**	1.139	14
Unemployment Rate											
Missing	– 0.44**	0.644	– 36	– 0.85**	0.427	– 57	– 0.2**	0.819	– 18	0.79**	0.454	– 55
Bottom quartile	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
2nd quartile	0.21**	1.234	23	0.12**	1.127	13	0.11**	1.116	12	0.06**	1.062	6
3rd quartile	0.13**	1.139	14	0.12**	1.127	13	0.01	1.010	1	0.09	1.094	9
Top quartile	0.28**	1.323	32	0.25**	1.284	28	0.09**	1.094	9	0.16**	1.174	17
Change in Unemployment Rate											
Missing	– 0.44**	0.644	– 36	– 0.25**	0.779	– 22	– 0.34**	0.712	– 29	– 0.5**	0.607	– 39
Bottom quartile	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
2nd quartile	0.07**	1.073	7	0.11**	1.116	12	0.03	1.030	3	0.04**	1.041	4
3rd quartile	0.12**	1.127	13	0.1**	1.105	11	0.08**	1.083	8	0.12**	1.127	13
Top quartile	0.22**	1.246	25	0.21**	1.234	23	0.3**	1.350	35	0.29**	1.336	34

Median Income											
Missing	1.9**	6.686	569	2.09**	8.085	708	1.9**	6.686	569	1.9**	6.686	569
Bottom quartile	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
2nd quartile	0.27**	1.310	31	0.18**	1.197	20	0.08**	1.083	8	0.08**	1.083	8
3rd quartile	0.34**	1.405	40	0.24**	1.271	27	0.07**	1.073	7	0.05	1.051	5
Top quartile	0.34**	1.405	40	0.22**	1.246	25	0.16**	1.174	17	0.11**	1.116	12
Percent Change in Median Income											
Bottom quartile	0.11**	1.116	12	0.1**	1.105	11	0.05**	1.051	5	0.07**	1.073	7
2nd quartile	0.11**	1.116	12	0.08**	1.083	8	0.06**	1.062	6	0.07**	1.073	7
3rd quartile	0.07**	1.073	7	0.06**	1.062	6	0.02	1.020	2	0.02	1.020	2
Top quartile	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
MSA Ownership Rate											
Bottom quartile	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
2nd quartile	0.1**	1.105	11	0.15**	1.162	16	0	1.000	0	0.01	0.990	– 1
3rd quartile	0.09**	1.094	9	0.15**	1.162	16	– 0.08**	0.923	– 8	0.15**	0.861	– 14
Top quartile	0.18**	1.197	20	0.25**	1.284	28	– 0.08**	0.923	– 8	0.11**	0.896	– 10
Change in MSA Ownership Rate											
Bottom quartile	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0	0[a]	1.000	0
2nd quartile	– 0.03**	0.970	– 3	0	1.000	0	0.03**	1.030	3	0.06**	1.062	6
3rd quartile	0.02	1.020	2	0.03**	1.030	3	0.05**	1.051	5	0.09**	1.094	9
Top quartile	– 0.13**	0.878	– 12	– 0.09**	0.914	– 9	– 0.02	0.980	– 2	0.03*	0.970	– 3
Number of loan-quarters	4,290,181			23,758,966			1,037,351			2,997,388		

FHA = Federal Housing Administration. HPI = housing price index. LTV = loan to value. MI = mortgage insurance. MSA = metropolitan statistical area. VA = U.S. Department of Veterans Affairs.

* Indicates a p-value < 0.05. ** *Indicates* coefficients are statistically significant with a p-value < 0.001.

[a] Indicates the category is the "omitted" baseline.

2.7.3 Implications for FHA Mortgage Insurance for Rental Property Loans

Our empirical analysis of mortgage performance during the past decade finds that investors and owner-occupants respond to the default and prepayment incentives in mortgages as theory would predict. Loan and borrower characteristics that drive underwriting and pricing capture additional variability across borrowers in subsequent loan performance. Even after controlling for these factors, housing market and economic conditions remain as predictive of default.

In comparing risks associated with lending with single-family property investors, the summary statistics and univariate comparisons in section 2.7.1 indicate that loans to investors experienced a greater incidence of default, particularly for loans made before 2008, than owners. Comparable or more pronounced estimates in our multivariate model indicate that investors are as or more ruthless in their exercise of the default option as owner-occupants. As such, mortgages to investors, in general, have a greater default risk than do loans to owner-occupants. This greater risk is in spite of the observation that the mortgages have more conservative characteristics—loans are smaller, with lower LTVs, and to borrowers with higher credit scores. It appears that although investors respond to the same option-theoretic risks as owner-occupants—with more defaults when loans are under water and interest rates differ from those available on the market—investors are somewhat more sensitive to general housing market and economic conditions. Our data and analysis also indicates that investors with mortgages carrying insurance defaulted more readily in the face of falling housing prices and rising unemployment than did investors with uninsured mortgages and owner-occupants.

This analysis only partially addresses questions related to rental property loan performance

This analysis only partially addresses the second question of whether FHA can expand single-family rental property investor purchase options without subjecting FHA to significant risks. Loans with the combination of features proposed in section 2.5 are not observed in the Black Knight data, although the loan performance analysis does provide some insight into the risk of loans with some of the features proposed. In general—

- Although loans to investors with mortgage insurance originated in 2003 and 2004 had lower default rates than those to owners, investors defaulted with greater frequency for loans with insurance made in 2005 through 2007; for loans without insurance, investor loans had higher default rates as compared with uninsured owner-occupied property loans for nearly all origination years.
- Insured loans to investors have a higher risk of default than uninsured loans, even after controlling for as many borrower and loan characteristics as possible.
- FHA's loan limits may have a minor impact on loan performance, as the analysis of multivariate Black Knight data indicated that higher value properties were somewhat more likely to default. In practice, the loan limits may not serve as a binding constraint for many investors because investor purchases are heavily concentrated among properties at the lower end of the housing market.
- LTV limits of 85 percent would probably serve to reduce the risk of default relative to loans with higher LTVs. In general, loans to investors with mortgage insurance had higher LTVs (the 25th percentile loan had an LTV at origination of 85 percent). This evidence suggests that borrowers may not be interested in a mortgage insurance product that limits LTVs to 85 percent because loans without insurance would be available to them at a (presumably) lower cost for a lower LTV loan. Lower LTV limits combined with flexibilities that are not currently available in the market,

however, such as the ability to finance more than four properties or a simplified cash-out conversion of a recent cash purchase into a low-LTV loan, may change market interest in a low-LTV rental property loan product.

- Adjustable-rate loans have higher risk of default than fixed-rate loans, so the proposed programs' restriction to fixed-rate loans would mitigate this risk.
- There were few rehabilitation loans to investors in the Black Knight data, so we did not analyze them separately. They were grouped in a category of "other" loans that included construction, rehabilitation, remodeling, and other loan purposes. This group of loans had slightly higher likelihood of default than purchase loans.
- Credit scores are a very important predictor of default for investor loans, so a minimum credit score could help mitigate the risk of loans to investors. Default profiles (not conditional on other factors) show the highest default probability (at about 36 months) falls slightly less than one-half for borrowers with scores of 721 to 760 as compared with borrowers with scores between 681 and 720, and by approximately one-half again for borrowers with scores greater than 760. This monotonic relationship between credits score and default, even after controlling for other factors, is confirmed in our multivariate model. This evidence confirms that a minimum credit score is a lever for adjusting the risk associated with potential products.

Importantly, the Black Knight analysis cannot offer any insight into some important loan features of the proposed programs:

- Unlimited number of financed properties: Intuitively, one might expect ownership of a large number of rental properties would increase the risk of default, because of the added complexity of managing a greater number of rental properties. This risk might be offset to some extent by the fact that rental property ownership would become a more scalable business, and one more likely to enable the investor to manage rental properties as a full-time job. In addition, a few unscrupulous borrowers could use the program fraudulently to greater effect (resulting in greater losses to the insurance fund) with no limits on the number of financed properties.
- Property ownership as an LLC: Property ownership as an LLC could reduce the risk of default, because it serves to limit investors from certain kinds of liability. Black Knight does not provide data on ownership status, so no evidence exists to verify the effects, if any, of LLC ownership.
- Prepayment penalty: We did not observe whether a loan had a prepayment penalty in the Black Knight data, but note that loans with a higher burnout factor were more likely to default. That is, borrowers who missed refinancing opportunities were more likely to default than other borrowers. Under conditions of falling house prices, it may be the case that the prepayment penalty locks the borrower in to the loan long enough to reduce his or her equity to the point that the equity is insufficient to eventually refinance. Under these conditions, borrowers may be more likely to default.
- Fast-track underwriting: We did not observe any loans to investors with mortgage insurance that had original LTVs of 50 percent or lower in Black Knight. The 25th percentile loan had an LTV of 85 percent at origination. The absence of low LTV loans with mortgage insurance is likely due to the fact that lenders typically do not require mortgage insurance for properties with LTVs of less than 80 percent. It is not clear that, even given the ability to securitize rental property loans using the Ginnie Mae platform, lenders would begin requiring mortgage insurance for loans with very low LTVs.

- Ability to finance properties acquired using borrowers' own cash: Given borrowers' demonstrated cash reserves, it may be the case that this feature reduces the likelihood of default.
- This analysis did not include documentation type. "No asset" and "no income" loans, which did not require borrowers to fully document assets and/or income, performed more poorly than loans with full documentation. Although documentation type did not materially affect overall default rates of loans to investors in this analysis because very few of these loans were in the Black Knight dataset, any future mortgage insurance program should be designed with an awareness of the higher risk of these loans.

Economic conditions are an important factor in loan performance

An FHA investor financing program can establish loan features and underwriting guidelines that help mitigate risk, but economic conditions are also an important predictor of mortgage default that are beyond FHA's control or that relate to geography and market conditions in ways that FHA would be reluctant to control. For example, unemployment rate, median income, ownership rate, and changes in the unemployment rate and median income in the MSA all affect loan performance. Conventional lenders sometimes respond to changing market conditions by restricting lending in hard hit geographies, but FHA is unlikely to exclude geographies where economic conditions increase default risk.

Policy makers should consider the market's reaction to the foreclosure crisis and the impact on the availability of mortgage insurance for rental property loans and the provision of rental housing. Specifically, how did the market react to the housing market downturn, how did rental property loans perform, and what are the implications for FHA? The past several years have shown that mortgage loans perform poorly when house prices are falling. Lending to rental property investors contracted sharply during the housing market downturn, contracting much more than lending to owner-occupants. The volume of lending to investors fell by 75 percent from 2005 to 2009, but *insured* loans to investors virtually vanished altogether, dropping from 22 percent of investor loans in 2008 to 3 percent in 2009 and then 1 percent in 2010. At the same time, loans to owner-occupants with mortgage insurance remained available, largely through government programs.

This dropoff may have been precipitated by the performance of investor loans. The worst performing group of loans we analyzed was refinances to investors with mortgage insurance made at the peak of the housing market. The share of these loans that experienced a 90-day delinquency as of the end of 2011 grew from 6.5 percent for loans originated in 2005 to 43.8 percent for loans originated in 2007. Insured refinance loans to owner-occupants also performed poorly, but reached a less dramatic high of 33.6 percent, also for loans originated in 2007. For uninsured investor refinance loans originated in that year, the 90-day delinquency rate was 27.9 percent. Similarly, only 24.8 percent of uninsured refinance loans to owner-occupants originated in 2007 became 90 days delinquent as of the end of 2011.

If similar market conditions were observed in the future, it seems likely that private market insurers would again withdraw from the market, leaving FHA as the only consistent source of financing for owner-occupied property purchasers and rental property investors. FHA was invaluable in the recent housing market downturn because it played a counter-cyclical role. The housing market downturn would have been more severe without FHA's presence. Valuable as it is, this role carries risk. The benefit of providing this stable source of financing to help mitigate the severity of housing market downturns must be carefully weighed against the risk that markets would continue to decline in spite of the stabilization effort, resulting in mounting insurance claims as rental property investors exercised their option to default.

3. Financing for Investment in Small Multifamily Properties

Financing for small multifamily properties—often defined as those having between 5 and 49 units—has long been a thorny problem. Small multifamily properties did not always suffer a financing disadvantage, but as the capital market for single-family and large multifamily properties developed, gained efficiency, and reduced financing costs for borrowers, small multifamily properties were left behind. Harder to standardize for securitization, with fewer units over which to spread costs of financing, small multifamily properties stayed where most real estate financing once was—the province of local financial institutions that hold the loans in their portfolio.

Many industry observers conclude that, as a result of these factors, a gap in financing exists for small multifamily properties. That these properties are harder to finance is evidenced by several facts presented in this study: they are less likely to have a mortgage, they are more likely to have adjustable-rate financing, and they have loans with shorter terms than large multifamily properties.

Small multifamily properties play an important role in the rental housing market, because they make up nearly one-third of all unsubsidized rental housing and are more likely to serve lower income households than larger properties (Joint Center for Housing Studies, 2011). This study is motivated by evidence of a gap in financing and the role played by small multifamily properties in serving low- and moderate-income households. The primary goal of this portion of the study is to research the need for FHA to provide financing for rental property investors in small multifamily properties, and if needed, to propose modifications to FHA's current multifamily insurance programs.

FHA has made previous attempts to improve access to financing for small multifamily properties, with limited success. Any new efforts to finance small multifamily properties face even more challenges than in the past: they need to respond to dramatic changes in market conditions brought on by the housing crisis and avoid repeating design and scale issues that have posed problems for FHA and lenders, as well as small rental property investors, in previous programs.

As discussed throughout this chapter, an expanded role for FHA may be justified for several reasons, including the general affordable nature of units in small multifamily properties and the shift from homeownership toward renting brought on by the foreclosure crisis. Although expanded financing options would be directed to rental property investors, the purpose of new financing would be to benefit renters via provision of a greater supply of affordable rental housing, a more diverse stock of rental housing, and lower cost rental housing.

This chapter of the report is organized into four main sections.

Section 3.1, Characteristics of Small Multifamily Properties, introduces the stock of apartment properties with 5 to 49 units including their physical characteristics, their affordability, geographic distribution, and age and financial condition.

Section 3.2, Availability of Financing for Small Multifamily Rental Properties, provides an overview of the conventional market to understand the financing available for small multifamily properties. The discussion covers financing provided by Fannie Mae and Freddie Mac, community banks, community development financial institutions (CDFIs), and housing finance agencies (HFAs). It also describes FHA's role in serving small multifamily property investors, briefly discussing the scale, market segment typically served, and underwriting of each of FHA's active programs.

Section 3.3, Small Multifamily Program Design Options, describes three proposed programs. Option 1 suggests modifications to FHA's 221(d)(4) and 223(f) programs to delegate underwriting, processing, and the insuring decision to MAP lenders, who would share the risk of loss on small multifamily loans with FHA to varying degrees depending on the level of delegation. Option 2 proposes modifications to FHA's 542(b) and (c) risk-sharing programs to allow for securitization of loans originated under the program and add CDFIs to the list of entities qualified to use the program, among others. Option 3 is a hybrid single-family/multifamily financing program that would allow 5- to 10-unit properties to be underwritten using some of the same underwriting standards currently applied to 2- to 4-unit properties.

Section 3.3 also discusses the performance of multifamily loans to the degree that multifamily loan performance can be assessed from the two sources of data available to this study: (1) RealtyTrac data on multifamily transactions and foreclosure filings and (2) Freddie Mac's Multifamily Loan Performance Database. Like other studies that rely on publicly available data for analyzing multifamily loan performance, this study finds that the data are inadequate for the task, and we suggest that GSE loan-level data be made available to researchers and policymakers.

Section 3.4, Multifamily Market Impacts, makes a qualitative assessment of the impacts of the proposed designs on rental housing supply, conventional lending, and housing prices.

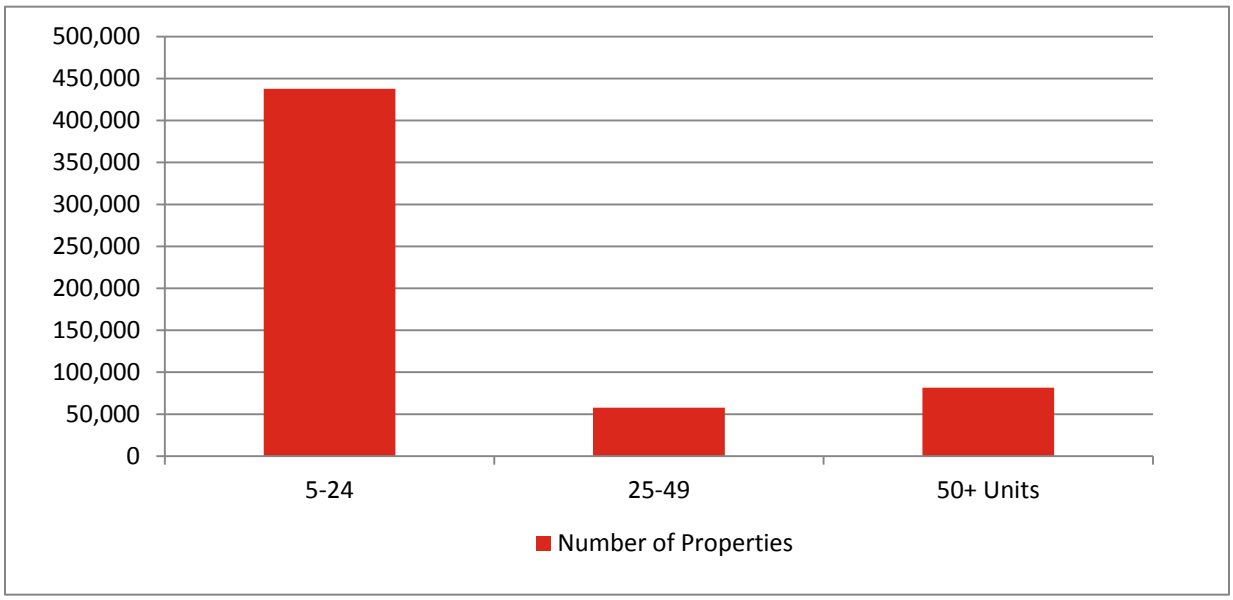
3.1 Characteristics of Small Multifamily Properties

This section provides a description of the small multifamily housing stock to set a context for the availability of financing (section 3.2), the program design options (section 3.3), and the market impacts they are likely to have (section 3.4). It includes the characteristics of small multifamily properties, their geographic distribution, and their rent and income levels. These characteristics are compared with single-family and large multifamily rental properties to highlight their differences and similarities. The information for this section is primarily from the 2012 Rental Housing Finance Survey (RHFS) and the American Housing Survey (AHS).

3.1.1 Physical Characteristics of Small Multifamily Properties

Data on small multifamily properties are not readily available, but several sources can be pieced together to get some sense for the inventory. The Rental Housing Finance Survey is the most recent source of data; AHS data are also available but follow housing units rather than properties. Based on these two sources of data, somewhere around 577,000 multifamily properties are in the United States, and about 86 percent of these properties are small, meaning that that they have 5 to 49 units (exhibit 3-1). These small multifamily rental properties represent about 5.9 million of the total 17.5 million rental housing units in multifamily properties.

Exhibit 3-1. Number of Multifamily Rental Properties, by Number of Units



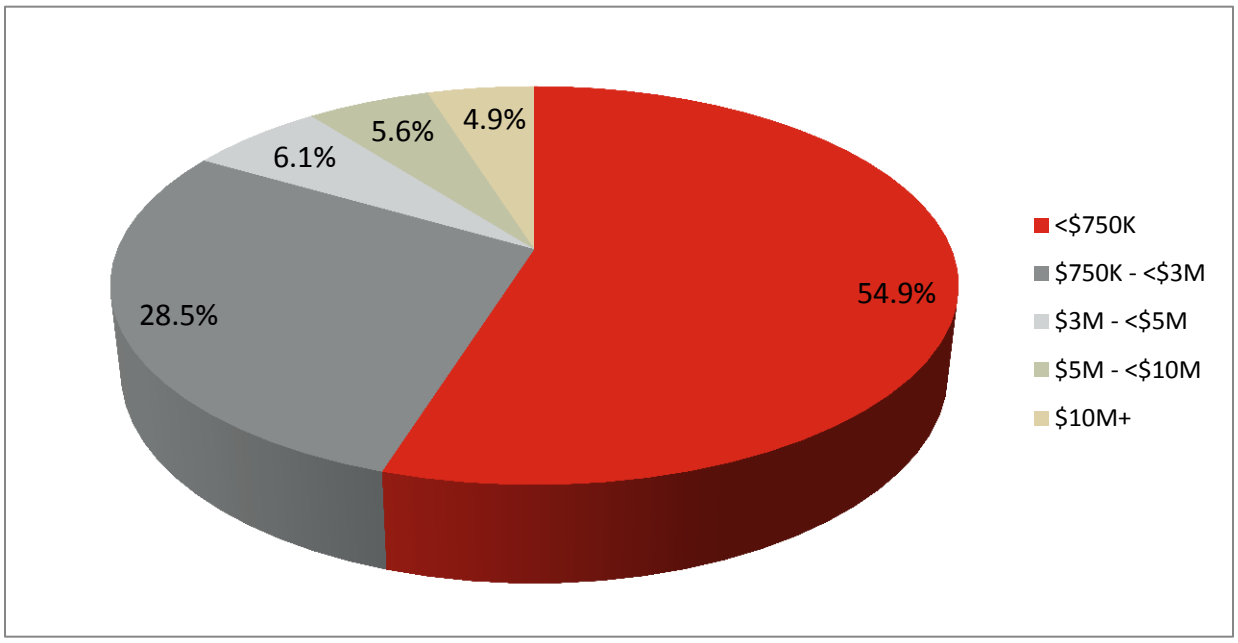
Source: Analysis of 2012 Rental Housing Finance Survey

For the purpose of this study, small multifamily properties are defined as having 5 to 49 units, although loan size is also often used to define small projects. Multifamily properties with loan values of less than $750,000 are often considered "micro-loans," and small multifamily loans are typically less than $3 million but can be higher in high-cost markets.[75] Exhibit 3-2 shows multifamily properties by property value. A total of 83.4 percent of properties fall under the $3 million threshold, two-thirds of these properties have a value less than $750,000, and the other one-third between $750,000 and $3 million.

Most small multifamily properties are truly small. More than three-fourths of multifamily properties have 24 units or fewer; only about 10 percent have 25 to 49 units. Of those with 5 to 24 units, 60 percent have 8 or fewer units. Of those with 25 to 49 units, 60 percent have 25 to 36 units. By comparison, 60 percent of large multifamily properties have 88 units or more (exhibit 3-3).

[75] Fannie Mae defines small multifamily properties as those valued under $3 million in all but 10 high-cost markets, where the definition is $5 million.

Exhibit 3-2. Assessed Value of Multifamily Rental Properties



Source: Analysis of 2012 Rental Housing Finance Survey.

Exhibit 3-3. Number of Units in Property, by Property Size Category

Statistic	2 to 4 Units	5 to 24 Units	25 to 49 Units	50 or More Units
Minimum value	2	5	25	50
20th percentile	2	5	28	64
40th percentile	2	6	32	88
60th percentile	2	8	36	128
80th percentile	4	12	44	232
Maximum value	4	24	49	2116
Mean value	2.6	8.7	35.7	143.0
Standard deviation of the mean	0.82	4.8	7.3	106.5

Source: Analysis of 2012 Rental Housing Finance Survey.

3.1.2 Affordability of Small Multifamily Properties

Previous studies (including Herbert, 2001) have found that small multifamily rental properties are generally more affordable than larger properties, and the RHFS data provide some evidence to support this conclusion. Annual average potential rent (the rent that can be collected if the property is occupied all year) for units in large multifamily properties is higher than those for smaller properties (exhibit 3-4). It is not clear from the RHFS data whether higher large multifamily rents are due to differences in the geographic distribution of large versus small multifamily properties or to greater affordability of small multifamily properties compared with large multifamily properties in similar locations.

Exhibit 3-5 shows net income per unit. The largest properties (as measured by property value) have the highest 60th percentile net income per unit, but the differences across value categories are too small to be statistically significant.

Exhibit 3-4. Annual Potential Rent per Unit in 2011, by Property Value

Statistic	< $750k	$750K to < $3M	$3M to < $5M	$5M to < $10M	$10M or More
40th percentile	$6,000	$8,620	$9,000	$11,120	$11,502
60th percentile	$6,951	$10,920	$11,833	$13,748	$14,063
Mean value	$6,969	$12,112	$11,597	$18,832	$18,207

Source: Analysis of 2012 Rental Housing Finance Survey

Exhibit 3-5. Net Income per Unit in 2011, by Property Value

Statistic	< $750k	$750K to < $3M	$3M to < $5M	$5M to < $10M	$10M or More
40th percentile	$3,034	$4,518	$3,655	$3,368	$6,059
60th percentile	$4,157	$6,226	$5,639	$5,655	$8,469

Source: Analysis of 2012 Rental Housing Finance Survey

3.1.3 Geographic Distribution of Small Multifamily Units and Originations

Small multifamily units are not distributed evenly around the country. Exhibit 3-6 uses AHS metropolitan area data to describe the location of small multifamily structures. The AHS does not report on small multifamily properties, but on buildings that may be part of larger apartment complexes. These numbers therefore almost certainly overstate the share of small multifamily units in each geographic area.

Only a few metro areas are included in the AHS each year, so the exhibit shows the share of multifamily units in 15 different metro areas using either 2009 or 2011 AHS data. The change in the inventory of multifamily units between 2009 and 2011 is fairly small (about 1.6 percent), so although the share of units in each MSA from the two different years is not precisely comparable, it gives a rough idea of the geographic distribution of multifamily units.

Units in small multifamily structures are concentrated in large MSAs, including New York City, with nearly 7 percent of the total; Los Angeles, with 5 percent; Chicago, with more than 3 percent; and northern New Jersey, with more than 2 percent. Several MSAs have disproportionate shares of units in small multifamily structures compared with large multifamily structures. Phoenix, for example, has 1.6 percent of all units in small multifamily properties but only 0.8 percent of all units in large multifamily properties. The Atlanta and Riverside MSAs have similarly disproportionate shares of units in small structures.

Exhibit 3-6. Share of Multifamily Units in Selected MSAs

	Percent of All Small Multifamily Units	Percent of All Large Multifamily Units	Percent of All Multifamily Units
MSAs in the 2009 Metropolitan AHS			
New York City	6.9	24.5	11.0
Chicago	3.1	6.9	4.0
Northern New Jersey	2.3	3.0	2.5
Seattle-Tacoma	1.6	1.8	1.7
Philadelphia	1.3	2.0	1.4
Total 2009 housing units (1,000s)	**16,594**	**5,063**	**21,657**
MSAs in the 2011 Metropolitan AHS			
Los Angeles-Long Beach	5.0	5.2	5.0
Atlanta-Sandy Springs-Marietta	2.0	1.2	1.8
Phoenix-Mesa-Scottsdale	1.6	0.8	1.4
San Diego-Carlsbad-San Marcos	1.5	1.2	1.5
Denver	1.2	1.3	1.2
San Francisco-San Mateo-Redwood City	1.1	1.4	1.2
Anaheim-Santa Ana	1.1	1.1	1.1
Oakland-Fremont	0.9	1.2	1.0
Riverside-San Bernardino-Ontario	0.9	0.5	0.8
Portland-Vancouver-Beaverton	0.8	0.6	0.8
Total 2011 housing units (1,000s)	**16,856**	**5,096**	**21,952**

AHS =American Housing Survey. MSA = Metropolitan Statistical Area.
Note: Includes seasonal and vacant units.
Sources: 2009 and 2011 Metropolitan and National AHS

Small multifamily *loans* (which reflect financing for properties, not structures, and are therefore not entirely comparable with AHS data) are also heavily concentrated in a few MSAs with the largest populations—the Los Angeles, New York City, and Chicago MSAs (exhibit 3-7). These concentrations are fairly consistent over time. The top four MSAs (Los Angeles, New York, Chicago, and San Francisco) accounted for more than one-third of small multifamily loans in 2012; the top 14 MSAs account for one-half of all small multifamily lending in that year.

Although small multifamily lending is generally concentrated in MSAs with the highest populations, some MSAs are either notably absent from the list—such as Dallas, the fourth largest MSA—or are relatively low in the ranking—such as Houston, Miami, and Washington, D.C. Not surprisingly, small multifamily lending appears to be concentrated in high-density MSAs. Some small MSAs such as Champaign-Urbana and Madison have disproportionately high concentrations of small multifamily loans. This disparity could be related to high student populations in these MSAs and the housing that is built to accommodate them.

The share of small multifamily lending is not necessarily proportional to the share of units in small multifamily structures in an MSA. (Ideally, we would be able to compare small multifamily properties in an MSA, but the AHS count units, not properties.) For example, although Los Angeles contains about 5 percent of all units in small multifamily structures, its share of lending is disproportionate to that at 16.4 percent in 2012. The same is true of New York and Chicago. Some other cities, such as Atlanta, Denver, and Philadelphia, have somewhat smaller shares of originations than of units. For example, Atlanta has about 2.0 percent of units in small multifamily structures but only 0.5 percent of originations in 2012.

Exhibit 3-7. Top 30 MSAs, by Volume of Small Multifamily Loan Originations in 2012

Rank (2012)	MSA Name	Percent of All Small Multifamily Originations		Percent Share of Small Multifamily Units	MSA Population Rank, 2012
		2004	2012	2009 or 2011	
1*	Los Angeles-Long Beach-Glendale, CA	15.4	16.4	5.0	2
2*	New York-White Plains-Wayne, NY-NJ	10.4	9.8	6.9	1
3*	Chicago-Joliet-Naperville, IL	8.3	5	3.1	3
4*	San Francisco-San Mateo-Redwood City, CA	2.1	3.5	1.1	11
5*	San Diego-Carlsbad-San Marcos, CA	2.1	2.5	1.5	17
6*	Oakland-Fremont-Hayward, CA	2	2.4	0.9	11
7*	Seattle-Bellevue-Everett, WA	1.3	1.7	1.6	15
8*	Santa Ana-Anaheim-Irvine, CA	1.3	1.6	1.1	2
9	Minneapolis-St. Paul-Bloomington, MN-WI	1	1.5		16
10	Portland-Vancouver-Hillsboro, OR-WA	0.9	1.3		24
11	Philadelphia, PA	1	1.2	1.3	6
12*	Boston-Quincy, MA	1	1.2		10
13*	San Jose-Sunnyvale-Santa Clara, CA	0.6	1.1		34
14	Milwaukee-Waukesha-West Allis, WI	1.3	1		39
15	Denver-Aurora-Broomfield, CO	0.6	1	1.2	21
16*	Newark-Union, NJ-PA	1.1	0.9		1
17	St. Louis, MO-IL	0.9	0.9		19
18*	Cambridge-Newton-Framingham, MA	0.7	0.8		10
19	Providence-New Bedford-Fall River, RI-MA	1.1	0.7		38
20*	Sacramento--Arden-Arcade--Roseville, CA	0.7	0.7		27
21	Pittsburgh, PA	0.5	0.6		22
22	Cincinnati-Middletown, OH-KY-IN	0.7	0.6		28
23*	Washington-Arlington-Alexandria, DC-VA-MD-WV	0.6	0.6		7
24	Champaign-Urbana, IL	0.3	0.5		191
25	Atlanta-Sandy Springs-Marietta, GA	0.4	0.5	2.0	9
26	Houston-Sugar Land-Baytown, TX	0.5	0.5		5
27	Madison, WI	0.5	0.5		86
28	Columbus, OH	0.5	0.5		32
29	Omaha-Council Bluffs, NE-IA	0.3	0.5		60
30	Miami-Miami Beach-Kendall, FL	1.5	0.5		8

MSA = Metropolitan Statistical Area.
*MSAs are those considered high cost by Fannie Mae.
Sources: Tabulations of the 2004, 2008, 2010, and 2012 HMDA data

It may be that small multifamily financing is more available in larger cities like New York and Chicago, so properties are more likely to be mortgaged. Or it may be that in lower cost cities like Denver and Philadelphia, small multifamily properties (defined by unit count, not value) have less need for financing than in higher cost cities. Some combination of these two factors may also be at work.

3.1.4 Age and Financial Condition of Small Multifamily Properties

Information on the physical and financial condition of multifamily rental properties is difficult to come by. A comparison of age and financial characteristics provides some insight but leaves many questions unanswered.

The median age of small and large multifamily buildings is similar, although a larger share of small multifamily buildings was built in 1919 or before (exhibit 3-8). Despite the similarity in age, some evidence suggests that small multifamily owners tend to be less likely to have sufficient resources to adequately maintain the property, resulting in properties that are in poorer condition. For example, Fannie Mae reported that the property condition of small multifamily loans in their portfolio is slightly worse than that of their large multifamily portfolio.

Exhibit 3-8. Share of Multifamily Units Present in 2011, by Year Built

	Large Multifamily	Small Multifamily	All Multifamily
Total	**4,150,000**	**14,107,000**	**18,257,000**
2000 to 2011	13.7%	11.5%	12.0%
1980 to 1999	20.9%	29.1%	27.1%
1960 to 1979	42.8%	38.7%	39.6%
1940 to 1959	11.7%	8.3%	9.1%
1920 to 1939	7.8%	6.7%	7.0%
1919 or earlier	3.3%	5.8%	5.2%
Median (year range)	1970 to 1974	1975 to 1979	1975 to 1979
Median (age range in 2011)	37 to 41	32 to 36	32 to 36

Source: 2011 American Housing Survey, Table C-12-AO, with additional tabulations

Data from the University Neighborhood Program reinforces this assessment, providing some evidence that small multifamily properties in New York City are in poorer condition than large multifamily properties. Specifically, smaller properties have higher incidences of property code violations than larger properties with more than 50 units (Fannie Mae, 2011).

Other research suggests that property conditions are worsening since the foreclosure crisis began. Multifamily property prices peaked in 2007 along with single-family prices, and have fallen since then. As household formation slowed, rents also fell, leaving fewer resources to maintain properties. One study of multifamily lending in Chicago concludes that as of 2009, net rental revenues were at or below total operating costs for about 74,000 rental housing units in the city of Chicago, or for about one in every eight units (Shilling, 2010). This condition is unsustainable and, if it were to continue, would lead to disinvestment and declining property condition.

The data available are not sufficiently detailed to provide an in-depth understanding of differences between the physical and financial condition of small and large multifamily properties. Exhibit 3-9 provides some of the available information, but a clear picture does not emerge. Large multifamily properties have the highest median rental receipts as a percent of property value, which suggests better financial health for these properties, and thus better cashflow for maintenance and improvements (although property owners may choose to use cashflow for other purposes). Properties with 25 to 49 units have the lowest median rental vacancy losses as a percent of potential receipts, which bodes well for the financial health of these properties. The median value of capital improvements per housing unit made in 2010-2011, however, was highest for two- to four-unit rental properties, and declined as property size increased.

Exhibit 3-9. Financial Characteristics of Rental Properties by Size, Median

	2 to 4 Units	5 to 24 Units	25 to 49 Units	50 or More Units
Rental receipts as a percent of property value	11.0%	11.0%	13.0%	16.0%
Rental vacancy losses as percent of potential receipts	16.7%	13.8%	7.2%	8.5%
Value of capital improvements per housing unit to property, 2010–2011	$1,667	$961	$734	$566
Property maintenance cost per housing unit	$750	$600	$644	$614

Source: Tabulation of 2012 Rental Housing Finance Survey data

It is not easy to interpret differences in the value of capital improvements made. It may be that large multifamily properties are in the best condition and therefore need the least investment. Alternatively, these property owners may be less likely to invest in their properties than other property owners. The geographic distribution of different types of properties may be a factor, but we cannot assess this because the RHFS does not provide data on the geographic distribution of multifamily properties by size.

Small multifamily properties are at a cost disadvantage in comparison with larger properties. Controlling for local price indices, projects with a higher number of units have lower average operating expenses because the expenses are averaged over a larger number of units and can be delivered more efficiently on a higher unit-per-staff basis. Not controlling for local price indices, however, higher valued properties tend to incur larger per-unit expenses, as shown in exhibit 3-10a.

Net operating income (NOI) per unit, shown in exhibit 3-10b, is lowest at the 60th percentile for properties with a value of less than $750,000 and highest for properties with a value of $10 million or more. NOI gives some indication of the number of properties that could support a mortgage. For example, the 40th percentile property with a value of $750,000 or less had NOI of $3,375 per unit, or $281 a month, in 2011. NOI at this level is adequate to support a 30-year amortizing mortgage of $100,000 with an interest rate of 3.5 percent. In many markets, small multifamily properties probably do have mortgages of $100,000 per unit or less, but in more expensive markets, this NOI could be too low to support a mortgage.

Exhibit 3-10a. Operating Expenses per Unit in 2011, by Property Value

Statistic	< $750k	$750K to < $3M	$3M to < $5M	$5M to < $10M	$10M or More
40th percentile	$2,333	$3,371	$4,127	$5,124	$4,580
60th percentile	$3,080	$4,500	$4,756	$8,396	$5,926
Mean value	$3,035	$4,619	$5,791	$18,237	$17,384

Source: Analysis of 2012 Rental Housing Finance Survey

Exhibit 3-10b. Net Operating Income per Unit in 2011, by Property Value

Statistic	< $750K	$750K to < $3M	$3M to < $5M	$5M to < $10M	$10M or More
Minimum	$ (317,440)	$ (97,898)	$ (31,210)	$ (107,535)	$ (171,676)
20th percentile	$ 2,270	$ 3,182	$ 2,723	$ 287	$ 4,269
40th percentile	$ 3,375	$ 4,857	$ 3,983	$ 4,328	$ 6,377
60th percentile	$ 4,643	$ 6,732	$ 5,794	$ 6,100	$ 8,644
80th percentile	$ 5,550	$ 8,707	$ 8,324	$ 9,783	$ 13,770
Maximum	$ 20,660	$ 159,063	$ 101,389	$ 178,304	$ 79,900
Mean	$ 3,946	$ 7,438	$ 5,770	$ 564	$ 8,306
Standard deviation of mean	$ 5,501	$ 16,130	$ 6,485	$ 29,118	$ 20,501

Note: Net operating income is defined as potential rent minus operating expenses.
Source: Analysis of 2012 Rental Housing Finance Survey

3.2 Availability of Financing for Small Multifamily Properties

The literature has long noted a gap in financing for small multifamily properties units. The principal barrier identified is that small multifamily properties must undergo the same due diligence underwriting procedures—such as physical needs assessment, audited financial statements, and third-party endorsements—as large properties, incurring the same fixed costs as much larger loans. Financing for small multifamily properties has therefore been found to be more expensive as a percentage of the loan amount and on a per-unit basis. Whether financing small multifamily properties is still more expensive, and whether this cost difference constitutes a "gap in financing" calling for a public policy response or just a reflection of unavoidable market realities is the subject of this section.

To provide background to this discussion, this section also describes differences in the sources of financing for small and large multifamily properties. It also documents the fact that small multifamily properties are not as well served by the GSEs, FHA, or federal sources of subsidies as large multifamily properties.

It is important to note that although the small multifamily market is often treated as a uniform segment of the rental housing market, it is not. That is, the financing terms and underwriting approaches vary depending on the number of units in the project. Although the line of demarcation is not entirely clear, the lenders we interviewed suggested a division exists between properties of about 5 to 20 units and those with 21 to 49 units. The evidence and implications of a segmented market for small multifamily property financing is provided and discussed in this section.

3.2.1 Sources of Financing for Small Multifamily Properties

Sources of financing for small and large multifamily properties vary significantly. Small multifamily properties depend heavily on depository institutions; larger multifamily properties are less dependent on depository institutions, although depository institutions still provide one-half of the financing for the largest multifamily properties (exhibit 3-11). This split has also been true in the past: lending by nondepository institutions has been an important source of financing for large multifamily properties but has not thus far been a major source of financing for small multifamily properties.

Exhibit 3-11. First Mortgage Origination of Multifamily Rental Properties, by Property Value

Origination	< $750k (%)	$750K to < $3M (%)	$3M to < $5M (%)	$5M to < $10M (%)	$10M or More (%)
Depository Institutions					
Commercial bank or trust company	73.1	59.9	45.6	51.2	48.5
Savings and loan association, federal savings bank, and mutual savings bank	3.3	9.6	13.4	7.9	1.5
Credit union	0.8	4.8	3.4	0.0	0.0
Subtotal	***77.3***	***74.4***	***62.4***	***59.1***	***50.0***
Nondepository Institutions					
Mortgage bank or mortgage company	2.8	6.3	15.2	17.6	20.8
Life insurance company	0.0	0.1	1.2	0.1	5.3
Real estate investment trust (REIT)	0.0	0.1	0.8	0.7	0.0
Finance company (including consumer discount company, industrial bank, and cooperative bank)	0.0	0.2	2.7	1.4	1.0
State or municipal government	0.0	0.4	2.9	0.2	0.5
State or local housing finance agency	0.0	1.8	2.4	5.6	4.0
Individual or individual's estate	5.3	0.7	0.8	0.3	2.7
Subtotal	***8.2***	***9.7***	***26.0***	***25.8***	***34.2***
Other or Do Not Know/Not Reported					
Other—specify	13.6	6.1	3.3	11.6	8.4
Do not know/not reported	0.8	6.7	5.5	0.8	3.2
Not applicable	0.1	3.0	2.8	2.6	4.3
Subtotal	***14.5***	***15.9***	***11.6***	***15.1***	***15.8***
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Tabulations of 2012 Rental Housing Finance Survey

Breaking down the sources of financing further, small multifamily properties valued between $750,000 and $3 million are more likely to have a mortgage from a credit union, and are much less likely to have a first mortgage originated by a mortgage bank, mortgage company, finance company, REIT, or life insurance company than larger properties (exhibit 3-11). Virtually all financing provided by life insurance companies, in fact, appears targeted to very large multifamily properties valued at more than $10 million. Most financing for small properties and for multifamily properties valued between $5 and $10 million is provided by commercial bank or trust companies. For multifamily properties valued between $3 and $5 million, the two largest sources of financing commercial bank or trust companies and mortgage bank or mortgage companies.

Exhibit 3-11 provides some evidence for segmentation of the small multifamily market. The smallest small multifamily properties are more likely to be financed by a commercial bank or trust company or an individual or individual's estate than larger small multifamily properties (those valued at more than $750,000).

There are several reasons that in the past, nondepository institutions have provided limited financing for smaller multifamily properties. The commercial lending underwriting process has high fixed costs that cannot be justified by loan amounts less than about $3 million. In addition, small multifamily property owners often lack necessary documentation of property income and expenses; and the fees on these loans, which are typically a percentage of the loan amount, are too low to be profitable for many commercial mortgage originators (Herbert, 2001).

Depository institutions may be better able to provide financing for small multifamily properties because they often have lower fixed costs because of their use of an underwriting process that relies as much on the personal creditworthiness of the borrower as on the property's cashflows. This approach is a cross between approach used in underwriting residential mortgages and in underwriting commercial mortgages (Herbert, 2001). In addition, some of the lenders we interviewed used recourse for the smallest multifamily properties.

An important factor in the cost of originating and servicing multifamily loans is the documentation required. Multifamily origination generally requires an appraisal, environmental review, market analysis, capital items, borrower financials, and other reports to conduct the required risk due diligence, and many of these costs are fixed. These fixed costs place an untenable financial burden on small projects, which may represent 10 percent of the loan amount for a small project but only 2 percent for a large project.

Commercial lenders tend to view the full set of documentation as being essential to manage loan default risk, and therefore a key limitation to their ability to provide smaller loans to creditworthy borrowers. In fact, one institutional lender reported average processing costs per loan of approximately $50,000 regardless of whether the property had 5 or 500 units.

Community-based lenders we interviewed reported a willingness to reduce or eliminate some of the reports in exchange for the borrower offering a personal guaranty. In addition, the loan amount and investment by the borrower tended to reflect an emphasis on providing only enough funding to make the improvements to the property needed to enhance rentability. These lenders appeared more willing to work with less experienced owners. In fact, one community-based lender offers development and management technical assistance to their borrowers.

Institutional lenders, including an HFA, expressed a preference for working with more experienced developers and requiring reserves to ensure the long-term stability of the project. In most cases the institutional lenders used experience as part of their underwriting criteria and risk mitigation strategy. They also preferred to fund projects employing professional property management.

All these underwriting considerations are balanced by assessment of a loan's predicted performance and the market conditions of the property area. One HFA interviewee reported simply withdrawing from the market for several years because the HFA could not adequately gauge loan performance risks. The interviewee reported selectively reentering the market with better risk controls, such as lower LTVs, to manage their lending activities.

In fact, one HFA representative interviewed expressed the view that HFAs are not well suited to financing small multifamily properties because HFAs operate primarily using subsidy programs. He said, "The challenge becomes the additional regulatory requirements that going through the HFAs places on any of the units that would be refinanced or financed with those resources. So you're going to be affordable, but in markets that don't need regulation to be affordable, if you touch it with an HFA product more than likely it becomes regulated. As the market changes, you may not be able to change regulatory agreement, and may have hard time finding enough income-eligible people to fit your product."

A number of observers suggested that the high costs and inefficiencies of small multifamily financing are exacerbated by its fragmentation. In 2009, more than 2,600 financial institutions financed 16,751 small multifamily loans (an average of only six loans each). Large multifamily financing is far less fragmented, with only 122 financial institutions originating an average of 30 multifamily loans of $3 million or more. This fragmented financing for small multifamily properties limits the ability of the industry to increase production of small multifamily loans. Fannie Mae suggests that although large multifamily financing may be a core business for some financial institutions, for most of those originating small multifamily loans, the small multifamily loans are more likely a complementary business that supports local lending relationships (Fannie Mae, 2011).

3.2.2 Secondary Market Outlets for Small Multifamily Properties

Another factor limiting the use of commercial lending for small multifamily properties is that the secondary market is not as readily available to small multifamily mortgages as it is to large multifamily mortgages. The absence of a secondary market is one reason for the lack of participation among nondepositories (such as mortgage banks) in originating small multifamily loans. There are a number of reasons why it is difficult to securitize small multifamily loans. First, many lenders who originate small multifamily loans produce only a few loans each year, and are unable to amass a pool of loans that is sufficiently large for securitizing. Second, the terms of small multifamily loans are not consistent with those of securitized loans. They are typically recourse, often have short maturities (5 years), and often are variable rate. Securitized multifamily loans usually have fixed rates, have longer terms, and are nonrecourse (Narasimhan, 2001). For these reasons and others, very few small multifamily loans are packaged into commercial mortgage backed securities (CMBS; Herbert, 2001).

There are some secondary market options, however. Fannie Mae has a small multifamily lending product that uses a streamlined underwriting process similar to that of depositories, but has a limited number of participating originators. Freddie Mac also had a small-loan program, but appears to apply more stringent underwriting requirements to small multifamily properties than to larger properties (Burnett and Fosburg, 2001). Further, after HUD incentives for GSE purchases of small multifamily loans were discontinued, Freddie Mac's purchases of these loans dropped precipitously, by more than 90 percent as of 2008 (FHFA, 2010).

Despite any limitations, Fannie Mae and Freddie Mac plan an important role in financing small multifamily loans, and plans to dismantle these GSEs may be cause for concern. Industry observers note that even without these GSEs, capital will be available from sources such as CMBS and life insurance companies, but as previously described, these sources are a poor fit with small multifamily borrowers (Machak, 2013).

For properties that are mortgaged, analysis of HMDA data suggests that small multifamily loans are more likely to be held on lenders' books than large multifamily and single-family loans. Exhibit 3-12 shows the share of loans reported in HMDA that were purchased in the same year, by purchaser.

In 2012, almost all small multifamily loans originated were still on the lenders' books at the end of the year (94.6 percent). In contrast, the originating lender only held 57.2 percent of large multifamily loans. Not surprisingly, single-family loans, which are highly standardized and have well- developed secondary market outlets, were least likely to still be on lenders' books at the end of the year of origination (22.9 percent of them were). These numbers suggest a higher rate of securitization for these types of loans.

Exhibit 3-12. Share of Loans Purchased in 2004 and 2012, by Property Type

Purchaser Type	2004			2012		
	Small Multifamily (%)	Large Multifamily (%)	Single Family (%)	Small Multifamily (%)	Large Multifamily (%)	Single Family (%)
Loan was not sold in calendar year covered by register	83.6	65.2	30.9	94.6	57.2	22.9
Fannie Mae	2.8	16.7	14.5	2.4	22.4	26.6
Ginnie Mae	0.2	2.2	2.4	0.5	10.1	9.3
Freddie Mac	0.2	2.8	9.1	0.2	6.8	13.4
Private securitization	0.4	0.4	1.9	0.0	0.2	0.8
Commercial bank, savings bank or savings association	0.9	0.8	5.5	0.6	0.5	13.9
Life insurance company, credit union, mortgage bank, or finance company	0.2	0.6	7.0	0.4	0.0	5.0
Affiliate institution	7.1	6.0	6.7	0.5	1.8	3.3
Other type of purchaser	4.6	5.3	21.9	0.9	1.1	4.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Sources: Tabulations of the 2004 and 2012 Home Mortgage Disclosure Act data

The same data from 2004 show that 2012 is not an anomaly; data from 2008 and 2010 (analyzed but not presented here) show a similar pattern to 2004 and 2012 as well. That is, although more small multifamily loans were held on lenders' books in 2012 than 2004, the lack of access to the capital markets suggested by these numbers is consistent over time. In addition, the relative distribution across property types is similar. Small multifamily loans are most likely to be held in portfolio, large multifamily substantially less so, and single-family loans are least likely to be held on lenders' books.

The numbers do not show the ultimate disposition of loans—it is possible that loans were originated in 1 year and sold in the next, and this disposition is not reported in HMDA. However, the differences between loan purchases by property type suggest that fewer outlets exist for small multifamily loans than for large multifamily or single-family loans. The lack of outlets likely raises the cost of financing for small multifamily loans, and probably also discourages lenders from originating these loans. Even if loans are held on lenders' books for only a year or less—long enough to season and therefore become more palatable to investors—many lenders do not have the capital structure to support this approach.

Not surprisingly given its concerted effort to increase small multifamily loan production, in 2004 and 2012 Fannie Mae was a larger outlet for small multifamily loans than either Ginnie Mae or Freddie Mac. Even with this effort, Fannie Mae had a market share of only 2.8 percent in 2004 and 2.4 percent in 2012.

3.2.3 Terms of Financing for Small Multifamily Properties

Some evidence suggests differences in financing sources may be responsible for differences in financing terms for small and large multifamily properties. As shown in exhibit 3-13, large multifamily properties are more likely than small multifamily properties to be mortgaged (88 percent compared with 78 percent of properties with 25 to 49 units and 59 percent of properties with 5 to 24 units). Clearly, important differences exist among small multifamily properties, because properties with 5 to 24 units are significantly less likely to have a mortgage than those with 25 to 49 units.

Exhibit 3-13. Percent of Multifamily Rental Properties Financed by a Mortgage

By Number of Units	5 to 24 Units	25 to 49 Units	50 or More Units
Property has one or more mortgages	58.9%	78.0%	87.7%

By Property Value	< $750k	$750K to < $3M	$3M to < $5M	$5M to < $10M	$10M or More
Property has one or more mortgages	58.8%	68.6%	88.3%	87.6%	84.7%

Source: 2012 Rental Housing Finance Survey

Comparing mortgage financing by property value, large multifamily properties valued at $3 million or more are most likely to have mortgage financing. Properties valued at $750,000 to $3 million were substantially less likely to have a mortgage than those in the next-largest value category. Properties valued at less than $750,000 were least likely to be financed with a mortgage.

It is not clear from the RHFS data alone whether the smallest properties are less likely be carrying debt because financing is not available, because the owners prefer not to carry a mortgage, or for other reasons. The size of the differences in financing strategy by property size suggests that less available financing probably plays some role, however. Some purchases of small multifamily property may be financed by an individual or paid for with cash.

These findings are consistent with previous studies, which also found that small multifamily properties were less likely to have mortgage financing than other multifamily properties, and this difference could indicate less availability of financing. This consistency suggests that the financing options for small multifamily properties have not improved in the past decade. Data from the Property Owners and Managers Survey (POMS), conducted in 1995 and 1996, showed that about two-thirds of properties with fewer than 20 units have existing debt compared with nearly 80 percent for properties with between 20 and 49 units, and about 90 percent for properties of 100 units or more. These levels of mortgage financing are higher than those documented in the RHFS, which may suggest increasing difficulty in obtaining financing for any type of multifamily housing, perhaps related to the recent financial market downturn (Herbert, 2001).

Lenders and realtors we interviewed told us that the comparative lack of financing translates into higher costs for rental property investors. The RHFS shows that small multifamily properties are much more likely to have adjustable rate financing than large multifamily properties (exhibit 3-14), but does not provide information about whether they face higher interest rates. Any difference in interest rates between small and large multifamily loans is not evident in RealtyTrac data. Exhibit 3-15 shows the distribution of interest rates for small and large multifamily loans originated from 2005 to 2012. The sample of large multifamily loans is small, but this table suggests that interest rates were quite similar for the two property types. The same information is shown in chart format in exhibit 3-16.

Exhibit 3-14. Percent of Multifamily Rental Properties With an Adjustable Rate Mortgage in 2011

	5 to 24 Units	25 to 49 Units	50 or More Units
Share of mortgaged properties with an adjustable rate mortgage	27.5%	26.7%	15.5%

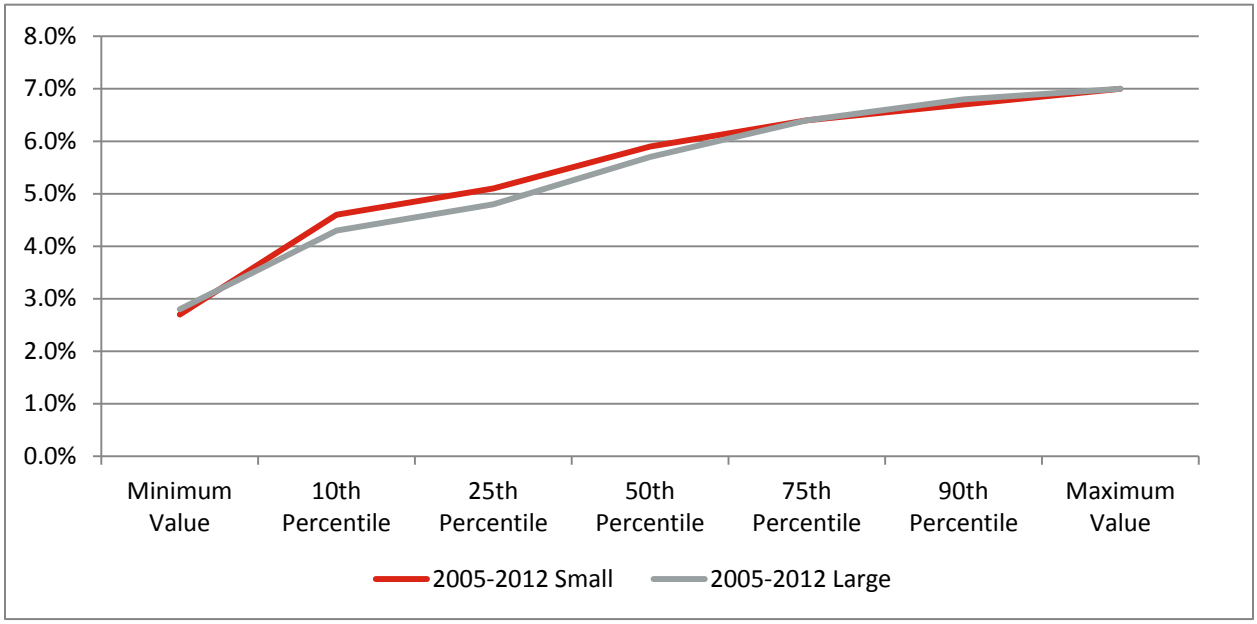
Source: 2012 Rental Housing Finance Survey

Exhibit 3-15. Interest Rate Distribution of Small and Large Multifamily Loans (percentages)

	2005–2012		2005		2006		2007		2008		2009		2010		2011		2012	
	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
Minimum value	2.7	2.8	5.1	5.4	5.9	6.1	6.1	6.2	5.7	6	4.6	5.1	3.6	3.7	3.1	3.1	2.7	2.8
10th percentile	4.6	4.3	5.3	5.8	6.1	6.2	6.2	6.3	6	6.2	5.3	5.3	4.6	4.6	3.9	4.3	2.9	3
25th percentile	5.1	4.8	5.4	5.9	6.2	6.4	6.3	6.3	6.4	6.5	5.4	5.4	4.8	4.7	4.4	4.4	3.1	4.2
50th percentile	5.9	5.7	5.8	6	6.4	6.5	6.4	6.4	6.6	6.7	5.5	5.5	5.1	4.8	4.8	4.8	4.2	4.2
75th percentile	6.4	6.4	6	6.4	6.5	6.8	6.7	6.8	6.9	6.9	5.7	5.8	5.3	5.2	5.1	5.1	4.2	4.2
90th percentile	6.7	6.8	6.2	6.4	6.8	6.8	6.9	7	6.9	6.9	5.8	5.8	5.4	5.3	5.1	5.3	4.2	4.2
Maximum value	7	7	6.4	6.4	6.9	6.9	7	7	7	7	5.9	5.9	5.5	5.5	5.3	5.3	4.3	4.2
Mean value	5.8	5.6	5.7	6.1	6.4	6.5	6.5	6.5	6.6	6.6	5.6	5.6	5	4.9	4.6	4.7	3.9	4
Number of observations	37,224	645	4,798	31	6,874	53	6,656	139	3,919	81	4,031	52	4,988	91	5,008	160	950	38

Note: Small multifamily loans are those with a principal balance of $5 million or less in high-cost areas and $3 million or less anywhere else.
Source: Tabulation of RealtyTrac data

Exhibit 3-16. Distribution of Interest Rates on Small and Large Multifamily Loans, 2005-2012



Note: Small multifamily loans are those with a principal balance of $5 million or less in high-cost areas and $3 million or less anywhere else.
Source: Tabulation of RealtyTrac data

The risk of small multifamily properties has not been identified as a barrier to financing. Small multifamily loans are not seen as riskier than large multifamily loans—in fact, lenders we spoke with and the Herbert study indicate that they may have lower default rates. Therefore, risk of default does not appear to be a key impediment to serving this market. The severity of losses in small multifamily loans is higher than those for larger multifamily properties, however, because many loan recovery costs are fixed and are spread across small mortgage amounts.

Previous analysis of rental housing finance found that small multifamily properties generally do experience higher financing costs than large multifamily properties. Herbert (2001), using POMS data, found that smaller properties tend to have higher interest rates. The average interest rate for properties with fewer than 20 units was 1.1 percentage points higher than for those with 100 units or more, and 0.7 percentage points higher for properties with between 20 and 49 units.

The RealtyTrac data, which show similar interest rates for small and large multifamily properties, are not consistent with this previous analysis. It may be that costs for small multifamily financing have dropped during the past decade. On the other hand, it is surprising that interest rates for small multifamily properties do *not* seem to be higher than those for large multifamily properties, because these loans have higher per-unit underwriting and servicing costs.

In addition to these factors, the lack of a secondary market outlet, lack of competition in the market segment, and lack of borrower sophistication identified in previous analysis as contributing to higher financing costs for small multifamily properties (Herbert, 2001) probably still play a role. It may be that higher financing costs are reflected in the points paid at origination rather than the interest rate. None of the data sources available—RHFS, RealtyTrac, and POMS—includes information about upfront financing costs.

POMS data also indicates that small multifamily properties have lower debt coverage ratios than large multifamily properties, indicating lower levels of profitability at a given level of debt (Vandell, 2000). We did not find more recent data to verify this claim, but industry stakeholders we interviewed also told us that small multifamily properties operate on thinner margins than large multifamily properties.

Loan terms also vary by property size (exhibit 3-17). Most two- to four-unit rental properties have 30-year mortgages because they are considered single-family loans for mortgage insurance and secondary market purposes. Properties with 5 to 24 units have a median loan term of 15 years, but 30-year terms are the most common (32 percent), followed by loans with terms of 5 and 15 years (about 17 percent each), and then 10 years (11 percent). Longer terms are more prevalent among properties with 25 to 49 units, which have a median loan term of 22 years. The most common loan term among large multifamily properties is 10 years (28 percent of properties with a mortgage), and the median is 20 years.

Exhibit 3-17. Loan Term of First Mortgage

Loan Term	2 to 4 Units	5 to 24 Units	25 to 49 Units	50 or More Units
1 to 5 years	5.6%	17.6%	13.4%	10.5%
6 to 10 years	2.5%	17.6%	10.4%	34.6%
11 to 15 years	16.7%	18.4%	7.5%	5.6%
16 to 25 years	6.0%	14.0%	31.3%	9.9%
26 to 30 years	68.4%	31.6%	31.3%	18.5%
31+ years	0.7%	0.7%	6.0%	21.0%
Median Term (Years)	*30*	*15*	*22*	*20*
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2012 Rental Housing Finance Survey

Multifamily mortgages, in general, have shorter terms than single-family mortgages, and frequent refinancing is common among financially sophisticated owners to take equity out of the property. Small multifamily property owners, however, are less likely to use this type of financial management strategy, as evidenced by the fact that the properties are much less likely to be mortgaged than large multifamily properties (exhibit 3-13).

Differences in financial sophistication between multifamily properties of varying sizes are probably attributable to differences in their owners (exhibit 3-18). Small multifamily properties are much more likely to be owned by an individual investor than large multifamily properties, and less likely to be owned by a legal structure such as a limited liability company or limited liability partnership. Here again, the smallest properties differ from those with 25 to 49 units. About 62 percent of the properties are owned by an individual investor or a trustee for an estate, and only 19 percent are owned by LLCs. Ownership by LLPs and other owner types are not common. Properties with 25 to 49 units are most frequently owned by LLCs (32 percent) or LLPs (25 percent), with only 23 percent owned by individual investors.

Exhibit 3-18. Current Ownership Entity of Property

Ownership	5 to 24 Units (%)	25 to 49 Units (%)	50+ Units (%)
Individual investor	53.0	22.8	7.6
Trustee for estate	9.4	3.5	1.3
Limited liability partnership (LLP)	4.1	24.6	26.6
Limited liability company (LLC)	18.9	31.6	38.0
Tenant in common	1.1	0.0	1.3
General partnership	1.1	1.8	3.8
Real estate investment trust (REIT)	1.4	0.0	2.5
Life insurance company	0.0	0.0	0.0
Other financial institution	0.5	0.0	1.3
Pension fund or retirement fund	0.0	0.0	0.0
Real estate corporation	3.9	1.8	1.3
Other corporation	1.6	5.3	3.8
Housing cooperative organization	1.4	0.0	0.0
Nonprofit organization	3.2	7.0	11.4
Other	0.5	1.8	1.3
Total	**100.1**	**100.2**	**100.2**

Note: Totals do not add to 100 percent because of rounding.
Source: 2012 Rental Housing Finance Survey

Industry stakeholders noted that small multifamily properties often need fairly flexible underwriting because they tend to operate on thinner margins than large multifamily properties and have a higher risk of income fluctuation. Small multifamily properties' thin margins appear to persist over time, perhaps in part because these properties change hands less often than larger properties. As shown in exhibit 3-19, 27 percent of small multifamily properties were acquired by their current owner from 2005 through April 2012 compared with 37 percent of large multifamily properties.

Exhibit 3-19. Acquisition Date of Property, by Unit Count

Acquisition Date	2 to 4 Units (%)	5 to 24 Units (%)	25 to 49 Units (%)	50 or More Units (%)
2005 through April 2012	25.3	27.2	25.4	37.0
Before 2005	74.7	72.8	74.6	6.0

Source: 2012 Rental Housing Finance Survey

3.2.4 FHA's Current and Historical Role in Financing for Small Multifamily Properties

Although FHA offers several financing options for new construction, refinance, and rehabilitation for multifamily residential properties, these options are only rarely used for small multifamily properties. As shown in exhibit 3-20, small multifamily properties were a small portion of lending in each program. This section discusses the features of the 221(d)(4), 223(f), Small Project Processing, coinsurance, 542(b), and 542(c), with emphasis on their applicability to small multifamily properties.[76] It also describes current efforts to expand FHA financing for small multifamily properties.

[76] The Title I, Section 220 and Section 241 programs have very low volumes and no recent small multifamily activity, so these programs are described in appendix G.

Exhibit 3-20. Overview of FHA Multifamily Program Activity

	FHA 221(d)(4)	FHA 223(f)	SPP	FHA 542(b)	FHA 542(c)	Title I	Section 220	Section 241
Property type	5+ unit detached, semidetached, row, walkup, or elevator-type rental or cooperative housing	At least 5 residential units with complete kitchens and baths	5- to 20-unit multifamily	5+ unit multifamily properties meeting eligibility for LIHTC and originated, underwritten, by approved risk-sharing partners	5+ unit multifamily properties meeting eligibility for LIHTC and originated, underwritten, by approved risk-sharing partners	Individual homes, apartment and nonresidential buildings; nonresidential new construction	Rental housing in urban renewal areas, code enforcement areas, and other revitalization areas	Multifamily rental housing and healthcare facilities that already carry HUD-insured or held mortgages
Program status	Active.	Active.	SPP is a processing option that is apparently unused.	Active.	Active.	Active; rental property investors eligible.	Active.	Active.
Loan volume	9 small multifamily projects were insured in FY 2012, 175 projects total; average size of $15.4 million.	105 small multifamily mortgages insured in FY 2012, 644 total; average size $8.7 million.	Zero	2 small multifamily mortgages insured in FY 2012, 41 total; average size of $11 million.	12 small multifamily mortgages insured in FY 2012, 83 total; average size $8.1 million.	Zero	8 projects were insured in FY 2012; average size of $40 million. Rarely used for small multifamily (7 mortgages from 2000–2010).	1 mortgage insured in FY 2012 for $7.1 million.

FHA = Federal Housing Administration. FY = fiscal year. LIHTC = low-income housing tax credit. SPP = small project processing.

In general, these programs' underwriting criteria require an investor to pay 10- to 20-percent down, leaving LTV between 80 and 90 percent. Loan terms range from 20 years for rehabilitation and up to 40 years for new construction. Some programs have minimum debt-service coverage ratios (DSCR) from 1.11 to 1.2, meaning the property's net operating income is 11 to 20 percent higher than its annual debt payments. FHA multifamily programs are nonrecourse, meaning the lender and FHA cannot pursue any of the borrower's assets beyond the property in the case of a default.[77] None of these programs has a maximum loan size; historically, they have served larger loan sizes and larger properties. Comprehensive underwriting and program features for each program are in appendix F.

As shown, FHA's multifamily underwriting standards already offer some of the flexibilities needed by small multifamily properties, including allowing lower debt-service coverage ratios, lower downpayment requirements, higher LTV ratios, and longer loan terms. FHA's underwriting approach also involves fewer waivers—negotiated terms and conditions—than the conventional market, which could streamline underwriting in comparison with the private sector.

[77] Industry participants interviewed for this project reported that recourse can lower a borrower's rate, although recourse is less attractive to borrowers overall. Lenders reported various degrees of success with pursuing recourse, from obtaining some of a borrower's personal assets, to spending significant staff efforts on recourse without any results.

Despite FHA's advantages, the agency insures few small multifamily loans. Industry stakeholders reported that the low volume of FHA small multifamily loans is related to the fact that FHA retains control of the underwriting decision, which serves to delay loan processing and misses an opportunity to streamline the process without substantially increasing risks.

As noted previously, small multifamily properties are less likely to have a mortgage than large multifamily properties. Of properties that do have a mortgage, small multifamily properties are less likely to be insured: 30.1 percent of properties in debt with 5 to 24 units are insured compared with 39.4 percent of 24- to 49-unit properties and 54.3 percent of properties with 50 or more units. They are also less likely to be insured by FHA/VA. In 2011, FHA/VA was providing insurance for only 4.0 percent of insured multifamily properties with 5 to 24 units compared with 16.2 percent of insured properties with 25 to 49 units and 29.9 percent of insured large multifamily properties (exhibit 3-21).

Exhibit 3-21. Mortgage Insurance, by Property Size, Properties in Debt, and Insurance Known

	5 to 24 Units (%)	25 to 49 Units (%)	50 or More Units (%)
FHA/VA	**1.2**	**6.4**	**16.2**
Rural Housing Service	0.9	4.6	0.8
Private mortgage insurance	7.8	7.8	7.8
State or municipal government	3.7	1.1	0.1
Housing finance agency	0.0	0.6	4.7
Other	9.6	7.1	12.7
Not insured	69.9	60.6	45.7
Not reported	6.9	11.9	11.9
Total	**100**	**100.1**	**99.9**
FHA/VA			
Of insured properties	4.0	16.2	29.9

FHA = Federal Housing Administration. VA = U.S. Department of Veterans Affairs.
Note: Totals do not add to 100 percent because of rounding.
Source: 2012 Rental Housing Finance Survey

221(d)(4) and 223(f)

Section 221(d)(4) and Section 223(f) are FHA's largest multifamily mortgage insurance programs. Section 221(d)(4) insures mortgages for new construction or substantial rehabilitation on any type of multifamily rental housing. Section 223(f) provides mortgage insurance to purchase or refinance existing multifamily housing.

Underwriting criteria are similar between these programs: each offers LTVs ranging from 83.3 to 90.0 percent. These programs link LTV and debt-service coverage ratio (DSCR) to FHA's goal to support affordable housing. In Section 223(d)(4) projects with 90 percent of units carrying rental housing assistance, borrowers may have up to 90-percent LTV with a DSCR of 1.11. Projects meeting the definition of affordable housing may have up to 87-percent LTV (with 1.15 DSCR), decreasing to an 83.3-percent LTV (with 1.20 DSCR) for market-rate projects. Under Section 223(f), projects that qualify under the agency's program for affordable elderly housing (Section 202) need a 10-percent downpayment (90-percent LTV), while projects that meet the definition of affordable housing may have a maximum LTV of 85 percent. Market-rate projects are also limited to 83.3-percent LTV. The LTV may also vary based on the project's replacement cost.

Neither program has a maximum loan size (221(d)(4) also specifies no minimum loan size), but the programs in practice mainly serve large properties. In FY 2012, the average loan size of 221(d)(4) endorsements was $15.4 million. Of 175 total endorsements that year, 9 were for small multifamily properties (5 percent). Section 223(f) served a higher portion of small properties in FY 2012—105 out of 644 new endorsements were small projects (16 percent)—but still had an average loan size of $8.7 million.

Small Project Processing Initiative

FHA's Small Project Processing (SPP) initiative began in 1997, modifying procedures of the 221(d)(4) and 223(f) programs, streamlining where possible to make the program friendlier to small properties. As analysts involved in the design of SPP stated, "FHA's small projects initiative emanated from its decision to take a leadership role in encouraging stable investment in the small projects market" (Schneider and Follain, 1998).

Interviews conducted in the process of developing SPP indicated that demand for small multifamily loan products was fairly large, but the costs and processing requirements involved in applying for FHA multifamily mortgage insurance programs were overly burdensome. In addition, lenders observed that small multifamily loans had limited access to the secondary mortgage market, because Fannie Mae underwriting requirements were too restrictive for smaller loans and Ginnie Mae's dollar volume constraints prevented such loans from being securitized (Schneider and Follain, 1998).

SPP was designed to be experimental and more flexible than most other programs, in hopes of extending multifamily programs down to property sizes not usually served. SPP was limited to 5- to 20-unit properties and had a maximum loan size of $1 million, similar to Freddie Mac's "microloan" program, which was capped at $750,000. SPP could be used for fixed-rate mortgages for either purchase or refinance. Its principal intervention was to streamline the upfront costs in multifamily loans, such as the environmental review and attorney opinion, and to scale origination fees to the mortgage amount rather than charging a fixed amount. SPP also sought to reduce ongoing costs, giving lenders flexibility in determining minimum reserve requirements and not requiring annual audited financial statements.

Loans originated using SPP had a secondary market outlet in the form of Ginnie Mae, which created a small loans (LS) pool type. A loan (or multiple loans with the same interest rate) could be placed in an LS pool if it had not been modified subsequent to final endorsement, was secured by a lien on a small project developed under FHA's Small Loan Processing Procedures, and had a first scheduled payment date no more than 24 months before the issue date of the securities. The maximum loan amount was $1.5 million, and the minimum pool size for LS loans was $250,000 (this pool was eventually reduced to $100,000).[78]

Despite its favorable features, lenders had limited interest in the SPP that was eventually introduced because it continued to have prohibitively high underwriting costs and the timeframe for securing financing was too long (Herbert, 2001). In addition, MAP lenders indicated that HUD's asset administration requirements were too onerous, and suggested lifting the restriction on refinancing Section

[78] Ginnie Mae Annual Report, 2006. Ginnie Mae's LS pools may also be used for RD-guaranteed section 538/515 revitalization loans. In general, a project loan pool may consist of only one mortgage representing a single loan on a completed project. In contrast, an LS pool may consist of one or more mortgages, each of which represents a loan on a completed project. (Ginnie Mae Handbook, 5500.3, obtained from AllRegs on March 11, 2013.)

202 loans through the program.[79] FHA staff we interviewed believed "only a handful of loans" were handled via SPP and it is apparently defunct.

Risk-Sharing Programs: Coinsurance, 542(b), and 542(c)

Coinsurance Program

From 1974 through 1990, FHA offered coinsurance options on multifamily properties endorsed under 221(d)(4) or 223(f).[80] Coinsurance was designed to share risk between FHA and delegated underwriters. By delegating underwriting, FHA hoped to shorten loan processing times and reduce costs. Delegated underwriters, for their part, were supposed to maintain equity reserves to cover the share of losses for which they were responsible. According to the GAO, "[t]his risk-sharing arrangement was expected to be an incentive for the underwriters to behave prudently. Unfortunately, the incentive was not sufficient" (Follain and Szymanoski, 1995). Instead, the coinsurance program created an incentive for delegated underwriters to focus on the volume of loans—and origination fees—rather than their quality. Further, the coinsurance program did not require lenders to have adequate reserves to cover their portion of losses, which were substantial. Ginnie Mae also guaranteed the loans so when lenders' reserves fell short, the government covered those losses through a different avenue (GAO, 1998).

The poor performance of the coinsurance program brought the value of the FHA's General Insurance fund to negative $10 billion by 1993 (Follain and Szymanoski, 1995). This fund is not required by statute to be financially self-sustaining, but these losses were unacceptably large. In a 15-year span, FHA reduced its multifamily lending by an order of magnitude, from 30-percent market share in the early 1980s to 3 percent in 1994, largely because of losses in the coinsurance program. The magnitude of these losses left a lingering institutional bias against risk sharing according to one staffer we interviewed.[81]

542(b) and 542(c)

The 542 risk-sharing programs, introduced as pilot programs in 1992 and made permanent in 1996, were designed to overcome problems with the 1980s coinsurance program and to advance the agency's affordable housing mission. HUD was motivated to introduce these programs because of a national decline in affordable housing starts in the 1980s but designed them with incentives and safeguards to avoid repeating the substantial losses of the coinsurance program.

The 542 programs overcame the shortcomings of coinsurance by—

- Requiring that all participating entities have an affordable housing mission and be accountable to another entity besides FHA.
- Requiring that lenders share more of the loss than under coinsurance.
- Building in FHA oversight.
- Precluding loans from securitization through Ginnie Mae (GAO, 1998).

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79 MAP Lenders Roundtable Notes, from the Mortgage Bankers Association, 10/12/07

80 HUD, "Mortgagee Letter 90-85," U.S. Department of Housing and Urban Development, Washington, DC. Coinsurance was available on single-family properties until 1994.

81 FHA staff interview, January 8, 2013.

Qualified participating entities under 542(b) are the GSEs, financial institutions, and the Federal Housing Finance Board, although the GSEs have been the only participants to date. FHA delegates most of the underwriting to the GSE partner, which uses its inhouse underwriting standards. Fannie Mae and Freddie Mac have originated 542(b) loans, although the process appears to be especially compatible with Fannie Mae's regular delegated underwriting and servicing (DUS) lender model (GAO, 1998). Under 542(b), FHA and the risk-share partner share the risk evenly.

Under 542(c), FHA shares risk with state and local housing finance authorities (HFAs). This program offers two tiers of risk sharing: tier I is a 50/50 risk share and tier II is a 90/10 risk share. Although HUD retains most of the risk in tier II projects, HUD does not perform the underwriting. Instead, HUD first reviews and approves the HFAs' underwriting standards and procedures to qualify the HFA for tier II risk sharing, and then reviews certain elements of each risk-sharing project. The HFA representatives we interviewed reported that FHA Section 542(c) Risk-Sharing is a way to use their processing efficiencies, while benefiting from FHA mortgage insurance as a risk control (exhibit 3-22). Each reported that delegated underwriting of the loan by FHA was their primary reason for participation in the program, but that the ability to securitize the loans with Ginnie Mae would probably increase their production.

Exhibit 3-22. Benefits and Risks of FHA's Risk-Sharing Programs

Benefits	Risks
Section 542 (c) Provides credit enhancement for HFA mortgage loans that are underwritten, processed, serviced, and disposed of by HFAs. Risk sharing allows delegation of loan underwriting, which leverages conventional lending efficiencies Risk sharing reduces documentation requirements, processing timeframe, legal requirements, and costs.	Section 542 (c) Does not increase the supply of capital for HFAs' multifamily financing because the loans are not securitized by Ginnie Mae. Increases the risk to FHA because underwriting decision is delegated. FHA maintains responsibility for full claim payment and has to rely on partner for future settlement.
Section 542 (b) HUD provides reinsurance on multifamily housing projects whose mortgage loans are originated, underwritten, serviced, and disposed of by Qualified Participating Entities (QPEs).	Section 542 (b) Eligible lenders are QPEs, which may be HFAs, GSEs, or other approved entities. To date, the only current QPEs are GSEs.

FHA = Federal Housing Administration. GSE = government-sponsored enterprise. HFA = housing finance agency. QPE = qualified participating entity.

To ensure the 542 programs promote affordable housing, all units in the insured properties must qualify for the Low-Income Housing Tax Credit (LIHTC) Program—that is, rent can be no higher than that for tax credit projects.[82]

Because small multifamily properties tend to have lower rents than larger properties, the small multifamily segment of the market is considered integral to affordable housing. Still, small properties have been underrepresented in the 542(b) and 542(c) programs, accounting for as little of 5 percent of loans in the 542(b) program. In FY 2012, the 542(b) program insured 41 mortgages with an average loan size of $11 million; 2 of those mortgages were for small multifamily properties. The 542(c) program endorsed 83 mortgages with an average loan size of $8.1 million in the same year; 12 of those projects

[82] FHA staff interview, January 8, 2013.

were small multifamily. Note that these shares are similar to those of FHA's largest multifamily programs, 221(d)(4) and 223(f). In FY 2012, 5 and 16 percent of endorsements were for small multifamily properties in the 221(d)(4) and 223(f) programs, respectively.

Early in the program, it was suggested that one way to increase lending to small properties would be to use loan consortia. Loan consortia, however, faced several challenges to participation: (1) their loan volumes were small, (2) their short-term funding structure and use of balloon mortgages did not meet the GSEs' criteria for secondary market purchases, (3) their low net worth required them to get letters of credit and other endorsements that were expensive, and (4) their reserves did not meet the GSEs' requirements. Loan pooling was another strategy suggested by loan consortia members for increasing their participation in reinsurance. The authorizing act allowed for it, but it has not been done.[83]

Proposed Changes to Section 542(b) Financing for Small Multifamily Properties

Efforts are under way to redesign the Section 542(b) program to make it more accessible for small multifamily loans. These efforts build on FHA's previous experience with small multifamily financing, particularly Small Projects Processing. Members of the Inter-Agency Small Multifamily Rental Policy Working Group (hereafter, Working Group) told us they had learned several important lessons from that earlier effort:

- The existing FHA loan platform could never be streamlined enough to make it "pencil out" for a large number of properties.
- Streamlining increases risk, because it inevitably reduces requirements that serve a purpose. For example, waiving the physical condition assessment (PCA) could increase risk, depending on the financial condition of the borrower.
- FHA's MAP lenders are not necessarily the right target audience for a small multifamily product. According to Working Group members, "These are large multifamily lenders; we were asking them to change their whole business model to adopt small multifamily."

Given these lessons, current efforts are targeting groups already doing small multifamily lending—such as HFAs and CDFIs—that are capital constrained. These lenders are familiar with this property type, so they better understand the risks than lenders geared toward large multifamily lending. This familiarity, in turn, helps mitigate the risk to FHA.

For FY 2013, the Working Group proposed to expand the 542(b) program to well-capitalized HFAs and CDFIs with a track record of successful lending to small multifamily properties. Another key part of the proposal was to allow for securitization of those loans by Ginnie Mae in order to reduce the capital requirements for these smaller institutions and allow them to increase their loan volume. These efforts focus on properties that are affordable to working families without subsidies rather than those that need subsidies to be affordable. A key reason for this focus is to avoid costs of compliance. Subsidies typically require regular reporting and reviews, which are overhead costs that tend not to vary significantly with the size of the property. Small multifamily properties have lower total net operating income over which to spread costs.

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[83] General Accounting Office, 1998. "Housing Finance: FHA's Risk-Sharing Programs Offer Alternatives for Financing Affordable Multifamily Housing," Washington, D.C.: General Accounting Office.

Because the 542 programs specifically excluded Ginnie Mae participation, the Working Group's proposal required legislative approval. FHA did not receive legislative authority to expand the types of eligible lenders or to allow the loans to be securitized. A pilot program is under development for these mission-based CDFIs and other HFAs without securitization.

More recently, HUD issued a request for comments on proposed changes to Section 542(b) of the Housing and Community Development Act of 1992 to facilitate financing of small multifamily properties.[84] The proposed program initiative is limited to properties of 5 to 49 units or that do not exceed a loan amount of $3,000,000.

The published features of the initiative are subject to change in the final notice, based on HUD's review and public comments received, but, as currently envisioned, the initiative would have the following features:

- All projects insured under the Risk-Sharing Program must qualify as affordable housing.
- Eligible participants would be permitted to originate, underwrite, and service loans for HUD multifamily mortgage insurance for project refinancing, rehabilitation, substantial rehabilitation, and equity takeouts, but not for new construction.
- All participants would be required to meet certain technical and financial capacity requirements, including minimum adjusted net worth of $1,000,000 for new lenders.
- Borrowing entities may include mission-driven nonprofit and public lenders, such as Community Development Finance Institutions (CDFIs), or consortia of for-profit private lenders that form a joint venture or similar formal arrangement with, and under the control of, a mission-driven nonprofit or public lender.
- The program also sets certain performance timelines for HUD, including issuance of a firm commitment by the Multifamily Hub/Program Centers (Hub/PC) with jurisdiction for the project. The Hub/PC has 5 working days to complete this process except for the sample of projects that the Hub/PC chooses for preendorsement monitoring, which has a 10-day deadline.

HUD will detail the yet-to-be-determined pricing of FHA insurance when the program is announced in the Final Notice.

In addition to the relaxed requirements proposed in the *Federal Register*, additional program relief is being sought under the President's fiscal year 2015 budget request to Congress:

- Statutory changes to Section 542(b) of the Housing and Community Development Act of 1992 would, for eligible affordable housing lenders, remove Section 542(b)'s current affordability restrictions. This proposed change would reduce the reporting and income recertification burden on owners who access this capital to provide affordable housing in their communities.
- Adoption of the budget recommendations would also authorize Ginnie Mae to securitize risk-sharing loans on small properties made under Section 542(b).

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[84] Small Multifamily Building Risk Share Initiative: Request for Comment Notice, *Federal Register*, Vol. 78, No. 213, November 4, 2013.

If granted this additional authority by Congress, HUD plans to invite applicants that engage in 50/50 risk sharing to modify their Master Risk-Sharing Agreement to take advantage of the new authority. In addition, HUD would explore implementation of a broader Small Building Risk Share Initiative through publication of regulations and/or guidance.

3.2.5 Conventional Financing for Small Multifamily Properties

Conventional sources of financing for small multifamily loans include Freddie Mac, Fannie Mae, HFAs, community banks, and CDFIs. Rural Development also provides financing for small multifamily properties. The terms of financing for each of these sources is summarized in the next section and in the subsequent section, some unusual approaches being taken in various parts of the country are described.

Terms of Financing

Exhibit 3-23 compares lenders' use of the underwriting criteria considered most important for multifamily properties—LTV, DSCR, the loan term, and recourse to the borrower—for government, institutional, and community-based lenders.[85] The DSCR and LTV limitations determine the balance between borrower equity (for example, investment) and investor debt (for example, risk). Some lenders also have mission considerations, such as FHA's mission to serve the underserved, that influence when and how they exercise controls and discretion in underwriting processes. The balance of these considerations is a lender's risk appetite, which influences its underwriting guidelines.

Exhibit 3-23. Underwriting Criteria

Participant	LTV	DSCR	Term (years)	Recourse
FHA	Up to 90%	1.11 to 1.20	Up to 40	No
Freddie Mac	70–80%	1.25 to 1.30	5 to 10 (up to 30 if portfolio execution)	Nonrecourse except for standard carve-out provisions
Fannie Mae	80%	1.25x nationally	5 to 30	Nonrecourse for most loans greater than $750,000
Illinois Housing Development Authority	Up to 90%	1.15 to 1.00	30 to 40	No
Colorado Housing and Finance Authority	Up to 90%	1.20 to 1.10	30 to 40	No
Community banks	Negotiable	Negotiable	In general, up to 10	Yes
Primary lender	Same as GSEs	Same as GSEs	Same as GSEs	Same as GSEs
Rural development	90/97%—for profit entities/nonprofit entities	1.15	Up to 40	No
CDFI	80%	1.25	3 or 5 years ARMs; 20-year terms and 25-year amortizations	Yes

ARM = adjustable rate mortgage. CDFI = community development financial institution. DSCR = debt service coverage ratio. GSE = government-sponsored enterprise. FHA = Federal Housing Administration. LTV = loan to value.

[85] The Federal Home Loan Bank (FHLB) is not included in exhibit 3-18 because the underwriting requirements for these funds are set by the member banks. For example, the FHLBs' Affordable Housing Program (AHP) is one of the largest private sources of grant funds for affordable housing in the United States. It is funded with 10 percent of the Federal Home Loan Banks' net income each year. The AHP allows for funds to be used in combination with other programs and funding sources, like the Low-Income Housing Tax Credit Program. These projects serve a wide range of neighborhood needs: many are designed for seniors, the disabled, homeless families, first-time homebuyers and others with limited resources.

The multifamily DSCR standard is generally 1.20. In exhibit 3-23 the range of DSCR is large, ranging from a low of 1.11 to a high of 1.30. Essentially, the 1.11 requires a $.11 cent cashflow cushion, whereas the 1.30 equates to a $.30 cent cushion for every $1.00 dollar in financed debt.

As expected, given government agencies' mission-driven lending to provide affordable housing (subsidized or unsubsidized), these entities have the longest mortgage terms, lower DSCRs, higher LTV, and do not require a personal guaranty. FHA also offers the Section 542 Risk-Sharing Program to the GSEs and HFAs. Government lenders offer longer loan terms, usually at fixed interest rates for the life of the loan. To manage interest rate risk, conventional lenders generally prefer shorter term maturities (for example, 5-, 7-, and 10-year) with adjustable rates and balloon payments. With the recent Federal Reserve stabilization and lowering of interest rates, these lenders reported making more fixed-rate loans.

Compared with other sources of financing, the GSEs are at the lower end of the LTV range and at the higher end of the DSCR range, which means that qualifying for a GSE loan, in general, is more difficult. Fannie Mae's Delegated Underwriting and Servicing (DUS®) model relies on sharing the risk of loss with lenders to support delegated underwriting and align the interests of Fannie Mae and lenders. Fannie Mae's 24 DUS lenders are authorized to underwrite, close and deliver most loans without Fannie Mae prereview. Fannie Mae reports that DUS lenders are well capitalized and experienced in all aspects of multifamily finance, resulting in reliable service under all market conditions.[86]

Freddie Mac's Program Plus® network is a highly selective group of experienced multifamily lenders with more than 150 branches across the nation. Program Plus Seller/Servicers are approved for specific geographic areas.[87] Unlike Fannie Mae, Freddie Mac typically re-underwrites the loans originated by its Program Plus Seller/Servicers rather than delegating this function.

Community-based lenders, in general, have more flexible underwriting criteria but balance this risk with the shortest mortgage term and by requiring a personal guaranty (recourse). As a group, community banks have significant capital reserves, which have made them a reliable source of financing in a volatile market. Although some national banks withdrew from the market during the financial downturn, community banks stayed. In addition, community banks' flexibility allows them to make unique deals.[88]

The RHFS was not designed to be representative at the loan-originator level; however the data on median LTVs, mortgage length, and interest rate type by loan originator complement the market survey.[89] Exhibit 3-24 shows the number of loans in the RHFS by first loan originator, as well as the percentage of loans by that originator that had a fixed rate instead of an adjustable rate, and the median term length, LTV, and loan size. The exhibit shows that credit unions and REITs are less likely to issue fixed-rate mortgages than other lending institutions. Mortgages originating with savings and loan associations, federal savings banks, and mutual savings banks or state or local housing finance agencies have lower LTVs than those originating with commercial banks and trust companies.

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86 See https://www.fanniemae.com/multifamily/dus-lenders.

87 See http://www.freddiemac.com/multifamily/sellerservicers/completelist.html.

88 Clarke, Katherine "Post-Crash, Community Banks Remain a Force in Multifamily Financing." *The Real Deal*, November 16, 2012.

89 DSCR calculations were attempted, but imperfect data yielded problematic estimates of DSCRs; for example, a mean DSCR across all properties of 17.68.

Exhibit 3-24. Loan Types, by First Mortgage Originator

Mortgage Originator	Fixed Rate (%)	Median Term Length (years)	Median LTV	Median Debt Size
Commercial bank or trust company	66.5	15	0.65	$420,000
Savings and loan association, federal savings bank, and mutual savings bank	69.1	20	0.40	$350,000
Credit union	35.9	5	0.64	$589,000
Mortgage bank or mortgage company	68.7	15	0.69	$2,515,000
Life insurance company	97.9	10	0.65	$10,000,000
Real estate investment trust (REIT)	36.7	10	0.49	$4,301,300
Finance company (including consumer discount company, industrial bank, and cooperative bank)	65.6	10	0.46	$1,600,000
State or municipal government	84.3	30	1.00	$3,100,000
State or local housing finance agency	90.6	30	0.47	$1,394,400
Individual or individual's estate	99.6	20	0.43	$89,000
Other—specify	87.8	30	0.67	$930,000
Do not know	53.0	30	0.55	$960,000

LTV = loan to value.
Source: Analysis of 2012 Rental Housing Finance Survey

Successful Approaches to Financing Small Multifamily Projects

As described previously, community banks are an important source of financing for small multifamily properties, sometimes in the form of lines of credit or personal loans. Fannie Mae also has a dedicated small multifamily product that is successfully used by a small network of lenders but has relatively small market share. This section describes three additional approaches: (1) an approach used by a community lender in Chicago, (2) one used by a west coast insurance company that invests a sizeable share of its portfolio in small multifamily loans, and (3) another used by a major bank with a large volume of small multifamily lending.

Community Lender in Chicago

Given that costs of complying with affordable housing subsidies can be high, some lenders have taken the view that small multifamily properties are often "affordable" even without subsidies because of the neighborhoods where they are located. One lender said, "The neighborhoods [where we lend] … the market rents are such that we've tracked it over the last 10-15 years, anywhere from 85-90 percent of the units that we approve each year have rents that are affordable at 50 percent of AMI. We don't put a restriction on it, that's the market. We serve the affordable housing market through location and using a conventional product."

This lender successfully originates small multifamily purchase and rehabilitation loans using capital from a pool of local financial institutions. Construction is funded using a line of credit, and once construction is complete and the loan converts to permanent, the mortgages are bundled, and collateral trust notes secured by those mortgages are sold to the participating financial institutions. The local financial institutions are motivated to participate by CRA credit.

The loans use recourse to the borrower as a credit enhancement. Importantly, the lender also offers assistance and training to borrowers, most of whom are mom-and-pop landlords, on topics such as marketing, fair housing requirements, tax issues, maintenance, and budgeting. This approach helps to make up for the lack of property management experience among borrowers.

The lender reports that the model works well for small multifamily properties, including those as small as six to eight units.

West Coast Insurance Company

A west coast insurance company relies on a specialized network of correspondent mortgage brokers to finance properties around the country, with a particular focus on stable, often midsized markets such as Portland, Oregon, Tulsa, Oklahoma, and Fayetteville, Arkansas. They view these markets as having less competition than larger markets, and therefore offering better yields. They take a fairly conservative underwriting approach; provide only permanent loans; focus on experienced, repeat borrowers; and, whenever possible, require a personal guaranty from the borrower. Brokers are located in the markets where they originate loans, and an insurance company staff member with responsibility for the geographical area visits every property at least once. The person we interviewed described the importance of this step: "There is no substitute for actually getting out there and driving the neighborhood and walking into the property to make sure the mortgage banker sold us what they said."

Major Bank

One of the largest lenders for small multifamily properties in the country also successfully and profitably serves this niche market. According to the lender, they inherited the system infrastructure (for example, underwriting and servicing systems) as part of an acquisition. After acquisition, they carefully honed the system over time with streamlined and standardized policies and procedures and a dedicated staff. The lender focuses on a well-designed, highly standardized process they described as "credit card real estate." They heavily emphasize the credit quality of the borrower, and have clearly defined credit standards. Each staff member is assigned responsibility for a geographical area, and is typically physically located in the assigned market. They focus on large markets with high rates of rentership; that is, in places where long-term renters are not uncommon. They avoid markets such as Atlanta where rentership rates are low and rental housing tenure is typically short-lived. They also explicitly avoid smaller markets or those with limited demand for additional multifamily housing units as evidenced by vacancy rates.

The approach described by these successful small multifamily lenders includes the following:

- Successful small multifamily lenders generally have teams dedicated to the small multifamily market who possess a thorough understanding of the market and the unique skill set required to process and underwrite small multifamily properties. It is not particularly transferable from the skill set required to process and underwrite larger properties.
- The credit decision must be standardized and depends on the borrower and the property. The borrower's FICO score is an important predictor of loan performance.
- Economies of scale in the small multifamily market require standardized processing, underwriting, and portfolio management processes.
- Successful small multifamily lending does not require a specific approach. Rental property investors/lenders can use brokers or inhouse staff members, based on their preference, but a commitment must be made to the selected process and capital committed to sustain the process.

- Knowledge of the local market is paramount. The insurance company works in many markets, believing that "there are good loans in almost every market," while the large lender focuses on only a few markets with specific characteristics. In either case, the organization maintains indepth, current knowledge about the market.
- The borrower must have the management expertise and financial wherewithal to withstand minor disruptions in the market, and the property must have sufficient historical cashflows to cover expenses and debt service.

Exhibit 3-25 summarizes some of the processing and underwriting features used by a leading small multifamily lender and a seasoned insurance company that has operated in this market segment for many years. The insurance company expressed that yields in the small multifamily market are not high—in the single digits—but a dedicated, specialized approach to the business produces good loan performance and low losses. Each participant reported a better than market loan performance and much lower than market loan losses. Each participant described small multifamily lending as being less risky than large multifamily lending.

These lenders each focus on traditional debt financing without securitization. They view securitization as being less profitable than holding loans in portfolio because of the cost of securitization and the increased reporting requirements. By contrast, the agencies seek to share the risk with rental property investors. Nearly all of their loan production is committed to the securities market.[90]

[90] Approximately 99 percent ($28.5 billion) of the loans that Fannie Mae financed in 2013 were delivered through MBS execution. (Source: http://www.fanniemae.com/portal/about-us/media/corporate-news/2014/6074.html.) Similarly, As of December 2013 Freddie Mac seeks reduced taxpayer risk via the multifamily securitization structure, which enables Freddie Mac to sell most of the credit risk to private capital investors. (Source: http://seekingalpha.com/pr/8433851-freddie-mac-has-record-year-for-multifamily-securities.)

Exhibit 3-25. Insurance Company Versus Large Lender Processing and Underwriting Features

Processing/Underwriting Features	Leading Lender	Seasoned Insurance Company
LTV	75%	75%
DSCR	1.2 to 1.25	1.25 or 1.30
Term	Most loans are 3, 5, 7, 10 years; 10 years with 15-year amortization and 15/15 pure amortizing loans	5, 7, 10, or 15 year loans with option to switch to different rate in future periods
Amortization period	In general, 25 years	Usually 25 years, but will go to 30 years in certain situations
Credit profile	FICO, a big determinant	Very competitive lower end of the market with known repeat borrowers
Property operations	Historical cashflows—no reserves required	Focus on properties in stable markets that are not high priced
Securitized	No; held in portfolio	No, held in portfolio
All underwriting done in house	Yes	No
Average loan size	$2.4 million	$1.75 million
Recourse	Depends on the location of the property	Required if market will support it – without recourse if LTV 60% or less (in the right market)
Reduced processing cost	Yes; all processing done in house by inhouse processors, underwriters, appraisers, and portfolio management specialists. Other cost reduction measures include not mandating an environmental review or market study.	Yes, no legal costs—use standard legal documents rather than having lawyers draft unique documents
Market segment	Only properties in markets with affordable rents	Very competitive lower end of the market—does not compete with upper end market properties. Avoids expensive markets; lend only in markets they understand.
Loan limits	Can do larger deals, but prefers smaller transaction—in the less-than-$5-million range	$1- to 5-million range
Specialized staff	Yes, all in house	Yes, including brokers with specialized knowledge of their market area
Recent entrant into the small multifamily market	No, small multifamily platform in operation for about 7 years	No, nearly 20 years in this market segment
Processing Time	45 days with a streamlined process	About 45 to 60 days

DSCR = debt service coverage ratio. FICO = Fair Isaac Company credit score. LTV = loan to value.

Innovative Proposal for Financing Small Multifamily Projects

The approaches to financing small multifamily projects to date have focused primarily on debt financing. One innovative proposal highlights the possible role that equity side solutions could play. Apgar and Narasimhan (2007) propose creating a federally sponsored small Real Estate Investment Trust (S-REIT) that would aggregate ownership of older, smaller multifamily properties with low or modest rents. In exchange for their small multifamily properties, owners would receive S-REIT partnership units that would entitle the owner to a preferred cashflow and a share of potential appreciation rights. Properties would be aggregated under a single professional management team to achieve economies of scale, thereby reducing costs. They point out that similar aggregation of properties has been successfully demonstrated by scattered-site properties and single-family REITs.

As proposed by Narasimhan (2001), the S-REIT would be exempt from recording taxes and from SEC and state registration costs, and it would have the ability to create a tax-exempt bond-issuing capability. The S-REIT structure would allow for properties to be financed on a portfolio basis—either via equity or debt—rather than on a property-by-property basis. Property aggregation could also facilitate use of housing assistance programs, such as the LIHTC Program, for small multifamily properties. The cost of accessing tax credits is prohibitive for small properties but might not be for a single award to a pool of properties at risk of being lost to the housing stock.

3.2.6 Availability of Subsidies for Small Multifamily Properties

People we interviewed cited less available government funding to reduce overall project costs for small multifamily properties. This viewpoint is consistent with our analysis of RHFS data. As shown in exhibit 3-26, small multifamily properties are less likely to have several major sources of subsidies than larger properties. Almost 92 percent of properties with 5 to 24 units report receiving no benefits compared with almost 78 percent of properties with 25 to 49 units. Large multifamily properties are the least likely to have no benefits, at 72 percent. Comparing specific benefits, large multifamily properties are more likely to have LIHTCs or to participate in the elderly direct loan program (Section 202) than other property types. Small multifamily properties with 25 to 49 units are more likely to have a government-sponsored below-market-rate loan or a government grant than other types of properties.

Exhibit 3-26. Property Subsidies, by Property Size

Subsidy	5 to 24 Units (%)	25 to 49 Units (%)	50 or More Units (%)
Government-sponsored, below-market-rate loan	0.7	6.9	4.9
Federal government rental housing subsidy other than Section 8	0.5	3.4	2.4
Elderly direct loan program (Section 202)	0.0	1.7	3.7
Low-Income Housing Tax Credit Program	1.4	8.6	12.2
Government grant (HOME, CDBG, HOPE VI)	0.9	5.2	3.7
Income tax credit for old or historic properties	0.0	0.0	0.0
Accelerated federal tax depreciation	0.2	0.0	0.0
Subsidy from private entity	0.7	0.0	0.0
Other benefit	0.7	3.4	6.1
None of these listed benefits	91.6	77.6	72.0
Do not know	3.4	1.7	3.7
Not reported	0.5	0.0	0.0

HOME = HOME Investment Partnerships Program . CDBG = Community Development Block Grant program.
HOPE VI = HUD “Urban Revitalization Demonstration Program.
Source: Analysis of 2012 Rental Housing Finance Survey

Current subsidies are a poor fit for small multifamily properties for several reasons. People we interviewed told us that, in some cases, the costs of compliance with government funding are unsustainable for properties with few units over which to spread costs. For example, LIHTC projects and projects with other types of government assistance, such as Section 8, HOME, or Community Development Block Grant (CDBG) funds mandate meeting additional labor reporting, document preparation, and legal review requirements. All these requirements add to costs. Larger projects are better able to absorb these increased costs without unduly burdening the project. In addition to additional compliance costs, interviewees told us that projects involving federal subsidies are required to pay prevailing wages, and this requirement also substantially increases costs.

Smaller projects also have more difficulty competing for scarce tax credits, especially the more lucrative 9-percent credits. According to HUD data, the average size of tax credit projects is now about 60 units. In the early years of the program, between 80 and 90 percent of projects had 50 or fewer units (1987–1992), but the share of projects with 50 or more units has increased since then. One interviewee thought rental property investors were cautious of projects with fewer than 40 units, because of the perception of a higher risk of noncompliance with IRS use restrictions and other regulations. Consequences of noncompliance are severe: tax credits, which are received annually for 10 years, can be recaptured. Another interviewee thought that properties with 20 to 50 units were better candidates for 9-percent credits, but that tax credits for properties smaller than that were unworkable.

The other type of tax credits is 4-percent credits that are available to rental properties financed with tax-exempt bonds. These 4-percent credits may be even less well suited to small multifamily properties. Because the use of 4-percent credits entails the issuance of tax-exempt bond debt, it brings a range of transactional costs and complications. As one lender said, "A 50-unit deal is not conducive to a bond because it's just too small." This view is reinforced by other research, which notes these credits, "… are really only appropriate for larger projects that have sufficient scale to amortize the transaction costs over a large number of units" (Khadduri et al., 2012).

3.2.7 Gaps in Financing for Small Multifamily Properties

Interview respondents expressed a range of opinions about whether adequate financing was available to meet needs of 5- to 49-unit properties. These interviews are summarized in exhibit 3-27. Some interview participants did not identify financing gaps, but others did, highlighting specific segments of the market, such as small multifamily properties in rural areas, those needing rehabilitation, or those with fewer than 20 units. The RHFS data do not contain sufficient geographic detail to test these possibilities.

Evidence from the RHFS on the cost of financing is not conclusive because differences in mortgage terms and financing costs between small and large multifamily properties do not necessarily prove that a gap in financing exists for small multifamily properties. A great deal of evidence suggests that financing for small multifamily properties is not consistently available and the foreclosure crisis demonstrated that small multifamily properties lacked a fail-safe mechanism during the downturn, while large multifamily properties did not as a result of the backstop provided by the GSEs and FHA. However, neither of these entities provided a similar fail-safe mechanism for small multifamily financing.

For example, a recent study using data from Chicago shows that among large multifamily mortgage originations overall in Chicago, the GSEs played a countercyclical role in the market. Although other lenders stepped back from the market, the GSEs market share increased. Precrisis, from 2000–2007, the

Exhibit 3-27. Interview Comments on Financing Needs

Interviewee Type	Comment
GSE	"People are finding financing. Are they paying more than they could? Yes. Is it as well-served and liquid as the larger [multifamily] space? No." "[FHA participation] would increase capital, lower costs, and be good for affordability." "[The GSE] should be doing more in small multifamily." "We certainly don't see any need in major metro areas—they're overbanked. In secondary, tertiary, and rural markets, that's where you get down to the question of if there's enough capital."
Lender	Interest in expanding use of 542(b); would like a fully delegated process. "It's unusual for us to do less than 20 units, and even at 20 units it's very hard to run a project at that size." HUD's risk-share "… really helps us with our rating. We rely on this." "Five-50 units in the metro area do OK. Elsewhere, we have a tremendous need for this. We don't have a way to fund this very efficiently with our own cash." "There's no lack of access to capital for small projects in metro areas." In 5-50: "There's probably a gap." "The major banks like the small loan multifamily in the major markets. But in secondary and tertiary markets, there's really not a source. … It just doesn't make sense to do. There is a real need in the secondary and tertiary markets—nobody is doing it."
Government agency	"I'm sure there is demand if we had funding. Rural multifamily isn't as attractive to lenders as urban multifamily." "Small multifamily has long been a vexing problem." "Availability [of financing] and support is greatly needed." This is especially true for rehabilitation; the capital is available, it's the support systems for financial institutions to take a risk that are missing.
Industry group	"Good projects are getting loans" "I fear that the downward cycle of loose credit has already started again. This, more than anything, shows that there are adequate sources of funding for these types of loans." "FHA programs will pull loans away from smaller community banks that do not have the manpower to become an FHA servicer."
Market researcher	"Clearly getting access to financing is a serious problem. Most small investors are not highly sophisticated about government programs, elaborate procedures, means testing, all that. A lot of the programs that do exist drive away the small investor…[I]f you want strong sector in this area, you want to be able to accommodate a lot of investors operating in informal fashion…Coming up with a product to work for small investors has to accompany a change in the mindset of public underwriters." "Most of the multifamily inventory that will come available will require a lot of work."

FHA = Federal Housing Administration. GSE = government-sponsored enterprise.

GSEs accounted for about 22 percent of the market. In 2008 and 2009, the GSEs market share grew to about 66 percent.[91] Several observers have noted that without the GSEs, large multifamily lending would

[91] Lee, Jin Man and James Shilling, "Financing Needs of Small Unit Rental Properties," Working Paper, DePaul University, March 2012.

have ground nearly to a halt. On the other hand, among midsize properties with 10 to 99 units, the GSEs did not play this countercyclical role in Chicago. The GSEs' market share ranged from 4.5 to 9.7 percent during precrisis; during 2008 their share rose somewhat to 11.6 percent in 2008 and 12.1 percent in 2009. Although the GSEs' market share increased, they remained a relatively minor source of financing to the midsize market. Man and Shilling (2012) note, "These findings are significant since they indicate that the mid-size 10-to-99-unit rental property market has no real fail-safe mechanism to prevent credit rationing effects in times of financial crises when other lenders become uneasy about lending."

The Chicago multifamily market differs from that of other parts of the country, and this study looked at midsize properties rather than small multifamily properties, but the findings suggest that the small multifamily market similarly has no real fail-safe mechanism.

These findings are reinforced by data on FHA's role in financing for small multifamily properties. If the GSEs did not play a countercyclical role in financing small multifamily properties, neither did FHA. FHA has played a substantially larger role in the large multifamily market during the foreclosure crisis than in the small multifamily market (exhibit 3-28). FHA's role in the market overall expanded during critical years of the foreclosure crisis, when many market participants stayed on the sidelines, as demonstrated by relatively large market shares in 2010. FHA's market share among large multifamily properties increased by a factor of six from 2008 to 2010, yet FHA's small multifamily market share increased only 2.5 times over the same period to a mere 2.3 percent in 2010. By 2012, FHA's role in small multifamily had apparently returned to its prerecession levels, although it continues to have a disproportionate market share of large multifamily and single-family lending.

Exhibit 3-28. FHA Share of Loan Originations, 2004–2012

	2004 (%)	2008 (%)	2010 (%)	2012 (%)
Small multifamily	0.4	0.9	2.3	0.8
Large multifamily	3.9	2.6	15.8	10.9
Single family	4.3	17.6	18.3	13.4

FHA = Federal Housing Administration.
Sources: Tabulations of the 2004, 2008, 2010, and 2012 Home Mortgage Disclosure Act data

3.3 Small Multifamily Program Design Options

As described in the previous section, some evidence points to gaps in the financing that is available for small multifamily properties. These gaps are not necessarily consistent across the entire small multifamily market, but appear to be more persistent in secondary and tertiary markets and rural areas, among the smallest properties (those with fewer than 20 units), and during housing market downturns.

This section describes three insurance program designs that address these gaps. To develop these programs, we considered the requirements for a new program from four perspectives:

1. ***Borrowers' needs,*** gathered indirectly from discussions with real estate agents and lenders who interface directly with borrowers and from existing data.
2. ***Lenders' needs,*** obtained from discussions with lenders that included lenders' financial, operational, and risk management/exposure requirements and limitations regarding a new program. We also conducted interviews with organizations financing small multifamily properties to understand successful approaches currently being used.

3. ***Secondary market requirements,*** gathered from secondary market executives to understand the flexibility and response we could expect from the secondary and capital markets.
4. ***Government risk tolerance,*** obtained from interviews with FHA staff and a review of previous efforts to expand financing for small multifamily properties.

Once developed, preliminary options were presented in a focus group to active FHA and GSE multifamily lenders, all of whom provided input into the development of the design options. These lenders provided feedback on the preliminary design options, including their perspectives on the likelihood of market acceptance, successful risk management, and any operational limitations or barriers given origination or servicing requirements. We also met with HUD to discuss their perspectives on feasibility from risk, regulatory, and legislative perspectives. The outcomes of these discussions informed our design recommendations.

This section describes the issues raised by market stakeholders (section 3.3.1), and the implications of those issues, all of which were taken into consideration during the design process (section 3.3.2). Program design options are in section 3.3.3. Very little information is available about the performance of small multifamily loans, but to the extent possible, the risk of default of loans originated under a new program is explored in section 3.3.4, Multifamily Loan Performance, and an assessment of market demand and impacts is included in section 3.4.

3.3.1 Program Design Drivers

The key issues that currently inhibit financing for small multifamily properties, and thus the key design drivers for a successful small multifamily property loan program, are primarily related to—

- High costs of origination and servicing and lengthy loan approval times.
- Lack of a secondary market outlet for small multifamily loans.
- Lack of financing for rehabilitation for small multifamily properties.
- Need for more flexible underwriting than for larger multifamily properties.

Borrowers' and lenders' needs are discussed separately in the following section. These needs are balanced by consideration of risk management strategies to address the needs of the secondary market and FHA's risk tolerance.

Investor Design Drivers

Discussion participants noted that small multifamily property investors are often able to obtain financing, but on terms that are not particularly favorable. More favorable terms would be appealing to rental property investors, but so too would short, predictable processing timelines, because financing delays can often be costly for investors. Industry stakeholders cited the need for six features in a program for small multifamily property investors, summarized in exhibit 3-29.

Exhibit 3-29. Program Features Desired by Small Rental Property Investors

Feature	Rationale
1. Reduced processing costs and certainty in the timing of the loan approval process	Small multifamily rental property loans cannot support the same level of underwriting used for large multifamily rental properties. Processing costs can be reduced by reducing the documentation required and decentralizing the decision making process. This approach will also speed the loan approval process and reduce uncertainty in the timing. In multifamily underwriting, time usually adds cost to the overall development budget of the project.
2. Access to the secondary market	Access to the Ginnie Mae securitization process can reduce financing costs because it is efficient and creates securities that are very low risk and therefore highly appealing to rental property investors, the ultimate source of loan funds.
3. Affordable and stable financing terms	Although financing is often available for small multifamily properties, it is typically short term (like financing for multifamily properties) and often has an adjustable rate. A fixed-rate loan for a term of 10 years or more would improve stability of cashflows.
4. A reliable source of financing regardless of geography and market conditions	Conventional market sources of financing are not consistently available. Access to financing may vary depending on market conditions and according to geography. Larger metro areas are more often adequately served than smaller, secondary or tertiary markets. Even in larger metro areas, financing is not always available for properties in some neighborhoods, such as those in inner cities.
5. Financing for acquisition and rehabilitation needs	Because they typically operate on thin margins, small multifamily properties are often in need of rehabilitation.
6. Access to financing for small-scale (mom-and-pop) rental property investors	Small-scale rental property investors often need underwriting flexibilities such as lower debt-service ratios, lower downpayment requirements, and higher LTVs to accommodate the relatively thin profit margins of small multifamily properties.

LTV = loan to value.

Lender Design Drivers

Lenders are also focused on the bottom line, where profitability is driven by the ability to implement the program in a timely manner and without a major system investment. Implementation issues are important, and raise questions for lenders such as—Can I standardize implementation of this program at a reasonable cost and with a reasonable return on investment? Do I have the required staff and do they have the necessary expertise? Is implementation of the program compatible with current infrastructure and systems? If not what modifications and adjustments are required and will the expected volume adequately justify the costs? For lenders, timely and accurate operating information is critical and serves as the foundation for program adjustments and refinement of the risk management strategy. The program features that lenders desire are summarized in exhibit 3-30.

Exhibit 3-30. Program Features Desired by Lenders

Feature	Rationale
1. Expected volume/market attractiveness of program	Lenders incur costs to effectively roll out and market any new program. Lenders evaluate the costs and benefits of offering a program based on their own analyses of market demand. Lenders' decisions on whether to offer a new product are closely aligned with their abilities to predict volume and offer the product to the market on a competitive basis. Lenders reported a great deal of interest in a product similar to Fannie Mae's small multifamily loan program.
2. Ability to securitize	Most lenders seek to securitize loans rather than hold them in portfolio. They view access to a secondary market as essential. This access could be provided via Ginnie Mae securitization, which is efficient and currently offers the lowest cost of financing.
3. Implementation/ integration costs	For any new program, lenders must integrate the program into their origination and servicing systems and provide training to their origination and production staff on the features, use, risks and guidelines associated with the program. The cost of implementation/integration increases with program complexity.
4. Increased servicing value	Lenders prefer to originate loans with a low probability of nonperformance because of the high costs of servicing troubled properties. A program with a fixed rate and a longer term—longer than 10 years—means a longer servicing income stream.
5. Risk sharing	Lenders expressed support for risk sharing because it streamlines processing and gives lenders a stake in the outcome of the performance of the loan, thereby creating a partnership between HUD and the lender. This alignment of interests results in greater responsibility on the part of lenders, but also greater autonomy.

Risk Management

Rental property investors, lenders, and FHA all must consider small multifamily property loan risks—those that they control and those controlled by others in the industry. Industry participants suggested that a mutually beneficial partnership, in which the interests of all parties are aligned, is ideal. They noted that the relationship between FHA and its MAP lenders is sometimes more adversarial than mutually beneficial, with lenders having little at stake in the performance of a loan. From FHA's perspective, lenders seek to avoid blame for loans that default. From lenders' perspective, FHA seeks opportunities to blame lenders if the loan defaults, which participants called the "gotcha" syndrome.

The interviews with FHA staff underscored the importance of balancing the risk to FHA's insurance funds against the agency's mission to serve the underserved when designing new investor programs. Reflecting the challenge inherent in managing these two priorities, HUD staff varied in their assessment of the need for additional investor programs. Program staff members were more convinced of the need for new financing options, although compliance and risk staff were wary of committing agency resources to an unknown program while the MMI Fund is in a precarious situation.

Lenders we interviewed compared the approaches of the two GSEs. In one form or another, each GSE allows lenders to process, underwrite, and service loans they purchase and securitize with greater autonomy than FHA, while achieving excellent loan performance. The Fannie Mae program has full delegation with risk sharing, whereas Freddie Mac chooses to reunderwrite each loan and employ indepth financial stability and loan performance metrics to manage risk. Freddie Mac Program Plus lenders work with Freddie Mac staff throughout the loan origination process. Unless the loan package submitted by the Program Plus lender varies substantially from agreed-upon terms, the loan package submission usually results in a loan purchase.

Using loan performance as a proxy for program success, Fannie Mae and Freddie Mac have highly successful multifamily programs. Each organization has a seriously delinquent rate below 1 percent. In the second quarter of 2013, the 60-plus-day delinquency rate for multifamily loans held or insured by Freddie Mac was 9 basis points (bps) compared with 28 bps for Fannie Mae. By contrast, the 90-day delinquency rate for banks and thrifts was 216 bps.[92]

The difference between the Freddie Mac multifamily and Fannie Mae multifamily seriously delinquent rates is quite small, at 19 bps, and suggests that risks can be managed equally well using either the risk-sharing approach taken by Fannie Mae or the direct underwriting approach taken by Freddie Mac.

FHA's current approach to processing and underwriting is more similar to the Freddie Mac model than the Fannie Mae model. MAP is the primary tool used by the agency to expedite and manage the loan development process. MAP allows the 89 approved lenders to perform most of the underwriting activities that were previously performed by HUD staff. An underwriting summary and recommendation is submitted to HUD by the MAP lender as the final stage in the loan development process. The final determination to endorse the loan is controlled by FHA.[93]

Lenders suggested that the Fannie Mae model increases efficiency while managing risk because of the alignment of interests, and that this model is the one FHA should use. Freddie Mac's approach is more costly to implement, but is an effective financing tool as well. Because of this input, the proposed designs use delegation and risk sharing, discussed in the following section.

Delegation and Risk Sharing

We discussed alternative approaches to mitigating the risk of delegating underwriting, processing, and servicing in our focus group with industry stakeholders. Participants strongly preferred delegated underwriting in exchange for risk sharing over indemnification to FHA for several reasons. First, industry stakeholders are familiar with the Fannie Mae risk-sharing model and have successful experience with using it. They saw this type of risk sharing as the best way to align the interests of parties in the transactions. MAP lenders expressed a willingness to have "skin in the game" and embraced the additional responsibilities associated with full delegation of the underwriting decision. They also believed that risk sharing allowed them to better quantify retained risk than a design that required them to provide indemnification to FHA.

Some of the benefits of risk sharing in the proposed designs are depicted in exhibit 3-31.

If delegation is the carrot, then risk sharing must be effectively leveraged as the stick. FHA currently offers risk sharing under Sections 542(b) and 542(c) of the Housing Act. Section 542(c) Risk-Sharing provides a credit enhancement for mortgages on multifamily housing projects processed and underwritten by HFAs. Section 542(b) provides reinsurance on multifamily housing projects processed and underwritten by qualified participating entities (QPEs)—currently, the GSEs. Some details of existing risk-sharing arrangements are shown in exhibit 3-32.

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92 Multifamily Delinquency Rate Decline Implies Strong Market, September 4, 2013, http://www.housingwire.com/articles/26616-multifamily-delinquency-rate-decline-implies-strong-market.

93 FHA Annual Management Report, Fiscal Year 2012. Fannie Mae, 2013.

Exhibit 3-31. Benefits of Risk Sharing

Borrower Benefits	Lender Benefits	HUD/FHA Benefits	Ginnie Mae Benefits
• Provides non-cyclical financing • Offers longer loan term financing • Better manages uncertainty in the approval/closing process • Lower equity requirement	• Delegated Authority • Eliminates "gotcha syndrome" • Standardized Processing and underwriting • "Skin in the game" • Higher Servicing Fees	• Stabilizes insurance fund • Increases affordable housing • Creates opportunity for better program compliance • Facilitates a better HUD/FHA /lender business relationship • Allows better utilization of resources	• Increases affordable housing • Improves Issuer liquidity • Reduces loss severity • Creates opportunity for better program compliance • Facilitates a better Ginnie Mae/Issuer business relationship

FHA = Federal Housing Administration.

Exhibit 3-32. Fannie Mae and FHA Risk-Sharing Arrangements

Organization	Risk-Sharing Arrangement	Underwriting Requirements
Fannie Mae[a]	**Pari Passu:** Fannie Mae and lender share losses on a pro rata basis with 1/3 of losses to the lender and 2/3 to Fannie Mae.	Fannie Mae
	Standard: Lender bears a share of losses, calculated using a tiered loss sharing formula (generally involving a first loss position and a cap at 20 percent of original loan amount) based on established risk factors such as LTV and DSCRs.	Fannie Mae
	Top Loss: Lender bears a fixed percent or amount of the original total balance of all loans in a specified pool of loans. The lender bears all losses on loans in the pool until the specified recourse obligation is exhausted.	Fannie Mae
FHA[b]	Section 542(b) of the Housing and Community Development Act of 1992 authorizes HUD to enter into reinsurance agreements with Fannie Mae, Freddie Mac, QFIs, and the Federal Housing Finance Board. The agreements provide for risk sharing on a 50/50 basis.	Fannie Mae and Freddie Mac
	Section 542(c) enables HUD to carry out a program in conjunction with qualified state and local HFAs to provide federal credit enhancement for loans for affordable multifamily housing through a system of risk-sharing agreements. In Tier I (50/50 shared risk), HUD delegates the bulk of the underwriting and processing to the HFA. In Tier 2 (HUD 90%, HFA 10%), HUD retains more of the underwriting and processing responsibilities.	HFAs and FHA

DSCR = debt-service coverage ratios. FHA = Federal Housing Administration. HFA = housing finance agency. LTV = loan-to-value. QFI = qualified financial institution.
[a] Delegated Underwriting & Servicing (DUS®): The Role of Risk Retention in Multifamily Finance, Fourth Quarter 2011.
[b] http://portal.hud.gov/hudportal/HUD?src=/hudprograms/mmrsp.

Lenders we interviewed believe that risk sharing leverages lenders' local market expertise. They believed that lenders with strong knowledge of local market conditions make better underwriting decisions and do a better job servicing loans to avoid defaults. In addition, the shift in role for FHA from "processor" to "monitor" ensures lender financial accountability for poor underwriting. That is, it becomes increasingly difficult to hold originating lenders accountable for loans that default as the loan ages. Fannie Mae-like risk-sharing arrangements extend participating lenders' financial accountability for the life of the loan.

3.3.2 Implications of Design Drivers

The design drivers have two primary implications. First, a key ingredient in a successful design is access to the secondary market via Ginnie Mae as an outlet for small multifamily loans. Securitizing loans reduces interest rates for borrowers, but also reduces prepayment risk and uncertainty of loan placement, and increases lender liquidity and servicing income. Loans securitized into Ginnie Mae pools typically have fixed-rate terms of at least 10 years. The longer loan term eliminates the risk of finding replacement refinancing at the end of the adjustable rate terms normally associated with conventionally financed loans with a shorter term. On occasion, some conventional lenders have offered loan terms of up to 15 years—still well short of a typical FHA 35- or 40-year loan term. The longer term financing also allows for funding for repair and replacement of major systems (roofing, heating, and air conditioning) to be spread across a longer period of time, which helps keep rents affordable.

Discussion participants indicated that there would be strong market demand for a longer term product that offered Ginnie Mae securitization. This sentiment echoes the conclusion of a Fannie Mae (2011) report that identified a need in the small multifamily market for long-term fixed-rate loans that can be placed into mortgage-backed securities.

The second primary implication is that delegation and risk sharing solve a number of the obstacles identified to financing small multifamily properties. Although delegating to multifamily lenders is a new model for FHA, currently in use only in the 542(b) and (c) programs, it is not a new model in the market, having been used by Fannie Mae for a number of years (and to a lesser extent by Freddie Mac). It includes the following advantages:

- Improved access to financing for small multifamily properties at better terms than are currently available in the market, improving the financial sustainability of those properties.
- Low implementation costs for HUD because it uses existing system infrastructure (currently used for the Sections 542(b) and (c) risk-sharing programs).
- Builds on success of a delegated risk-sharing program, which demonstrates FHA's ability to shift its role from processor to compliance reviewer using its existing data collection and information management capabilities.
- Provides a stable and predictable underwriting process supported by known underwriting parameters (from the 221(d)(4) and 223(f) programs).
- Creates an opportunity to increase the supply of affordable housing without a subsidy or an unreasonable increase in risks.
- Relies on a model that industry stakeholders are comfortable with through their experience with FHA (from the Sections 542(b) or (c) risk-sharing programs) or the GSEs.

The delegation of the loan processing to MAP lenders reduces unnecessary duplication of underwriting functions and repurposes HUD staff, which has the potential to substantially increase lender participation without an unacceptable increase in risks.

3.3.3 Program Designs

All three options were designed for implementation as standard FHA programs, which mean they also provide funding for rehabilitation. Under program design option 1, the duties of the MAP lender are increased to include processing, underwriting, and servicing of originated loans as well as the decision to insure the loan. MAP lenders currently only make insuring recommendations based on their loan processing and underwriting using Section 221(d)(4) and/or Section 223(f) program requirements.

Program design option 2 adds some features to the current Sections 542(b) and 542(c) Risk-Sharing Programs. The primary drawback to these programs is that loans are not eligible for inclusion in Ginnie Mae pools. In addition to supporting inclusion of Section 542 loans in Ginnie Mae pools, this design proposal seeks to broaden application of the delegation and risk sharing to loans insured under FHA's leading production programs, 221(d)(4) and 223(f).

Program design option 3 proposes to underwrite 5- to 10-unit properties using some of the same underwriting standards currently applied to 2- to 4-unit properties. Like FHA's other single-family programs, it does not incorporate risk sharing, but adds a personal guaranty to mitigate risk.

As discussed previously, we also considered a program with a direct endorsement approach and an indemnification requirement. But, lenders we interviewed viewed this design as being inadequate to mitigate risk to FHA and unacceptable to lenders because of the uncertainty related to the indemnification requirement, so this design was rejected.

Program Design Option 1: Delegated Processing, Underwriting, and Insuring With Risk Sharing for MAP Lenders

In this option, FHA would delegate the decision to insure a loan to its MAP lenders. In exchange, all loans would be subject to a life-of-loan risk-sharing arrangement. The basic eligibility, underwriting, and servicing requirements would remain the same as the existing Section 221(d)(4) and/or Section 223(f) program requirements (listed in appendix F). The primary difference is that all loans are subject to risk-sharing arrangements similar to those offered under Sections 542(b) and 542(c). The basic features and requirements of option 1 are in exhibit 3-33.

Exhibit 3-33. Option 1 Program Features and Requirements

Requirement	Limits	Caveats and Features
Loan term	35 to 40 years	Longer terms support affordable housing preservation/production
Property type	5 or more units	Emphasis on producing/maintaining supply and affordability and supporting financing for 5- to 50-unit properties
Loan purpose	New construction or substantial rehabilitation; purchase or refinance of existing multifamily housing	Emphasis on energy efficient housing
Loan size	No maximum loan size	Insurable portion of loan controlled/balanced by LTV and DSCR
Maximum mortgage limitation	85 to 90% for purchase and 80 percent for refinance	Emphasis on energy efficient housing
Debt-service coverage ratio	1.11 for affordable housing and 1.20 for market-rate housing	Lower DSCR creates cashflow for operations and enhances rent affordability
LTV—based on as-rehabilitated value or as-constructed value	83.3 to 90% for purchase and 80% for refinance	Higher LTVs for affordable housing projects
Delegated processing, underwriting, and Insurance	Approved MAP lenders above a certain net worth (TBD) and additional approval requirements	Additional lender approvals and ongoing performance-based compliance monitoring required—will require additional training/retraining of compliance staff
Risk sharing	• 50/50 • 90/10	The 50/50 option is currently used with Sections 542(b) and (c), and the 90/10 option is currently used with Section 542(c). These two options essentially offer the lender an opportunity to use HUD's underwriting requirements or their underwriting requirements.
Securitization	No risk share loans are included in Ginnie Mae pools.	Regulatory approval needed to include loans in Ginnie Mae pools.
MIP	Standard rates	Interest rate plus mortgage insurance premium should not adversely impact affordability, but manage risks to the insurance fund

DSCR = debt-service coverage ratio. LTV = loan to value. MAP = multifamily accelerated processing. MIP = mortgage insurance premium.

Detailed delegated processing, underwriting, and insurance procedures for option 1 are in appendix I.

Lender use of the program could be encouraged using a strategy employed by the GSEs during the 1990s. During that time, the GSEs granted waivers or program exceptions to lenders based in part on the lenders' commitment to increase their production of affordable housing loans. Similarly, the delegation offered under option 1 could be extended to large multifamily loans based on lenders' production of small multifamily loans. Such an extension could create a competitive market advantage for participating MAP lenders.

Program Design Option 2: Section 542(b) and (c) Risk-Sharing Program

Option 2 is also intended to increase the supply of financing for small multifamily properties by using delegation and risk sharing that rely on participating organizations using their own processing and underwriting standards to reduce cost and increase operating efficiency. This option is essentially a modification of the existing 542(b) and (c) risk-sharing programs (the basic eligibility, underwriting, and servicing requirements of those programs are included in appendix F).

Unlike option 1, which requires lenders to use FHA's existing underwriting guidelines for the 221(d)(4) and 223(f) programs, option 2 allows lenders to use their own standards. However, the extent of this flexibility is based on the level of risk sharing: a 50/50 risk-share arrangement allows the participating organization to use its own underwriting requirements, while the 90/10 risk-share arrangement requires the lender to use FHA requirements. Key differences between option 2 and Section 542(b) and 542(c) are in the risk-sharing arrangements, loan purpose, and eligible borrowers, shown in exhibit 3-34. Additions to the existing 542(b) and 542(c) programs are shown in bold italics

Exhibit 3-34. Option 2 Additions to 542(b) and 542(c)

Risk Sharing
• Current 542(c) and 542(b) programs • 542(c)—50/50 risk share relies on HFAs' own underwriting standards negotiated with FHA, 90/10 risk shares rely on FHA guidelines; loan must be fully self-amortizing • 542(b)—Currently 50/50 risk sharing; the program is governed by the applicable risk-share agreements • ***Makes 90/10 applicable to Sections 542(b) and 542(c)***
Loan Purpose
• Current 542(c) and 542(b) programs • 542(c)—Provides credit enhancement for mortgages of multifamily housing projects in which loans are underwritten, processed, serviced, and disposed of by HFAs • 542(b)—HUD provides reinsurance on multifamily housing projects in which mortgage loans are originated, underwritten, serviced, and disposed of by QPEs • ***Option 2 provides credit enhancement and/or reinsurance for 5- to 50-unit existing portfolio projects under Sections 542(b) and 542(c).***
Eligible Borrowers
• Current 542(c) and 542(b) programs • 542(c)—Single asset, sole purpose mortgagors eligible under FHA guidelines—well capitalized HFAs • 542(b)—To date, the only QPEs are Fannie Mae and Freddie Mac (for example, GSE guidelines) • ***Option 2 adds well-capitalized CDFIs***

CDFI = community development financial institution. FHA = Federal Housing Administration. GSE = government-sponsored enterprise. HFA = housing finance agency. QPE = qualified participating entity.

Basic eligibility and underwriting requirements would remain the same as Section 542(b) and (c) but with the processing caveats shown in exhibit 3-35. An additional consider for risk sharing is that lenders must maintain substantial net worth to back their exposure. As noted previously, FHA's previous experiment with coinsurance was problematic in part because of lenders did not have sufficient resources (net worth) to honor their obligations. Net worth of $1 million is required for Section 542(b) and (c); some similar net worth requirement may be necessary as part of option 2. It is not clear, however, whether MAP lenders would find this requirement workable. Regional banks, which are more likely to be well capitalized, may be a better fit in terms of net worth requirements and be able to generate enough volume to justify a platform.

Exhibit 3-35. Option 2 Features and Requirements

Requirement	Limits	Caveats
Loan terms	Relies on organization's own underwriting standards negotiated with FHA	Must meet Ginnie Mae securitization requirements
Property type	5 to 50 units	Regulatory approval needed to include loans in Ginnie Mae pools
Loan size	Relies on organization's own underwriting standards negotiated with FHA	Regulatory approval needed to include loans in Ginnie Mae pools
Maximum mortgage limitation	No maximum	Regulatory approval needed to include loans in Ginnie Mae pools; with focus on energy efficiency
Debt-service-coverage	Relies on organization's own underwriting standards negotiated with FHA	Regulatory approval needed to include loans in Ginnie Mae pools
Loan-to-value—based on as-rehabilitated value or as-constructed value	Relies on organization's own underwriting standards negotiated with FHA	Must meet Ginnie Mae securitization requirements
Delegated Processing, Underwriting, and Insurance	HFAs and GSEs—and TBD Others	Must meet HUD Lender Approval requirements and Ginnie Mae Issuer requirements
Financing options	Credit enhancement and reinsurance	Regulatory approval needed to include loans in Ginnie Mae pools; with focus on energy efficiency
Eligible borrowers	542(c)—Single asset, sole purpose mortgagors eligible under FHA guidelines; and well capitalized CDFIs. 542(b)—GSE guidelines.	Regulatory approval needed to include loans in Ginnie Mae pools
Risk sharing	• 50/50 • 90/10	The 50/50 option is currently used with Sections 542(b) and (c); the 90/10 option is currently used with Section 542(c), but no risk share loans are included in Ginnie Mae Pools.
Securitization	Lenders approved by Ginnie Mae could securitize loans.	Regulatory approval would be needed to include loans in Ginnie Mae pools.
MIP	Standard rates	Interest rate plus mortgage insurance premium should not adversely impact affordability

CDFI = community development financial institution. FHA = Federal Housing Administration. GSE = government-sponsored enterprise. HFA = housing finance agency. MIP = mortgage insurance premium.

Program Design Option 3: Delegated Processing, Underwriting, and Insuring by MAP Lenders of 5- to 10-unit Single-Family/Multifamily Hybrids

Option 3 establishes a new cutoff for the number of units considered single family versus multifamily. The dividing line between single-family and multifamily properties is a fairly arbitrary artifact of the National Housing Act of 1934 and secondary market practices, and this option proposes moving the dividing line. Basic eligibility and underwriting requirements would be similar to HUD's current underwriting requirements for two- four-unit properties, but with the processing caveats shown in exhibit 3-36.

Industry stakeholders we interviewed saw similarities between the smallest multifamily properties and the 2- to 4-unit properties that are eligible for FHA and GSE single-family financing, but suggested that unique processing and underwriting skills were needed for small multifamily properties. In addition to specialized training for processors and underwriters, modified valuation methods and industry training for appraisers would need to be developed.

Consistent with FHA's single-family programs, this option does not include risk sharing. To manage risks, however, participating lenders will be required to dedicate resources to the specialized underwriting required for these loans. In addition, to offset risk, lower debt-service coverage ratios should correspond to lower LTV ratios. Borrowers must also have at least 6 months reserves to cover any unanticipated operating or capital expenses. Borrowers would be personally liable for the debt by providing a personal guaranty.

Exhibit 3-36. Option 3 Features and Requirements

Requirement	Limits	Caveats
Loan terms	30 years	Loans are not necessarily targeted for securitization
Property type	5 to 10 units	Loans will be underwritten using HUD underwriting requirements for single-family 2- to 4-unit properties with the appropriate modifications to account for the higher number of units.
Loan size	Maximum loan amount that is supportable by net rental property income	Subject to 2- to 4-unit requirements with adjustments for the additional units—up to 10 units. Including 5- to 10-unit properties may require regulatory approval.
Maximum mortgage limitation	Maximum loan amount that is supportable by net rental property income	Appraiser must complete the gross rent multiplier (calculations and analysis
Debt-service-coverage	1.25 to 1.30	Risk control
Loan-to-value	Maximum of 75%	Used as a risk control
Delegated processing, underwriting, and Insurance	FHA approved lenders	Must meet HUD Lender Approval/training requirements
Financing options	Credit enhancement, insurance, and reinsurance	Subject to 2- to 4-unit insurance requirements with an increase in premiums (TBD)
Eligible borrowers	Same as current 2- to 4-unit eligible borrowers, but with increased reserve requirements—6 months reserves equal to PITI.	Will require credit and valuation adjustments to accommodate 5- to 10-unit properties
Securitization	Not a requirement	If the lender chooses securitization, a di minimus number of these loans may be placed in either single-family or multifamily Ginnie Mae pools.
MIP	2- to 4-unit rates with an increase in premiums (TBD)	Sufficient to cover the risk to the insurance fund (TBD)

FHA = Federal Housing Administration. MIP = mortgage insurance premium. PITI = principal, interest, taxes, and insurance.

Increasing financing for this segment of the market could help HUD support unsubsidized affordable housing units, because a higher percentage of these properties tend to have affordable rents. The program would probably be most attractive to less experienced mom-and-pop type borrowers.

Examination of Challenges to New Programs

Although FHA fully delegates single-family underwriting and insuring decisions to lenders where the multifamily area is concerned, it has several important considerations to ponder before pursuing a similar model. These considerations include—

- Ability of the organization to facilitate a transition to a compliance reviewer after such a long history as a loan processor and underwriter.
- System constraints in implementing a "just in time" monitoring system.
- Employee resistance and fears of job losses.
- Political support for increased delegation. FHA's unsuccessful coinsurance program, which ended in 1990, is still mentioned as one of the reasons for not pursuing any further delegation of portions of the underwriting and insuring decision process. The success of Section 542, however, and its transition from a demonstration program to a standard FHA program should be viewed as evidence that delegation can be a successful model.
- Policy, regulatory, or statutory changes needed to allow for delegation of the insuring decision in the Section 221(d)(4) and 223(f) programs and the single-family/multifamily hybrid, and approval to include these loans in Ginnie Mae pools.

Another important consideration is that relying more heavily on delegation may help FHA better achieve its mission. One part of the FHA's mission is to be a continuous source of financing for housing affordable to low- and moderate-income families. Most industry observers agree that a high percentage of units in small multifamily projects are made available to the rental housing market at affordable rents. Equally important, these units are concentrated in urban areas close to affordable, public transportation with good access to employment centers.

Unfortunately, transitioning to a model of delegation with or without risk sharing presents agency and regulatory/statutory approval challenges. Although Fannie Mae has successfully used delegation and risk sharing for nearly 20 years, the transferability of this positive experience to FHA is unclear. The strong performance of loans in the FHA Section 542 program may aid in implementation of a broadened program for the Sections 221(d)(4) and 223(f) programs and the single-family/multifamily hybrid; however, 542(b) and (c) are confined to mission-oriented lenders, while Sections 221(d)(4) and 223(f) are used primarily by private lenders.

The hybrid single-family/multifamily option may address the obstacles to financing properties at the lower end of the small multifamily market by substantially reducing costs, but FHA policy makers and risk managers may have apprehension about delegation without risk sharing. In addition, it will be difficult to fully understand the loan performance risks before a demonstration is implemented, because of the lack of data that allow HUD to observe the performance of similar loans. FHA may also be losing valuable multifamily underwriting and program expertise as older workers retire.

FHA is not alone in facing challenges to making program changes. Each of the GSEs indicated that they would like to better serve the small multifamily market segment, but do not have the same freedom as in

the past to make program changes. Each organization is overseen by the Federal Housing Finance Authority (FHFA) and must get its approval for any new programs. Despite the fact that congressional approval is not required, and that GSE multifamily programs have industry-leading loan performance, neither of the GSEs expressed optimism in implementing any new program that requires the approval of their regulator.

These challenges faced by the GSEs underscore the difficulty that FHA may face in getting approval to broaden delegation and risk sharing to the Section 221(d)(4) and 223(f) programs and the single family/multifamily hybrid. There may also be industry challenges to changing the traditional definition of single family and multifamily. As discussed in the market impacts section, failure to improve service to the small multifamily segment of the housing market may mean that units in small multifamily properties will increasingly be lost to the housing stock.

3.3.4 Multifamily Loan Performance

An important component of a new loan program is an understanding of the likely performance of the loans that will be originated. Not surprisingly, research shows that the LTV and the DSC ratio are important predictors of multifamily mortgage performance. To mitigate risk, lenders often require lower LTVs from risky loan applicants (those with higher DSC ratios), however, mortgages with low or moderate LTVs may be just as likely to default as mortgages with high LTVs. Other factors are also important, including the stability of vacancy rates and cashflow, and the interest rate risk premium for fixed-rate and ARM loans. (See, for example, Archer et al., 2002; Goldberg and Capone, 2002; Grovenstein et al., 2005.)

The ideal dataset for analyzing how loans originated under proposed programs would include a large number of small multifamily loans originated over a long period of time, so that performance of loans in different economic conditions can be observed. Detailed information about the borrowers and the loans, such as LTV, DSCR, location, the interest rate and type (fixed or variable), loan amount, and the loan type (self-amortizing or balloon) are all necessary for reasonable estimates of how different risk factors affect loan performance under different conditions.

The data available for this study fell well short of the ideal. We used RealtyTrac data, which contain data on multifamily loan originations and foreclosure filings in many markets, and we used Freddie Mac's publicly available Multifamily Loan Performance Database (MLPD). RealtyTrac data lack key loan and borrower characteristics such as DSC ratio, LTV ratio, and borrower credit score. In addition, its coverage of the market is wildly uneven, with good coverage in MSAs like Chicago, New York, and Los Angeles, but weak coverage in most other markets. Nevertheless, we used it to describe the extent to which rates of foreclosure filings vary by year of origination, loan size, and interest rate.

RealtyTrac Data

The RealtyTrac data on 99,232 multifamily loan transactions totaling $105 billion contain property-level information on sales, loans, and foreclosure filings for 2005–2012.[94] A comparison with other sources of data on multifamily loan originations shows that the RealtyTrac data do not represent complete coverage of the market (see exhibit H-1 in appendix H). Based on a comparison with MBA data, which is a

[94] RealtyTrac data for 2012 includes transactions through September.

combination of an MBA survey of lenders and HMDA data, RealtyTrac data represent between 24 and 47 percent of the market, with better coverage in 2005 (with 47 percent of the market) and worsening over time (to as little as 24 percent of the market in 2012).

Importantly, coverage of the market in RealtyTrac varies by market, limiting the external validity of descriptive analyses. MSAs like Chicago, New York, Los Angeles, Miami, Philadelphia, and San Diego appear to have relatively complete market coverage; others do not.

The strength of RealtyTrac data is that it contains public records on both mortgage originations and foreclosure filings, and matching the two allows for descriptions of cumulative foreclosure rates by origination year, loan size, and some loan characteristics (such as loan amount and interest rate). It has two primary limitations: (1) the RealtyTrac data file does not include important underwriting characteristics, including the debt-service coverage ratio, LTV ratio, or the borrower's credit score,[95] and (2) it lacks other borrower characteristics. The importance of these characteristics is highlighted in Fannie Mae (2011), which reports that a review of their small-loan portfolio found that 64 percent of all small-loan delinquencies were directly related to borrowers' credit issues. For this reason, Fannie Mae has unique requirements for small-loan borrowers, including borrowers' credit scores as well as requirements related to borrowers' net worth and liquidity. The RealtyTrac data also lack information about the number of units in each property.

MLPD

Freddie Mac's MLPD contains panel data on about 11,000 multifamily loans purchased by Freddie Mac and held in portfolio from 1994 through 2011Q1 with a total origination UPB of $112 billion.[96] The sample used for this report is limited to the 8,983 MLPD loans purchased by Freddie Mac in 2000–2011. The database includes information on key outcomes such as whether a loan ever experienced foreclosure. In addition, the MLPD includes a variety of multifamily loan characteristics, including the following:

- LTV ratio.
- DCR ratio.
- Unpaid principal balance when the loan was purchased.
- Current interest rate.
- An indicator for whether the loan had a fixed or variable interest rate.

Because it includes these loan characteristics, the MLPD is in some ways an improvement over RealtyTrac data. However, it has notable drawbacks. First, it only captures loans held in Freddie Mac's portfolio and, therefore, misses important segments of the multifamily mortgage market (GAO, 2012). Freddie Mac's share of the multifamily loan market has at times been quite small—only 10 percent in

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95 We computed an LTV ratio based on the price and loan amount associated with a transaction. We found the LTV ratio based on these variables to be unreliable, however. The price associated with the transaction often appears to be underestimated, leading to more than one-half of all observations with LTV ratios greater than 1.00 (that is, loan amount greater than the price).

96 See: http://www.freddiemac.com/multifamily/pdf/mf_securitization_investor-presentation.pdf.

2005—but peaked at 42 percent in 2009, and more recently was 27 percent in 2011. Although most Freddie Mac's multifamily loan business is held in portfolio, a percentage of loans are securitized and sold.[97] These loans are not included in MLPD. More importantly, however, is that loans held in Freddie Mac's portfolio perform considerably better than loans in commercial mortgage-backed securities (CMBS) or those originated by FHA lenders.[98] Therefore, foreclosures are rarely observed.

Very few foreclosures are observed in MLPD, so these data were more of a demonstration of the conservative nature of Freddie Mac's multifamily underwriting than anything else.

Fannie Mae is much more active in purchasing small multifamily loans than Freddie Mae, so data on their portfolio could provide a great deal of insight about small multifamily loan performance, but their data are not publicly available, so we could not draw on Fannie Mae's experience.

Evidence From RealtyTrac

Analysis of data from RealtyTrac suggests that multifamily financing can be a risky business, and provides some evidence that small multifamily loans are riskier than large multifamily loans (detailed analysis is in appendix H). The economic downturn that began in 2007 was hard on multifamily loan performance: of small multifamily loans originated in 2007, at the peak of multifamily property values, 19.7 percent were foreclosed within 5 years. By comparison, the 5-year foreclosure rate for loans originated in 2005 and 2008 is 9.6 and 14.7 percent, respectively (exhibits 3-37 and 3-38). Among large multifamily loans in RealtyTrac, 2006 appears to be the worst performing cohort, with 13.2 percent of loans being foreclosed within 5 years compared with 3.9 percent of 2005 loans and 10.1 percent of 2008 loans. The number of units per property is not available in RealtyTrac, so, in these exhibits, small multifamily properties are those with a principal balance of $5 million or less in high-cost areas and $3 million or less anywhere else. Properties with larger principal balances are considered to have large multifamily loans.

Larger loans in RealtyTrac had lower foreclosure rates 5 years after origination than smaller loans. The lower foreclosure rate of large versus small multifamily loans occurred overall and within each category. Among small multifamily loans, loans in the top quartile of loan amount had a cumulative foreclosure rate of 12.6 percent compared with 16.2 percent for loans in the smallest loan amount quartile. Among large multifamily loans, the difference was more pronounced: loans in the top quartile of loan amount had a cumulative foreclosure rate 5 years after origination of 6.0 percent compared with 14.2 percent for loans in the lowest quartile of loan amount.

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[97] Most of Freddie Mac's multifamily business, as measured by unpaid principal balance, was historically held in portfolio. For example, Freddie Mac retained most multifamily loans in portfolio every year from 1994–2007 except 2003. In 2003, the percentage of unpaid principal balance retained was 45 percent. In 1994 through 2002 and 2004 through 2007, the percentage of unpaid principal balance retained in portfolio ranged from 65 percent in 2002 to 93 percent in 2006 (GAO, 2012).

[98] For example, Freddie Mac's serious delinquency rate (loans 60 days or more delinquent as of December 31, 2011) for loans acquired or guaranteed in 2005 was 0.9 percent compared with 5.6 percent for CMBS multifamily lenders and 1.2 percent for FHA multifamily lenders (see http://www.gao.gov/assets/650/647800.pdf).

Exhibit 3-37. Cumulative Foreclosure Rate for Small Multifamily Loans, RealtyTrac data

Cumulative Foreclosure Rate

Origination Year	Number of Loans Originated	Years Since Origination							
		1	2	3	4	5	6	7	8
2005	23,335	0.3%	0.5%	2.9%	5.9%	9.6%	11.9%	13.8%	14.3%
2006	22,778	0.2%	2.9%	7.1%	12.3%	15.7%	18.5%	19.3%	
2007	16,493	0.6%	3.5%	10.0%	15.6%	19.7%	21.2%		
2008	8,083	0.9%	4.8%	9.5%	13.2%	14.7%			
2009	6,270	1.6%	4.6%	7.0%	8.1%				
2010	6,615	0.8%	2.3%	3.0%					
2011	7,167	0.8%	1.0%						
2012	7,405	0.2%							

Note: Cumulative foreclosure rate is the total number of multifamily loans originated in the identified year that have foreclosed, divided by the total number of multifamily loans originated in the identified year.
Source: Tabulation of RealtyTrac data

Exhibit 3-38. Cumulative Foreclosure Rate for Large Multifamily Loans, RealtyTrac data

Cumulative Foreclosure Rate

Origination Year	Number of Loans Originated	Years Since Origination							
		1	2	3	4	5	6	7	8
2005	103	0%	0%	1.0%	1.9%	3.9%	5.8%	13.6%	15.5%
2006	205	0%	0%	2.9%	8.8%	13.2%	14.1%	14.6%	
2007	394	0%	0.5%	3.3%	7.6%	10.2%	10.7%		
2008	218	1.4%	3.7%	6.4%	8.7%	10.1%			
2009	157	1.9%	5.1%	8.3%	8.3%				
2010	227	0.4%	1.8%	1.8%					
2011	353	0.6%	0.6%						
2012	482	0%							

Note: Cumulative foreclosure rate is the total number of multifamily loans originated in the identified year that have foreclosed, divided by the total number of multifamily loans originated in the identified year.
Source: Tabulation of RealtyTrac data

For small multifamily loans, a higher interest rate was associated with a higher cumulative foreclosure rate. This relationship was not found for large multifamily loans, but those results are counter to intuition and previous evidence. This unexpected result may be because of the fact that the sample of large multifamily loans in RealtyTrac is small, information on interest rate was missing for most of the loans, and foreclosures are not common events so few observations were made from which to draw conclusions.

Evidence From Freddie Mac

Of the 8,983 loans purchased by Freddie Mac in 2000–2011 that were included in the MLPD dataset, only 2,142 were small multifamily loans, and only 8 loans terminated in a foreclosure, a miniscule percentage. Small multifamily loans appear to be more conservatively underwritten than larger loans, which is indicated by lower LTV ratios and higher DSCRs. Small and large multifamily loans had similar terms, at roughly 10 years. Small multifamily loans were more likely to have a fixed rate and less likely to involve a balloon payment. As expected, foreclosed loans had higher LTVs and DSCR ratios than other loans. Detailed analysis of Freddie Mac MLPD is in appendix H.

3.4 Multifamily Market Impacts

A new financing option for small multifamily properties could in theory impact rental housing supply, conventional lending, and rents. Any impacts depend on the market demand for the new program, which is affected by the demand for small multifamily property purchases and refinances.

Purchase of a small multifamily building is an investment decision and, as such, is driven by the same factors that influence other investment decisions, primarily the risk of the investment and the expected return compared with the risk and expected return of other types of investments. Alternative investments include government and corporate bonds, and these returns have often been attractive compared with the higher risk of small multifamily investment. Recently, with very low yields on these kinds of investments, property investment has become relatively more attractive. Regardless, investment in small multifamily property has been more difficult than investment in other types of housing for several reasons:

- Fewer units lead to higher risk that expected rents will not materialize—a small number of vacancies could turn net cashflows negative.
- Small multifamily properties are often too small to support professional property management.
- Financing is typically more costly because small multifamily loans lack a secondary market outlet.

The demand for refinancing primarily depends on the current cost of financing relative to interest rates during the previous periods. It is also related to borrowers' financial sophistication and preferences. Some people we interviewed for this research suggested that small multifamily property owners are less likely than other owners to refinance because they may not be aware of the financial advantages.

Given any level of demand for small multifamily purchase or refinancing, borrowers also have a decision to use FHA financing or some other source of financing. This decision is a function of factors such as financing costs, loan features, and the speed and efficiency of processing of FHA loans relative to other financing sources. Regardless of costs or speed, however, borrowers' *ability* to use FHA financing critically depends on lenders' willingness to implement the new program.

In describing the likely impacts of a new FHA small multifamily insurance program on the market, we draw on relevant literature including published data characterizing the current state of the housing market; analysis of data from national surveys; and interviews with industry experts. The following section describes the drivers of market impacts in each of the three design proposals. The final section concludes by synthesizing the likelihood of market impacts.

3.4.1 Option 1, Delegated Processing, Underwriting, and Insuring With Risk Sharing for MAP Lenders

Recall from section 3.3 that under option 1, basic eligibility, underwriting, and servicing requirements are same as the existing Section 221(d)(4) and/or Section 223(f) program requirements. The key difference is that the ***processing, underwriting, and insurance decision is delegated to the MAP lender.*** This delegation is intended to speed the origination process and give borrowers more certainty about the timeframe for a financing decision. Lenders told us that a long process and uncertainty related to financing add costs to the project for borrowers. Loan terms for small multifamily properties will also be more favorable than are generally currently available.

Option 1 makes several improvements over currently available sources of funding by providing—

- A predictable (and shorter) processing timeframe.
- Lower origination costs for lenders.
- Better pricing because of access to an efficient secondary market.
- Longer term loans.
- Fixed-rate financing.

We discuss each of these market impact drivers from the perspective of borrowers and lenders to generate a qualitative assessment of whether this option is likely to create a significant impact on rental housing supply, conventional lending, or rents.

Borrowers' Perspectives

Option 1 would almost certainly offer borrowers lower cost financing than is currently available. Some recent market rates help illustrate that the benefits of FHA financing could be sizeable. During the third quarter of 2011—

- The median FHA Section 223(f) loan had a mortgage rate of 3.95 percent.
- The median 10-year multifamily loan that was included in a Freddie Mac K-series deal had a 71-percent LTV and a mortgage rate of 5.03 percent.
- The average (not median) life insurance company apartment loan had a 61-percent LTV and a 4.47-percent mortgage rate.

Assuming similar cost differences across financing sources for small multifamily properties, the FHA would clearly be the best execution for small multifamily borrowers.

Lenders' Perspectives

A key to success of a new effort is attracting trustworthy lender partners who are dedicated to the business of small multifamily lending. Therefore, whether high-quality partners would offer option 1 is central to the analysis of market impacts. Given the likely borrower interest, the key remaining issue for lenders is ease of implementation and use.

The reduced timeframe offered by delegated processing could be important to lenders because it is likely to reduce their origination costs—perhaps by as much as 25 percent, according to one industry stakeholder—improving the profitability of small multifamily loans. Lenders we interviewed reported that

multifamily borrowers also prefer shorter processing timeframes. In the market conditions that have existed in recent years, FHA insurance and the associated Ginnie Mae securitization has been described as the best execution for multifamily financing—meaning that it offers the best pricing to borrowers—so borrowers have been willing to wait the 6 months they believe is typical for FHA processing.[99] In a different set of market conditions, however, shorter processing timeframes could improve the competitiveness of MAP lenders.

Although risk sharing *could* speed processing time and reduce lender costs, it will not be automatic. HUD will have to make a concerted effort to put in place a less intensive process for reviewing risk-sharing loans. One current FHA risk-sharing lender told us that HUD's process does not appear to vary for risk-sharing loans, despite the fact that HUD is taking only 50 percent of the risk and the underwriting process is delegated. Processing time certainly depends on lenders' own processes, but it also depends on the procedures and human resources in place at the lenders' local HUB office. Given that the total processing time for Fannie Mae and Freddie Mac small multifamily loans is more typically 60 to 100 days, and that achieving a similar timeframe is important to the success of a new financing option, successful implementation might require HUD to continue to streamline its internal procedures.

Although a shorter processing timeframe and lower costs are important to lenders, they may not go far enough toward encouraging lenders to implement a new program. Implementing a modified FHA program probably involves creating new infrastructure rather than simply adding to existing infrastructure that is designed for large multifamily lending. One industry stakeholder we interviewed said that for a lender to produce small multifamily loans, a separate business unit has to be devoted to such lending. He said, "A small multifamily loan is never going to be a priority in a regular multifamily business unit, because priorities are driven by loan size."

Considering the experience of FHA's Small Projects Processing (SPP) is also instructive. SPP also attempted to increase efficiency and decrease costs by modifying the basic mortgage insurance processing procedures under Sections 223(f) and 221(d)(4). SPP sought to expand access to financing for small multifamily properties by delegating streamlined processing and other responsibilities to lenders and a "fast track" approach to HUD issuance of firm commitments and endorsement of the mortgage. The initiative also included a secondary market option and availability of a GNMA mortgage-backed securities program to pool mortgages insured under SPP.

The program ultimately produced very little volume because of lack of lender interest. SPP continued to have prohibitively high underwriting costs and the timeframe for securing financing was too long (Herbert, 2001). In addition, MAP lenders indicated that HUD's asset administration requirements were too onerous.[100]

Option 1 goes farther than SPP in streamlining processing, but details of implementation, as always, are important. It may be that FHA's current set of MAP lenders is too focused on large multifamily lending and sufficiently interested in small multifamily lending to make this type of lending a priority. Perhaps

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[99] In fact, FHA processing times have continued to improve during the past 3 years, even as demand for FHA insurance has grown rapidly. Recent median processing times for the 223(f) program were 83 days, and 120 days for the 221(d)(4) program (HUD processing time). (FHA staff comments, May 2014.)

[100] MAP Lenders Roundtable Notes, from the Mortgage Bankers Association, October 12, 2007.

relationships with new lenders would be needed. As an additional incentive to originate small multifamily loans, FHA could consider allowing MAP lenders to use delegation and risk sharing on large multifamily loans in exchange for originating small multifamily loans, similar to an approach Fannie Mae used in the past to encourage production of goals-rich loans.

3.4.2 Option 2, Section 542(b) and 542(c) Risk-Sharing Program

Under option 2, basic eligibility and underwriting requirements are the same as the existing 542(b) and 542(c) programs. Like the existing 542(b) and (c) programs, processing, underwriting, and the insurance decision are delegated to lenders. The key differences in option 2 are the following:

- Remove the current affordability restrictions under Section 542(b).
- Provide credit enhancement and/or reinsurance for small multifamily projects already in portfolio.
- Extend participation to well-qualified CDFIs.
- Provide access to the secondary mortgage market via Ginnie Mae securitization.

As with option 1, the market impacts of option 2 depend on the reactions of lenders and borrowers to the program. In the case of option 2, the most important driver is likely to be the newly enabled access to an efficient secondary market. Ginnie Mae securitization would expand the capacity of lenders to produce new loans and would likely reduce financing costs for borrowers.

Program participants, which include HFAs, GSEs, and now CDFIs, are likely to have quite different reactions. The ***GSEs*** currently make limited use of FHA's risk-sharing program. One GSE representative said, "If we were willing to take half the risk we would be willing to take all of the risk." Their use of the program is unlikely to change.

According to people we interviewed, however, ***HFAs*** are likely to originate more loans using the program because the securitization of loans will free up lending capital, not only for new loans originated using the program but also for previously originated loans. In addition, loan pricing is likely to improve because of the advantageous pricing on Ginnie Mae securities in current market conditions. Almost all other sources of capital are now more expensive than Ginnie Mae, so interest rates for borrowers should decrease. That said, not all HFAs originate multifamily loans, and only about one-half are currently approved for HUD risk-sharing. The impact of this additional lending is likely to be modest for the additional reason that HFAs are not ideally suited to originate small multifamily loans. Their focus is on multifamily projects that rely on subsidies such as LIHTCs, which tend to be for larger properties.

CDFIs, which would be newly qualified to participate in risk sharing, are like HFAs in that they are mission-driven lenders and, as such, may be a good fit for a risk-sharing partnership with FHA. Most CDFIs are small institutions with modest loan portfolios, however. As an indication of the scale of CDFI operations, multifamily construction and rehabilitation lending reported to the CDFI Fund for CDFIs are shown in exhibit 3-39.[101] Breakdowns for small and large multifamily projects were not available, so exhibit 3-39 includes both.

[101] Note that only CDFIs with current assistance agreements with the CDFI Fund are required to report, so the data do not represent the entire universe of CDFIs. The CDFI Fund estimates that CIIS captures data from approximately 15-20% of all certified CDFIs.

Exhibit 3-39. Community Development Financial Institution Lending, New Originations for Multifamily Construction and Rehabilitation

	Construction		Rehabilitation	
	Number	Total Amount (millions)	Number	Total Amount (millions)
2004	231	$155.1	574	$624.4
2005	229	$107.1	294	$166.1
2006	273	$153.1	293	$165.7
2007	203	$104.1	165	$133.9
2008	141	$157.8	151	$104.6
2009	133	$71.2	94	$52.5
2010	172	$107.2	207	$127.7

Source: December 2011 Community Development Financial Institution Program Community Investment Impact System data release[102]

Because CDFIs are typically small institutions, they often have limited sources of capital. For example, they are typically not MAP lenders because they cannot meet the capital requirements for qualification. Most do not have access to the secondary market, so access to an FHA risk-sharing program that allows for Ginnie Mae securitization could expand the capacity of CDFIs substantially. However, even doubling the small multifamily loan volume among this group is likely to amount to fairly modest loan production.

3.4.3 Option 3, Single-Family/Multifamily Hybrid

The single-family/multifamily hybrid proposed in option 3 is quite different from HUD's existing multifamily programs. Instead, it relies on the underwriting guidelines used for 2- to 4-unit properties and applies them, with appropriate modifications for the larger number of units, to 5- to 10-unit properties.

The program could be attractive to MAP lenders or to FHA's single-family lenders. In either case, acceptance of the program may depend on whether the loans can be securitized with other single-family loans into Ginnie Mae securities. Either type of lender would probably have to institute some specialized policies and procedures, and may benefit from separate staffing for 1-unit and 2- to 10-unit property underwriting and processing.

FHA financing for 5- to 10-unit properties would almost certainly appeal to borrowers because it offers long-term fixed-rate financing that is otherwise not widely available to these properties. Assuming loans could be securitized and not required to be held in lenders' portfolios, interest rates would also be competitive, perhaps similar to those on 1- to 4-unit properties but with slightly higher upfront costs.

[102] CDFI Fund, "CDFI Fund Releases Most Comprehensive CIIS Data to Date, FYs 2004-2010." U.S. Department of Treasury website, December 2011. Available at: http://www.cdfifund.gov/news_events/CDFI-2011-37-CDFI-Fund-Releases-Most-Comprehensive-CIIS-Data-to-Date-FY-2004-2010.asp.

3.4.4 Market Impacts

We considered three areas in which modifications to FHA's multifamily insurance programs could have market impacts:

1. Housing supply.
2. Conventional lending.
3. Rents.

Based on the discussion of the small multifamily market and the proposed design options, each of these possible impacts is briefly assessed in the following section.

Housing Supply

New programs could have an effect on housing supply through one of two mechanisms: (1) by encouraging new construction of small multifamily projects, or (2) by preserving small multifamily properties, thereby reducing the likelihood that they deteriorate and eventually leave the housing stock. Use of FHA financing for new construction or substantial rehabilitation of small multifamily projects is unlikely because of Davis-Bacon wage rate requirements associated with FHA development programs. A number of industry stakeholders told us that these requirements add significant expenses to a project, in the range of 20 percent or more. Unless FHA were to attempt to waive Davis-Bacon requirements, the added expenses would outweigh any benefit of using an FHA program for small multifamily construction or substantial rehabilitation.

An FHA program could, however, slow the deterioration of small multifamily properties in need of more minor rehabilitation. Even if financing was not used to fund repairs, FHA financing with its lower interest rate and longer fixed term compared with alternative financing sources would improve net operating income for owners, who would then be more likely to maintain their properties. As noted previously, recent spreads between FHA interest rates and conventional interest rates are substantial—over 100 basis points—and could significantly impact the cashflows of small multifamily projects. Access to lower cost FHA financing, in turn, could slow losses to the stock of units in small multifamily projects.

Rents

New FHA financing is not likely to have an impact on rents. Rents are influenced by many factors including the price of land, the degree of local land regulation, local preferences for homeownership versus renting, rates of household formation, and local economic conditions. A program large enough to affect rents would have to affect some significant portion of the housing stock—perhaps as many as 1 percent of units in a specific rental housing market. Any FHA financing program is unlikely to have sufficient volume to have such an effect.

An impact on the quality of housing units is more likely, but it would still probably be limited to the units financed using the program.

Conventional Lending

New insurance options, if implemented by lenders, could affect conventional lending. Small multifamily financing is primarily the province of community banks, which generally do not meet the requirements to become MAP lenders, and cannot offer terms that would be competitive with the terms and pricing of FHA financing. These lenders would probably lose some business to FHA.

That being said, small multifamily lending is often described as relationship lending, or a product that community banks and other lenders offer to their customers who primarily use other products. This relationship is valuable to borrowers, because of the convenience it offers. Many small multifamily investors may prefer to maintain this one-stop relationship with their banker.

4. Conclusion

The old saying "All real estate is local" rang true in the interviews we conducted for our survey of the market. Few statements can be used to characterize housing markets nationally; rather, we found a great deal of variation by market. This variation has implications for the existence of financing gaps for single-family and small multifamily property investors.

That having been said, one of the most important factors affecting the housing market nationally is the low interest rate environment that has persisted for several years. Low yields on Treasuries and other fixed-income securities have led investors seeking higher yields to real estate. These investors with cash are not equally attracted to all markets; however. In some markets, such as some cities in California and in Florida and Phoenix, cash investors are snapping up single-family REO and nondistressed sale properties. In these markets at this time, prospective homeowners with financing are being edged out of the market, and it appears that little additional need exists to increase the leverage available to purchase investment property. Cash investors are less interested in other markets, however. In these places, inventories of distressed properties may be more difficult to sell and may need additional financing.

With a different interest rate environment—and better low-risk investment alternatives to real estate—cash investors may not stay in the market. Under that scenario, even markets that do not appear to need additional financing may benefit from new options for rental property investors, particularly for mom-and-pop rental property investors who live in the market where they purchase real estate rather than for large-scale single-family rental property investment organizations.

Perhaps because several of the people we interviewed are actively lobbying FHA to allow rental property investors to use the 203(k) program, the interviews also highlighted a need for financing for investors to purchase and rehabilitate single-family properties. The process of underwriting and servicing these loans is cumbersome, but several people thought that expansion of this program would help clear the large inventories of distressed properties in some markets and serve to improve neighborhoods.

The need for new financing options also varies by market for small multifamily properties. In this asset class, several people described major metropolitan areas as having adequate financing, with large banks holding loans in portfolio and lenders offering Fannie Mae's small multifamily product competing for borrowers. These markets are not immune to market cycles, however. During the financial crisis, some larger banks stopped making commercial loans (including multifamily) even in major markets.

In secondary and tertiary markets, interviewees described a market with very few lending options for small multifamily properties. Fannie Mae's small multifamily product is far less available in smaller markets, and although community lenders and banks offer some financing, the terms are less than ideal. Loans typically have either balloon payments at 5 years or are a combination of fixed and floating (for example, fixed for 3 or 5 years and floating for 25 or 27), leaving borrowers—and the small multifamily housing stock—subject to the risk of interest rate increases.

It is clear from the interviews that a certain logic is behind the lack of private-sector interest in the segments of the market that are being underserved: programs to purchase and rehabilitate single-family rental properties are difficult to administer. Purchase-only programs for rental property investors are more straightforward, but have to be carefully underwritten to avoid performance problems of past programs. On the multifamily side, the secondary and tertiary markets with few financing options are difficult to serve because of (among other things) the physical presence needed to properly underwrite and service

the loans. The need for regular site inspections, for example, requires a person to visit a property. Small multifamily properties also must be underwritten carefully; they are different from large multifamily properties in that they often have less experienced owners and often operate on thinner margins.

That said, some lenders do successfully provide financing for small multifamily properties. They have taken different approaches, but all streamline underwriting and servicing. They lend in limited geographic areas where they understand the market and, thus, the risks involved.

Notwithstanding challenges to financing for rental property investors, single-family and small multifamily rental properties could be a natural fit with FHA's mission to serve underserved segments of the market. They are typically affordable (at least at LIHTC affordability levels) even without subsidies, and play an important role in meeting the nation's housing needs.

Given FHA's mission and the financing gaps that exist, this study proposed three options for single-family investor financing, and three options for small multifamily investor financing. Two of the single-family options are modifications to the existing FHA 203(k) program that served rental property investors in previous decades. Some of these modifications are now being pursued by FHA staff and are supported by industry stakeholders such as MBA. A key reason for offering this option is that the political barriers to implementation are very low: it would require simply that a moratorium on investor activity in the program be lifted, although, as discussed previously, the 203(k) program is complex to administer and oversee, and even a streamlined version may have limited appeal to lenders. The third option opens FHA's 203(b) program to rental property investors. This idea faces much stiffer barriers to implementation. Reopening the 203(b) program to rental property investors would require congressional approval. Industry stakeholders thought that was not feasible in the current political climate, but it may be worth starting a discussion about the vital role that rental property investors have played in stabilizing the housing market during the foreclosure crisis, and whether new financing could strengthen that role in future housing market cycles.

A key feature of all three single-family options is that they are geared to mom-and-pop investors who typically live in the community where their rental properties are located. They are literally invested in the communities and typically hold their rental properties long term. Given the increasing role of large-scale investors in the single-family market, it may also be worth considering the differences in motivation between large- and small-scale rental property investors. It is not yet known how well large-scale investors in single-family properties will maintain properties, whether they will be responsible landlords, or whether their property investments are short or long term. FHA insurance would support financing for small-scale rental property investors, which could level the playing field to some degree with large-scale investors, which may result in better outcomes for neighborhood stability.

The expected performance of loans that might be insured by FHA is an important factor in considering expanding access to FHA mortgage insurance to loans to rental property investors. As in the early 1980s, the foreclosure crisis led to very high default rates among loans to owner-occupants and investors. In the 1980s, these high default rates led Congress to suspend investor participation in the FHA 203(b) program. The current foreclosure crisis could have prompted a similar reaction, had a program been in effect for rental property investors. It is important to note that cumulative default rates of loans to rental property investors were roughly similar to those of loans to owner-occupants during each period, although in each period rental property loans were, by some measures, less risky (lower LTVs in the early 1980s and mid-2000s, less likely to have a second lien in the mid-2000s).

The analysis of loan performance in this study clearly indicates that economic conditions are an important predictor of single-family mortgage default. Any new program to serve single-family rental property investors should be cognizant of this predictor. One lesson from each housing market downturn is that a nimble response to deteriorating economic conditions—to tighten underwriting criteria and eligibility—will be important to containing poor loan performance.

Three proposed modifications to FHA's multifamily programs to accommodate small multifamily properties are also considered. option 1 suggests modifications to FHA's 221(d)(4) and 223(f) programs to delegate underwriting, processing, and the insuring decision to MAP lenders, who would share the risk of loss on small multifamily loans with FHA to varying degrees depending on the level of delegation. Option 2 proposes modifications to FHA's 542(b) and (c) risk-sharing programs to allow for securitization of loans originated under the program and add CDFIs to the list of entities qualified to use the program, among others. Option 3 is a hybrid single-family/multifamily financing program that would allow 5- to 10-unit properties to be underwritten using some of the same underwriting standards currently applied to 2- to 4-unit properties.

Some of these options may require statutory changes, which would greatly increase the difficulty of implementing them. Option 2 probably requires only regulatory change, which may make this option the path of least resistance. Until Congress approves Ginnie Mae participation, the Federal Financing Bank may be able to temporarily purchase risk-sharing loans originated under the option.[103]

The risks to FHA of these options are not well understood. This study explored the performance of multifamily loans, but with inadequate data to understand the relationships between specific loan characteristics described in the three options and loan performance. Although one of the data sources available was from Freddie Mac, defaults were too rarely observed to conduct multivariate loan performance analysis. Data from Fannie Mae, which has a much larger portfolio of multifamily loans more likely to accommodate robust statistical analysis, were not available. If Fannie Mae's data were made available, the program implemented would benefit greatly from a much-improved understanding of the risks to FHA.

[103] The Federal Financing Bank has authority to purchase obligations issued, sold, or guaranteed by a federal agency to ensure that fully guaranteed obligations are financed efficiently.

Appendix A. Market Survey Interviews

Company	Interviewee	Title
Multifamily		
Freddie Mac	David M. Brickman	Senior Vice President, Multifamily
Fannie Mae	Stuart R. Davis	Director of Multifamily Production
Community Investment Corporation (A CDFI)	Michael Bielawa	Senior Vice President
Mortgage Bankers Association	Eileen Grey Jamie Woodwell	Associate Vice President for Multifamily Vice President of Commercial Real Estate Research
Greystone Servicing Corp. and MBA	Eileen Grey Jamie Woodwell Billy Posie Rick Wolf	Associate Vice President for Multifamily (MBA) Vice President of Commercial Real Estate Research (MBA) Executive Vice President, Greystone Small Balance Loans, Greystone
Rural Housing (USDA)	Brian Hooper	Deputy Administrator Multifamily Housing Programs
Colorado Housing and Finance Authority (CHFA)	Steve Johnson Masouda Omar	Director, Commercial Lending
Illinois Housing Development Authority (IHDA)	Steven Gladden	Assistant Director Multifamily Programs
Chase	Dudley Benoit	Senior Vice President and Regional Sales Manager, Commercial Term Lending
Single Family and Multifamily		
Independent Community Bankers of America®	Ann M. Grochala	Vice President, Lending and Accounting Policy
Federal Housing Finance Agency	Sylvia Martinez	Office of the Deputy Director, Division of Federal Home Loan Bank Regulation
National Housing Institute	Alan Mallach	Senior fellow
Single Family		
Freddie Mac	Stephen J. Clinton	Senior Vice President—Strategic Initiatives Conservatorship & Corporate Initiatives
Fannie Mae	Carlos Perez	Vice President for Credit Risk Management
Wells Fargo and MBA	MBA: Tamara King Wells Fargo: Bill Trace Ted Foster Sue Barber	Associate Vice President of Loan Production National Program Manager for Renovation Agency Relations Head of National Programs
National Association of Realtors®	Joe Vetrone; Ken Fears; Sarah Young; Megan Booth; Marcia Salkin	Government Affairs and Real Estate Research
California Association of Realtors	Matt Roberts	Federal Government Affairs Manager

FHA Interviews	
Tom Kumi	Office of Single-Family Asset Management
Lisa Ellis	Senior Credit Policy Specialist
Arlene Nunes and Kevin Stephens	Office of Single-Family Program Development
Joy Hadley and Justin Burch Mark Ross	Office of Lender Activities and Program Compliance Office of Single-Family Program Development
Frank Vetrano	Federal Housing Administration deputy assistant secretary of risk management and regulatory affairs
Margaret Salazar Members of the Small Multifamily Finance Working Group: Bob Arbios Ben Metcalf Danilo Pelletiere Ed Ferguson Amanda Wahlig Neal Allen Nicholas Hluchyj	Deputy Assistant Secretary, Multifamily Housing Programs
Joanne Kuczma	Housing Program Officer, Office of Single-Family Program Development
Jim Beavers	Formerly Federal Housing Administration Single-Family Housing Products
Michael Berman	HUD Senior Advisor

Appendix B. Single-Family Rental Property Loan Program Discussion Guide

Industry Participant Category	#	Question	Department
FHA			
Past programs	1	What was the original reason that investors were allowed to use FHA's single-family mortgage insurance programs? a) What (if any) objective was it trying to serve this way? b) Generally speaking, who were these investors in the late 1970s and 1980s?	Program Office
	2	What have been the effects of the changes to FHA's single-family insurance programs in the 1980s and 1990s prohibiting investor participation—for property owners, for FHA, and others?	Program Office
	3	Elimination of investors from 203(b) and 203(k) programs: a) What was your role in the decision to stop allowing investor participation in the 203(k) or 203(b) programs? b) What were the major problems with investor loans, other than claim rates that were higher than those for owner-occupied loans (for example, specific fraudulent activities)? c) Aside from relatively high claim rates and any specific fraudulent activity, were there other factors you considered in making the decision to end investor participation (for example, the overall health of the insurance fund or political pressure)? d) Did you consider modifying underwriting criteria or other program features (such as increases in insurance premiums or limits on the number of properties) rather than ending investor participation? If so, what were the reasons for ending investor participation rather than making modifications?	Program Office
	4	Can you point us to reports or sources of information we can use in our research on the history of investor participation in FHA single-family insurance programs?	Program Office

Industry Participant Category	#	Question	Department
Current financing options and need for an FHA program	5	What options do investors in single-family properties (especially 1 unit) have for financing? (GSEs, cash, portfolio lenders, any others?) a) What share of investor purchases are financed with each of these sources of financing?	Program Office
	6	Is there a need for an FHA program that would offer a financing option for single-family investors? a) What are the unserved niches in this market that FHA could fill (with acceptable levels of risk)? b) Are there different segments of the investor market that have different financing needs (for example, investors with one investment property, those with 2 to 10 properties, others)? How do their risks differ? Are their financing strategies different? c) Are there particular regions of the country or cities where a single-family investor product is especially needed? Where? d) What, if any, are the consequences of leaving these financing needs unmet?	Program Office
	7	Would you support extending mortgage insurance to single-family investors now? a) With what safeguards? • Programmatic • Underwriting • Lender Eligibility b) Would FHA's experience with these mortgages be different now than it was in the 1980s and 1990s? If so, why? How would underwriting guidelines have to be modified? What safeguards would have to be put in place to prevent fraud?	Program Office/Risk Management/ Lender Activities
	8	Are there limitations that would prevent you from introducing a new investor loan program? a) Legislative or regulatory b) System limitations	Program Office
	9	Are there any systemic risks that are you seeing in the single-family portfolio today that one should consider in designing an investor loan program?	Program Office/Risk Management/ Lender Activities

Industry Participant Category	#	Question	Department
Reintroduction of an FHA investor program	10	What are some considerations or implications for increasing the number of units in a property that would be eligible under the single-family program to a number greater than 4?	
	11	Risk management and assessment a) Would single-family investors accept cross-collateralization as a credit enhancement? b) What is the required LTV for single-family investor loans to mitigate the additional risk? c) Is debt-service coverage ratio a useful risk measure for single-family investor loans? d) Are there limits on the numbers of properties that a single-family investor should have? What? e) Is there a role for escrows as reserve funds?	
	12	Is a secondary market outlet necessary for these loans? Why or why not?	
Lender			
	1	What financing options are available for investors who would like to purchase or refinance a 1- to 4-family property in today's market?	Originations/ Secondary
	2	Do you believe the market is being served by the current financing alternatives for investors? Why or Why not? • If not, what products and characteristics would be important to adequately serve this market?	Originations/ Secondary
	3	If a new product were available to serve the investor market with the important characteristics that you described, how do you think it would impact your origination volume for Investor loans? • How do you think it would impact your volume for owner-occupied loans?	Originations/ Secondary
	4	Do you think that the FHA should offer a mortgage insurance option for investor loans? • If no, why not? • If yes, do you have any thoughts on the program features and characteristics? • Would a secondary market outlet be necessary? Would your organization prefer to sell these loans or hold them in portfolio? If a secondary market outlet is necessary, how do you think Ginnie Mae should accommodate these loans from a pooling/securitization prospective?	Originations/ Secondary/ Underwriting/Risk Management
	5	If yes to previous question: If there was an FHA alternative as you described previously, how do you think that would impact your origination volume with respect to: a) Investor Loans b) Owner-occupied Loans	Originations/ Secondary/ Underwriting/Risk Management
	6	What type of notice/lead-time would you require to incorporate a new investor loan product into your offerings? a) What type of features or requirements tends to make integration of a new product into your offerings more or less difficult (for example, escrow requirements, new underwriting requirements, new forms, etc.)?	Originations/ Secondary/ Underwriting/Risk Management
	7	If FHA were to consider increasing the number of units eligible to be insured under the single-family program to a number > 4, let's say 8 or 10, what implications would that have for your operations and what risk factors do you think they should consider?	
	8	What percent of your investor loan volume is one unit versus two to four units?	Originations/ Secondary
	9	For the investor products that you offer, how does the pricing compare with owner-occupied one- to four-family	Secondary

Industry Participant Category	#	Question	Department
		products?	
	10	Do you charge any special processing or delivery fees for investor loans? • If so, what are they? • If so, how do these fees impact the attractiveness of your products vis-à-vis your competition?	Secondary
	11	Do you portfolio or securitize the investor loans you originate? • Are additional mortgage insurance and securitization options needed for investor loans? Describe.	Secondary
	12	What is the performance of your investor loans compared to with owner occupied loans?	Secondary/ Underwriting/Risk Management
	13	What are the key differences in your evaluation of risk associated with owner-occupied versus non-owner occupied loans?	Underwriting/Risk Management
	14	Do you maintain historical data on performance of your investor loan portfolio? • If yes, has any analysis been conducted, and if so, are there interesting trends or variables that you find are predictive of performance versus default? • Will you share any of your aggregate or loan-level findings and/or reports with us?	Underwriting/Risk Management
Ginnie Mae	1	When FHA-insured single-family investor loans were securitized in the past, how was this done? a) Were these loans handled differently than loans to owner-occupied properties? If so, how? For example, were measures needed to mitigate the additional risk of investor loans? b) Would a similar approach be taken if a new FHA single-family investor loan program were introduced? Or would you suggest taking a different approach? If so, what?	
	2	Are there legislative or regulatory limitations that would prevent you from securitizing loans insured through a new FHA investor loan program?	MBS Administration SF/Capital Markets
	3	Are there any system limitations that would prevent you from introducing a new investor loan securitization program?	MBS Administration SF
	4	Could investor loans be pooled with owner-occupied loans under your current program? • If yes, is there a ratio of investor/owner owner-occupied loans that you think would impact the desirability of the pool by investors in Ginnie Mae Securities? (In current economic conditions? In more normal economic conditions?)	MBS Administration SF/Capital Markets
	5	How do you think Ginnie Mae's investors would respond if FHA increased the number of units in a property eligible to be insured under the single-family program to a number > 4? • How might this impact the desirability of pools with these loans? • How might this impact the multifamily program?	MBS Administration SF/Capital Markets
Associations (NAR/MBA)	1	Based on feedback and communications with your members, do you think assistance is needed in terms of better financing options for consumers to address the problem of excess inventory (particularly resulting from foreclosures)? • If yes, do you think the financing gap rests with owner-occupants, investors or both?	Research and Program Departments

Industry Participant Category	#	Question	Department
	2	What is the range of financing options owner-occupied purchasers are using in their property purchase? What financing source are the majority of owner-occupant purchasers using?	Research and Program Departments
	3	What is the range of financing options investor purchasers are using in their property purchases? What financing source are the majority of investor purchasers using?	Research and Program Departments
	4	Would you be supportive of FHA introducing a financing option for investor purchasers? Why or Why not?	Government Relations, Research and Program Departments
	5	Are there any political or legislative barriers to the introduction of an FHA investor loan program that we should be aware of?	Government Relations
	6	What key features do you think would be necessary to ensure that an FHA investor loan program is impactful in terms of addressing excess inventory in the market? • Would a secondary market outlet for these loans be necessary? Why or why not?	Research and Program Departments

All

1. What type of FHA single-family financing option would encourage you to originate/securitize more projects? Check all that apply.
    - FHA controlled program
    - Delegated program
    - Lender controlled program
    - Other, explain_____

2. What financing sources are currently available for properties in the single-family investor category? Check all that apply.
    - Banks/Depositories
    - Private Investors/Conduits
    - GSEs
    - Rural Development
    - Loan Fund
    - Savings and Loans
    - Community development Banks
    - Community Development Finance Institutions
    - Small Business Administration
    - Farm Credit System
    - Nonprofit organizations
    - State Agencies
    - Owner financing
    - Capital markets (single-family REITs)
    - Other_____

Appendix C. Single-Family Loan Performance

This appendix provides an overview of the standard option-theoretic framework for empirically describing the relationships between observable loan and market characteristics and mortgage default. We present our implementation of a competing-risk model, where loans can be terminated in each period by either default (the risk to the lender or insurer) or prepayment.

After introducing our model, we provide summary statistics in section 3.3 describing the characteristics of loans to investors and owner-occupants during the past decade in the LPS dataset, our primary source for loan characteristics and payment history. We examine how a mortgage's eventual outcome—default, prepayment, or continued payment—correlates with each of a number of key loan and borrower characteristics, many of which relate to our product designs presented in section 2. This univariate description provides an overview of the changing lending environment through the housing boom and bust.

We then estimate our multivariate empirical model of default using a broad set of predictors, including loan and borrower characteristics and market conditions. We use the results of this model to discuss risk factors that might be expected if FHA were to expand financing options for single-family rental property investors.

C.1 An Empirical Model of Mortgage Default and Prepayment

The literature on mortgage default focuses on the financial options embedded in the mortgage contract together with the possibility of transaction costs and borrower-specific "trigger events" as the appropriate framework for evaluating the likelihood of mortgage default. In the option value framework, borrowers can increase their wealth by defaulting when the market value of the mortgage exceeds that of the house, and by prepaying the mortgage by refinancing when the market offers a more attractive loan than that currently held. Transaction costs, particularly together with trigger events that otherwise force a borrower to sell a house, have also been found to be important in determining default and prepayment behavior. Deng, Quigley, and Van Order (2000) (DQV) is a prime example of this literature, and also provides discussion and a literature introduction. We briefly review the theoretical framework for evaluating mortgage outcomes and then introduce our empirical implementation.

C.1.1 Overview of the Competing Options Framework and Empirical Model

As in DQV, the literature to date has predominantly fit empirical models of the exercise of these options on data for mortgage loans made to owner-occupants, rather than investors. However, the underlying option theory, for example in Kau and Keenan (2000), is developed without regard to whether the mortgage holder also occupies the property. So, in theory, rental property investors and owner-occupants should respond similarly to market forces that trigger default and prepayment, with any differences driven by differences across the groups in the parameters that determine the option values. For example, rental property investors and owner-occupants may face different interest rates to refinance a mortgage.

We follow DQV and the literature in modeling mortgage default as a "put" option: throughout the life of a loan, the mortgagor has the option of relinquishing the collateral property to the lender rather than making loan payments. This event can result in a mortgage insurance payment. Theoretically, borrowers have an incentive to exercise this option if the market value of the property plus the value of the ability to exercise the option in the future is less than the outstanding net present value of future payments due.[104]

[104] In some states, lenders technically have recourse to pursue other borrower assets to recover unpaid mortgage balances. In this case, the default incentive threshold rises to include the expected value of any such recovery.

The literature indicates that owner-occupants do not necessarily "ruthlessly" exercise this put option whenever the incentive tips in their favor. Particularly, they default more readily when the option is in the money *and* when some trigger event has occurred that constrains the borrower's ability to make mortgage payments, such as a job loss. The importance of trigger events in the decision to exercise the put option is likely to vary for owner-occupants and rental property investors, although many such events for owner-occupants have a corollary for rental property investors. Specifically, we anticipate that investors may have lower transaction costs to walking away from a property, notably avoiding the costs of moving to a new residence. As such, investors may be more likely to ruthlessly exercise this put option, more readily relinquishing the property when its market value falls below the outstanding balance owed on the mortgage. Whereas the familiar trigger events such as unemployment or income loss may directly induce an owner-occupants default, we expect a more indirect effect of such events on investor-landlord decisions. A tenant that experiences a trigger event that results in missed rental payments can create strain on the investor's balance sheet, particularly for small rental property investors for whom the rent is an important income stream. Similar balance sheet spillovers can increase a rental property investors' probability of default if the investor experiences a job loss or other financial trigger event otherwise unrelated to the property and mortgage. Rental property investors are indirectly affected by broader economic changes that impact the rental housing market, for example, changes in employment and income. As incomes decline or unemployment increases in a particular housing market, the willingness and ability to make rental payments declines. This economic shock would reduce the expected rental receipts that determine the market value of the property to investors, increasing the incentive to default on the mortgage.

A second option, a "call" option, is also embedded in residential mortgages: the mortgage holder typically may prepay the outstanding balance of the mortgage at any time, which usually entails refinancing the outstanding balance with a new mortgage. Borrowers have an incentive to exercise this option when borrowing at current mortgage interest rates may lower the net present value of future payments due relative to the terms of the existing mortgage.

The ability to exercise a put or call option at a later point in time at prevailing mortgage and housing market rates has economic value to the borrower. The present value of retaining the future options influences the optimal decision with respect to exercising an option today since exercising either option today, reduces the borrower's options in the future.

There has been little research, to our knowledge, on the role of mortgage insurance in predicting the exercise of these default and prepayment options. Mortgage insurance entails ongoing premiums that raise the borrower's costs, increasing borrower's incentives to default or prepay the option by virtue of the higher ongoing costs, all else equal. We also note that a moral hazard may exist on the part of the lender for two reasons. First, lenders may not screen loans that will be insured as carefully as they screen loans that will not.[105] Second, efforts to prevent delinquency and default (borrower outreach, for example) will have a higher expected return to the lender for mortgages without insurance than for insured mortgages because the eventual claim for a defaulting insured mortgage will reduce losses from an eventual default. One source of performance difference between loans with and without mortgage insurance may be differential prioritization for payment recovery by servicers if lenders' ability and interest in monitoring servicers' efforts differs from that of insurers.

[105] See Keys, Mukherjee, Seru, and Vig (2010) for evidence that the securitization process, which similarly reduces risk of loss to the lender, reduced originators' incentives to carefully screen borrowers.

We follow the literature in incorporating an empirical model that allows for the "competing" nature of the two options. We implement a competing risk model of default and prepayment using a multinomial logistic regression. The multinomial logit specification jointly estimates the probability of default and prepayment relative to the probability of continued payment in a given period. We follow Calhoun and Deng (2002) and Integrated Financial Engineering, Inc. (2009) (IFE) closely in specifying, estimating, and interpreting our model.[106]

The conditional probabilities π_i of default, prepayment, and continued payment (indexed as $D, P,$ and C respectively) of a mortgage in each period are specified as

$$\boldsymbol{\pi_D} = \frac{\exp(\boldsymbol{\beta_{D0}} + \boldsymbol{\beta_{D1}}\boldsymbol{LTV^t} + \boldsymbol{\beta_{D2}}\boldsymbol{MP^t} + \beta_{D3}X^t + \beta_{D4}X^0)}{1 + \sum_{\boldsymbol{i}\in(\boldsymbol{P},\boldsymbol{D})} \exp(\beta_i' X)},$$

$$\boldsymbol{\pi_P} = \frac{\exp(\boldsymbol{\beta_{P0}} + \boldsymbol{\beta_{P1}}\boldsymbol{LTV^t} + \boldsymbol{\beta_{P2}}\boldsymbol{MP^t} + \beta_{D3}X^t + \beta_{D4}X^0)}{1 + \sum_{\boldsymbol{i}\in(\boldsymbol{P},\boldsymbol{D})} \exp(\beta_i' X)}, \qquad (1)$$

$$\boldsymbol{\pi_C} = \frac{1}{1 + \sum_{\boldsymbol{i}\in(\boldsymbol{P},\boldsymbol{D})} \exp(\beta_i' X)}$$

Here, LTV^t, a borrower's equity position in a given quarter since origination, and MP^t, the mortgage interest rate premium in a given quarter, represent the two key option-theoretic variables in the model. The equity position, which we empirically implement as an estimate of current LTV, describes how the mortgage balance relates to the value of the property, indicating the extent to which the default option is "in the money." The "mortgage premium" compares the borrower's current interest rate with the current market rate to indicate the extent to which refinancing would improve the borrower's financial position. Additional descriptive variables, introduced in the following section, represented by the vector $\boldsymbol{X^t}$, vary with time and describe age of loan trends and MSA-level market conditions. Variables in $\boldsymbol{X^0}$, also detailed in the following section, describe time-invariant borrower and loan characteristics commonly used to underwrite loans. Note that in this specification the probability of continued payment in a given quarter, π_c, is specified as the reference outcome, with

$$\pi_C = 1 - \pi_D - \pi_P$$

As such, interpreting estimates is facilitated by considering the log odds of default or prepayment relative to continued payment. Rearranging (1), results in the following equation for default relative to continued payment,

$$\log\left(\frac{\pi_D}{\pi_C}\right) = \beta_{D0} + \beta_{D1}EQ + \beta_{D2}MP + \boldsymbol{\beta_{D3}}\boldsymbol{X^t} + \boldsymbol{\beta_{D4}}\boldsymbol{X^0}$$

To facilitate estimation and interpretation, and to allow for nonlinearities, we transform our descriptive variables into categorical groups. As such, maximum likelihood estimates for the coefficients $\boldsymbol{\beta_D}$ can be interpreted as conditional adjustments to the log odds for a loan-quarter observation in a given group. Each variable in our model is fully defined and introduced in the following section.

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[106] We referenced Cunningham and Capone (1990) as an early example of using the multinomial logit model to estimate competing risk models of default and prepayment.

C.1.2 Variables in the Empirical Model

We use Black Knight mortgage servicer data and MSA-level market data to estimate our model. The Black Knight data include a large share of the U.S. mortgage market, which is detailed in the following section. Because we are specifically interested in the risks related to lending to rental property investors and insuring mortgages to rental property investors, we consider in turn mortgages to investors and owner-occupants, in each case separately for loans made with and without mortgage insurance. The servicer data includes a complete payment history that identifies default, prepayment, and continued payment in each period. The data also include current loan characteristics that, together with market data, allow us to calculate equity positions and mortgage premiums. Characteristics of loans and borrowers at origination in the servicer data allow us to identify our data subsets and model predictive relationships between default and individual factors that may proxy for unobservable experience, credit resources, and economic viability of a particular property. We use MSA-level economic indicators to predict relationships between mortgage outcomes and factors that drive housing demand, including changes in unemployment rates and median income, and factors that may influence investor expectations, notably recent trends in housing prices.

$\boldsymbol{LoanStatus^t}$ is the categorical outcome variable in our model for which probabilities π_D, π_P, and π_C are estimated. The variable indicates, for each loan in each quarter t since origination, whether a standard payment is made, the loan is in default, or the loan is prepaid. Following the convention of IFE in conducting the actuarial review of FHA's largest mortgage insurance fund, we categorize a loan as "in default" in quarter t since origination when it reaches serious delinquency. That is, it is considered in default in the first observed instance in which the loan reaches at least 90 days of delinquency for any month in that quarter. We do not analyze subsequent activity for the loan after an initial 90-day delinquency. Likewise, we categorize a loan as being "prepaid" if a voluntary payoff terminates the loan in any month in a given quarter since origination. Note also that many loans are censored, with monthly payments indicated through the current month or with a payment history record that begins sometime after origination or ends before some terminating event, due for example to servicing transfers.

$\boldsymbol{LTV^t}$, a borrower's equity position in quarter t since origination, is the first option-theoretic variable in our model. We estimate this variable as the LTV ratio.

$$LTV^t = \frac{UPB^t}{Value^0 * \left(\frac{HPI^t}{HPI^0}\right)}$$

Calculating the current LTV ratio requires the current unpaid balance of the loan, UPB^t, which is in the Black Knight data. We estimate the current value of the property, by adjusting the initial value of the property reported in the Black Knight data, $Value^0$, by MSA-level price appreciation since the origination quarter. $Value^0$ is calculated as the ratio of the value of the FHFA housing price index in the current quarter for the MSA where the property is located, HPI^t, to the index's value in the quarter the loan was originated, HPI^0.[107] To facilitate estimation and to allow nonlinear relationships in the model, we transform LTV^t into a categorical variable.

[107] We also estimated models using a more complex "probability of negative equity" variable as in Calhoun and Deng (2002) using state-level estimates of variation in housing price appreciation from FHFA indexes. Empirical results are qualitatively similar to the presented model using LTV to measure borrower equity.

$\boldsymbol{MP^t}$, the mortgage interest rate premium in quarter t since origination gives the difference in the current interest rate of the loan, $LoanRate^t$, and prevailing market rate for property refinances as a fraction of the current interest rate, $MarketRate^t$.

$$MP^t = \frac{LoanRate^t - MarketRate^t}{LoanRate^t}$$

Rather than using market interest rates based on surveys, which may not reflect rates available to rental property investors in a given market, we calculate the median interest rate on loans refinanced in each quarter in each MSA from the Black Knight data for owner-occupied and investor-held properties. [108] The corresponding median rate for each loan in each quarter is then used as $MarketRate^t$ to calculate the mortgage interest rate premium. To facilitate estimation and to allow nonlinear relationships in the model, we transform MP^t into a categorical variable.

$\boldsymbol{Burnout\ Factor^t}$ is included in the model following the form used by IFE. This variable captures whether a borrower has not exercised the refinance option when the mortgage premium has been positive. Specifically, the variable measures the eight-quarter moving average of any positive difference, in terms of basis points, between $LoanRate^t$ and $MarketRate^t$ as defined previously. As in IFE, "the burnout factor is included to account for individual differences in propensity to prepay, often characterized as unobserved heterogeneity." In the context of the housing market decline, loans with relatively high interest rates would have a high burnout factor if barriers such as negative equity limited refinancing. The moving average measure is categorized into a baseline group with $Burnout\ Factor^t = 0$, and five groups with $Burnout\ Factor^t$ falling in 50 basis point ranges up to 200 basis points.

$\boldsymbol{Age\ Function^t}$ allows for the age of a loan to influence default and prepayment probabilities through a flexible piece-wise linear "spline" function of loan age in quarters. We follow IFE in specifying the "knots" of the spline function, k_1 through k_8 at 2, 6, 8, 10, 12, 14, 16, and 18 quarters since origination. This is done by specifying nine segment variables

$$Age_1 = \begin{cases} Age^t & \text{if } Age^t \le 2 \\ 2 & \text{if } Age^t > 2 \end{cases}$$

$$Age_i = \begin{cases} 0 & \text{if } Age^t \le k_{i-1} \\ Age^t - k_{i-1} & \text{if } k_{i-1} \le Age^t \le k_i \\ k_i - k_{i-1} & \text{if } Age^t > k_i \end{cases} \quad \text{for } i \in (2, \dots 8)$$

$$Age_9 = \begin{cases} 0 & \text{if } Age^t \le 18 \\ Age^t - k_8 & \text{if } Age^t > k_8 \end{cases}$$

The resulting composite function is then

$$Age\ Function^t = \sum_{i=1}^{9} \beta_i Age_i$$

[108] In the rare instance of a small MSAs with no observed rental property refinances in a given quarter, the annual median is used in place of the quarterly median.

$\boldsymbol{Season^t}$ is also included along with the age of loan spline as the current quarter of the calendar year to allow for potential seasonal patterns in housing and mortgage events.

In addition to the option-theoretic variables and flexible age of loan function, we include a series of variables describing loan and borrower characteristics at the time the loan was originated. These variables capture potential heterogeneity in default and prepayment characteristics across borrower types, and also represent the parameters available for designing loan-level eligibility rules for a mortgage insurance product. These variables do not vary across quarters for a particular loan.

$\boldsymbol{Loan\ Purpose^0}$ indicates whether the loan is made for a purchase, refinance, or other (construction, rehabilitation, remodeling, etc.) purpose, as recorded in the Black Knight data. $\boldsymbol{ARM^0}$ indicates whether a mortgage carries a fixed or adjustable rate.

$\boldsymbol{LTV^0}$ indicates the loan to value ratio for each loan at origination. This variable takes on the value of the combined loan-to-value ratio (CLTV) as reported in the Black Knight data if that value is not missing. Because this value is missing for most loans in the data, the variable is updated with the LTV field in the Black Knight data, which is equal to the initial loan balance divided by the property value at origination. To facilitate estimation and to allow for nonlinear relationships in the model, we transform LTV^0 into a categorical variable. We also include an $\boldsymbol{Additional\ Lien^0}$ indicator variable in the model that is equal to one if Black Knight reports a CLTV in addition to an LTV.

$\boldsymbol{Credit\ Score^0}$ captures the borrower's credit score at origination as reported in the Black Knight data. The variable is transformed to be categorical to facilitate estimation and allow for nonlinear relationships.

$\boldsymbol{Origination\ Year^0}$ is categorized into groups of 2003–2004, 2005–2006, 2007, 2008, and 2009–2012 to capture potential differences in the types of borrowers and industry practices such as underwriting during the recent housing cycle and to reduce the dimensionality to facilitate estimation.

$\boldsymbol{Relative\ Value^0}$ measures property quality as the ratio of the value of the property at origination to the median home value in the MSA in the year of origination as reported in the American Community Survey (ACS) 1-year estimates.[109]

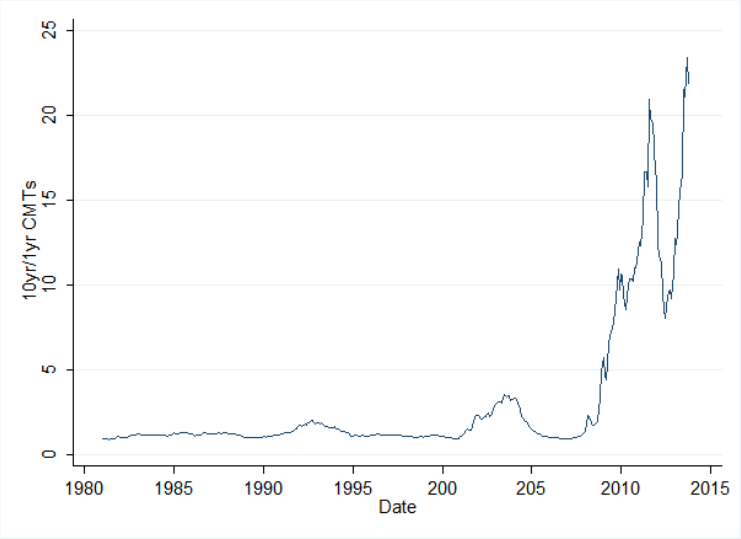
The next set of variables in our model captures economic and housing market conditions. These variables are expected to influence borrowers' expectations of future values of the option-theoretic variables and, more generally, the desirability of holding single-family housing as an asset.

$\boldsymbol{Yield\ Curve\ Slope^t}$ is included to indicate market expectations of interest rates. Following Calhoun and Deng and IFE we define the yield curve slope as the ratio of the 10-year Constant Maturity Treasury (CMT10) yield to the 1-year Constant Maturity Treasury (CMT1) yield. This ratio has been a historical anomaly during the housing downturn and financial crisis of the past few years. Exhibit C-1 plots the past 30 years of data. Normally, a high value (historically more than 1.5) of the slope of the yield curve indicates relatively favorable short-term rates. Historically low rates in recent years have indeed prompted

[109] The ACS began in 2005. For our 2003–2004 cohorts we linearly interpolate values between the 2000 Census and 2005 ACS for all MSA-level ACS variables used in the analysis.

a wave of refinance activity. However, interpretation and discussion of market responses to such extreme yield curve slopes are beyond the scope of this analysis. Nonetheless, we include $Yield\ Curve\ Slope^t$ in our model, transformed into a categorical variable.[110]

Exhibit C-1. Ratio of CMT10 to CMT1 Since 1980



CMT1 = 1-year Constant Maturity Treasury yield. CMT10 = 10-year Constant Maturity Treasury yield. Sources: FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis; *1-Year Treasury Constant Maturity Rate* and *10-Year Treasure Constant Maturity Rate*; Board of Governors of the Federal Reserve System

$\boldsymbol{\Delta HPI^t_{1yr}}$ captures current price momentum in the housing market in which the mortgaged property is located. The variable is calculated for each quarter in each MSA covered by the FHFA housing price indexes as the year-over-year percent change in each MSA's repeat-sales HPI. The variable is converted to categories and varies over time and MSAs.

$\boldsymbol{\Delta MedianRent^t_{1yr}}$ tracks year-over-year percent changes in median contract rent in each year by MSA, calculated using 1-year ACS estimates.

$\boldsymbol{Unemployment^t}$ and $\boldsymbol{\Delta Unemployment^t_{1yr}}$ capture labor force situations and trends across MSAs and over time. $Unemployment^t$ consists of the unemployment rate in the current year from the 1-year ACS estimates by MSA, with $\Delta Unemployment^t$ capturing year-over-year differences in the rate. Each variable is categorized into quartiles of the MSA-by-year data.

$\boldsymbol{MedianIncome^t}$ and $\boldsymbol{\Delta MedianIncome^t_{1yr}}$ augment the unemployment measures by capturing, for each year by MSA, median income levels and year-over-year percent changes respectively. Again, median income is taken from the ACS 1-year estimates, and each is categorized into quartiles based on the MSA-by-year data.

[110] As a test of robustness, we also ran the model without the yield slope curve variable. The results are qualitatively the same as the results that include the yield slope curve variable. As expected, there were small differences in coefficients on variables highly correlated with interest rates such as the current interest rate premium and the year-over-year house price index. The overall magnitudes of coefficients changed very little, however, and signs on coefficients did not change.

$\boldsymbol{OwnRate^t}$ and $\boldsymbol{\Delta OwnRate^t_{1yr}}$ provide an indication of how much of the housing market in each MSA in each year is represented by owner-occupied units and how this market share is changing. Again, the variables originated in the ACS 1-year estimates and are categorized into quartiles based on the MSA-by-year data.

The next section provides summary statistics and univariate analysis of the performance of mortgage loans to provide background and context for the multivariate analysis presented in section 3.4.

C.2 Characteristics and Performance of Mortgage Loans Over Time

This section describes the loans in the Black Knight dataset used in our analysis, including summary statistics on owner type, and mortgage insurance status (section 3.3.1). It also provides cross-tabs of loan performance for three different categories of variables: (1) time-invariant characteristics of loans, (2) option-theoretic variables, and (3) MSA housing market trends. Time-invariant characteristics of loans include owner type, mortgage insurance status, loan purpose, property type, original interest rate, LTV at origination, loan amount, and credit score. The relationship between loan performance and these time-invariant loan characteristics are presented in 3.3.2. In 3.3.3, we provide univariate analysis of the relationship of mortgage performance to time-varying variables such as current LTV and burnout factor. The final subsection, 3.3.4, provides univariate analysis of loan performance by MSA housing market trends. Results of univariate analysis should be interpreted with caution. Although these relationships are informative, they are provided only for descriptive purposes because they hold only one variable constant at a time. All these variables are combined in the multivariate regression presented in section 3.4.

C.2.1 Characteristics of Mortgage Loans in Black Knight Dataset

The Black Knight dataset represents the most comprehensive resource for examining the characteristics and performance of mortgages in the United States, with more than 30 million of the nation's estimated 50 million active mortgages as of September 30, 2013.[111] Exhibit C-2 provides some context for how the Black Knight dataset compares with the universe of mortgages by showing the number of loans originated in a number of years in the past decade that are included in the Black Knight data and Home Mortgage Disclosure Act (HMDA) data, respectively. The Black Knight data contain slightly more than one-half the number of loans recorded in HMDA 2004 as a low, and slightly less than three-fourths in 2009 as a high. The relative proportions of loans that are likely to be investor-owned properties differs as well, with loans in the Black Knight data representing between 2.5 percent of the total in 2009 and 7.1 percent in 2012. Note that the recording conventions for "not owner occupied" in HMDA and servicer-specific "non-owner," "investment," and "unknown" occupancy type in Black Knight may differ. We suspect, but cannot determine, that some loans marked as "unknown" (or with a missing value) in the Black Knight data may indeed be made to rental property investors. The share of Black Knight loans with unknown or missing occupancy status varies over origination year as shown in exhibit C-2, with the lowest share of "unknown" occupancy type loans in the Black Knight data corresponding to the highest share of investor loans in 2012.

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[111] *LPS Mortgage Monitor, October 2013 Mortgage Performance Observation*. Downloaded from http://www.lpsvcs.com/LPSCorporateInformation/CommunicationCenter/DataReports/MortgageMonitor/20130 9MortgageMonitor/MortgageMonitorSeptember2013.pdf.

Exhibit C-2. Comparison of Origination Volumes, by Occupancy Status Represented in HMDA and Black Knight Datasets

		HMDA				Black Knight					Total Black Knight as a Percent of HMDA	Nonowner/ Investment Black Knight as a Percent of HMDA
		Owner-Occupied as a Principal Dwelling	Not Owner-occupied	Not Applicable	Total	Primary Occupancy	Second Property	Non-owner/ Investment	Missing or Unknown	Total		
2004	N	13,149,824	1,501,555	69,146	14,720,525	6,203,932	221,719	512,176	882,760	7,820,587	53.1	34.1
	% of year	89.3	10.2	0.5		79.3	2.8	6.5	11.3			
2008	N	6,169,285	758,126	22,496	6,949,907	4,164,121	121,595	334,373	404,515	5,024,604	72.3	44.1
	% of year	88.8	10.9	0.3		82.9	2.4	6.7	8.1			
2009	N	8,121,376	634,416	28,503	8,784,295	5,577,188	145,921	166,292	634,455	6,523,856	74.3	26.2
	% of year	92.5	7.2	0.32		85.5	2.2	2.5	9.7			
2010	N	7,060,900	647,891	15,346	7,724,137	4,622,394	120,193	223,240	616,546	5,582,373	72.3	34.5
	% of year	91.4	8.4	0.2		82.8	2.2	4.0	11.0			
2011	N	6,226,550	720,282	9,860	6,956,692	3,677,676	105,507	263,912	669,868	4,716,963	67.8	36.6
	% of year	89.5	10.4	0.14		78.0	2.2	5.6	14.2			
2012	N	8,586,855	1,016,540	20,181	9,623,576	4,819,833	106,352	382,432	86,676	5,395,293	56.1	37.6
	% of year	89.2	10.6	0.21		89.3	2.0	7.1	1.6			

HMDA = Home Mortgage Disclosure Act.
Source: Authors' tabulations of HMDA and Black Knight data

The comparison of Black Knight and HMDA data frequencies indicates that the Black Knight data represents a substantial share of originated mortgages. Although some differences may exist in the characteristics of loans included in the Black Knight data and the population at large, the characteristics we detail in the following section indicate that the Black Knight data represent a comparable set of mortgages with those that might be eligible for a mortgage insurance program. Thus, the findings from our empirical model are based on the observed experience of a substantial portion of relevant mortgages.

For this analysis, we first create an investor sample that consists of all loans that are labeled in the Black Knight data as being collateralized by "non-owner" or "investment" properties. We create a comparison owner sample from a 5-percent sample of all loans in the Black Knight dataset labeled as being collateralized by properties that are the borrower's primary residence.[112] For each sample, we analyze performance over the period from 2004 to 2011 for loans originated between 2003 and 2011.[113] We also focus on loans backed by properties located in MSAs. Focusing on MSAs enables us to merge MSA-level measures of housing price trends using the FHFA housing price indexes and economic indicators from the ACS.

As discussed previously, because the goal of this study is to consider new mortgage insurance products for rental property investors, we segment loans by mortgage insurance status throughout our analysis. Panel A of exhibit C-3 shows how the roughly 2.6 million investor loans are distributed over origination year, and the proportion in each year that are made with insurance (these loans are in the Black Knight data listed as "conventional with private mortgage insurance" versus "conventional without private mortgage insurance"). Two features of the housing market decline are evident in the exhibit. First, the volume of lending to investors falls from almost 467,000 loans in 2005 to 115,000 loans in 2009. While some of this decline may be due to a change in the share of loans all loans included in the Black Knight data, the decline mirrors that in the HMDA data, which shows a 58-percent decline in lending to investors during this period. Second, the share of loans to investors carrying mortgage insurance falls from just under 22 percent in 2008 to 3 percent in 2009 and then 1.2 percent in 2010. In the Black Knight data at least, the issuance of insured mortgages for loans held by investors virtually ceased between 2008 and 2010.

The risks and underwriting considerations of lending products for rental property investors relative to those of products for owner-occupants is a motivating research question for this analysis in part because of a substantial history and familiarity with the latter. As such, we present comparable statistics and estimation results for owner-occupants throughout our analysis. Panel B of exhibit C-3 provides the first such comparison, showing how our 5-percent sample of just under 1.7 million loans is distributed across origination years. In this exhibit we distinguish between loans made with private mortgage insurance and loans made under FHA and VA programs. Although we see a drop in loans made with private mortgage insurance between 2007 and 2010 that is almost as severe as that described for investor mortgages previously mentioned, the growth in government mortgage insurance programs and decline in conventional lending without insurance results in one-half of the mortgages made in 2008 carrying insurance.

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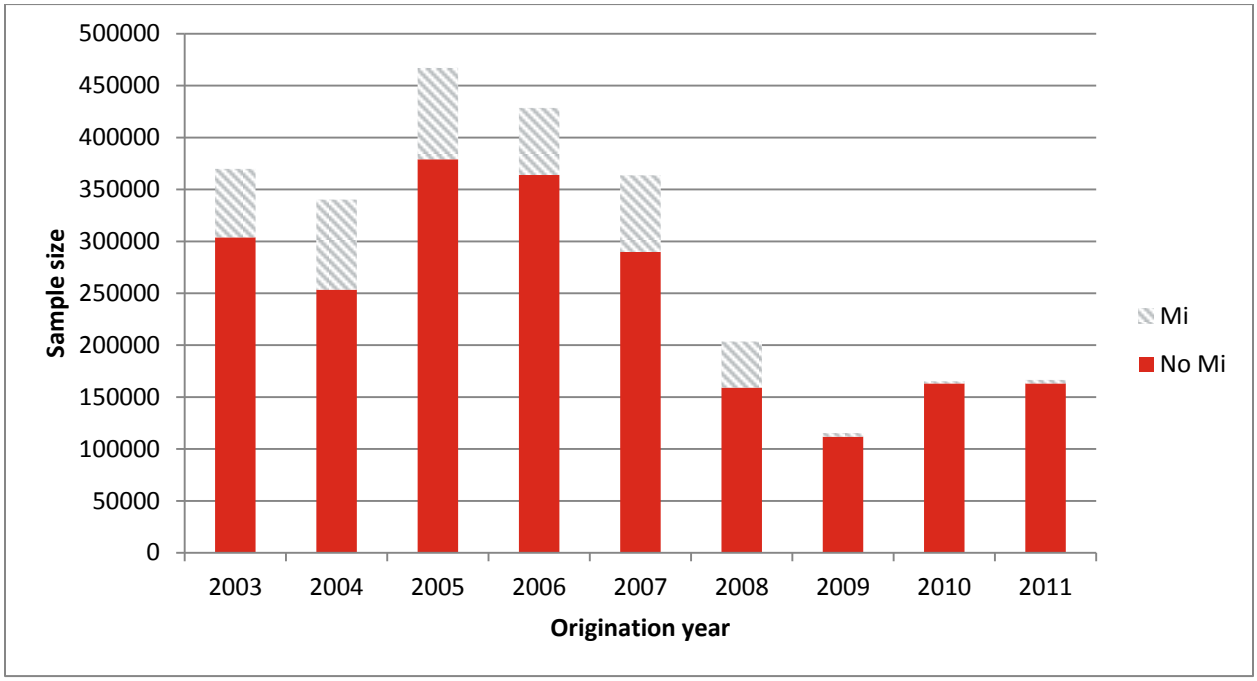
[112] We use a 5-percent sample to facilitate computation. We exclude mortgages with occupancy listed as "second property" and "unknown."

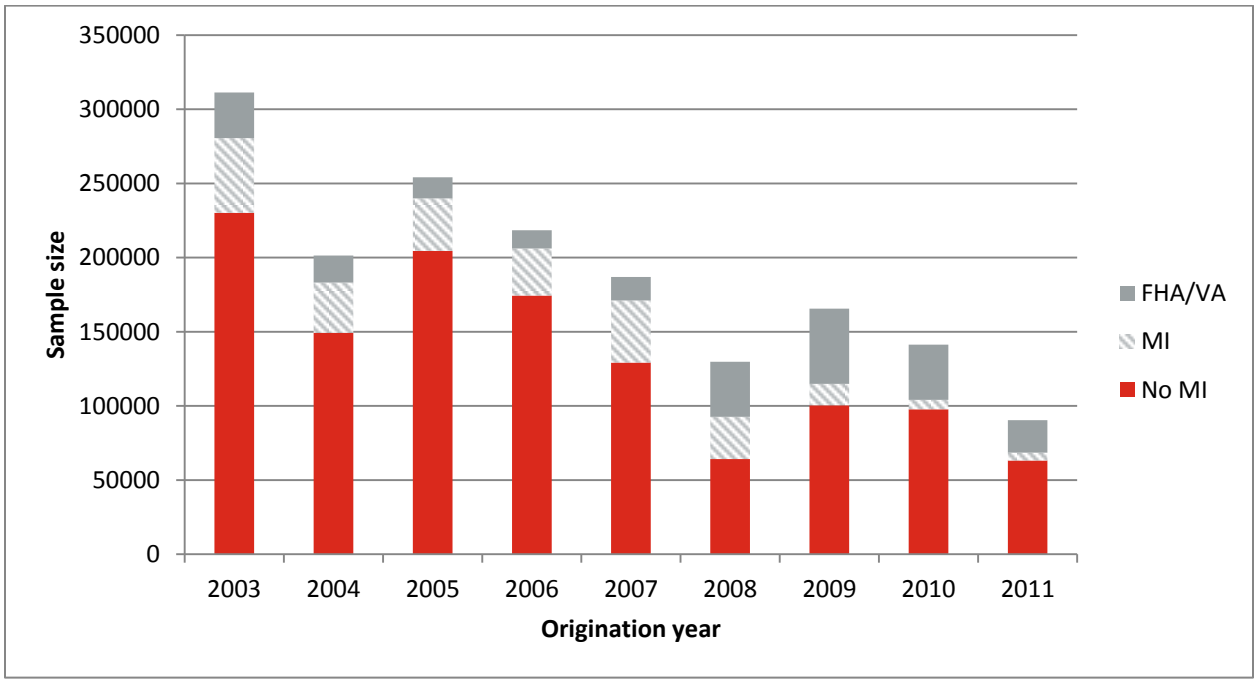
[113] Although loan-level performance data is available for 2012, our analysis includes MSA-level economic characteristics measured in the American Community Survey 1-year estimates. The 2012 MSA-level estimates were not available in time to incorporate them into this analysis.

Exhibit C-3. Sample Size, by Origination Year

Panel A: Number of Investor Loans, by MI Status and Origination Year



Panel B: Number of Owner-Occupied Property Loans (5-percent sample), by MI Status and Origination Year



Source: Authors' tabulations of Black Knight data

Before examining univariate relationships between these loan characteristics and loan performance and changes in the characteristics over time. Exhibit C-4 presents summary statistics for the time-invariant characteristics of loans in our estimation sample. A few notable differences arise between the characteristics of loans made to investors and those made to owner-occupants across our sample. Overall, more than 5 times as many loans are made to investors without insurance (slightly less than 2.2 million) as those with insurance (more than 430,000). For owners, loans without insurance are 2.5 times more prevalent. Investor loans more frequently have adjustable rates, at 23 percent (with insurance) and 24 percent (without insurance) as compared with 10 percent (with) and 23 percent (without) for owners. For owners and renters, loans with insurance are more predominately for purchase while loans without insurance are refinances.

The share of loans made against condominiums and townhomes and two- to four-family homes is greater for investors than owner-occupants. The contrast is stark for two- to four-family homes, which make up 16 percent of loans without insurance and nearly 8 percent of loans with insurance for investors and fewer than 2 percent for insured and uninsured loans to owner-occupants. Loans to investors are, on average, for smaller loan amounts than loans to owner-occupants, and, for both investors and owner-occupants, insured loans tend to be for smaller amounts on average than uninsured loans. Owner-occupants without insurance average the most equity at origination, with a median LTV of 0.73, followed closely by investors without insurance at 0.74. Investors with insurance have a median LTV of 0.88 while their owner-occupied property counterparts have the highest median LTV at 0.94.

A final difference we highlight from the overall sample summary statistics is that although credit scores are on average very similar for owner-occupants and investors borrowing without mortgage insurance with a median near 740, owner-occupants borrowing with insurance have a median credit score slightly less than 700, while investors borrowing with insurance have a median score between these two at 721.

The diverging market share of mortgage insurance for investors and owner-occupants is further illuminated by exhibit C-5, which shows the loan purpose—purchase, other, rate/term refinance, cash out refinance, other refinance, or unknown—for each of our data groups. Here we see that most loans with mortgage insurance made to investors beginning in 2009 were of “unknown” type or were a refinance. Meanwhile, in the lower left panel we see that purchase loans with mortgage insurance (government and private) made to owner-occupants actually increased and held steady in 2008 and 2009 before declining somewhat in 2010 and 2011.

Together, the volume patterns of our data depicted in exhibits C-3 and C-5 are consistent with the narrative that private mortgage insurance largely dropped out of the market beginning in 2008, and that insured loans remained available largely through government programs, but only to owner-occupants (consistent with the design of the programs). The relationship between characteristics of loans in our sample and their performance provides additional context to this narrative.

Exhibit C-4. Summary Statistics of Loan-Level, Time-Invariant Characteristics

A. Loans

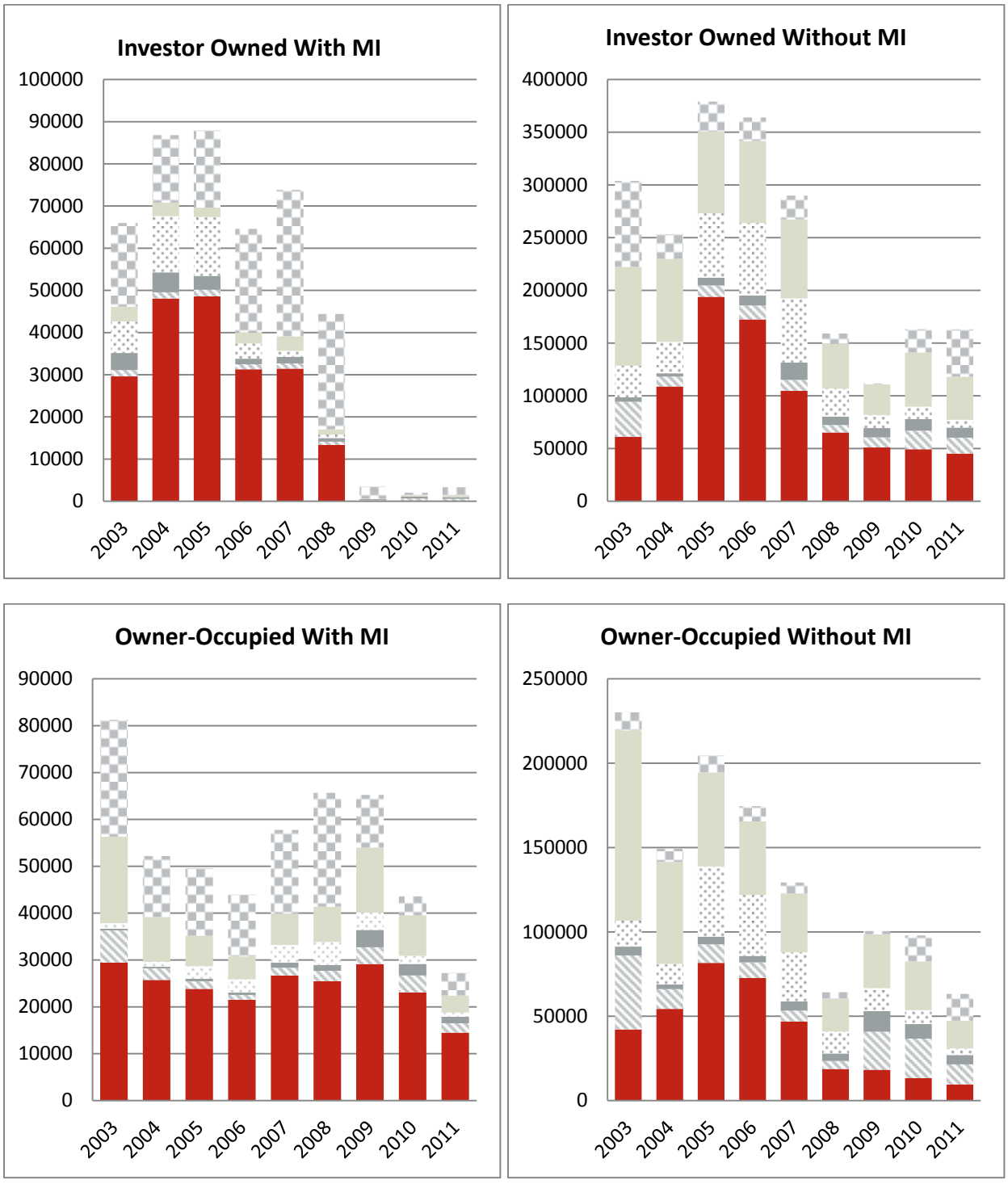
Loan Characteristic	Loans With MI					Loans Without MI				
	Mean/ Share	Standard Deviation	P25	Median	P75	Mean/Share	Standard Deviation	P25	Median	P75
Loan Purpose										
Missing										
Purchase	46.9%					39.0%				
Other (construction, rehabilitation, remodeling, etc.)	2.0%					5.8%				
Rate/term finance	3.9%					3.6%				
Cash out refinance	9.4%					14.1%				
Other refinance	3.9%					25.9%				
Unknown	33.8%					11.7%				
Interest Rate Type										
Fixed	76.7%					76.1%				
ARM	23.3%					23.9%				
Property Type										
Single-family home	81.5%					68.0%				
Condominium or townhome	11.0%					16.0%				
Two to four-family property	7.6%					15.9%				
Loan amount	147,747	104,462	75,750	118,900	185,500	174,038	123,239	89,600	138,750	221,935
LTV at origination	0.83	0.13	0.80	0.88	0.90	0.70	0.15	0.63	0.74	0.80
Additional Lien										
One lien only	822					0.868				
Multiple liens	0.178					0.132				
Credit score	718	53	681	721	760	733	52	698	740	775
Relative value (to MSA median) at origination	0.88	0.50	0.57	0.78	1.04	1.03	0.62	0.66	0.89	1.21
Quarters observed between 2003 and 2011	12.3	9.3	4.0	10.0	20.0	13.9	9.7	6.0	11.0	21.0
Number of loans	432,366					2,186,994				

B. Owner-Occupied Property Loans

Loan Characteristic	Loans With MI					Loans Without MI				
	Mean/ Share	Standard Deviation	P25	Median	P75	Mean/Share	Standard Deviation	P25	Median	P75
Loan Purpose										
Missing										
Purchase	45.1%					29.5%				
Other (construction, rehabilitation, remodeling, etc.)	5.2%					11.9%				
Rate/term finance	2.4%					4.3%				
Cash out refinance	4.7%					14.3%				
Other refinance	16.4%					33.3%				
Unknown	26.3%					6.7%				
Interest Rate Type										
Fixed	89.6%					76.6%				
ARM	10.4%					23.4%				
Property Type										
Single-family home	90.7%					87.0%				
Condominium or townhome	8.1%					11.3%				
Two to four-family property	1.2%					1.8%				
Product Type										
FHA	38.7%									
VA	10.3%									
Conventional with MI	51.0%									
Loan amount	180,049	102,112	112,000	155,138	222,296	233,059	157,455	125,000	192,000	300,000
LTV at origination	0.89	0.13	0.85	0.94	0.98	0.68	0.17	0.58	0.73	0.80
Additional Lien										
Multiple liens	0.900					0.902				
One lien only	0.100					0.098				
Credit score	696	65	649	697	748	729	60	691	741	778
Relative value (to MSA median) at origination	1.07	0.58	0.73	0.94	1.26	1.43	0.96	0.87	1.17	1.68
Quarters observed between 2003 and 2011	12.6	8.3	6.0	11.0	17.0	14.1	9.6	7.0	11.0	21.0
Number of loans	486,408					1,213,435				

ARM = adjustable rate mortgage. FHA = Federal Housing Administration. LTV = loan to value. MI = mortgage insurance. MSA = metropolitan statistical area. VA = U.S. Department of Veterans Affairs.

Exhibit C-5. Loan Purpose, by Sample, MI Status, and Origination Year



MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

The outcome of interest for each mortgage is whether the borrower defaults, prepays, or continues to make payments as scheduled, and, for loans that prepay or default, how long after origination the mortgage "survives" before this event occurs. To determine the outcome for each loan, we parsed the loan payment history to determine the number of months the loan was in payment (or less than 90 days delinquent) before either the first instance in which the loan was delinquent for at least 90 days, the loan was prepaid, or the loan was censored from our sample. We do not observe the context for prepayment (for example, property sale versus refinance). Many loans are censored from the right because they disappear from the dataset (often because of a servicing transfer) or continue in payment beyond 2011. Fewer loans are censored from the left in that we do not observe a payment history for an initial (known) number of months after origination.[114]

The prevalence of default (defined as 90 days delinquent) by origination year is tabulated in exhibit C-6. The very worst performance observed is among investor loans without MI originated in 2006, followed closely by investor loans with MI originated in 2007 and then owner-occupied property loans without MI originated in 2006. All these cohorts experienced cumulative default rates in excess of 25 percent within 6 years of origination. Inevitably, these rates will rise. We can only speculate about the reasons why the usual pattern of loans with MI being worse does not hold here. One possibility is that MI provided a layer of relatively conservative underwriting when underwriting for loans without MI was loosest (such as in 2005 and 2006, when even speculative investors could get loans).

Comparing the performance of loans with and without MI, for investors and owner-occupants, the share of loans with MI that eventually default is higher than for those without MI for all but the 2005 and 2006 cohorts. Comparing the performance of investor and owner-occupied property loans, owner-occupied property loans without MI have lower cumulative default rates than investor mortgages without MI. The comparison of the performance of mortgages with MI is more mixed. Owner-occupied property mortgages with MI had higher cumulative default rates in 6 of the 9 years than investor mortgages with MI. The performance of investor mortgages with MI was worse for the 2005, 2006, and 2007 cohorts.

Exhibit C-7 plots a more complete picture of the incidence of default as a loan ages. The exhibit graphs the conditional probabilities of default over time (conditional on not having defaulted or prepaid in previous months). The underlying empirical probabilities are calculated using the standard Kaplan-Meier method, which reports the share of loans defaulting in a given period from among those still observed in the period. Note that these probabilities are not conditioned on any characteristics of the loan, borrower, or market, but are rather conditional on not having previously having defaulted or prepaid. The plots demonstrate that, for all loan types, the conditional default probability increases rapidly during the first 2 years after origination, then declines steadily. Loans to owner-occupants with no mortgage insurance have the lowest probability of default in each month through the first 10 years as compared with all other loan types. Investor loans with MI have a greater incidence of default than investor loans without mortgage insurance.

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[114] Loans are recorded as in payment ("performing") for each quarter in which they are observed, are less than 90 days delinquent, and do not experience prepayment. Loans that are censored are recorded as in payment in every period in which they enter our dataset. We do not model premature censoring itself as a loan outcome as we have no reason to relate this data artifact to borrower behavior. Loans that are not censored are recorded as in payment until the final period they appear in our data, where they are recorded as either defaulting or prepaying. Allison (2010) provides an overview of data structure for discrete time survival models.

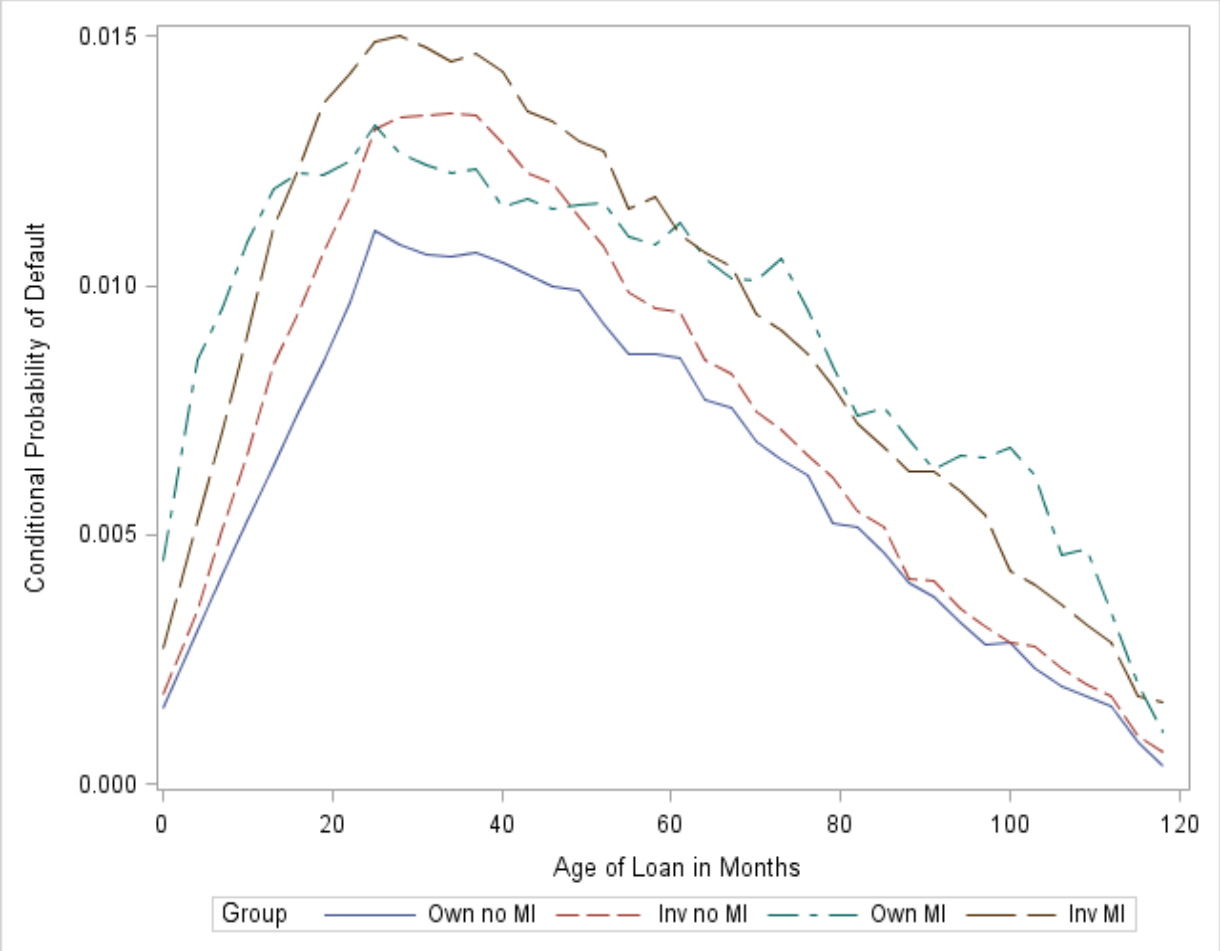
Exhibit C-6. Cumulative Default Rates, by Age of Loan Across Sample

	Origination Year	Years Since Origination								
		1	2	3	4	5	6	7	8	9
Investor Loans										
With MI	**2003**	0.1%	0.8%	1.8%	2.6%	3.7%	5.6%	7.1%	8.3%	**8.7%**
	2004	0.6%	2.1%	3.4%	5.2%	7.6%	9.4%	10.7%	**11.2%**	
	2005	1.5%	3.4%	6.5%	10.5%	13.1%	14.7%	**15.4%**		
	2006	2.1%	8.2%	16.2%	21.0%	24.0%	**25.2%**			
	2007	4.8%	15.1%	21.9%	25.8%	**27.4%**				
	2008	3.8%	8.7%	11.8%	**13.5%**					
	2009	0.4%	1.5%	**2.1%**						
	2010	1.3%	**2.2%**							
	2011	**0.5%**								
Without MI	**2003**	0.1%	0.3%	0.9%	1.4%	2.1%	3.4%	4.5%	5.3%	**5.7%**
	2004	0.4%	1.4%	2.4%	4.3%	6.9%	8.9%	10.2%	**10.9%**	
	2005	0.9%	3.0%	7.3%	12.6%	15.9%	17.9%	**18.7%**		
	2006	2.7%	9.8%	18.6%	23.6%	26.4%	**27.6%**			
	2007	3.8%	13.0%	19.5%	23.2%	**24.8%**				
	2008	2.4%	6.1%	8.6%	**10.0%**					
	2009	0.4%	0.9%	**1.2%**						
	2010	0.2%	**0.4%**							
	2011	**0.2%**								

	Origination Year	Years Since Origination								
		1	2	3	4	5	6	7	8	9
Owner-Occupied Property Loans										
With MI	**2003**	0.4%	1.7%	3.0%	3.9%	5.0%	6.7%	8.3%	9.3%	**9.8%**
	2004	1.4%	3.0%	4.3%	5.8%	7.9%	9.7%	10.8%	**11.3%**	
	2005	1.7%	3.5%	6.1%	9.9%	12.5%	14.1%	**14.8%**		
	2006	2.2%	6.4%	12.4%	16.2%	18.1%	**18.8%**			
	2007	5.5%	14.8%	20.8%	23.5%	**24.6%**				
	2008	5.6%	11.6%	15.1%	**16.8%**					
	2009	2.6%	6.1%	**8.1%**						
	2010	1.4%	**2.9%**							
	2011	**0.9%**								
Without MI	**2003**	0.1%	0.3%	0.6%	0.9%	1.3%	2.0%	2.7%	3.2%	**3.4%**
	2004	0.4%	1.1%	1.8%	2.8%	4.5%	6.0%	6.8%	**7.2%**	
	2005	1.1%	3.0%	6.5%	10.7%	13.6%	15.4%	**16.0%**		
	2006	2.9%	9.6%	18.1%	23.2%	25.7%	**26.7%**			
	2007	3.4%	11.8%	18.3%	21.5%	**22.9%**				
	2008	1.7%	4.7%	6.5%	**7.5%**					
	2009	0.3%	0.7%	**1.0%**						
	2010	0.2%	**0.4%**							
	2011	**0.1%**								

MI = mortgage insurance.
Note: Each cell reports the cumulative share of all loans originated in each year observed as defaulting within the column number of years since origination. As such, the right-most table entry is the total number of loans that default through 2011 as a share of the number of loans in the data originated in the year.
Source: Authors' tabulations of Black Knight data

Exhibit C-7. Age-Conditional Default Probabilities of Owner-Occupied and Investor Property Loans, by Mortgage Insurance



MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

C.2.2 Univariate Relationships Between Performance and Loan Characteristics at Origination

As expected, loan characteristics at origination are related to the loan's eventual terminal status. First, loans originated for different purposes show some notable differences in eventual outcome. Exhibit C-8 shows the percent of loans experiencing default and prepayment for purchase and refinance loans with and without mortgage insurance. We noted in Panel A of exhibit C-3 that the number of loans to investors with mortgage insurance plummeted in 2009. Exhibit C-8 highlights trends that may have precipitated this dropoff. The percent of investor refinances with mortgage insurance that ultimately experienced a 90-day delinquency grew from 6.0 percent for loans originated in 2005 to 43.8 percent for loans originated in 2007. This uptick is noticeably more extreme than we observed for owner-occupants, where insured mortgages experienced a more gradual increase in the share ultimately experiencing in delinquency (albeit from a higher baseline), which reached a high of 33.6 percent for loans originated in 2007.

As referenced in the discussion of the slope of the yield curve, depicted in exhibit C-1, the housing market decline and subsequent financial crisis produced an anomalous lending environment, with historically low rates for fixed-rate mortgages. Exhibit C-9 shows that the share of mortgages originated with fixed rates

Exhibit C-8. Share of Loans That Ever Default Through 2011, by Loan Purpose and Origination Year

Group	Purpose	Origination Year									
		2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	Total (%)
Investor											
With MI	**Purchase**	9.9	11.3	17.8	26.8	25.4	15.0	2.9	0.0	0.0	17.4
	Refinance	4.3	4.9	6.0	27.2	43.8	28.6	7.3	2.8	0.6	11.5
Without MI	**Purchase**	5.2	8.0	18.0	24.9	17.9	6.5	0.9	0.1	0.0	13.3
	Refinance	5.6	9.7	18.1	29.5	27.9	13.1	1.7	0.6	0.2	15.2
Owner-Occupied											
With MI	**Purchase**	13.9	16.8	21.5	26.0	29.2	15.9	6.2	2.9	0.8	15.3
	Refinance	10.2	14.7	21.0	30.5	33.6	23.4	10.8	2.6	0.7	15.7
Without MI	**Purchase**	4.0	7.0	17.2	26.0	18.6	5.8	0.9	0.3	0.1	13.6
	Refinance All	3.5	7.4	14.6	26.0	24.8	8.8	1.1	0.4	0.1	10.8

MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

Exhibit C-9. Share of Loans That Ever Default Through 2011, by Interest Rate Type and Origination Year

		Origination Year									Total (%)
		2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	
Investor											
With MI	**Fixed rate**	7.9	10.6	15.6	21.2	24.3	13.0	2.1	2.2	0.5	15.3
	ARM	5.0	7.6	13.4	36.6	47.7	20.5	14.3	0.0	0.0	16.9
Fixed-rate share of sample		*86.2*	*86.0*	*62.6*	*60.3*	*77.8*	*89.1*	*96.6*	*99.6*	*98.1*	*97.9*
Without MI	**Fixed rate**	4.7	8.2	12.0	20.7	21.8	9.8	1.2	0.4	0.2	9.9
	ARM	6.1	11.1	25.4	37.1	35.4	11.2	1.7	0.4	0.1	25.0
Fixed-rate share of sample		*90.5*	*90.3*	*66.5*	*53.7*	*60.5*	*80.1*	*94.8*	*96.9*	*94.5*	*93.0*
Owner-Occupied											
With MI	**Fixed rate**	10.2	14.3	18.5	22.5	26.6	17.0	8.1	2.8	0.8	13.8
	ARM	11.9	14.6	23.9	39.9	44.1	20.7	12.4	3.6	1.6	21.3
Fixed-rate share of sample		*89.6*	*89.7*	*76.6*	*81.0*	*85.7*	*90.5*	*96.0*	*98.0*	*94.1*	*91.5*
Without MI	**Fixed rate**	3.5	6.6	11.4	19.0	20.2	7.8	1.2	0.7	0.5	7.7
	ARM	4.6	9.8	25.0	40.7	38.5	13.4	1.2	0.5	0.1	23.8
Fixed-rate share of sample		*86.9*	*87.0*	*64.1*	*59.3*	*59.5*	*78.1*	*91.9*	*97.5*	*94.8*	*92.4*

ARM = adjustable rate mortgage. MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

across all four data groups rose to at least 97 percent in 2009 from shares in the 54- to 60-percent range in 2005 (except for owner-occupied property loans with mortgage insurance, with 81-percent fixed-rate loans in 2005). This finding is consistent with borrowers largely taking advantage of the attractive long-term borrowing rates. The exhibit is also consistent with an alternative (and not necessarily competing) narrative that the shift to fixed rates may have reflected observed performance—47.7 percent of ARMs with insurance and 35.4 percent without insurance made to investors in 2007 ultimately became delinquent, when compared with 24.3 and 21.8 percent, respectively, for fixed-rate mortgages. Similar disparities for eventual default rates in fixed and adjustable rate mortgages are observed for owner-occupants. Further discussion of the differences in loan performance is provided in section 3.4, where we present results of the multivariable analysis.

The distribution of initial interest rates for each dataset across ultimate outcomes is shown in exhibit C-10. At each percentile, loans to investors are made at higher interest rates than to owner-occupants. Within the investor and owner owner-occupant groups, the distribution of interest rates is greater at each statistic for loans that eventually default. For loans to investors, the difference in the median interest rate of loans that default and loans that prepay is 50 basis points for loans with mortgage insurance and 88 basis points for loans without mortgage insurance.

Exhibit C-10. Interest Rate Summary Statistics by Loan Outcome as of 2011, by Group

		Mean (%)	Standard Deviation (%)	25th Percentile (%)	50th Percentile (%)	75th Percentile (%)
Investor						
With MI	**Default**	7.10	1.07	6.38	7.00	7.75
	Prepay	6.39	1.29	5.88	6.50	7.00
	Censored	6.39	0.92	5.88	6.38	6.88
	All	6.50	1.12	5.88	6.50	7.13
Without MI	**Default**	7.24	1.28	6.50	7.13	8.00
	Prepay	6.30	1.03	5.75	6.25	6.88
	Censored	5.96	1.10	5.25	5.88	6.63
	All	6.23	1.18	5.50	6.25	6.88
Combined	**All**	6.28	1.18	5.50	6.25	6.88
Owner-Occupied						
With MI	**Default**	6.31	0.92	5.75	6.35	6.75
	Prepay	5.95	0.80	5.50	6.00	6.50
	Censored	5.48	0.88	4.88	5.50	6.00
	All	5.76	0.92	5.00	5.88	6.38
Without MI	**Default**	6.73	1.45	6.00	6.55	7.50
	Prepay	5.73	1.04	5.25	5.75	6.25
	Censored	5.41	1.06	4.75	5.38	6.00
	All	5.69	1.17	5.00	5.74	6.25
Combined	**All**	5.71	1.10	5.00	5.75	6.29

MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

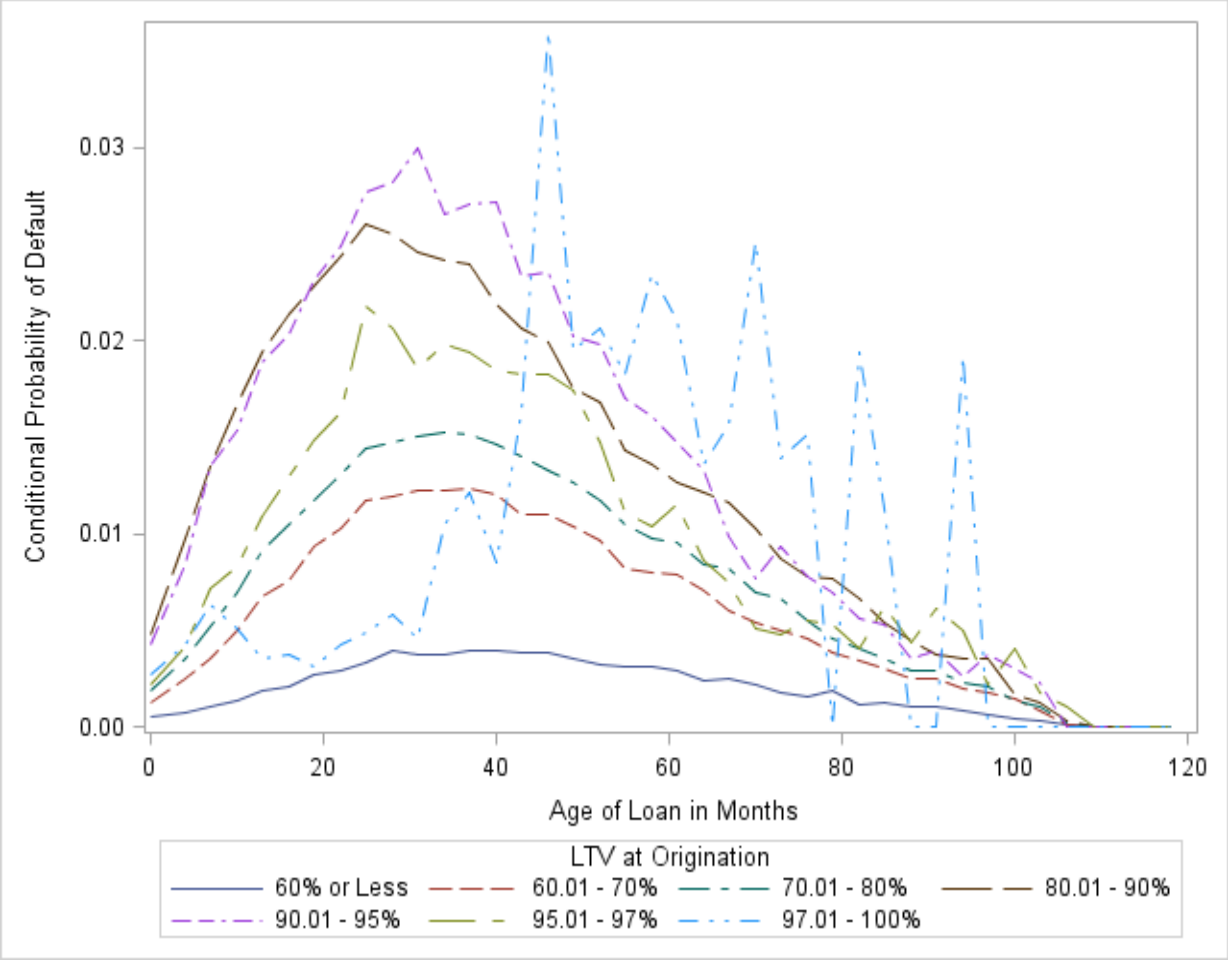
The amount of leverage at origination for each loan is also correlated with eventual loan outcome. Exhibit C-11 shows that loans to investors generally (median and 75th percentile) have less leverage (lower LTVs). In each category loans with more leverage have higher rates of default and this persists through the life of the loan for the investor loans in exhibit C-12, which plots conditional default probabilities across loan age by LTV at origination. Higher LTV ratio loans, in general, have a higher conditional probability of default at every age, although loans with greater than 95-percent LTV have somewhat lower CPDs than do loans with 80- to 95-percent LTV. Loans with LTVs of more than 97 percent in our sample have a relatively low conditional probability of default in the first 3 years and then spike. We also note that the default probability profile for loans with a 60 percent or lower LTV is markedly less than that for loans with even 60- to 70-percent LTV.

Exhibit C-11. LTV Summary Statistics by Loan Outcome as of 2011, by Group

Property Type		Mean (%)	Standard Deviation (%)	25th Percentile (%)	50th Percentile (%)	75th Percentile (%)
Investor						
With MI	**Default**	86.9	8.4	85.0	90.0	90.0
	Prepay	81.9	13.5	78.0	87.0	90.0
	Censored	82.6	13.5	79.0	87.0	90.0
	All	83.0	13.0	80.0	88.0	90.0
Without MI	**Default**	76.2	10.4	70.0	79.0	80.0
	Prepay	67.9	15.2	60.0	73.0	80.0
	Censored	68.9	14.9	62.0	74.0	80.0
	All	69.6	14.7	63.0	74.0	80.0
Combined	**All**	71.8	15.3	65.0	75.0	80.0
Owner-Occupied						
With MI	**Default**	92.0	9.3	89.0	95.0	98.0
	Prepay	86.7	15.4	81.0	90.0	98.0
	Censored	90.3%	12.8%	87.0%	95.0%	98.0%
	All	89.3%	13.5%	85.0%	94.0%	98.0%
Without MI	**Default**	77.7%	12.4%	74.0%	80.0%	80.0%
	Prepay	66.6%	16.7%	56.0%	71.0%	80.0%
	Censored	67.3%	17.7%	57.0%	72.0%	80.0%
	All	68.2%	17.1%	58.0%	73.0%	80.0%
Combined	**All**	74.2%	18.8%	64.0%	79.0%	89.0%

LTV = loan to value. MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

Exhibit C-12. Conditional Default Probabilities for the Investor Property Sample, by LTV at Origination



LTV = loan to value.
Source: Authors' tabulations of Black Knight data

Loan size at origination is also correlated with the eventual outcome of the loan. As depicted in exhibit C-13, among investor loans, the median loan amount at origination for loans that default, in general, is less than that for loans that prepay or are censored from the sample for loans with and without mortgage insurance. The exception is among loans to investors for the 2005 through 2007 vintages with no mortgage insurance and the 2007 cohort for loans with mortgage insurance, when the median loan amount is higher among loans that ultimately default than among loans that prepay. In each comparison, the median loan to an investor is smaller than to an owner-occupant. Overall, the median original loan amount to investors is $135,000 as compared with $180,000 for owner-occupants. (We saw previously that investors have lower LTVs.)

Exhibit C-13. Loan Amount, by Loan Outcome and Origination Year

Investor loans are also made against properties with relatively low values within MSAs, and loans that ultimately default have values that are still lower relative to the MSA median. Exhibit C-14 reports statistics for home value relative to the MSA median value (from the ACS) for all origination years. The median of the ratio of home value to MSA median value for investors is 87 percent, indicating that most homes these investors purchase are in the lower one-half of the MSA value distribution. For owner-occupants, the median of the ratio is 110 percent, indicating that most of the homes purchased by owner-occupants in our data are in the top one-half of the MSA value distribution. For investors and owner-occupants, properties purchased with mortgage insurance, in general, have lower values than those purchased without mortgage insurance, and, in all cases, homes that default are lower in value than those that prepay.

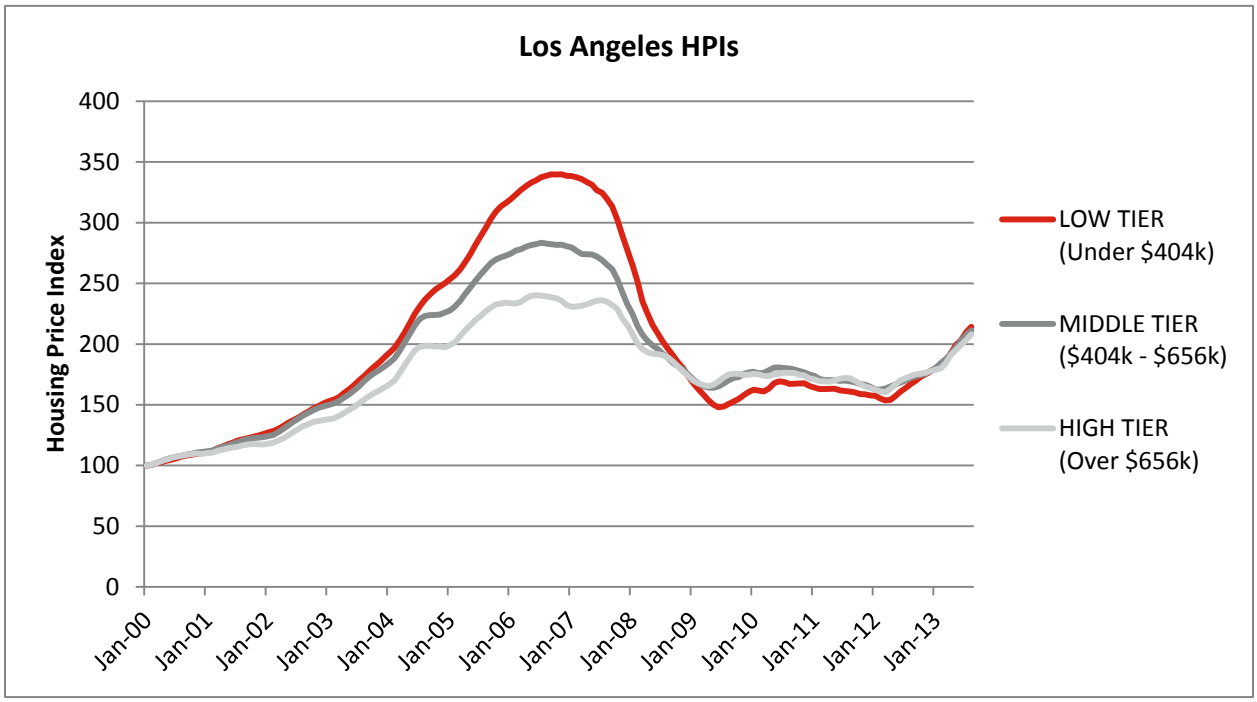
Exhibit C-14. Price Relative to MSA Median Value Summary Statistics by Loan Outcome as of 2011, by Group

Property Type		Mean (%)	Standard Deviation (%)	25th Percentile (%)	50th Percentile (%)	75th Percentile (%)
Investor						
MI	**Default**	82.4	44.0	54.5	73.7	98.4
	Prepay	94.3	54.5	61.5	83.6	111.4
	Censored	84.4	47.8	55.7	75.6	100.1
	All	87.8	50.1	57.4	78.2	104.1
Without MI	**Default**	96.9	56.7	62.9	85.0	114.3
	Prepay	110.7	67.2	70.9	94.9	130.3
	Censored	99.8	60.3	64.2	86.7	117.7
	All	102.6	62.1	65.8	88.7	120.8
Combined	**All**	100.2	60.6	64.3	86.9	118.1
Owner-Occupied						
With MI	**Default**	97.5	46.9	69.4	88.0	113.0
	Prepay	117.6	67.0	78.1	101.9	137.7
	Censored	102.9	53.5	70.3	91.8	121.5
	All	107.1	58.2	72.5	94.4	125.6
Without MI	**Default**	120.8	76.6	79.6	101.1	136.1
	Prepay	153.2	102.8	92.7	125.7	180.3
	Censored	139.6	93.2	85.6	115.0	163.4
	All	143.4	96.4	87.5	117.5	167.6
Combined	**All**	133.0	88.7	82.3	109.7	155.0

MSA = metropolitan statistical area.
Source: Authors' tabulations of Black Knight data

A few features of the recent housing market episode and economic downturn may be related to this artifact of the data. First, in many cities that featured prominently in the housing price boom and bust, price gains and declines were most extreme for relatively low-value homes within the city (Carson and Dastrup, 2013). Exhibit C-15 takes Los Angeles as an example and shows the Case-Shiller® tiered housing price indices for the city. These indexes are estimated separately for homes in the bottom, middle, and top one-third of the market. Starting all indexes at 100 in January 2000, it is clear that the bottom one-third of the market experienced the greatest percentage gains and largest subsequent declines.

Exhibit C-15. Los Angeles HPI: Case-Shiller® Housing Price Indices, by Value Tier for Los Angeles



HPI = housing price index.
Source: Data retrieved from http://us.spindices.com/documents/additionalinfo/20131029/60544_cs-tieredprices-1029.xls

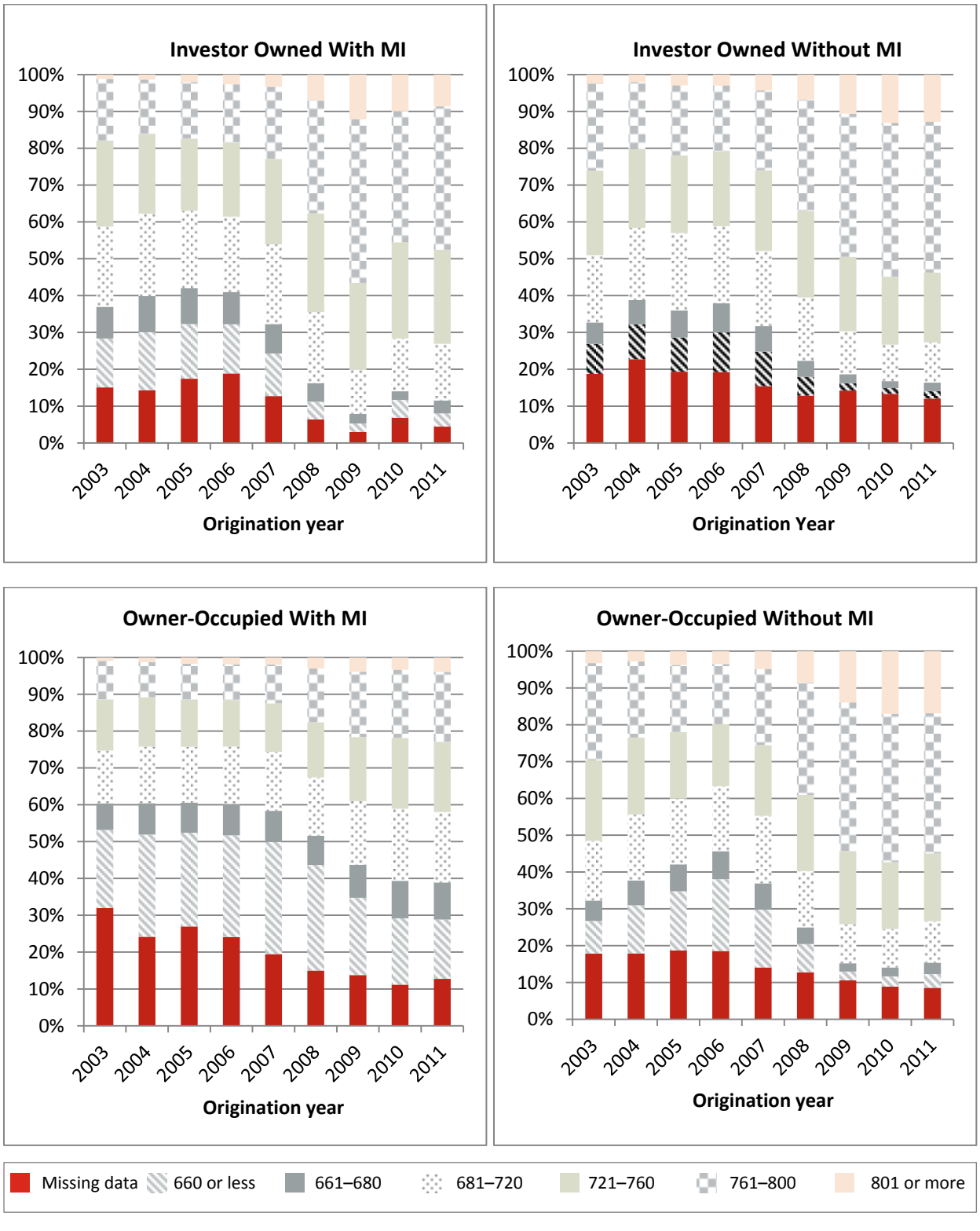
Second, unemployment and income loss during the recent recession were more extreme among lower income and less-educated households who constitute the demand side for housing purchase and rental in the lower one-half of the value distribution. As late as 2011, the unemployment rate among workers with the education level of a high school diploma or less was persisting at rates of more than 10 percent, while workers with a bachelor's degree or higher saw falling unemployment with rates of less than 5 percent.[115]

In addition to loan characteristics, we observe the borrower's credit score at origination in the Black Knight data. Exhibit C-16 tracks the share of originations in each credit score category by origination year. As the housing market declined and the financial crisis hit, lending was largely restricted to high credit score investors. For investor loans without mortgage insurance, the share of mortgages to investors with credit scores above 720 rose from 41 percent in 2006 (similar to the 39-percent number for loans to investors with mortgage insurance) to 73 percent in 2011, with an even more pronounced increase in share going to borrowers with credit scores of more than 760. Only among owner-occupant borrowers receiving loans with mortgage insurance did borrowers with credit scores below 760 maintain a significant share of loans originated.

Again, observed performance indicates that credit score is an important predictor of whether loans become delinquent. Exhibit C-17 presents conditional default probability (CDP) plots for each data group by credit score group. The plots are ordered by credit score, as in each instance plots of CDPs for lower credit scores lie above those for lower credit score groups, indicating that at each loan age, lower credit score loans have higher default probabilities.

[115] Data recovered from http://www.bls.gov/web/empsit/cpsee_e03.htm.

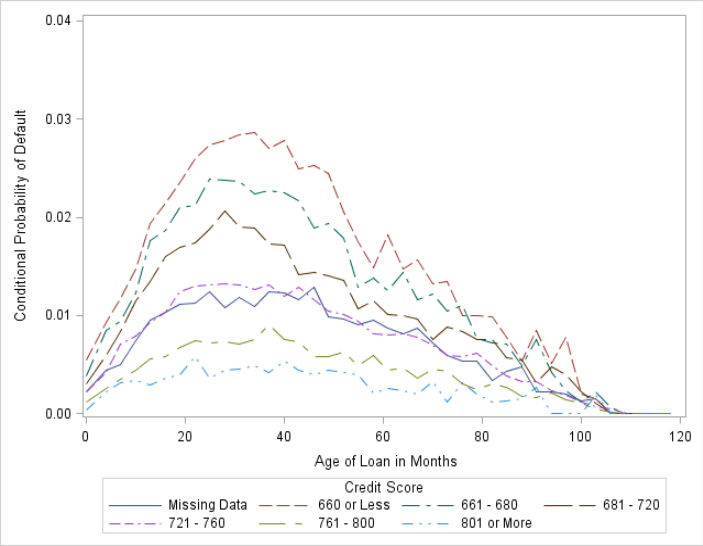
Exhibit C-16. Distribution of Credit Score, by Sample Group, Mortgage Insurance, and Origination Year



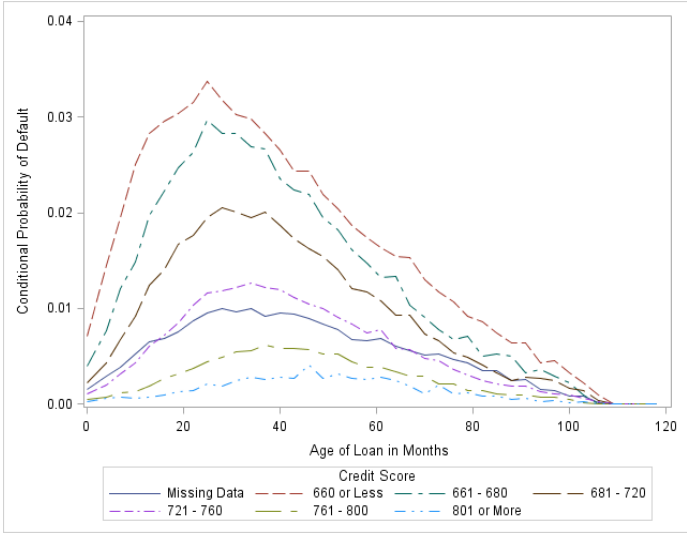
MI = mortgage insurance.

Exhibit C-17. Conditional Probability of Default, by Credit Score Category

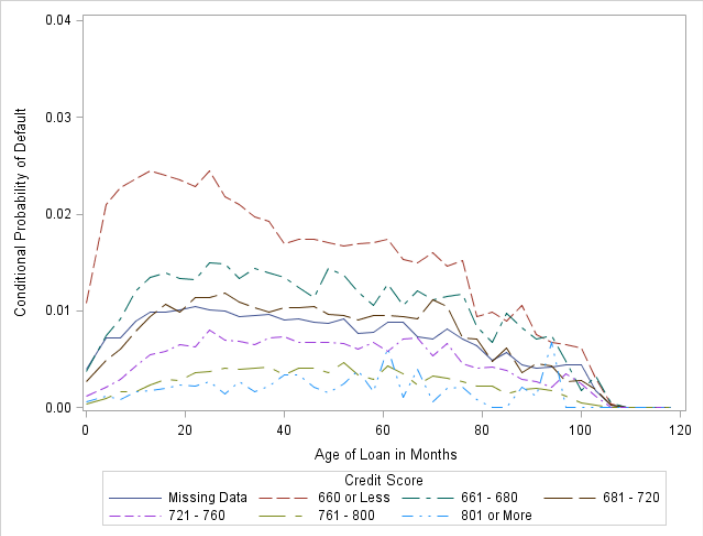
Investor With MI



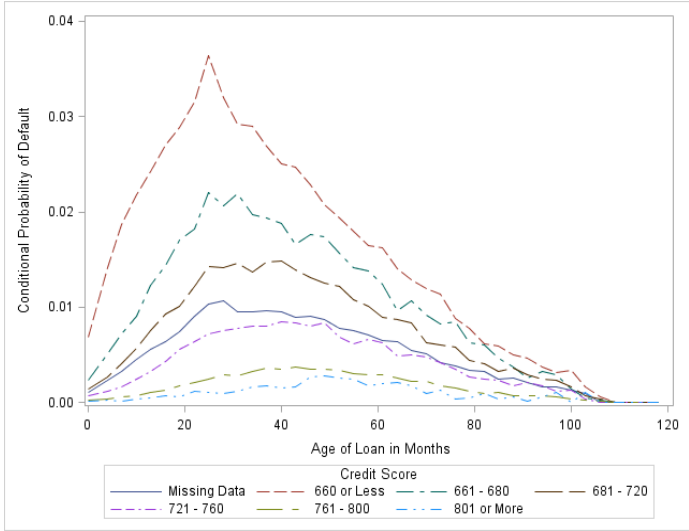
Investor Without MI



Owner-Occupied Property With MI



Owner-Occupied Property Without MI



MI = mortgage insurance.

To summarize, performance of loans in our sample is consistently correlated with loan and mortgage characteristics as might be expected. Observed one at a time, refinanced loans relative to purchase loans, ARMs relative to fixed-rate mortgages, loans with higher interest rates at origination, loans with higher LTVs at origination, relatively low-value homes within each MSA, and loans to borrowers with lower credit scores experienced a greater incidence of default. Many of these correlations were starker for mortgages made to investors than those made to owner-occupants, including a high 43.8-percent rate of default (through 2011) among refinance loans with mortgage insurance made to investors in 2007, and a 47.7-percent default rate (through 2011) among adjustable rate loans with mortgage insurance made to investors in 2007. Perhaps in response to worse loan performance, the period recorded a sharp increase in the share of investor loans made to borrowers with credit scores of more than 720, from 39 and 41 percent in 2006 to 73 (for both) percent in 2011 for loans with and without mortgage insurance. Many of the loans that experienced a default exhibited a combination of these features. We will see in our multivariate survival analysis in the following section, however, these factors remain distinctly predictive in a combined model. We now turn to loan and market-level variables in our model, which vary during the life of the loan.

C.2.3 Loan Performance and Option-Theoretic Variables

The previous section focused on loan characteristics by origination year and the eventual outcome of each loan. Although these variables are helpful in describing the incidence of default based on the various characteristics of loans when they were originated, they are less informative in describing the relationship of default to option values that are changing over time or trigger events that increasingly occurred with unfolding economic decline. We now turn to these time-varying variables. As described in section 3.2.2, these variables are estimated based on current market conditions such as MSA-level house price appreciation and interest rates.

In contrast to the exhibits in the previous sections, which depicted characteristics of the loans in our sample, exhibits in this section and the subsequent section describe data organized as loan-quarter observations. Each variable described in the following section takes on a (possibly different) value for each quarter for each loan. Exhibit C-18 provides summary statistics across all loan-by-quarter observations for the time-varying "option-theoretic" variables and market economic condition, "trigger event" variables during our analysis period from 2004 to 2011. The incidence of default across quarters ranges from 0.8 percent for owner-occupants without mortgage insurance to 1.5 percent for investors with insurance. LTV in the quarter, our first "option theoretic" variable indicating the value of the default option, averages from 0.61 and 0.64 for owner and investor loans without insurance to 0.82 and 0.77 for owner and investor loans with insurance.

The mortgage premium, our percentage measure of the interest rate relative to observed median refinance rates (for the same residency type) in the MSA and quarter has a median of 0 and 0.05 for owner and investor loans without insurance and a .09 for each type with insurance. This gap, which suggests that bowers with mortgage insurance face higher rates and are unable to take advantage of lower rate refinancing, is also evident in the burnout factor summary statistics. This variable measures persistent gaps between mortgage rates and available refinance rates as an eight-quarter moving average of the basis point size of any positive gap (interest rate more than the going market rate).

The median burnout factor for investors with insurance is 60 basis points and 25 basis points for investors without insurance. Owner-occupants with insurance have similar burnout factors as investors with insurance with a median of 50 basis points. Owner-occupants without insurance appear to take advantage of favorable refinancing opportunities most readily with the median and 75th percentile of burnout factors at 1.75 and 87.5 basis points.

Exhibit C-18. Summary Statistics for Time-Varying Variables

A. Loans to Investors

	Loans With MI					Loans Without MI				
Loan Quarter Characteristic	Mean/ Share	Standard Deviation	P25	Median	P75	Mean/ Share	Standard Deviation	P25	Median	P75
Payment Status in q										
Default	1.5%					1.1%				
Prepay	3.5%					2.5%				
Continued payment	95.0%					96.3%				
LTV in q	0.77	0.20	0.66	0.78	0.88	0.64	0.22	0.50	0.66	0.77
Mortgage premium in q	0.07	0.22	– 0.04	0.09	0.21	0.03	0.21	– 0.09	0.05	0.18
Calendar Quarter										
First	25%					24%				
Second	25%					25%				
Third	25%					26%				
Fourth	25%					25%				
Burnout factor in q	80.92	86.50	0.00	60.00	137.50	64.90	82.19	0.00	25.00	112.50
Yield curve in q	6.06	5.38	1.25	3.28	10.14	6.26	5.72	1.11	3.28	10.14
Year-over-year change in HPI in q	– 0.5%	9.5%	– 4.9%	– 1.3%	2.6%	– 1.6%	10.2%	– 6.6%	– 2.3%	2.1%
MSA Unemployment Rate in Year										
Missing	3.8%					3.6%				
1.5 to 5.9%	19.4%					20.0%				
5.9 to 7.6%	27.4%					26.0%				
7.6 to 10.2%	23.7%					21.2%				
10.2 to 33.6%	25.8%					29.2%				
Year-Over-Year Change in MSA Unemployment Rate										
Missing	13.5%					10.9%				
– 8.6 to – 0.9 points	11.5%					11.7%				
–0.9 to 0.2 points	31.0%					32.9%				
0.2 to 1.8 points	21.7%					23.8%				
1.8 + points	22.3%					20.7%				
Year-Over-Year Percent Change in MSA Median Rent										
Missing	3.4%					2.9%				
– 27 to 1%	24.3%					24.7%				
1 to 3%	28.9%					25.4%				
3 to 5%	26.0%					26.2%				
5% +	17.2%					20.8%				
MSA Median Income in Year										
Missing	2.1%					1.8%				
$11k to 38K	2.9%					1.8%				
$38k to 43k	9.9%					6.9%				
$43k to $49k	26.3%					18.6%				
$49k to $89k	58.8%					70.9%				

Year-Over-Year Percent Change in MSA Median Income										
Missing	3.4%					2.9%				
– 28 to – 0.6%	22.1%					25.0%				
– 0.6 to 1.7%	32.4%					32.6%				
1.7 to 4.2%	19.2%					18.0%				
4.2% +	22.9%					21.5%				
MSA Owner-Occupancy Rate in Year										
Missing	2.1%					0.8%				
45.6 to 64.9%	30.8%					20.6%				
64.9 to 68.7%	37.2%					13.9%				
68.7 to 72.1%	20.7%					7.5%				
72.1% +	9.3%					3.7%				
Year-Over-Year Change in MSA Owner-Occupancy Rate										
Missing	3.4%					2.9%				
– 11.5 to – 1.00 points	27.7%					27.7%				
– 1.00 to – 0.04 points	33.8%					36.9%				
– 0.04 to 0.70 points	19.9%					19.4%				
0.70 + points	15.1%					13.1%				
Age in quarter (years)	11.98	8.04	5	11	18	11.59	8.24	5	10	17
Loan quarter observations	4,673,278					25,666,769				

B. Owner-Occupied property loans

	Loans With MI					Loans Without MI				
Loan Quarter Characteristic	**Mean/ Share**	**Standard Deviation**	**P25**	**Median**	**P75**	**Mean/ Share**	**Standard Deviation**	**P25**	**Median**	**P75**
Payment Status in q										
Default	1.4%					0.9%				
Prepay	3.2%					3.5%				
Continued payment	95.4%					95.6%				
LTV in q	0.82	0.21	0.71	0.85	0.96	0.61	0.23	0.44	0.62	0.76
Mortgage premium in q	0.06	0.19	– 0.05	0.09	0.20	0.00	0.23	– 0.13	0.00	0.15
Calendar Quarter										
First	24%					24%				
Second	25%					25%				
Third	26%					26%				
Fourth	25%					24%				
Burnout factor in q	69.89	77.15	0.00	50.00	118.75	53.09	77.81	0.00	1.75	87.50
Yield curve in q	6.85	5.67	1.69	6.37	10.32	5.62	5.51	1.05	1.87	9.89
Year-over-year change in HPI in q	– 1.2%	8.1%	– 5.1%	– 1.6%	2.0%	– 0.6%	9.9%	– 5.9%	– 1.6%	3.3%
MSA Unemployment Rate in Year										
Missing	3.5%					4.0%				
1.5 to 5.9%	17.5%					20.5%				
5.9 to 7.6%	24.4%					29.9%				
7.6 to 10.2%	26.0%					20.2%				
10.2 to 33.6%	28.6%					25.4%				

Loan Quarter Characteristic	Loans With MI					Loans Without MI				
	Mean/ Share	Standard Deviation	P25	Median	P75	Mean/ Share	Standard Deviation	P25	Median	P75
Year-Over-Year Change in MSA Unemployment Rate										
Missing	10.8%					13.6%				
– 8.6 to – 0.9 points	11.7%					10.4%				
– 0.9 to 0.2 points	32.4%					35.6%				
0.2 to 1.8 points	23.2%					22.4%				
1.8 + points	21.8%					18.1%				
Year-Over-Year Percent Change in MSA Median Rent										
Missing	0.1%					0.2%				
– 27 to 1%	25.1%					19.9%				
1 to 3%	32.7%					28.2%				
3 to 5%	27.3%					32.1%				
5% +	14.8%					19.6%				
MSA Median Income in Year										
Missing	0.0%					0.0%				
$11k to $38K	3.2%					1.5%				
$38k to $43k	9.6%					5.5%				
$43k to $49k	24.1%					16.0%				
$49k to $89k	63.1%					77.0%				
Year-Over-Year Percent Change in MSA Median Income										
Missing	0.1%					0.2%				
– 28 to – 0.6%	20.5%					25.7%				
– 0.6 to 1.7%	34.6%					29.4%				
1.7 to 4.2%	22.0%					19.2%				
4.2% +	22.7%					25.5%				
MSA Owner-Occupancy rate in Year										
Missing	0.0%					0.0%				
45.6 to 64.9%	45.4%					33.8%				
64.9 to 68.7%	28.3%					35.1%				
68.7 to 72.1%	16.9%					21.1%				
72.1% +	9.3%					10.0%				
Year-Over-Year Change in MSA Owner-Occupancy Rate										
Missing	0.2%					0.1%				
– 11.5 to – 1.0 points	23.4%					28.3%				
– 1.0 to – 0.04 points	40.0%					37.3%				
– 0.04 to 0.7 points	24.6%					20.1%				
0.7 + points	11.7%					14.2%				
Age in quarter (years)	11.09	8.27	4	9	17	11.65	8.22	5	10	17
Loan quarter observations	5,156,090					15,016,953				

HPI = housing prince index. LTV = loan to value. MI = mortgage insurance. MSA = metropolitan statistical area. P25 = 25th percentile. P75 = 75th percentile. q = quarter.
Source: Authors' tabulations of Black Knight data

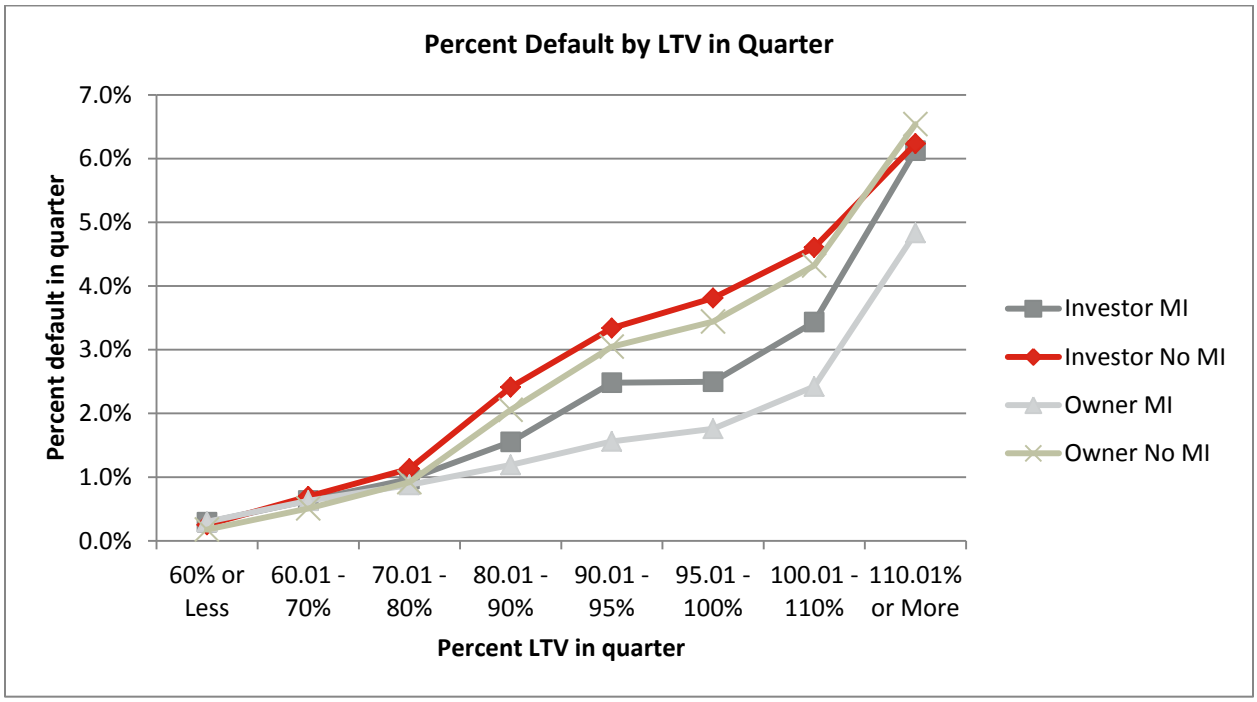
The remaining time-varying variables in our analysis highlight the dramatic range of housing price and economic fluctuations over this time period. Substantial shares of our loan quarter observations are observed during periods of high and low housing price changes, high and low unemployment and unemployment changes, and historically dramatic ranges of median income and owner-occupancy rate changes.

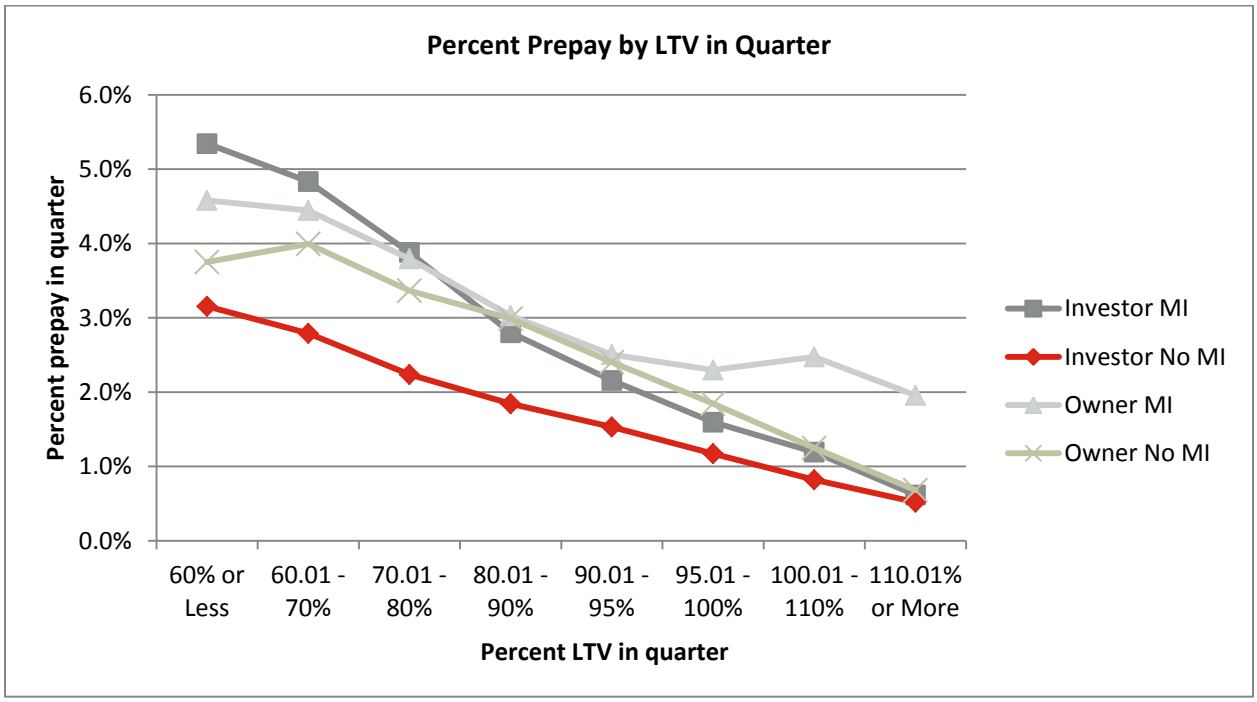
Our first option-theoretic variable describes the value of the borrower's put option to return the property to the lender rather than continue payment. The share of mortgages defaulting or prepaying in a given quarter broken out by current loan to value (LTVt), is provided for each of our data groups in exhibit C-19. LTVt is based on the current value of the property (estimated using MSA-level price appreciation since origination) and the current unpaid balance of the loan (from the Black Knight data). Although the share of loans defaulting in a given quarter is increasing as LTV increases for our groups, in each sample is a jump in rates in the top LTVt category of greater than 110 percent. For all but owner-occupants with mortgage insurance, an average of more than 6 percent of mortgages in the category default in each quarter. The deterioration in loan performance for investor mortgages with insurance is particularly notable. On average, 2.5 percent of these loans with LTVt between 90- and 100-percent default in each quarter, but defaults increase to 3.4 percent for loans with LTVt between 100 and 110 percent, and to 6.2 percent for loans with more than 110-percent LTVt.

The incidence of these current LTVt ratios over time is displayed for each of our data groups in exhibit C-20. The phenomenon of prices—and thus estimated home values—falling faster than equity was accumulating beginning in 2007 is evident in the exhibit panels. The share of loans in the modest equity (LTVt less than 80 percent) categories is steadily displaced by loans with little equity or negative equity. As the previous exhibit noted, 2.5 to 6.5 percent of loans estimated to be under water exit the sample in a given quarter. As such, the fact that we observe the share of high-LTVt observations holding steady and growing over time indicates the entry into higher LTVt categories of loans previously in lower LTVt categories. That is, the figures together with exhibit C-18 suggest that loans' LTVt increase over time before they default out of the sample.

We next turn to our measure of the value of the call option to pay off a mortgage early, typically through refinance. Our "mortgage premium" variable captures the percentage difference in the mortgage's current interest rate and the going market rate, which we specify to be the median rate for loans to the same borrower type (investor or owner-occupied) in the same MSA in the quarter in question. We calculate the median rates in each quarter from the Black Knight data. As shown in exhibit C-21, loans to investors with mortgage insurance exhibit a pattern different from initial expectations, with loans with relatively low interest rates prepaying more frequently than loans with relatively high interest rates. Similarly for owner-occupied mortgages with insurance, loans at each extreme relative to the current median are more likely to prepay. This higher prepayment could be the result of additional mortgage insurance premium (which we do not observe), which makes loans that have survived longer (and thus are more likely to differ from the going median rate) relatively less attractive than loans without mortgage insurance, for which the borrower may now qualify. Loans without insurance exhibit the expected increase in prepayment because the current rate compares less favorably with rates available in the market, most noticeably for owner-occupants.

Exhibit C-19. Average Share of Loans Defaulting and Prepaying in Each Quarter, by Current Estimated LTV





LTV = loan to value. MI = mortgage insurance.
Source: Authors' tabulations of Black Knight data

Exhibit C-20. LTV Over Time, by Sample

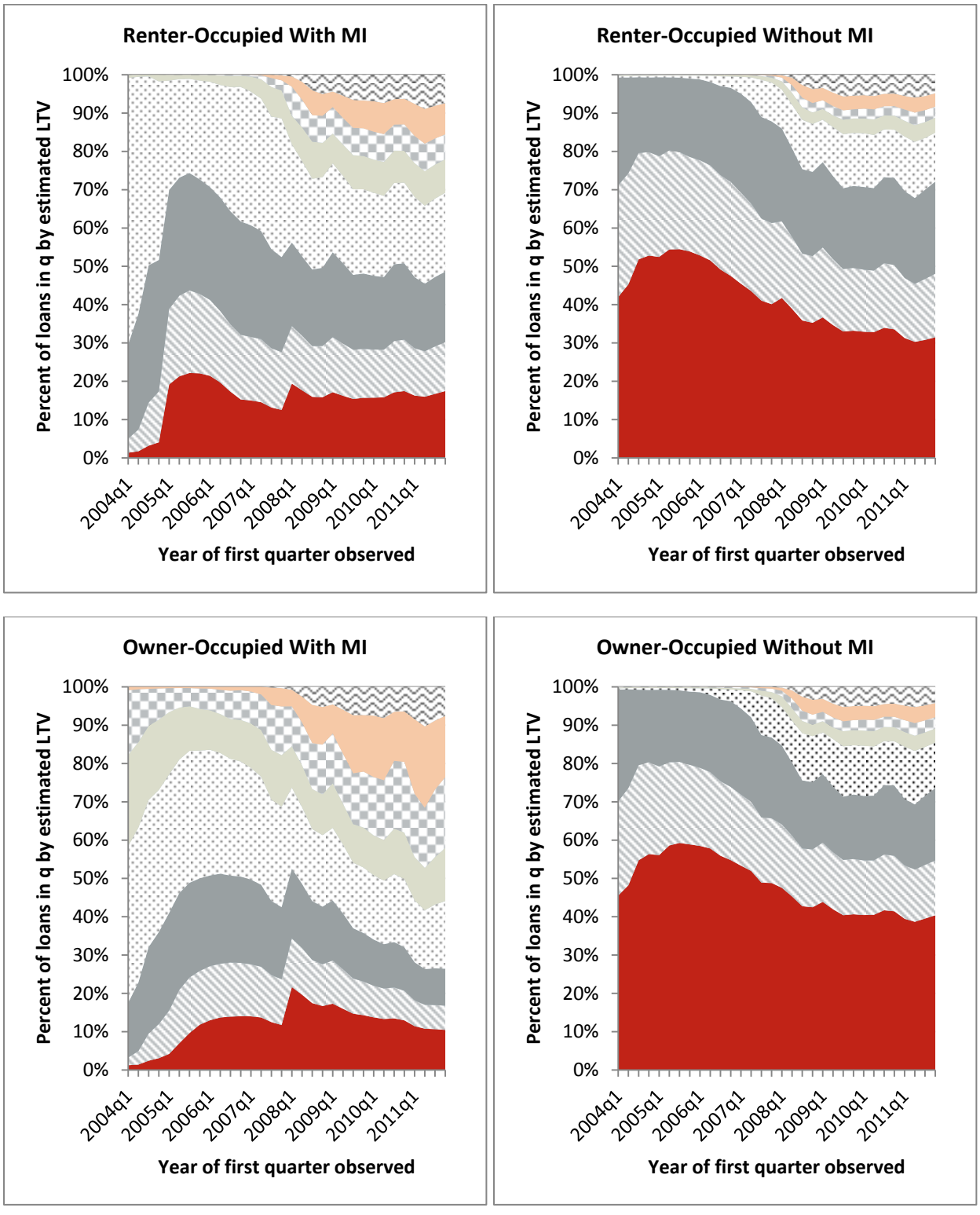
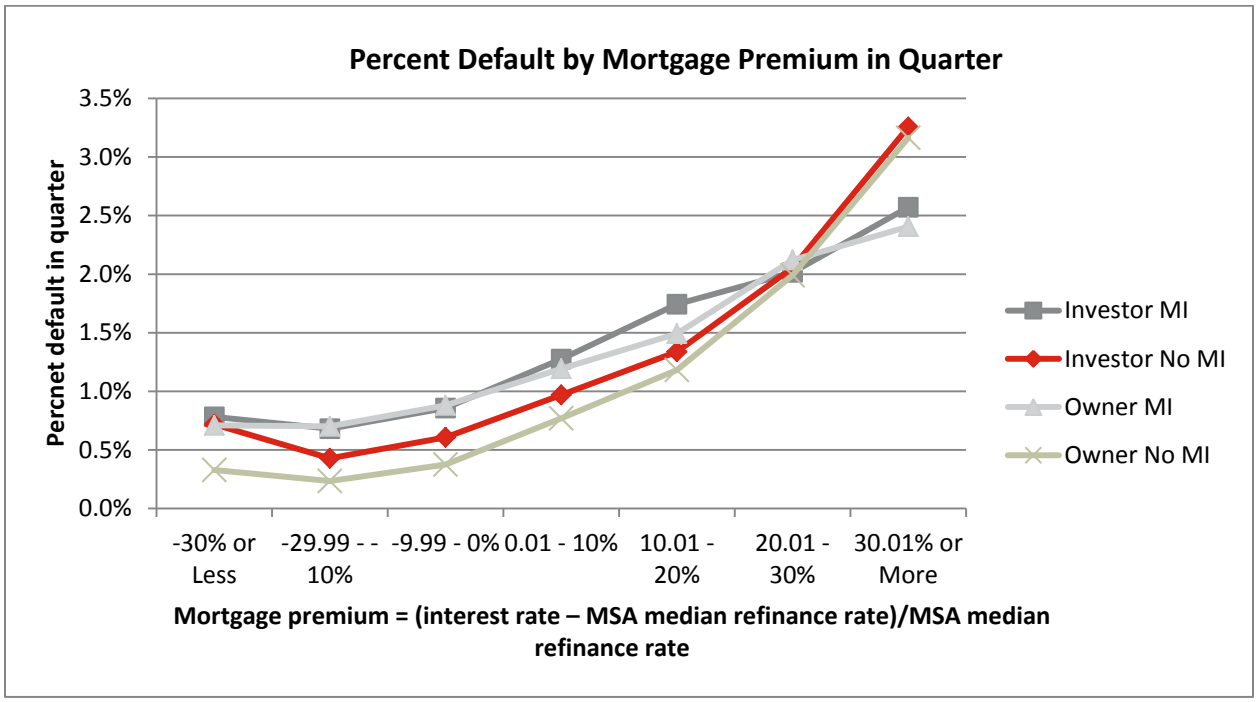
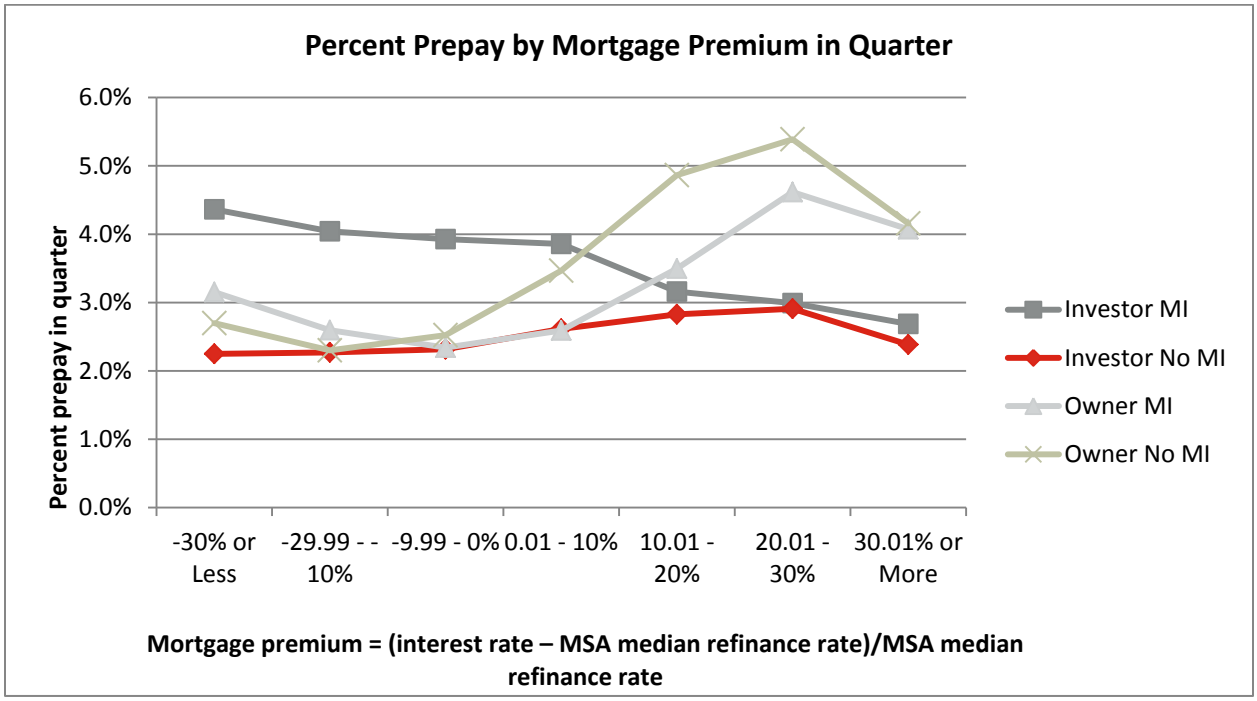


Exhibit C-21. Share of Loans Prepaying and Defaulting, by Mortgage Premium

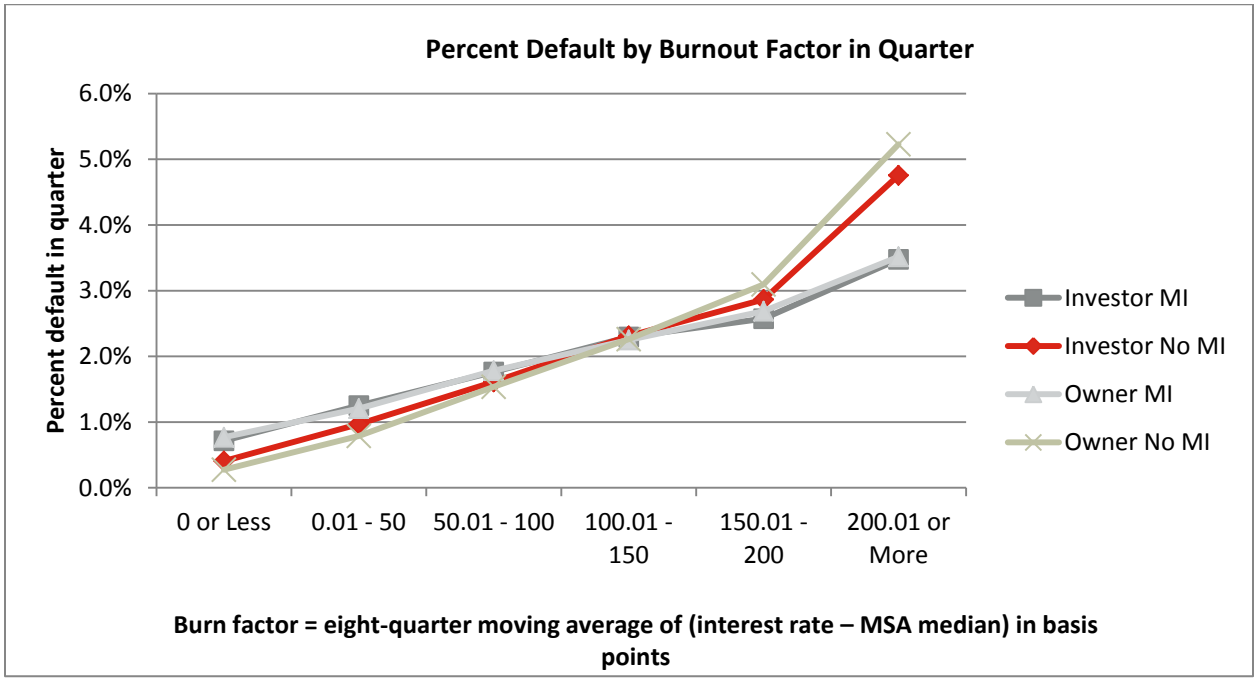


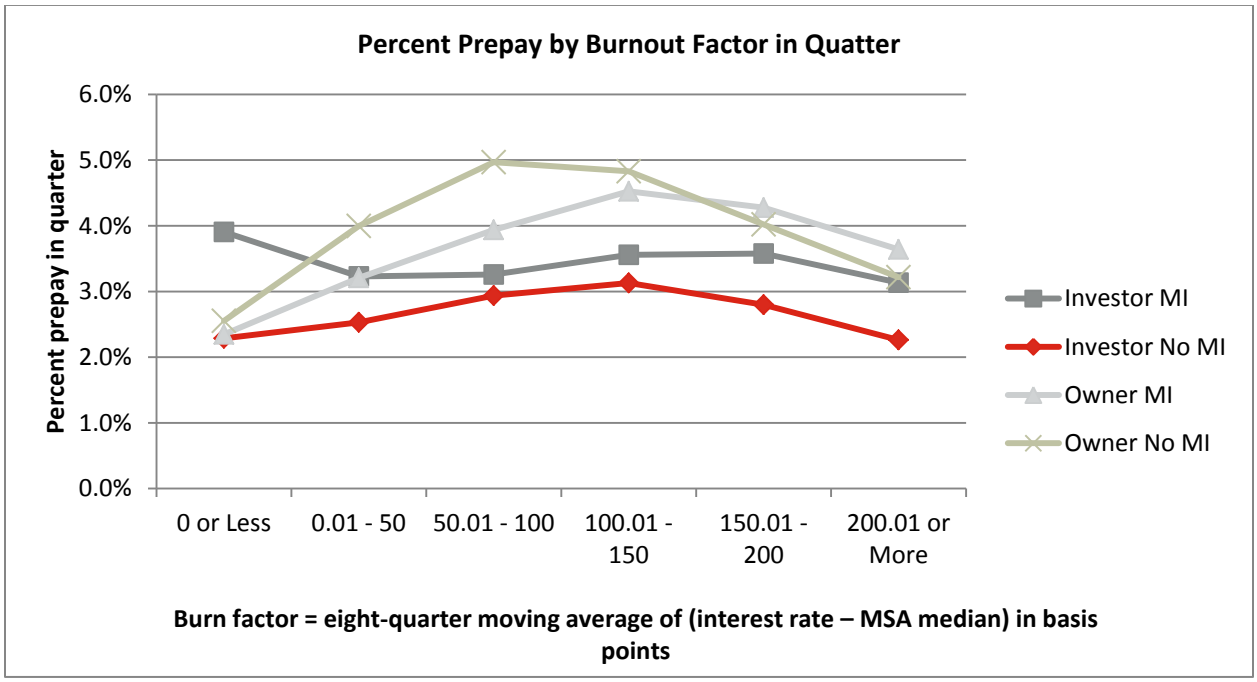


MI = mortgage insurance. MSA = metropolitan statistical area.
Source: Authors' tabulations of Black Knight data

Default incidence also varies with the mortgage premium, with loans with relatively high interest rates defaulting at higher frequency than loans with relatively low interest rates. We note that loans with relatively high interest rates may also be under water and unable to take advantage of the favorable rates observed near the end of the period. This idea is considered more explicitly with our "burnout factor" variable (exhibit C-22).

Exhibit C-22. Share of Loans Defaulting and Prepaying, by Burnout Factor in Quarter





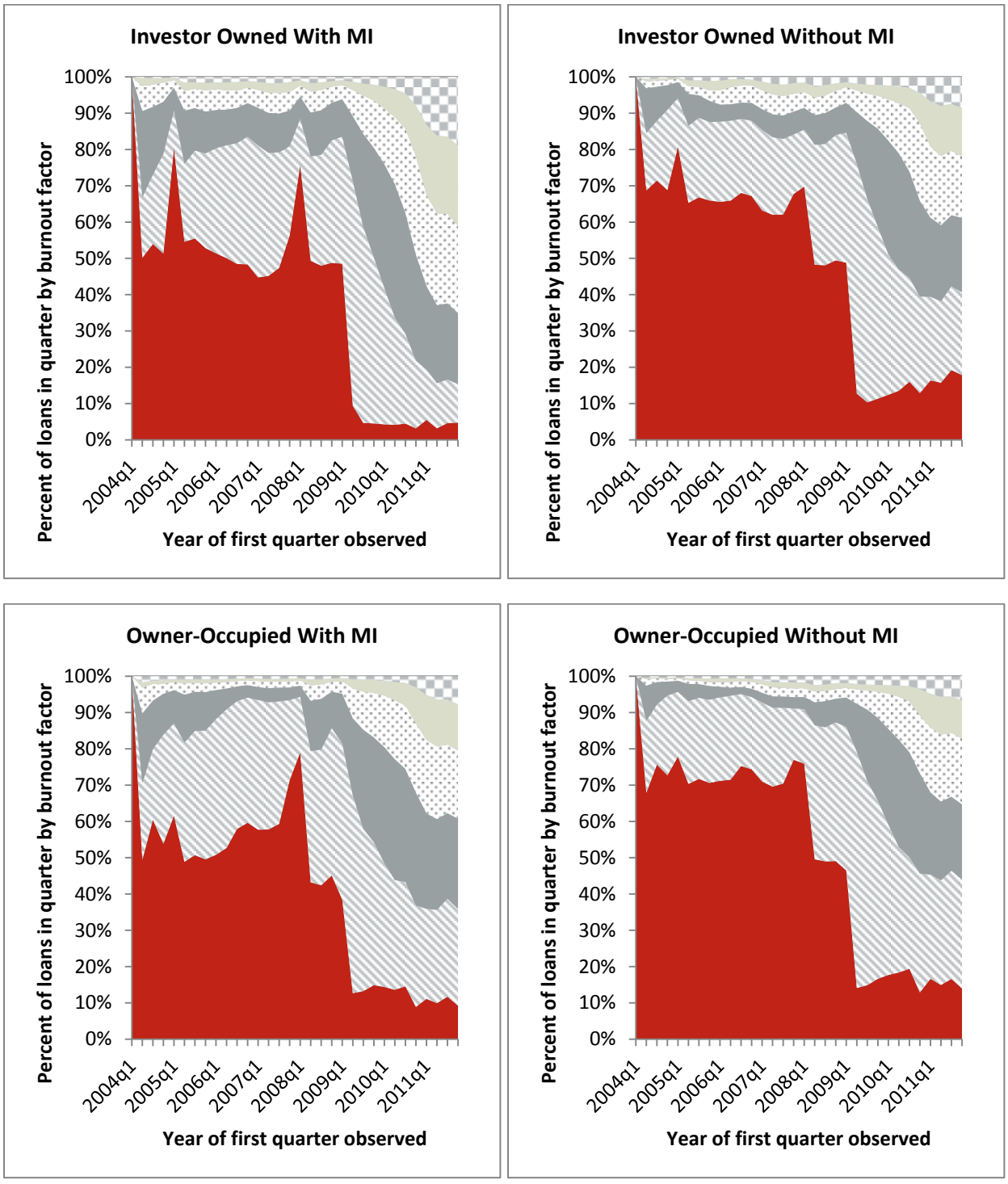
MI = mortgage insurance. MSA = metropolitan statistical area.
Source: Authors' tabulations of Black Knight data

The burnout factor measures the extent to which a borrower has had an incentive to refinance based on the loan's current interest rate relative to the going market rate, but has not done so. Specifically, the variable measures an eight-quarter moving average of any positive difference in the current mortgage interest rate and the going market interest rate. As reported in exhibit C-22, we observe some correlation with this variable and prepayment rates in all but the investor with mortgage insurance group. In the other three loan groups, loans that have an average rate between 100 and 150 basis points above the median market rate in their MSA during the past four quarters have the highest observed prepayment rate. Notably, although the variable is intended to capture refinancing opportunities, our sample indicates a stark correlation between this burnout factor variable and the contemporaneous incidence of default. The farther the interest rate diverges from the going market rate, the greater the frequency of default for borrowers in all of our data groups. This higher default incidence is consistent with the narrative that borrowers with relatively high interest rates also did not have enough equity to take advantage of the lower rates, and chose to default instead. Indeed, exhibit C-23, which tracks the incidence of burnout factor groups through each quarter, shows that the high burnout-factor portion of our sample is largely concentrated in the post-2008 period.

In summary, looking at time-varying measures of the values of the financial options embedded in mortgages shows single-variable correlations consistent with expectations of our theory, particular as it relates to default. The incidence of default among high LTVt mortgages in a given quarter is systematically higher than mortgages with a greater borrower share of equity. In the case of prepayment, the unconditional correlations with the mortgage premium and burnout factor we observed are consistent with the idea that falling prices worked to "lock in" borrowers to relatively high interest rate mortgages. Because they had too little equity (or negative equity) to refinance, these borrowers appear to have walked away from the property and loan instead.

We now turn to our variables capturing the incidence of trigger events, such as job loss that earlier research (largely covering owner-occupants) found to be important precursors of default.

Exhibit C-23. Burnout Factor Over Time



MI = mortgage insurance.
Note: Burnout factor is defined as the 8-quarter moving average of any positive basis point difference in the loan's current interest rate and the median refinance rate in the metropolitan statistical area.
Source: Authors' tabulations of Black Knight data

C.2.4 Loan Performance by MSA Housing Market Trends

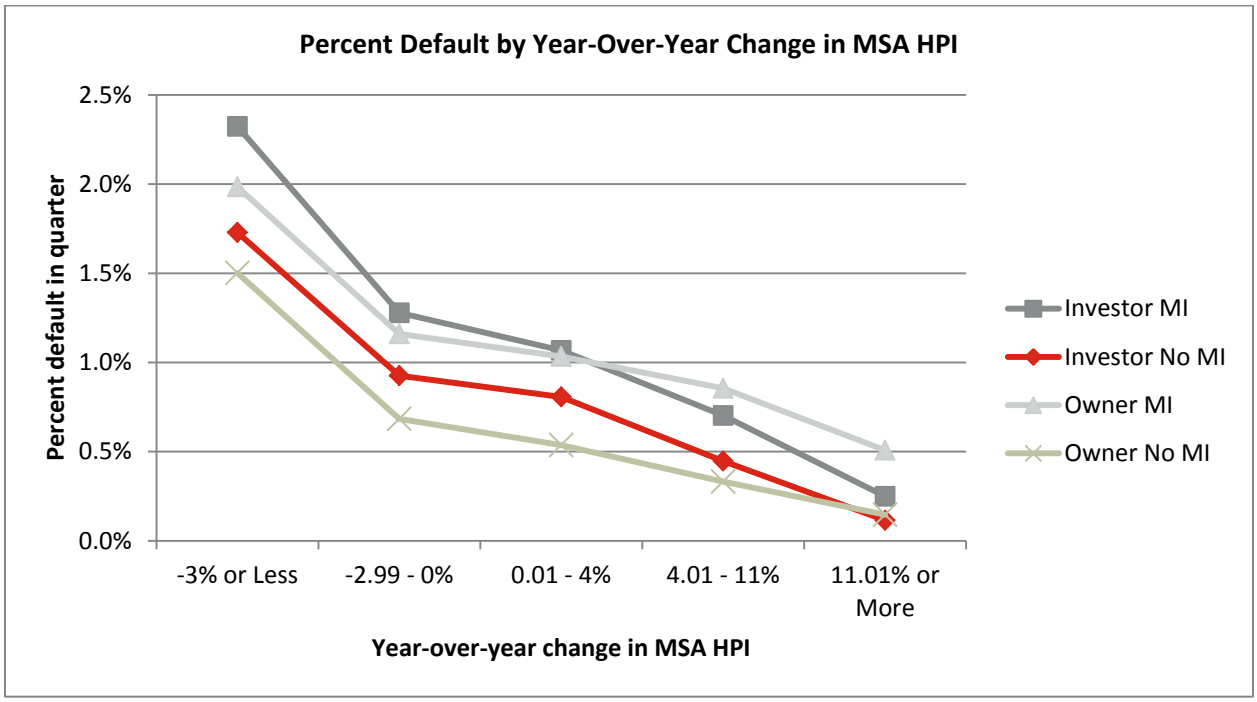
Local housing market trends contribute to the current value of an individual property and to expectations of future property values. Such trends are arguably more important to rental property investors who do not enjoy the same degree of consumption value for their investment property that an owner-occupied property counterpart does. Rather, we think of rental property investors as explicitly interested in the financial return of owning and managing the property. An owner-occupant would be more affected by an individual trigger event such as a job loss—an investor may be able to weather a tenant's difficulty paying rent or turn over the unit in the event of rent nonpayment. The market-level incidence of such trigger events help determine the income potential of and return on the investor's property, however, because they determine current and future market rents.

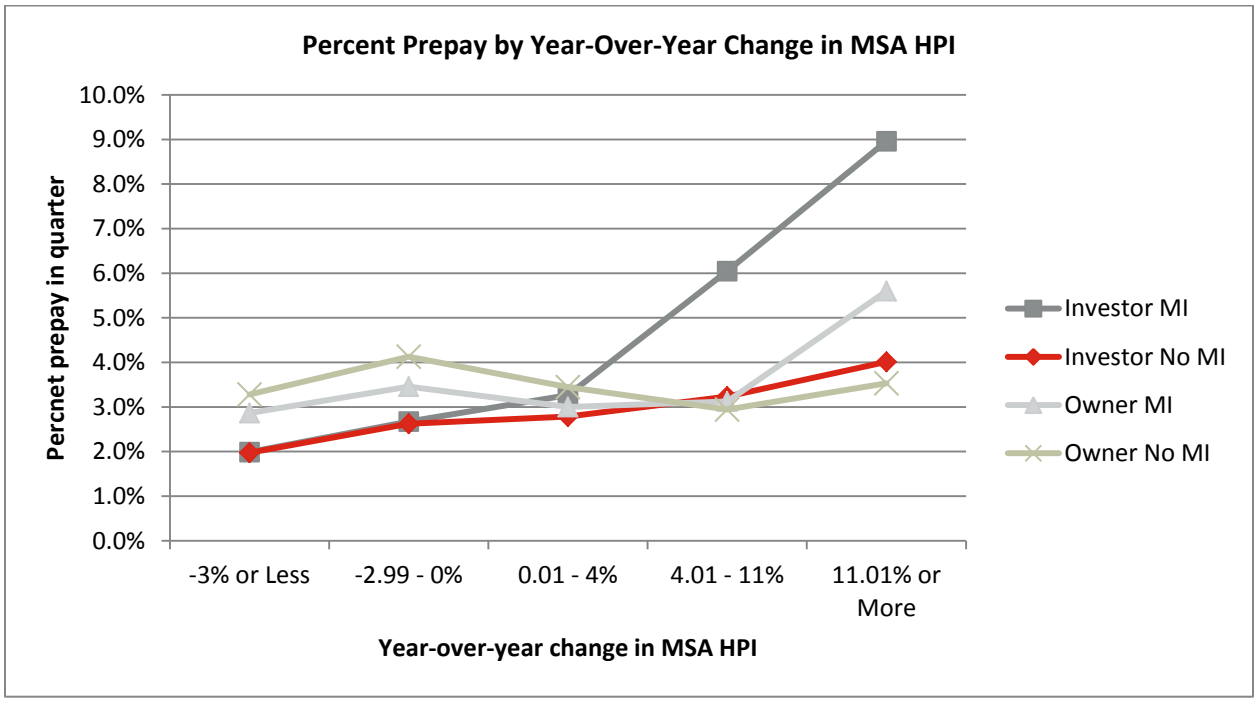
We begin with the most familiar barometer of housing markets, the local housing price index. We use the FHFA MSA-level repeat sales indexes to calculate year-over-year housing price changes for each MSA (HPIt) for each quarter. This measure is related to LTVt, but HPIt explicitly measures recent change only, whereas LTVt depends on cumulative house price changes since origination together with original equity share and changing equity share because of payments against the initial principal. As such, meaningful variation remains between the two measures.

We see in exhibit C-24 that recent housing price changes are indeed indicative of whether, in a given quarter, a borrower will exercise default or prepayment options. Notably for loans with mortgage insurance, in quarters where year-over-year price changes exceed 11 percent, more than 9 percent of investors prepay and nearly 6 percent of owner-occupants prepay (likely by refinancing to a loan without an MI premium). Likewise, few borrowers, particularly among investors, allow a mortgage to go unpaid during a quarter after relatively rapid price appreciation.

Exhibit C-25 shows the exposure in our sample over time to these year-over-year price changes, with dramatically rising prices in the early one-half of our sample followed by an (at least) equally dramatic decline. Exhibit C-26 shows that the decline in prices preceded a growth in unemployment. The share of MSAs with American Community Survey 1-year estimates of unemployment rates of more than 10.2 percent (the top quartile of year by MSA observations) rose from 7 percent (37 of 495 MSAs) in 2008 to 44 percent (217 of 495 MSAs) in 2009 and 56 percent in 2010.

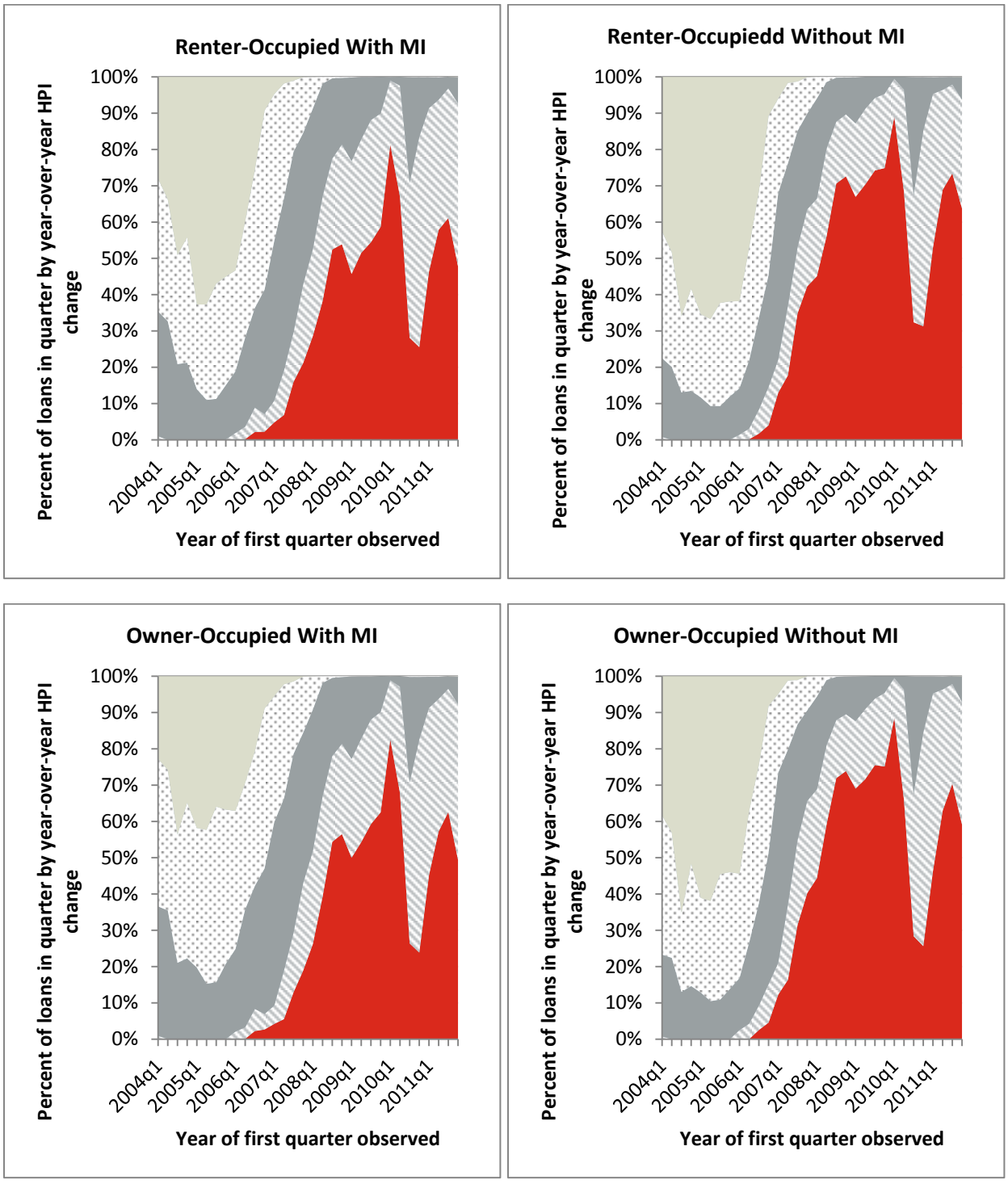
Exhibit C-24. Share of Loans Defaulting and Prepaying, by Year-Over-Year Housing Price Change





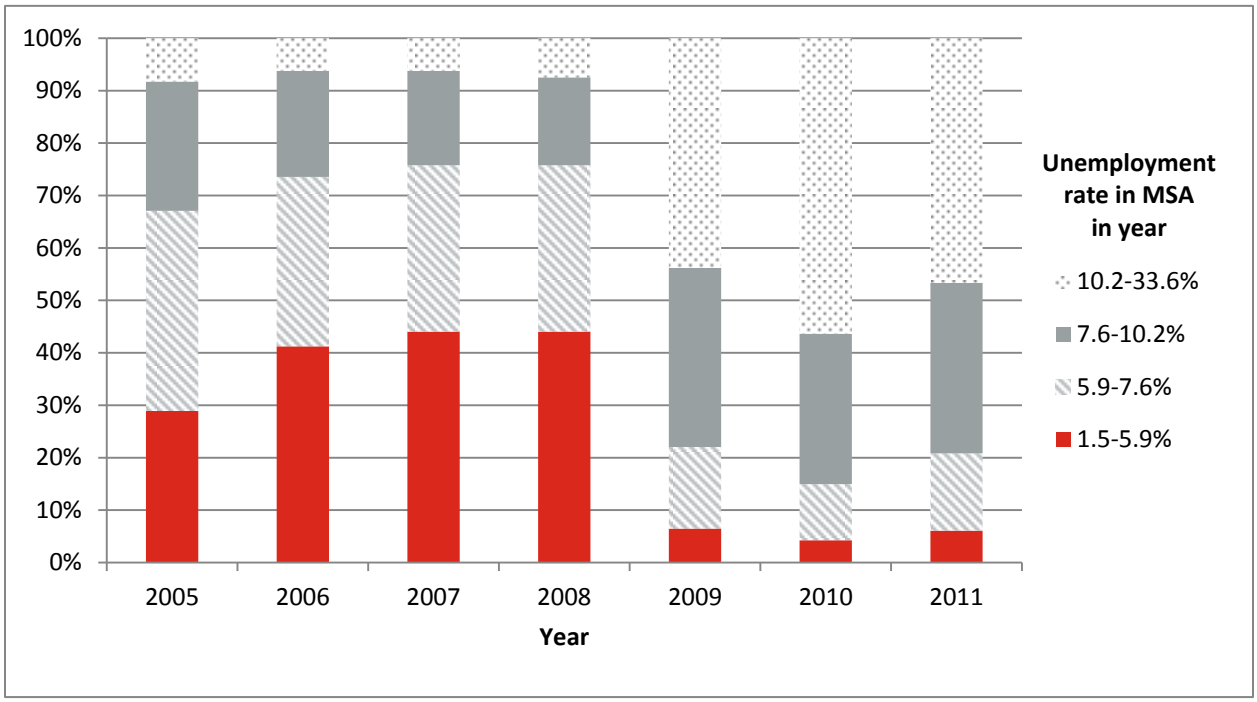
HPI = housing price index. MI = mortgage insurance. MSA = metropolitan statistical area.
Source: Authors' tabulations of Black Knight data

Exhibit C-25. Year-Over-Year Housing Price Change, by Quarter Over Time



MI = mortgage insurance. HPI = housing price index.
Source: Authors' tabulations of Black Knight data

Exhibit C-26. MSA Incidence of Unemployment Rates Over Time

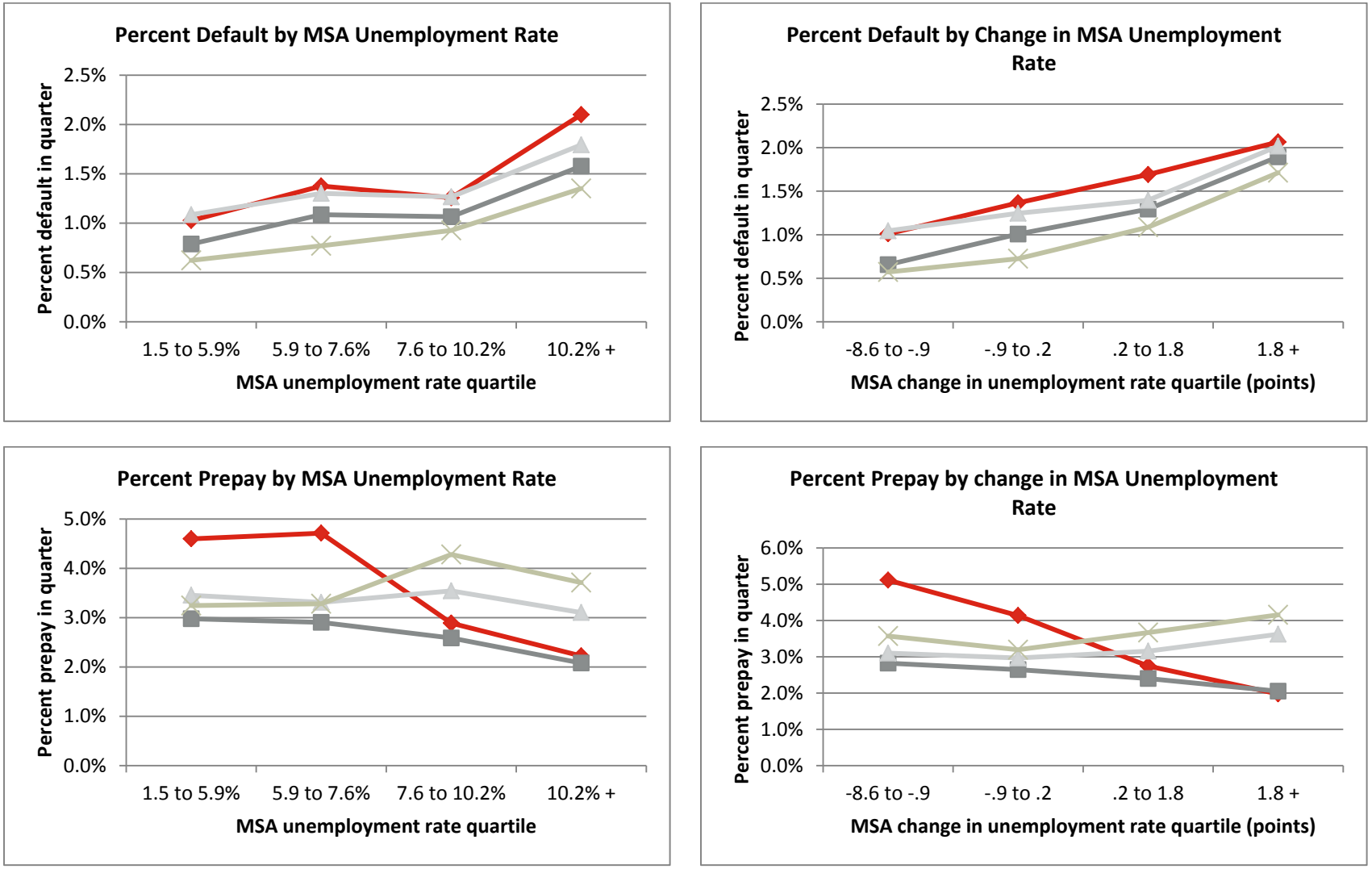


MSA = metropolitan statistical area.
Source: Figure based on unemployment rates reported for each year in annual 1-year American Community Survey estimates for 495 MSAs

We observe expected correlations between MSA-level measures of trigger events and loan outcomes, beginning with unemployment in exhibit C-27. Loans in the top quartile of MSA unemployment rates default at double the frequency of loans to investors and owner-occupants without insurance, and at 1.5 times the frequency of owner-occupants with insurance. Similarly, in quarters in which unemployment increased relative to a year prior (top quartile of year-over-year change in unemployment rate), default is approximately double (for loans with MI) and triple (for loans without MI) as prevalent as when unemployment is falling.

Exhibit C-28, which shows year-over-year changes in median rent, and exhibit C-29, which shows levels and changes in median income for our sample, provide additional confirmation that market-level economic and housing indicators are associated with mortgage performance. Quarters with above-average year-over-year MSA-level rent growth are associated with lower default and higher prepayment frequencies, particularly for investor loans with MI. Default rates are highest among investors with MI in quarters when MSA-level rent growth is relatively low (in the bottom quartile), at 2.0 percent. This default rate drops to 1.1 percent for investor loans in quarters when MSA-level rent growth is relatively high (in the top quartile). Conversely, prepayments are highest among investors with MI in quarters when MSA-level rent growth is relatively high (in the top quartile). Prepayment rates in our sample drop by more than one-half for investors with MI in quarters when MSA-level rent growth is relatively low (in the bottom quartile). Not surprisingly, investors' prepayment and default behavior appears to be more sensitive to changes in rent growth than owner-occupants' behavior.

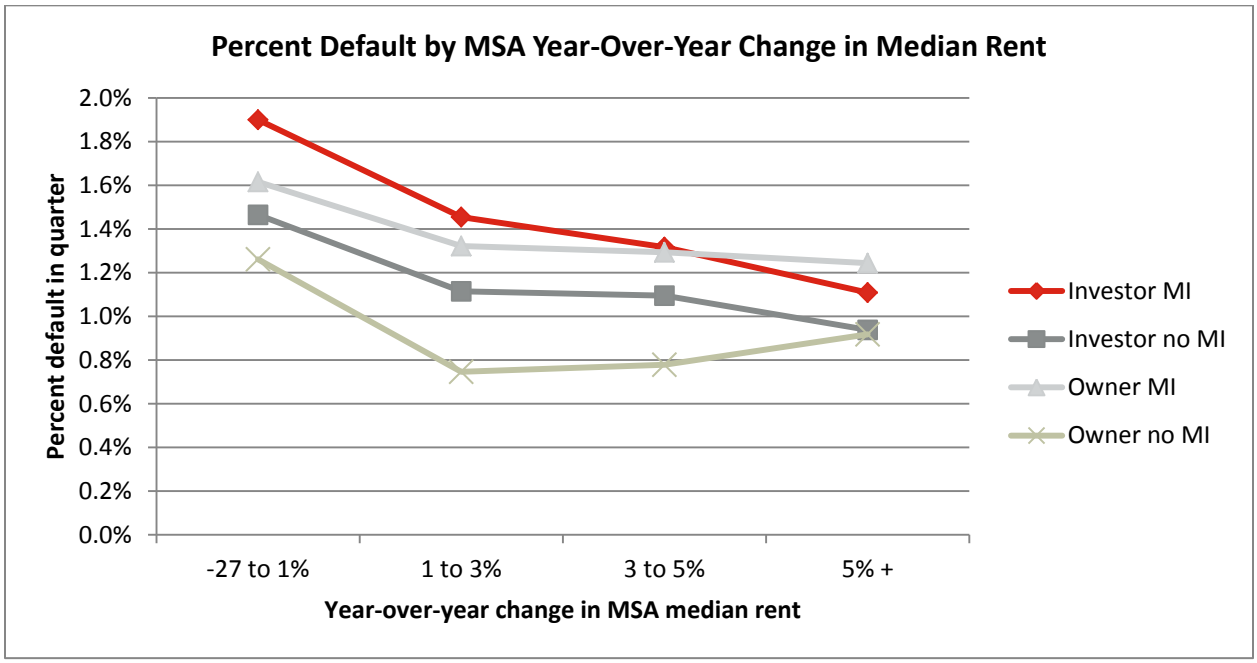
Exhibit C-27. Share of Loans Defaulting and Prepaying, by Unemployment Rate and Year-Over-Year Change in Unemployment Rate

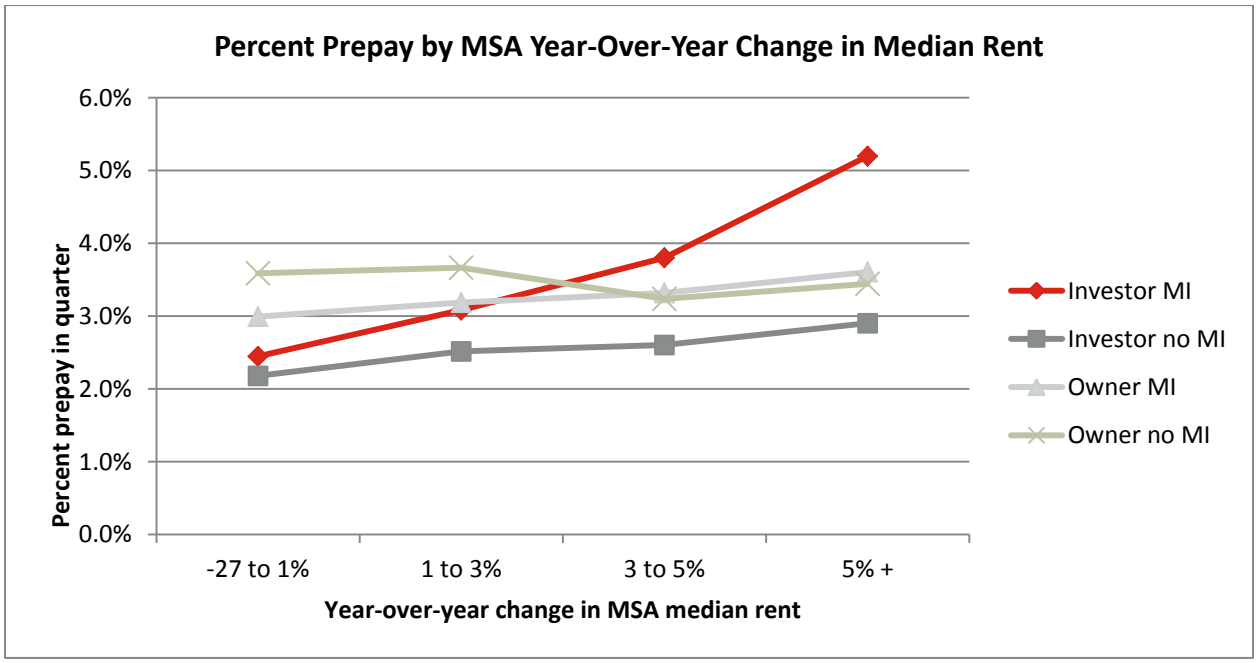


MI = mortgage insurance. MSA = metropolitan statistical area.

Perhaps unexpectedly, loans default more frequently when within-MSA median incomes are high relative to the entire period for all MSAs, although it is not clear why that would be the case. We do expect that income *changes* would be associated with default and prepayment rates. Indeed, exhibit C-28 confirms that top-quartile area income growth is strongly associated with loan prepayment for investors with mortgage insurance, and that bottom-quartile income changes are observed together with the highest rates of mortgage default for owner-occupants and investors who have loans with or without MI.

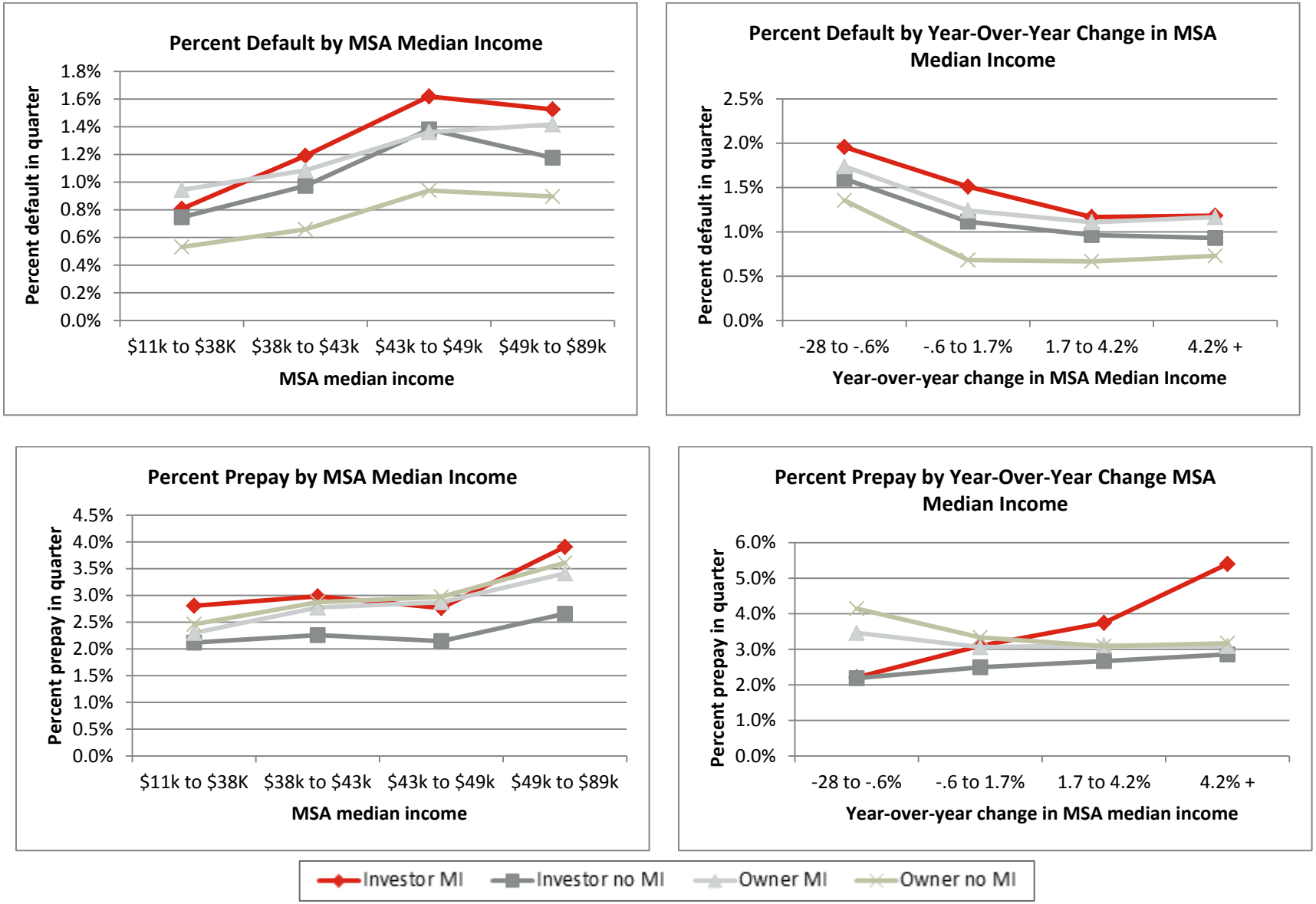
Exhibit C-28. Share of Loans Defaulting and Prepaying, by Year-Over-Year Change in Median Rent





MI = mortgage insurance. MSA = metropolitan statistical area.

Exhibit C-29. Share of Loans Defaulting and Prepaying, by MSA Median Income and Year-Over-Year Change in MSA Median Income



MI = mortgage insurance. MSA = metropolitan statistical area.

To review, based on our data, MSA-level indicators of economic well-being and housing market trends are clearly associated with quarter-by-quarter mortgage performance. One-year housing price changes, unemployment rate and changes in unemployment rates, changes in median rent, and changes in income all indicate that local market conditions are predictive of mortgage performance. We consider these variables in isolation. However, they are correlated with each other, with the individual option-theoretic loan variables that we most expect to relate to loan performance, and with the origination characteristics of the loans that we expect to describe borrower heterogeneity and relate to lender expectations about the probable outcome of particular loans. We now turn to our multivariate model of loan performance, which includes each of our variables concurrently in predicting the probability of default and prepayment relative to continued payment.

C.3 Multivariate Empirical Model of Prepayment and Default

We now report estimates from our multivariate competing-risk model of default and prepayment. The model enables us to determine the extent to which each of our variables is predictive of default and prepayment in the presence of the others. We estimate the model on each of our data groups—investors with and without mortgage insurance and owner-occupants with and without mortgage insurance—to explore how observed predictive relationships might differ across the borrower and loan type. The model includes three variable types:

1. Option-theoretic variables that vary over time, such as current LTV ratio and relative interest rate.
2. Loan and borrower characteristics at origination.
3. MSA-level market indicators.

The results indicate that all three types of variables are predictive of mortgage outcome.

C.3.1 Estimated Model Parameters

As outlined in section 3.1.1, we follow Calhoun and Deng (2002) and Integrated Financial Engineering, Inc. (2009) (IFE) closely in specifying, estimating, and interpreting a multinomial logit specification of a competing risk model. Observations in our model are by loan-quarter, which is to say that an observation is included for each loan in our sample for each quarter in which we observe ongoing payment (or less than 90 days delinquent), prepayment, or default (at least 90 days delinquent). This approach enables us to estimate equation (1) from section 3.1.1 using maximum likelihood estimation techniques. Specifically, we estimate our model using PROC CATMOD in SAS. Estimated coefficients are reported in exhibit C-30. The estimation procedure is optimized for a large dataset with categorical outcomes, and we have transformed all variables except our spline age function into categories. Coefficients for each variable are interpreted relative to a "baseline" category, which we have selected to be the category that theory or intuition would suggest is least likely to positively predict default. Again, the interpretation of our parameters is as contributions to the log odds of default and prepayment, respectively. The specific relationship for default, which is discussed in section 3.1.1 is

$$\log\left(\frac{\pi_D}{\pi_C}\right) = \beta_{D0} + \beta_{D1}EQ + \beta_{D2}MP + \boldsymbol{\beta_{D3}X^t} + \boldsymbol{\beta_{D4}X^0}$$

so that if a particular β is positive, observations in the respective variable category have a greater probability of default relative to the probability of prepayment than do observations in the baseline

group.[116] Analogue coefficients for each group for the log odds of prepayment are estimated simultaneously. Because the estimation includes our other variables, this greater relative probability of default is after accounting for the other characteristics and market trends captured in the model.

Exhibit C-30. Estimated Parameters

	Investor With MI		Investor Without MI		Owner-Occupied Property With MI		Owner-Occupied Property Without MI	
	Default	Prepay	Default	Prepay	Default	Prepay	Default	Prepay
Intercept[a]	– 6.88 **	– 3.59 **	– 7.37 **	– 5.12 **	– 6.98 **	– 5.70 **	– 6.97 **	– 6.11 **
Estimated LTV in t								
60% or less	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
60.01 to 70.00%	0.63 **	– 0.21 **	0.59 **	– 0.31 **	0.60 **	– 0.20 **	0.62 **	– 0.16 **
70.01 to 80.00%	0.95 **	– 0.44 **	0.88 **	– 0.59 **	0.90 **	– 0.43 **	0.92 **	– 0.45 **
80.01 to 90.00%	1.21 **	– 0.75 **	1.20 **	– 0.84 **	1.16 **	– 0.70 **	1.21 **	– 0.82 **
90.01 to 95.00%	1.44 **	– 0.91 **	1.41 **	– 1.04 **	1.40 **	– 0.97 **	1.41 **	– 1.16 **
95.01 to 100.00%	1.51 **	– 1.13 **	1.56 **	– 1.28 **	1.58 **	– 1.05 **	1.54 **	– 1.43 **
100.01 to 110.00%	1.73 **	– 1.37 **	1.74 **	– 1.59 **	1.78 **	– 1.08 **	1.72 **	– 1.84 **
110.01% or more	2.17 **	– 2.00 **	2.06 **	– 2.04 **	2.21 **	– 1.48 **	2.05 **	– 2.49 **
Interest Rate Premium in t								
– 30.00% or less	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
– 30.09	– 0.04	– 0.01	– 0.15 **	0.07 **	0.05	– 0.02	– 0.12 **	0.04 **
– 9.99	0.13 **	0.16 **	– 0.11 **	0.32 **	0.18 **	0.14 **	0.07 **	0.37 **
0.01 to 10.00%	0.36 **	0.46 **	0.11 **	0.61 **	0.36 **	0.49 **	0.36 **	0.82 **
10.01 to 20.00%	0.59 **	0.63 **	0.21 **	0.76 **	0.57 **	0.93 **	0.58 **	1.18 **
20.01 to 30.00%	0.64 **	0.75 **	0.33 **	0.94 **	0.69 **	1.24 **	0.68 **	1.43 **
30.01% or more	0.71 **	0.78 **	0.48 **	0.96 **	0.73 **	1.22 **	0.86 **	1.45 **
Burnout Factor in t								
BF = 0	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
0 < BF ≤ 50	0.31 **	0.06 **	0.36 **	0.05 **	0.18 **	0.14 **	0.35 **	0.04 **
50 < BF ≤ 100	0.54 **	0.08 **	0.61 **	0.15 **	0.33 **	0.20 **	0.59 **	0.05 **
100 < BF ≤ 150	0.72 **	0.15 **	0.71 **	0.14 **	0.46 **	0.24 **	0.67 **	– 0.03 **
150 < BF ≤ 200	0.83 **	0.17 **	0.75 **	0.02 *	0.57 **	0.20 **	0.65 **	– 0.19 **
BF > 200	0.96 **	0.03	0.83 **	– 0.14 **	0.68 **	0.02	0.79 **	– 0.43 **
Age Spline (quarters)								
Age_t ≤ 2	0.02	0.16 **	0.07 **	0.30 **	0.18 **	0.58 **	0.08 **	0.56 **
2 < Age_t ≤ 6	0.06 **	0.00	0.05 **	0.06 **	0.03 **	0.05 **	0.02 **	0.09 **
6 < Age_t ≤ 8	0.00	– 0.05 **	0.00	0.01	0.00	0.00	0.05 **	0.02 **
8 < Age_t ≤ 10	– 0.02 *	– 0.04 **	– 0.02 **	– 0.04 **	– 0.02	– 0.01	– 0.05 **	– 0.04 **
10 < Age_t ≤ 12	– 0.03 *	– 0.03 **	– 0.03 **	0.02 **	– 0.03 **	– 0.03 **	– 0.05 **	0.01
12 < Age_t ≤ 14	– 0.01	– 0.10 **	– 0.03 **	– 0.05 **	– 0.03 *	– 0.05 **	– 0.03 **	– 0.07 **
14 < Age_t ≤ 16	– 0.04 **	– 0.04 **	– 0.03 **	– 0.01 **	– 0.02	0.00	– 0.05 **	0.00
16 < Age_t ≤ 18	– 0.01	– 0.05 **	– 0.05 **	– 0.05 **	– 0.02	– 0.07 **	– 0.03 **	– 0.01 **
Age_t > 18	– 0.01 **	– 0.04 **	– 0.01 **	0.00 **	– 0.01 **	– 0.02 **	– 0.02 **	– 0.01 **
Interest Rate Type								
Fixed-rate	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
ARM			0.50 **	0.42 **			0.66 **	0.58 **

[116] For a more indepth discussion of parameter interpretation and the multinomial logit model as a survival model specification, see, for example, Allison (2010) and Allison (2012).

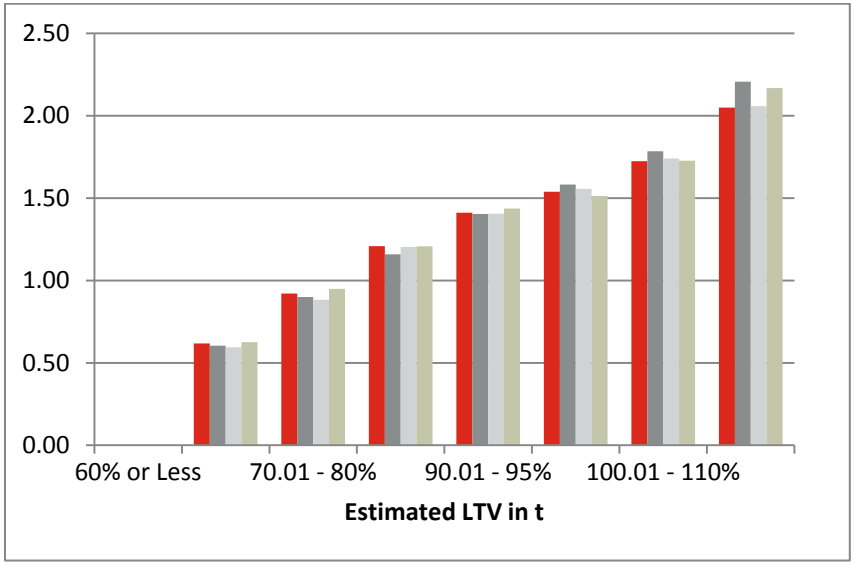
	Investor With MI		Investor Without MI		Owner-Occupied Property With MI		Owner-Occupied Property Without MI	
	Default	Prepay	Default	Prepay	Default	Prepay	Default	Prepay
Loan Purpose								
Purchase	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
Other (construction, rehabilitation, remodeling, etc.)	0.17 **	– 0.04 *	0.11 **	– 0.17 **	– 0.05 *	– 0.03 *	– 0.03 **	– 0.05 **
Rate/term finance	0.29 **	0.39 **	0.32 **	– 0.38 **	0.23 **	– 0.16 **	0.06 **	– 0.22 **
Cash out refinance	0.09 **	0.48 **	0.24 **	– 0.26 **	0.14 **	0.09 **	0.03 **	– 0.12 **
Other refinance	0.14 **	– 0.23 **	0.21 **	– 0.20 **	0.14 **	0.02 **	0.01	– 0.09 **
Unknown	– 0.20 **	0.15 **	0.03 *	0.23 **	0.04 *	0.09 **	0.08 **	– 0.08 **
Property Type								
Single-family home	– 0.06 **	0.30 **	0.01	0.32 **	– 0.26 **	0.15 **	– 0.35 **	0.41 **
Condominium or townhome	– 0.12 **	0.17 **	– 0.09 **	0.24 **	– 0.39 **	0.17 **	– 0.49 **	0.38 **
Two- to four-family property	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
Yield Curve Slope in t								
YC slope ≤ 1	– 0.11 **	0.04 **	– 0.26 **	0.21 **	– 0.12 **	0.17 **	– 0.20 **	0.13 **
1 < YC slope ≤ 1.5	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
1.5 < YC slope ≤ 5	0.01	– 0.88 **	0.20 **	– 0.41 **	– 0.03	– 0.30 **	0.05 **	– 0.06 **
5 < YC slope ≤ 12.5	– 0.84 **	– 0.73 **	– 0.46 **	– 0.21 **	– 0.59 **	– 0.51 **	– 0.40 **	– 0.07 **
YC slope > 12.5	– 1.24 **	– 0.35 **	– 0.83 **	– 0.20 **	– 0.89 **	– 0.44 **	– 0.65 **	– 0.06 **
Year-Over-Year Change in House Price Index								
Δ HPI ≤ – 3%	0.51 **	– 0.22 **	0.35 **	– 0.16 **	0.42 **	– 0.06 **	0.42 **	– 0.17 **
– 3% < Δ HPI ≤ 0	0.22 **	– 0.06 **	0.14 **	– 0.07 **	0.13 **	0.02 **	0.14 **	– 0.06 **
0 < Δ HPI ≤ 4%	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
4% < Δ HPI ≤ 11%	– 0.31 **	0.33 **	– 0.27 **	0.08 **	– 0.03	0.12 **	– 0.12 **	0.06 **
> 11%	– 1.02 **	0.58 **	– 1.22 **	0.20 **	– 0.28 **	0.55 **	– 0.59 **	0.27 **
Percent Change in Median Rent								
Missing	– 0.34 **	– 0.09 **	– 0.24 **	0.00	0.04	– 0.15	– 0.03	– 0.04
Bottom quartile	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
2nd quartile	– 0.04 **	0.11 **	0.02 **	0.03 **	– 0.01	0.02 *	– 0.05 **	0.02 **
3rd quartile	0.01	0.02	0.04 **	0.01 *	0.07 **	0.03 **	0.05 **	– 0.03 **
Top quartile	– 0.11 **	– 0.01	– 0.07 **	0.02 **	0.06 **	0.10 **	0.13 **	0.05 **
Unemployment Rate								
Missing	– 0.44 **	– 0.46 **	– 0.85 **	– 1.91 **	– 0.20 **	– 2.10 **	– 0.79 **	– 2.45 **
Bottom quartile	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
2nd quartile	0.21 **	0.17 **	0.12 **	0.04 **	0.11 **	– 0.03 **	0.06 **	0.01 *
3rd quartile	0.13 **	0.12 **	0.12 **	– 0.01	0.01	– 0.04 **	0.09 **	0.06 **
Top quartile	0.28 **	0.26 **	0.25 **	0.03 **	0.09 **	0.05 **	0.16 **	0.11 **
Change in Unemployment Rate								
Missing	– 0.44 **	– 1.21 **	– 0.25 **	0.23 **	– 0.34 **	0.24 **	– 0.50 **	0.07 **
Bottom quartile	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
2nd quartile	0.07 **	– 0.06 **	0.11 **	– 0.02 **	0.03	– 0.02 **	0.04 **	– 0.06 **
3rd quartile	0.12 **	– 0.24 **	0.10 **	– 0.06 **	0.08 **	0.00	0.12 **	– 0.04 **
Top quartile	0.22 **	– 0.46 **	0.21 **	– 0.20 **	0.30 **	0.00	0.29 **	– 0.07 **
Median Income								
Missing	1.90 **	1.68 **	2.09 **	1.68 **	1.90 **	1.68 **	1.90 **	1.68 **
Bottom quartile	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
2nd quartile	0.27 **	0.18 **	0.18 **	0.10 **	0.08 **	0.23 **	0.08 **	0.18 **
3rd quartile	0.34 **	0.27 **	0.24 **	0.16 **	0.07 **	0.31 **	0.05	0.21 **
Top quartile	0.34 **	0.51 **	0.22 **	0.38 **	0.16 **	0.60 **	0.11 **	0.41 **
Percent Change in Median Income								
Bottom quartile	0.11 **	0.07 **	0.10 **	0.06 **	0.05 **	0.18 **	0.07 **	0.13 **
2nd quartile	0.11 **	0.07 **	0.08 **	0.05 **	0.06 **	0.11 **	0.07 **	0.06 **
3rd quartile	0.07 **	– 0.13 **	0.06 **	0.02 **	0.02	0.04 **	0.02	0.02 **
Top quartile	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]

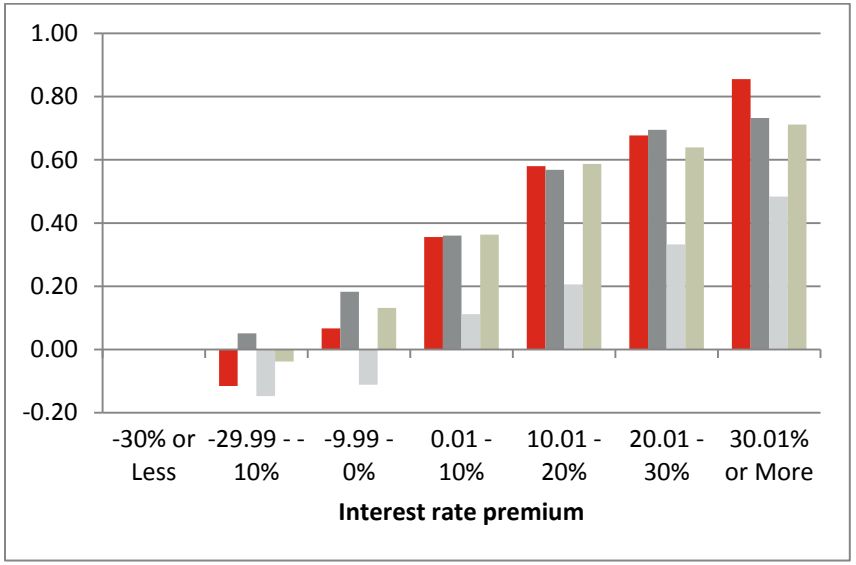
	Investor With MI		Investor Without MI		Owner-Occupied Property With MI		Owner-Occupied Property Without MI	
	Default	Prepay	Default	Prepay	Default	Prepay	Default	Prepay
MSA Ownership Rate								
Bottom quartile	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
2nd quartile	0.10 **	– 0.11 **	0.15 **	– 0.07 **	0.00	– 0.01	– 0.01	– 0.05 **
3rd quartile	0.09 **	– 0.07 **	0.15 **	– 0.01	– 0.08 **	0.02 **	– 0.15 **	– 0.01 *
Top quartile	0.18 **	0.05 **	0.25 **	0.02 *	– 0.08 **	0.02	– 0.11 **	– 0.04 **
Change in MSA Ownership Rate								
Bottom quartile	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]	0.00 [a]
2nd quartile	– 0.03 **	0.00	0.00	0.01 **	0.03 **	0.00	0.06 **	– 0.02 **
3rd quartile	0.02	0.21 **	0.03 **	0.01 *	0.05 **	0.01	0.09 **	– 0.03 **
Top quartile	– 0.13 **	0.06 **	– 0.09 **	0.01 *	– 0.02	0.04 **	– 0.03 *	– 0.02 **
Number of loan-quarters	4,290,181		23,758,966		1,037,351		2,997,388	

ARM = adjustable rate mortgage. BF = burnout factor. dHPI = change in housing price index. FHA = Federal Housing Administration. LTV = loan to value. MI = mortgage insurance. MSA = metropolitan statistical area. Rel Price = relative value. VA = U.S. Department of Veterans Affairs. YC = yield curve.
**Indicates coefficients are statistically significant with a p-value < 0.001.
*Indicates a p-value < 0.05
[a]indicates the category is the "omitted" baseline.

Exhibit C-30 reports parameter estimates for our model. We report four sets of parameters, one for each data group. Within each set we report coefficients for default and prepayment (each relative to the baseline outcome of continued payment) side by side. We adopt the approach in Calhoun and Deng (2002) of plotting coefficient estimates for the default parameters only (the most relevant outcome for considering a mortgage insurance product) for each of our data groups side by side in exhibit C-31. In every case, the figures graphically present the coefficient estimates reported in the table. Our sample sizes range from more than 23.7 million loan quarters for investors without MI to slightly more than 1 million loan quarters in our owner-occupant sample with MI. As such, most of our coefficients are statistically significant with a χ^2 test statistic indicating a p-value of less than 0.0001. With regard to reporting statistical significance, we have adopted the convention of indicating "b" for the baseline category for which no standard error is estimated, "*" for a p-value less than 0.05 but greater than 0.01, and "**" when a p-value is less than 0.01. Because our primary goal is to investigate potential risks associated with a mortgage insurance product, we focus our discussion on the parameters in the default model. We note, however, that our coefficient estimates for prepayment are consistent with theoretical predictions and the existing literature.

Exhibit C-31. Graphical Depiction of Coefficients for Log Odds of Default, by Model





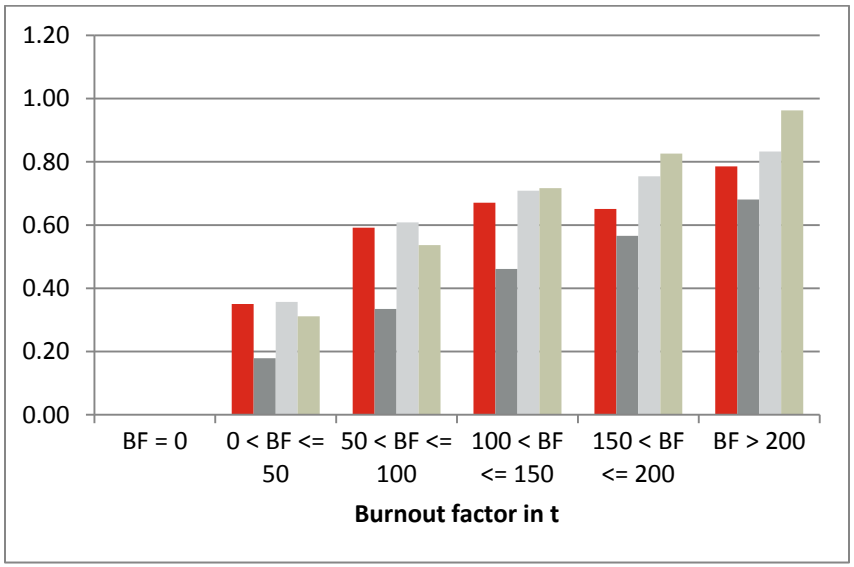
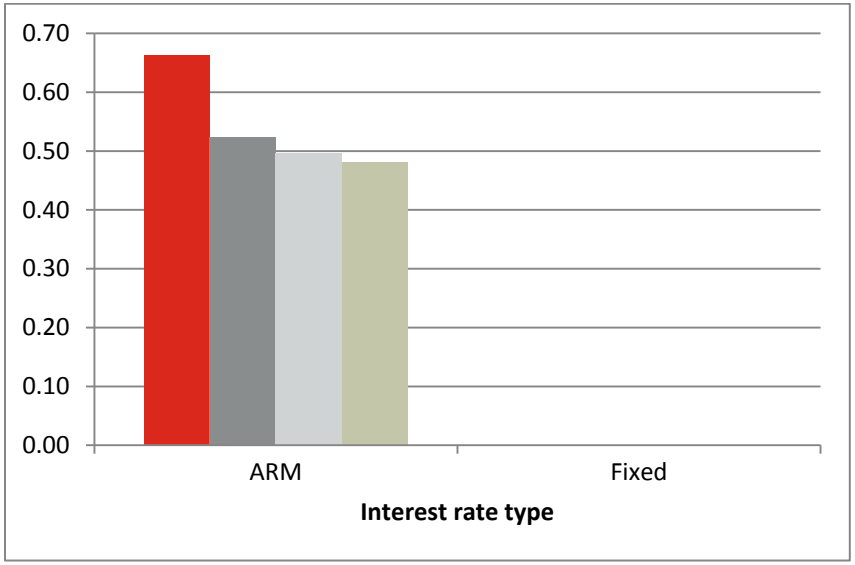
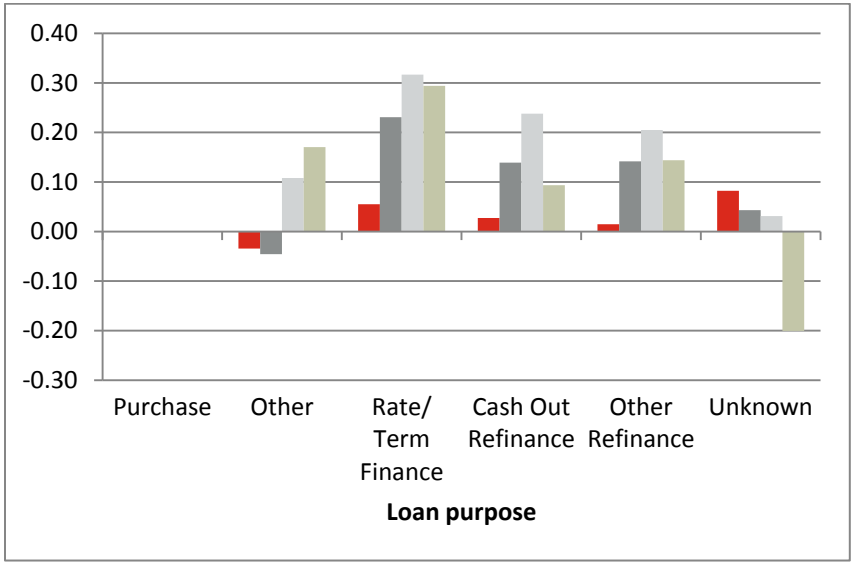
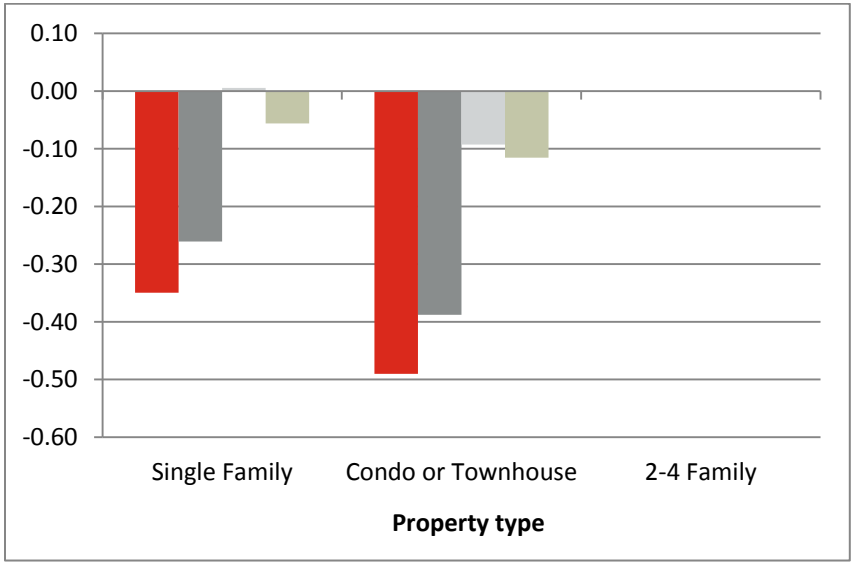


Exhibit C-31. Graphical Depiction of Coefficients for Log Odds of Default by Model (continued)







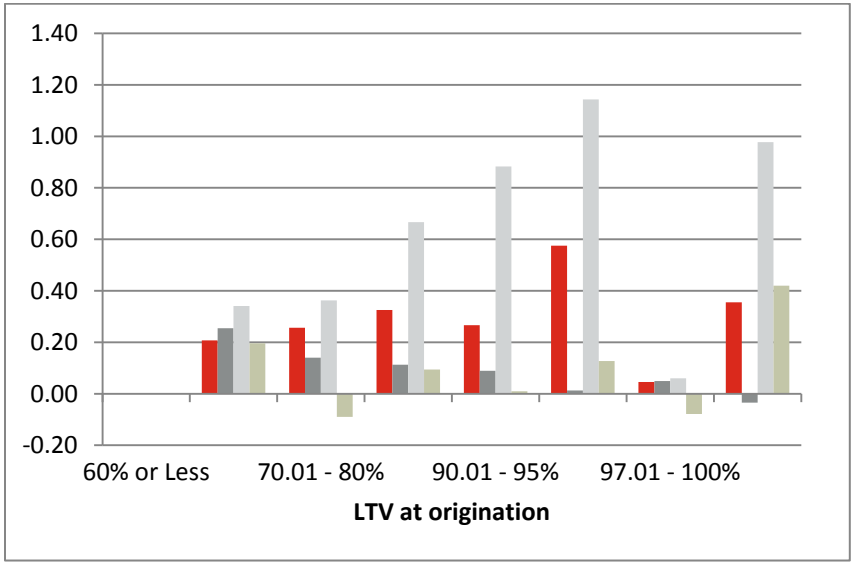
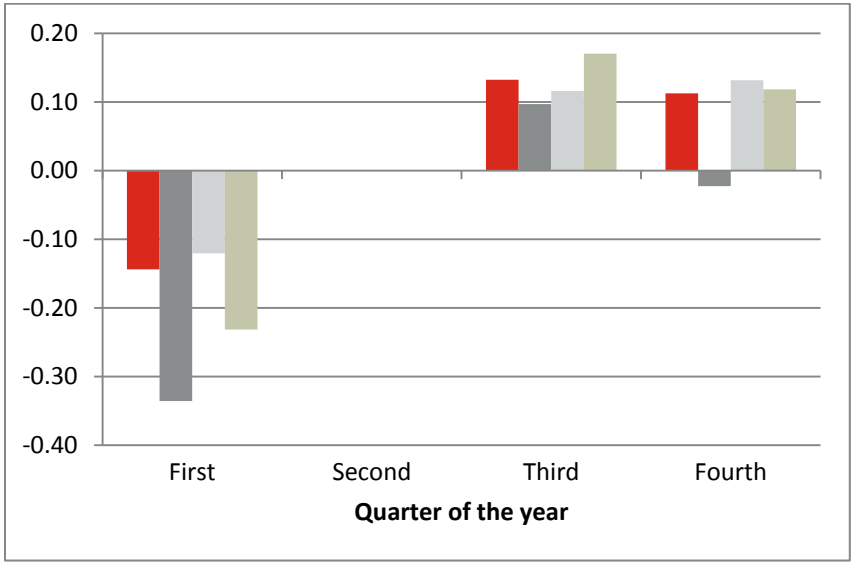
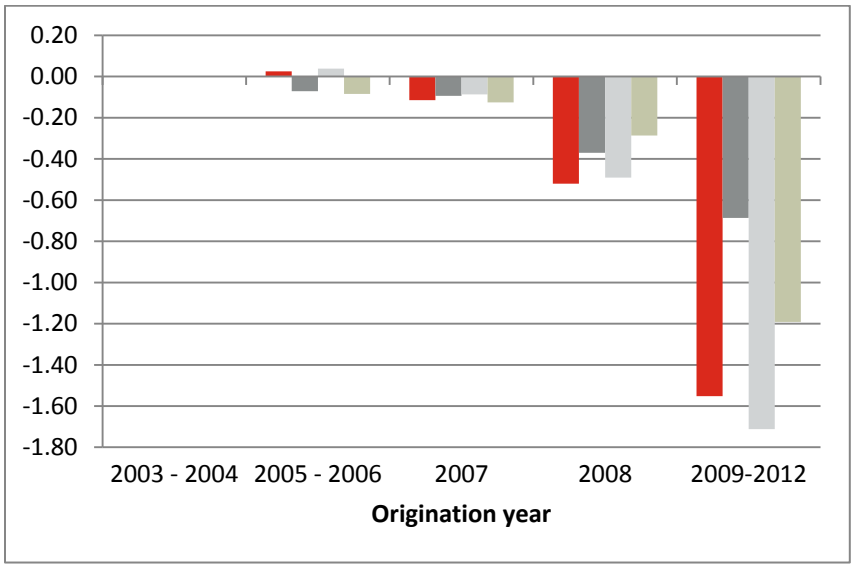


Exhibit C-31. Graphical Depiction of Coefficients for Log Odds of Default by Model (continued)





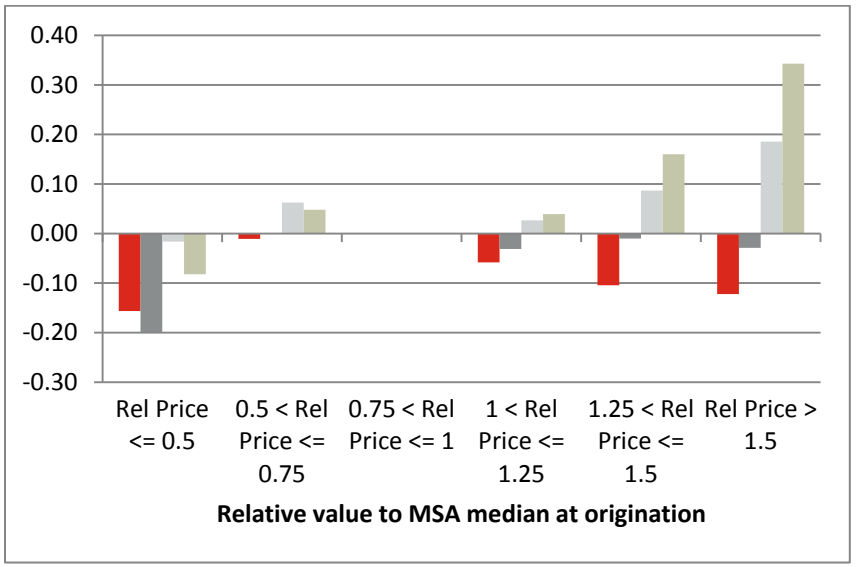
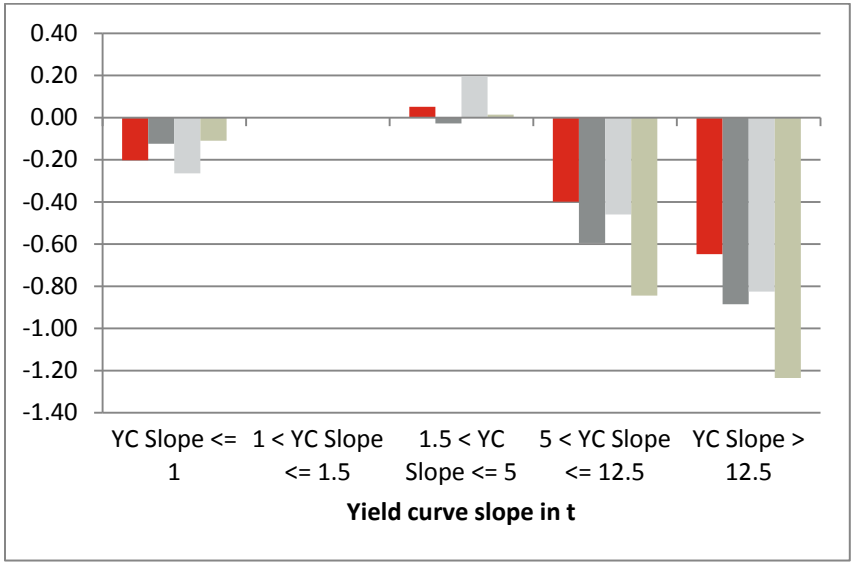
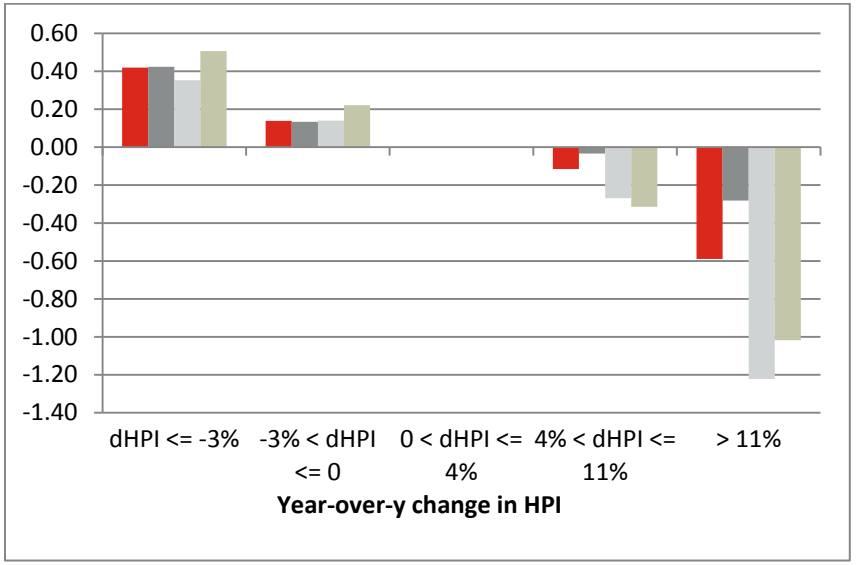


Exhibit C-31. Graphical Depiction of Coefficients for Log Odds of Default, by Model (continued)





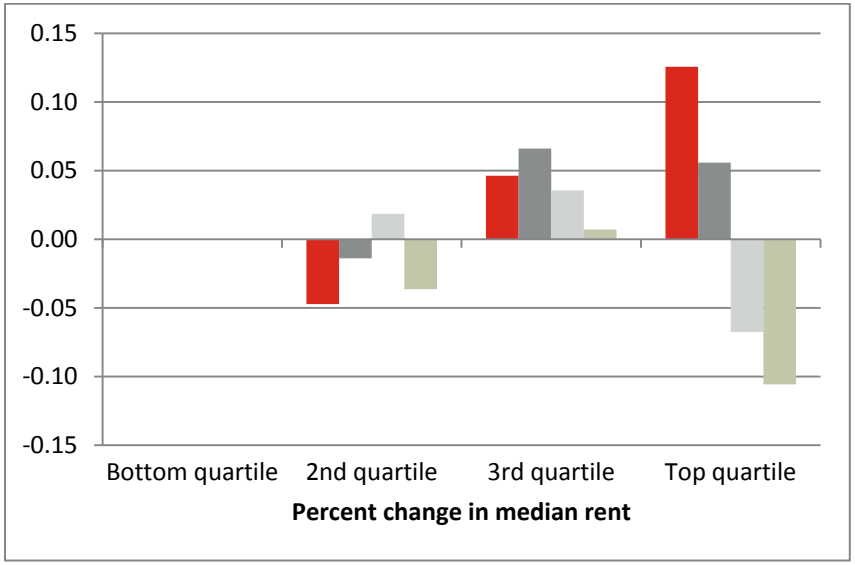
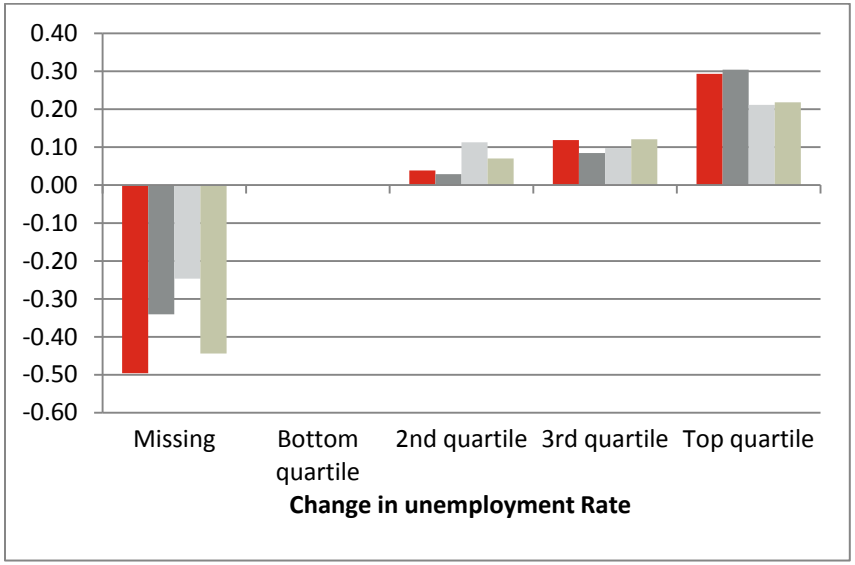
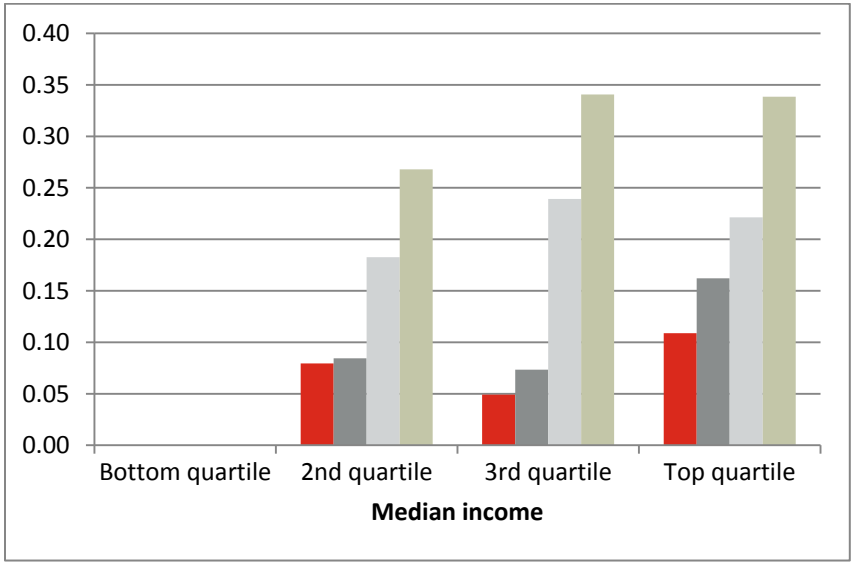
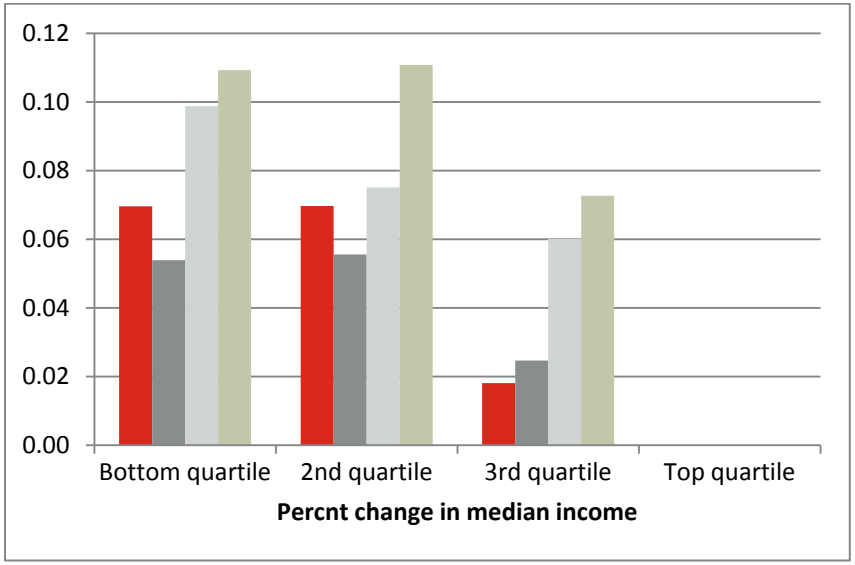


Exhibit C-31. Graphical Depiction of Coefficients for Log Odds of Default by Model (continued)







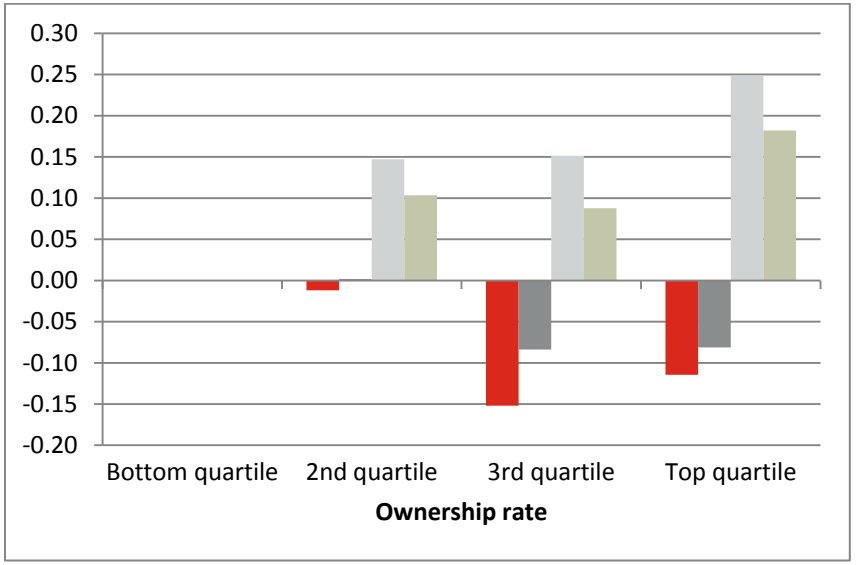
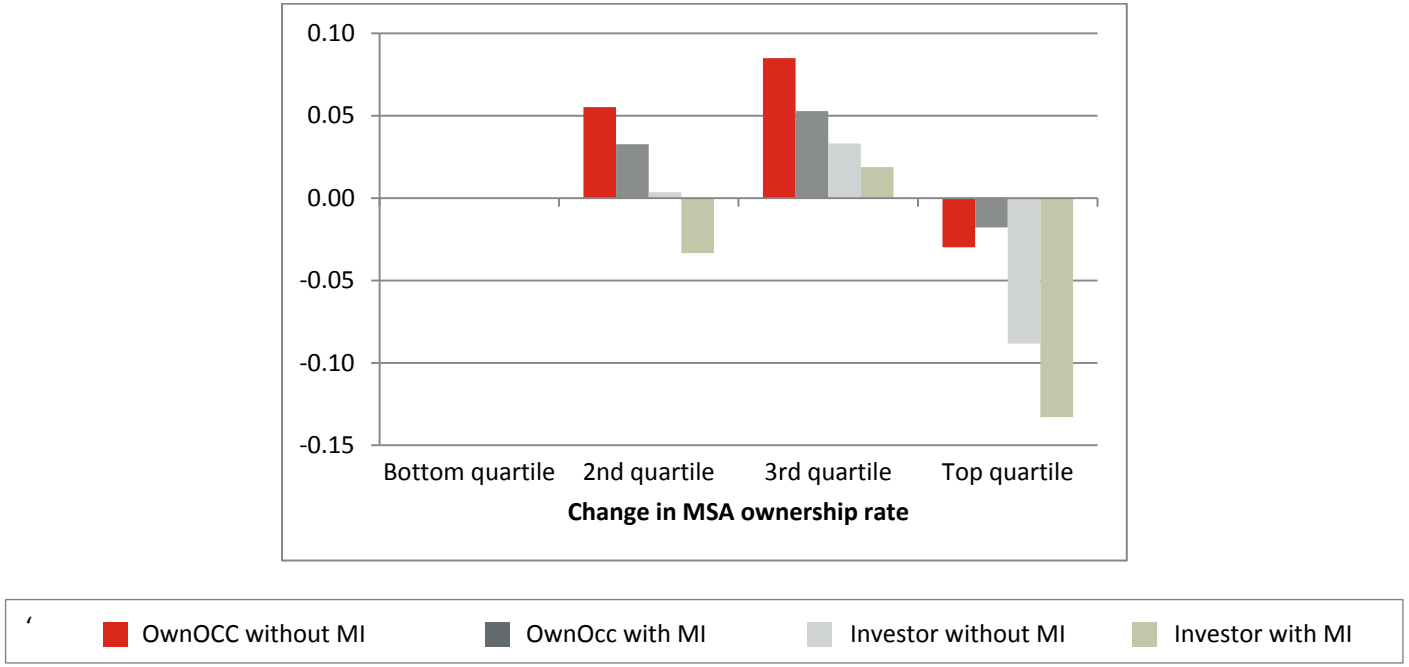


Exhibit C-31. Graphical Depiction of Coefficients for Log Odds of Default by Model (continued)



Coefficients for Option-Theoretic Variables

For our first option-theoretic variable, $\boldsymbol{LTV^t}$, the estimated percent LTV in each quarter, our estimated model finds the expected positive relationship between LTV category and the log odds of default. Exponentiating the coefficient of 2.17 for the default coefficient in the investor with mortgage insurance model indicates that loans with greater than 110-percent estimated LTV in a given quarter (clearly in a negative equity position) are 8.74 times more likely to default relative to continuing to pay than are loans in our baseline category, with current LTV of less than 60 percent. The next category, loans with current LTV between 100 and 110, has a coefficient of 1.73, indicating that loans in this category are 5.6 times more likely to default relative to prepayment than the baseline less than 60-percent LTV category. So, investors with mortgage insurance moving from a near-zero equity to a negative equity position increases the relative odds of default by a factor of 1.6.

Coefficient estimates are remarkably similar across the four groups, and increase with each increasing category of current LTV.[117] In fact, no clear differences are evident across the four models, except for in the highest category, where owner-occupied and investor loans with mortgage insurance are noticeably greater (implying between 12 and 17 percent greater default odds) than the value of the coefficient estimate in the models for loans without mortgage insurance. This finding provides evidence that mortgage insurance plays a role in which underwater loans become 90 days delinquent. Further investigation (using additional data on servicer actions) would be necessary to determine whether the moral hazard inherent in insurance is reflected in servicer treatment of underwater and 30- or 60-day delinquent borrowers as discussed previously.

The interest rate premium variable, $\boldsymbol{MP^t}$, which captures the value of the prepayment option, also has a positive correlation with the log odds of default relative to continued payment. For insured loans to investors, exponentiating the coefficient for the greater than 30-percent premium group of 0.71 gives an estimate that loans in this category are twice as likely as loans with a relatively low (30 percent or more below current market refinance median) interest rate, and 1.42 times more likely than rates that are on par with current rates to default relative to continued payment. For this variable, owner-occupants without mortgage insurance have the greatest magnitude of coefficients, while coefficients for investors without mortgage insurance indicate a relatively smaller, but still substantive relationship (the coefficient on the 30 percent or more category of 0.48, for example, suggest loans are 1.62 times as likely as the baseline category of -30 percent or less to default relative to continued payment).

Because this variable is associated with the prepayment option, we note briefly that the coefficient estimates on current mortgage premium are indeed strongly predictive of prepayment. Coefficients for owner-occupants are larger than for investors, with loans to owner-occupants without insurance in the greatest category predicted to have a 2.35 times greater probability of prepayment to continued payment than for the lowest premium category. Differences in the relationship observed across models suggest differences in the prepayment and refinancing timing of owner-occupants and investors that may be of interest for future investigation.

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[117] Because our four models are estimated separately out of computational necessity, statistical tests for equality of individual coefficients in different models, unfortunately, cannot be conducted. As evidenced by the small differences in the intercept coefficients, differences likely exist in the "omitted category" baseline default rates for each factor discussed. As such, comparisons across models throughout this section can be made only with respect to how each category within each group compares with the own group's baseline.

Coefficients estimated for our $\boldsymbol{Burnout\ Factor^t}$ variable indicate it is also predictive of subsequent default. The coefficient magnitudes are largest for investors with mortgage insurance. Exponentiating the highest burnout factor category coefficient, 0.96 indicates that the highest group is 2.62 times more likely to default relative to continued payment than is a loan with no missed refinancing opportunities during the previous eight quarters. The stronger relationship indicated for burnout factor for investors in the highest basis point burnout factor categories are consistent with the narrative that investors with mortgages with unsatisfactory terms are more "ruthless" in exercising their default option.

Our fitted model indicates that investors and owner-occupants respond as expected to "in the money" default and prepayment incentives, even after controlling for a variety of underwriting and market factors. Particularly for owner-occupants, this finding is consistent with the existing literature. Although we do not make rigorous statistical comparisons of coefficients across models, the relationships among categories of our option theoretic variables within models suggest that loans with mortgage insurance may be more responsive to negative equity in their default frequency, owner-occupants may be more apt to refinance when rates are favorable, and investors who are unable to refinance are more likely to default.

The final time-varying loan-level piece of our model is the $\boldsymbol{Age\ Function^t}$ spline. The coefficients here are difficult to interpret individually because they are each cumulative and piecewise linear. The "age in quarters" panel of exhibit C-31 shows the resulting relationship between age in quarters and log odds of default relative to continued payment. The increasing and then decreasing shape observed in our conditional probability of default plots in exhibit C-12 remains even after conditioning for the host of variables in our model (recall that the CPD plots are conditioned only on survival through previous quarters). Our model also finds a small seasonal pattern in default and prepayment. For default, we generally observe positive coefficients in the third and fourth quarters of the year and negative coefficients in the first quarter of the year, with the second quarter serving as the baseline category.

Coefficients for Loan Characteristics at Origination

Loan characteristics at origination remain predictive of the relative odds of default in our multivariate model. Adjustable rate and refinanced mortgages across all four datasets, and FHA and conventional loans for owner-occupant loans with mortgage insurance, have positive coefficients for default. Each of these characteristics is associated with higher log odds of default relative to prepayment as compared with fixed-rate, purchase, and VA loans, respectively. The content of the coefficients for these variables is generally similar across data groups, with the coefficient for interest rate type suggesting a stronger predictive relationship for owner-occupants without mortgage insurance, and investors without mortgage insurance showing stronger relationship for the refinances, particularly for cash out refinances.

The coefficient on our property type variable shows a slightly decreased default risk for condominiums and townhomes relative to two- to four-family properties for investors. For owner-occupants, the decreased risk of default for single-family detached properties, townhomes, and condominiums is larger, with a coefficient indicating that default by owner-occupants with no insurance for a condominium/townhome only 0.61 times as likely relative to continued payment as it is for a two- to four-family property. Interestingly, combined LTV at origination is less consistently predictive across our data groups. For investor loans with no mortgage insurance, extremely high $\boldsymbol{LTV^0}$ at origination (more than 100 percent) is strongly predictive of increased log relative default odds relative to an LTV at 60 percent or less, with coefficients indicating risk between 2.7 and 3.1 higher for loans in the highest LTV categories. Investors with default risk see a smaller, but a still meaningful 0.42 coefficient (1.5 times higher relative risk) for only the highest LTV at origination group. A similar, but much less pronounced pattern is observed for owner-occupant loans without mortgage insurance, with owner-occupants with mortgage insurance exhibiting small, marginally statistically significant (or insignificant) coefficients.

$\boldsymbol{Credit\ Score^0}$, credit score at origination is strongly predictive of log relative default odds. Coefficients across data groups suggest a similar relationship, with some indication that owner-occupant loans to borrowers with credit scores of more than 800 are the least likely to default relative to continued payment among the loan types. The magnitudes of the coefficients for this model are noteworthy. For investors with mortgage insurance, the difference between the 0.79 coefficient for borrowers with initial credit scores of less than 660 and the coefficient of -0.91 for borrowers with credit scores of more than 800 suggests that the former are *5.5 times* more likely to default relative to continued payment, after controlling for the rest of the factors in our model.

The value of a property relative to the MSA median, $\boldsymbol{Relative\ Value^0}$ remains predictive in the multivariate model for loans to investors, particularly for those with mortgage insurance, and to a lesser extent for owner-occupants without mortgage insurance. Where in the unconditional statistics it is the relatively small properties that eventually experience a default, however, after conditioning for our other predictors and jointly modeling the option to prepay, it is the relatively large properties that have a higher log relative default odds. Although the coefficients are statistically and economically significant, we note that relatively few investor properties in our sample are in the highest, greater than 1.5 category that is driving this result (recall that the 75th percentile for this group was 1.04), and therefore have limited policy relevance. The remaining differences between category coefficients, while statistically significant, are relatively small in magnitude.

Our model also finds stark differences in the log relative default odds based on a mortgages' origination year, particularly for the more recent years. After controlling for the other factors in our model (including our flexible specification for loan age), the differences between default log odds for loans originated in 2005-2006 and 2007 are relatively small. The largest coefficient is for investor loans with mortgage insurance in 2007, indicating that these loans are predicted to have default odds 0.88 times as large as those for loans in the same group in the baseline years of 2003-2004. The 2008 and 2009-2012 years show markedly lower default odds, however, with loans without insurance to investors between 2009-2012 having 0.30 times the default odds than the 2003-2004 loans. Differences are relatively muted for owner-occupant loans with mortgage insurance, which may have had more consistency in underwriting standards across cohorts. Although the coefficient in the latest years is greatest for investors with mortgage insurance, very few loans were issued to this group in later years.

Together, the estimated coefficients on variables describing loan characteristics at origination indicate that observable loan and borrower characteristics at origination predict performance even after controlling for time-varying option theoretic variables and market trends. However, the predictive relationships captured by our model do not include selection into products and loan characteristics by borrowers and lenders. Rather than predicting the subsequent performance if a particular mortgage had been issued to an arbitrary borrower, our model predicts performance given that a particular borrower and some lender agreed to a mortgage with the characteristics in our model under the existing market conditions. That is, the loan characteristics selected may differ in some systematic way that affects loan performance but that is not observable in our model.

Coefficients for Housing Market and Economic Indicator Variables

We now review the estimates from our model for the housing market and economic indicators. First, the yield curve slope remains predictive of default and prepayment, with the largest coefficients estimated for investors with mortgage insurance. However, we again note that the extreme ranges for this variable across the period bring in to question whether it remains the reliable measure of interest rate expectations which it has been in the past. Recent high values of the variable come at a time of historically low interest rates in general and mortgage rates specifically, which are indeed expected to rise in the medium to long term. It appears that relatively low mortgage rates today are associated with lower log odds of default relative to continued payment.

Year-over-year housing price changes, $\boldsymbol{\Delta HPI^{t}_{1yr}}$, which are included to capture expectations for housing prices moving forward, are also predictive in our model, with the largest coefficients estimated for loans to investors. As a contrast, the coefficients for owner-occupant mortgages with insurance suggest a 1.53 times greater and 0.76 times lower log relative default odds in periods of falling and rapidly increasing prices, respectively. Meanwhile, for investors without mortgage insurance (our largest data group, with coverage across all origination years), log relative default odds are a similar 1.42 times greater in falling markets, and a more extreme 0.30 times lower in markets with rapidly increasing prices. This year-over-year measure varies over time and across MSAs. These predicted odds indicate that in quarters and MSAs in which prices are declining, the probability of default relative to continued payment *in that quarter* is almost five times higher than in a previous quarter in which prices rose by more than 11 percent.

We note that MSA-level employment statistics are not available in ACS and census data for some MSAs in the first years of our sample. Our model estimates are consistent with these areas, like the others for which data is available, having relatively low default rates in these early quarters. The coefficients on the quartile groups are relevant for most of our sample, and indicate that high unemployment is associated with higher log relative default odds except for owner-occupant loans with insurance. For this group, however, a top quartile (increase) change in unemployment rates is most strongly predictive.

Our percent change in median rent variable shows no consistent pattern, except perhaps a somewhat decreased (0.89 times for loans with insurance) default odds for loans to investors in the highest (growth) quartile. The relatively small estimated coefficients for this variable indicate that no additional relevant correlation of default odds is made with rent after controlling for our other variables.

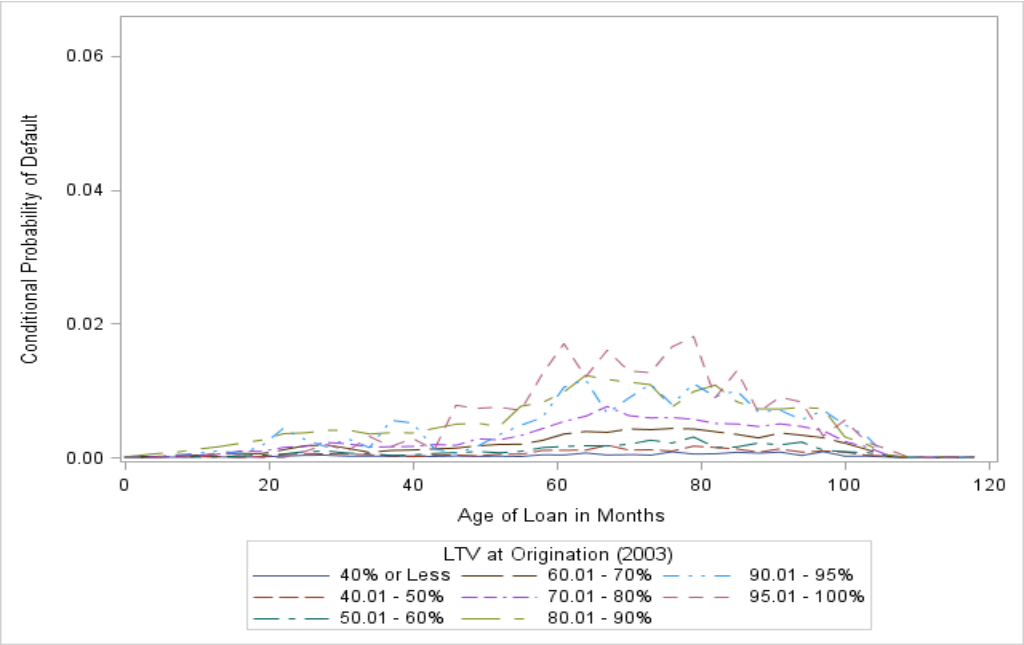
Median income, particularly for investors, and percent change in median income across all data groups show a stronger relationship. Interestingly, lower median income levels predict lower log relative default odds, particularly for investor loans with mortgage insurance. Change in median income clearly aligns with expectations based on economic trigger events, although coefficient magnitudes are modest relative to other predictors. Loans in MSAs in years with low or falling incomes (bottom quartiles) have elevated log odds of default. Finally, the ownership rate in an MSA in a given year is predictive of default for loans to investors, with modestly sized coefficients, although the coefficients on the change in ownership rate quartiles are sometimes statistically significant, but economically less meaningful relative to other variables in our model. Low ownership areas have lower log odds of default.

To summarize, housing market and economic indicators at the MSA level generally maintain predictability for log relative default odds in our model, which includes a broad set of controls. Changing housing prices are most predictive, with relatively low default rates observed for investors in markets with rapidly rising prices. Not surprisingly, since they are based on MSA-level measures, coefficients for economic indicators are smaller in magnitude than for loan-level option-theoretic variables. Still, unemployment rates and changes in unemployment rates, median income levels and changes, ownership rates, are predictive for loans to investors with the predicted directions. Except for unemployment rates and changes, however, the economic indicator variables predict relatively small differences across quartiles compared with other variables in the model.

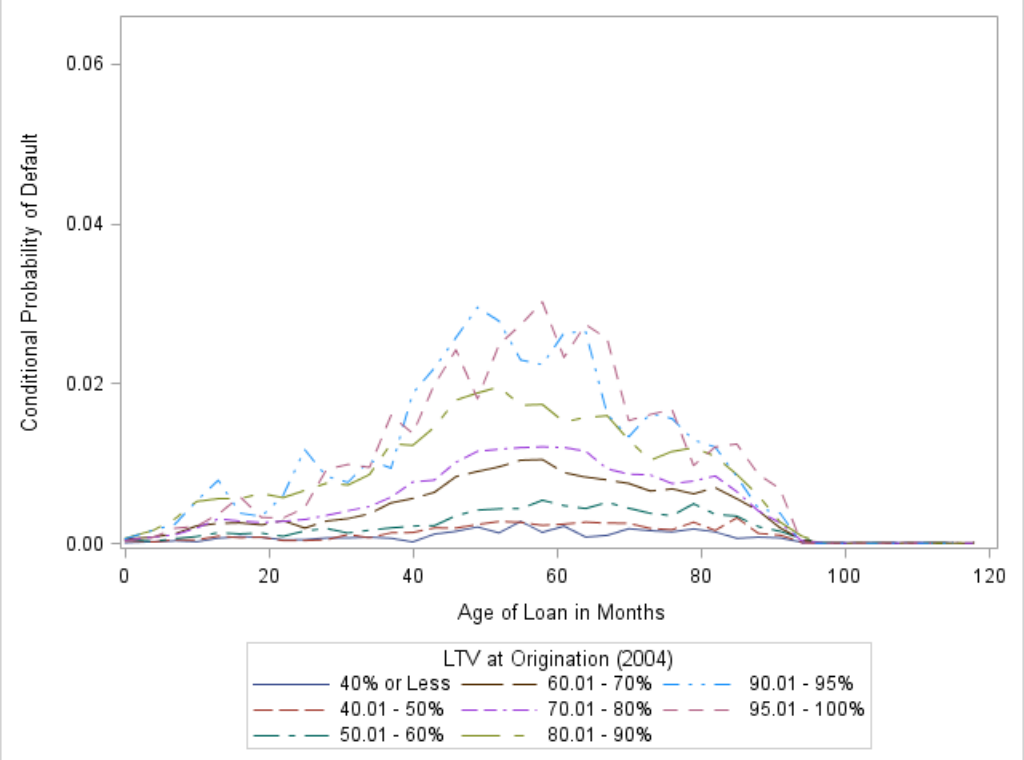
Appendix D. Conditional Default Probabilities for Investors by Origination Year and LTV at Origination

Exhibit D-1. Conditional Default Probabilities for Investors, by LTV at Origination

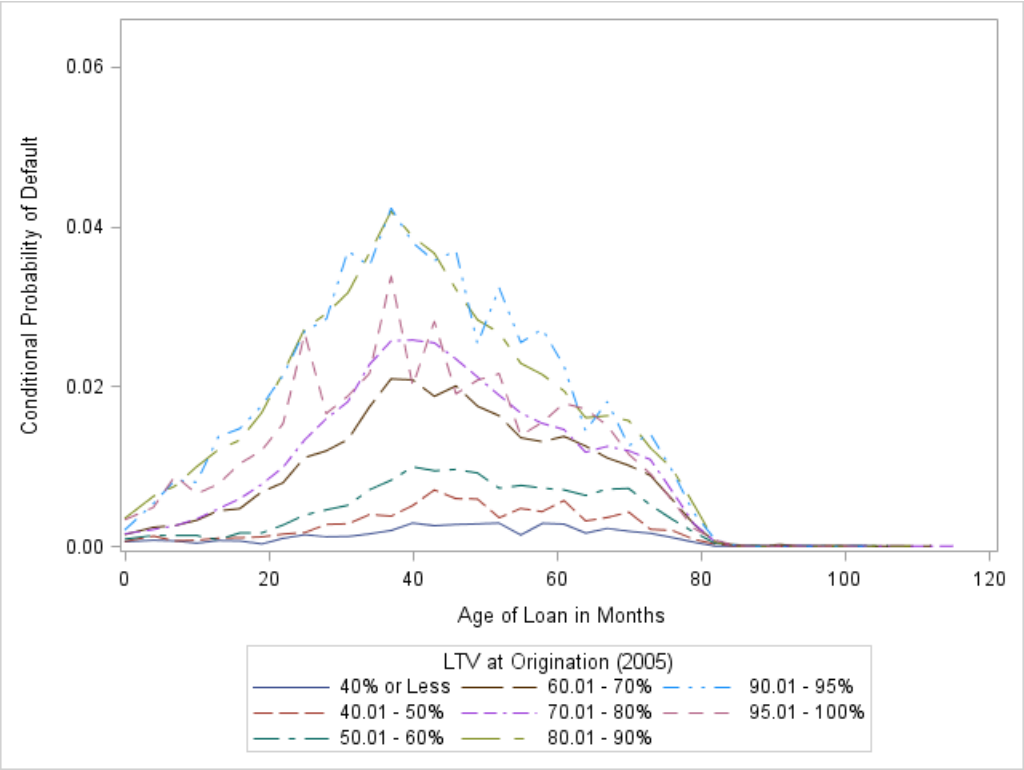
Loans Originated in 2003



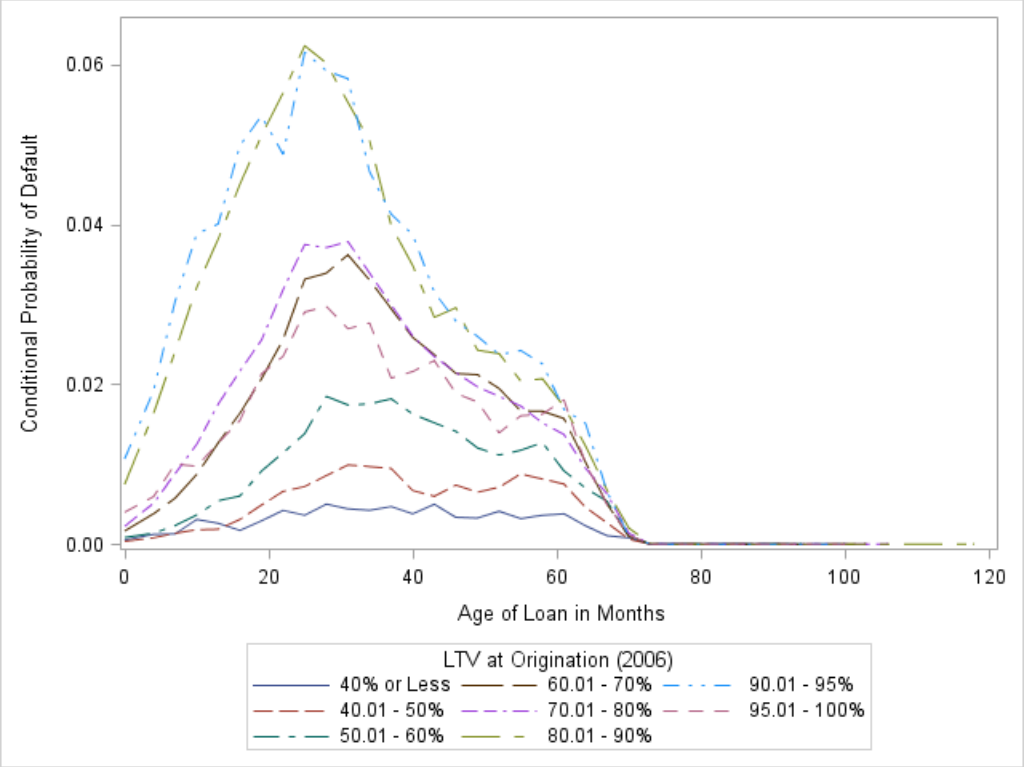
Loans Originated in 2004



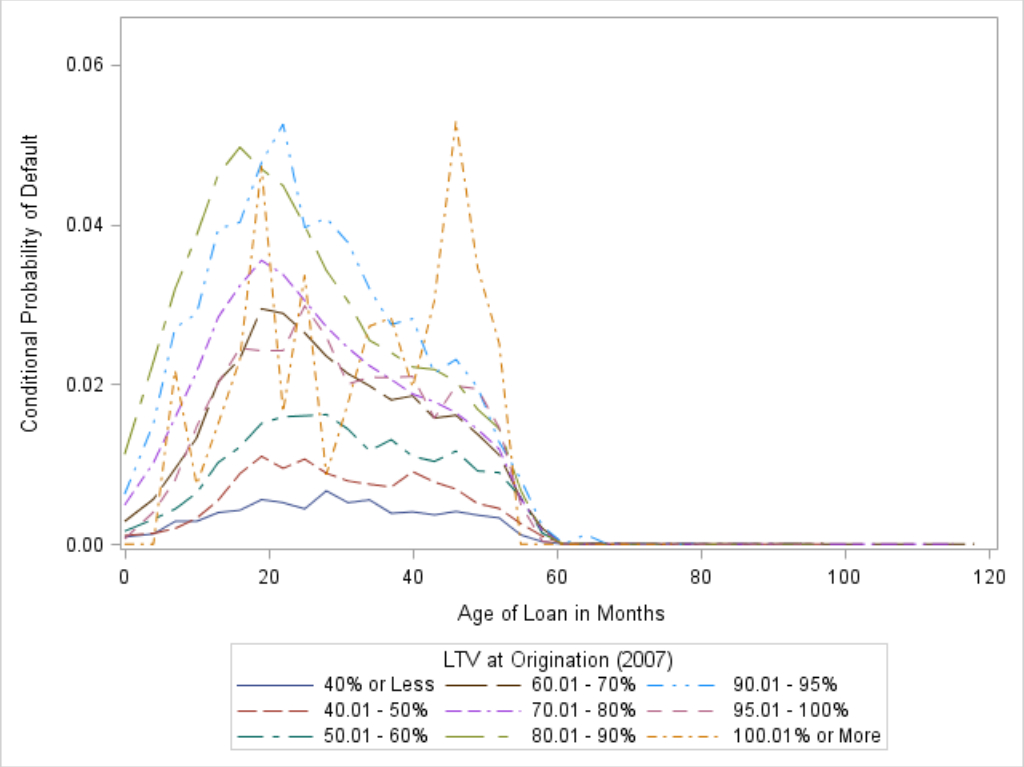
Loans Originated in 2005



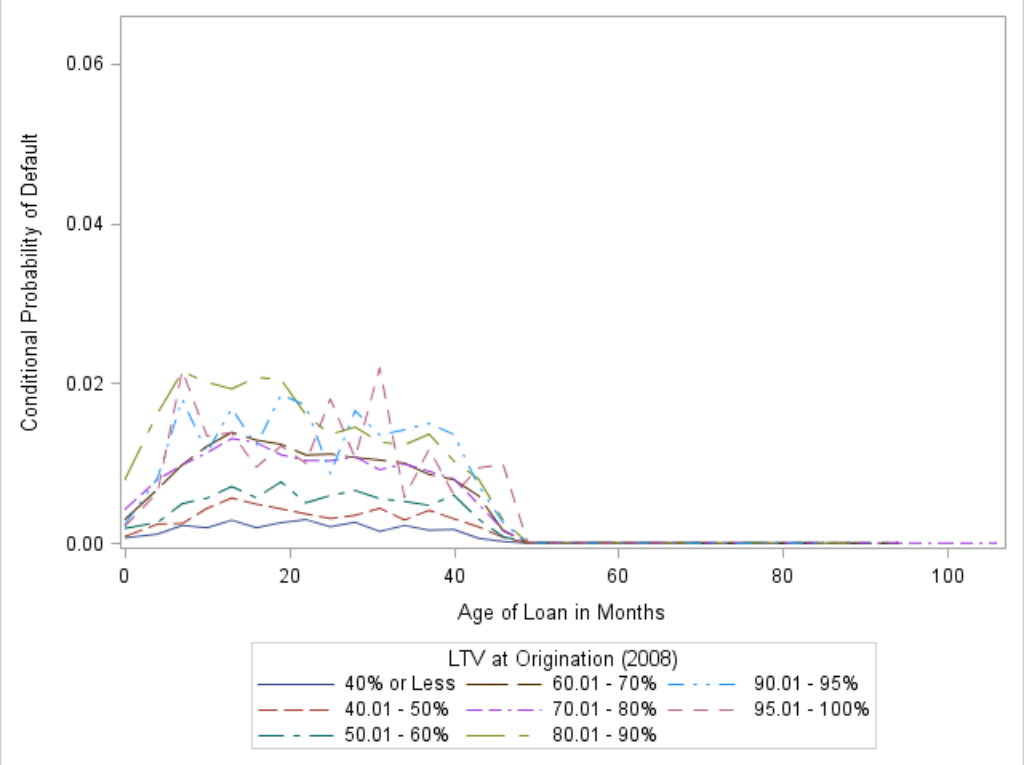
Loans Originated in 2006



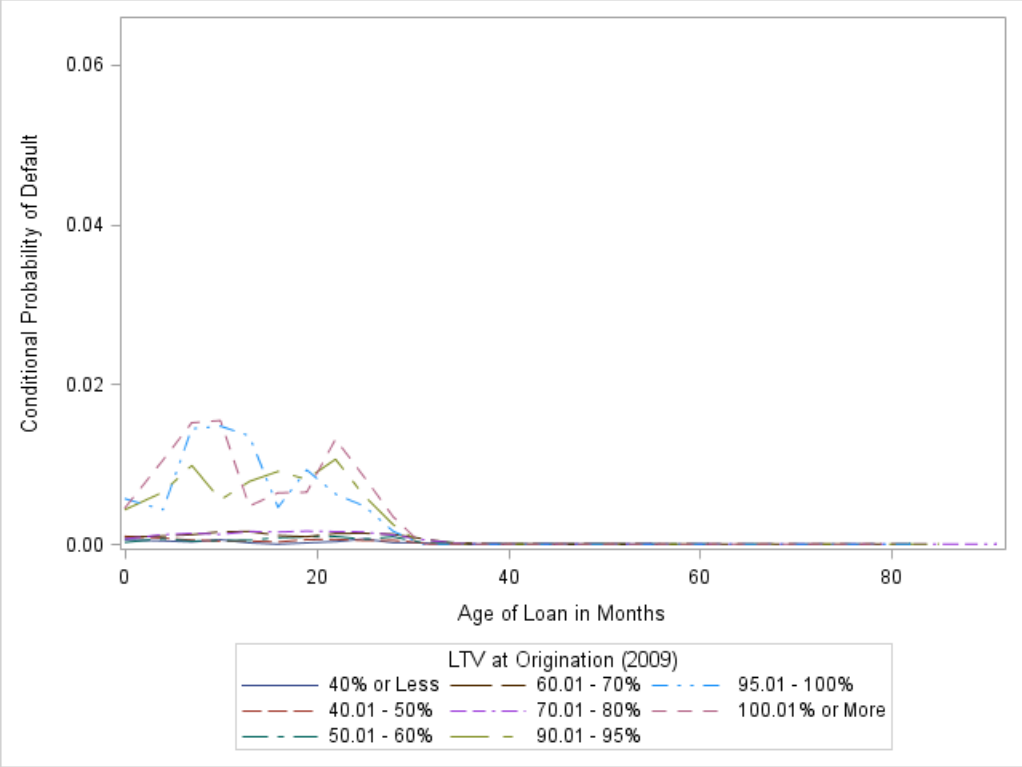
Loans Originated in 2007



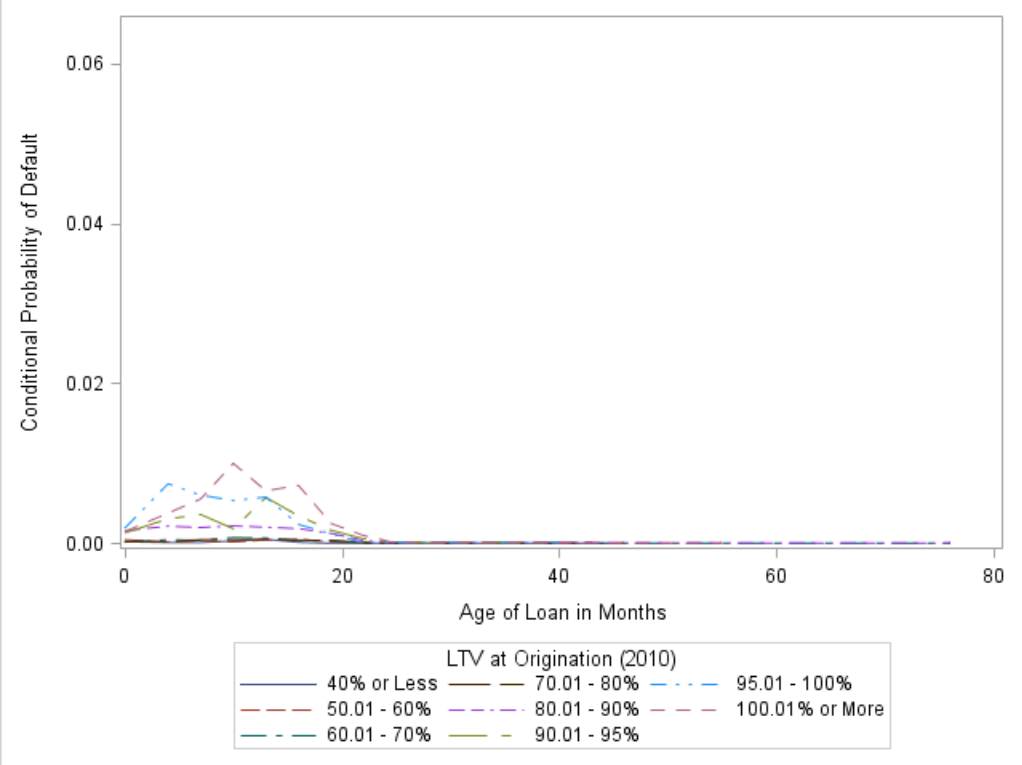
Loans Originated in 2008



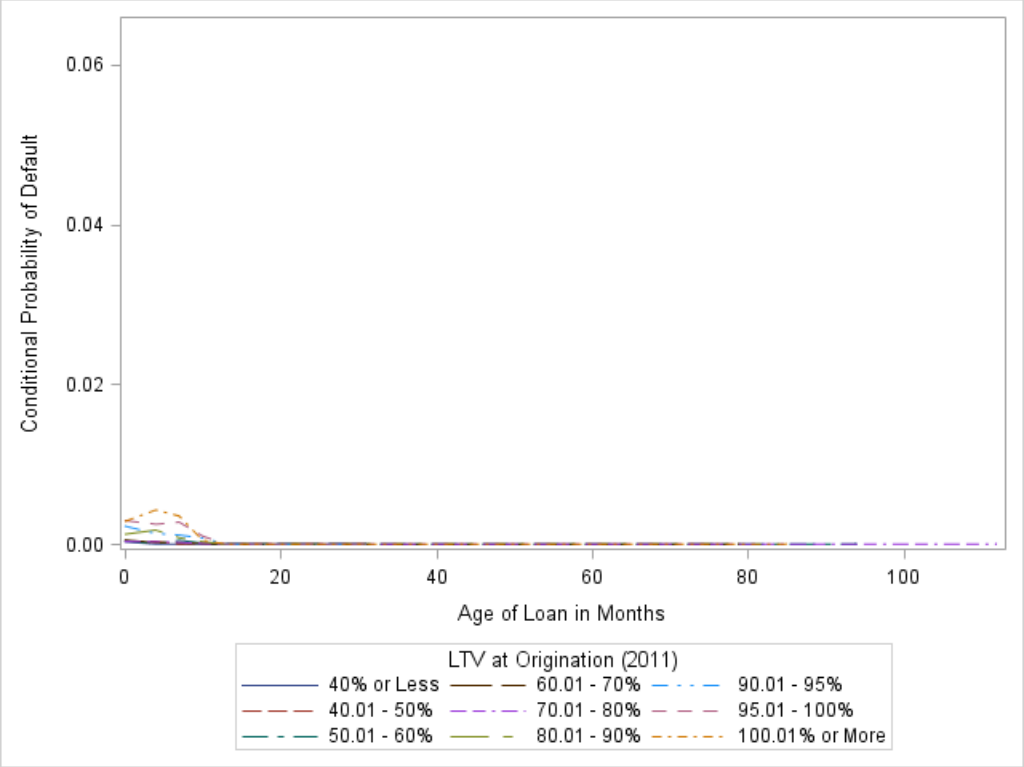
Loans Originated in 2009



Loans Originated in 2010



Loans Originated in 2011



Source: Authors' tabulations of Black Knight data

Appendix E. Small Multifamily Loan Program Discussion Guide

Interviews will focus on past programs, limitations of reintroducing an FHA investor program, recommendations for a new FHA investor program, and risk management and underwriting concerns.

Interview Subjects

FHA

SPP program

1. Small Projects Processing was introduced in 1996 for use by owners of 5- to 20-unit properties, combining features of 221(d)(4) and 223(f).
    a. Why are/were 221(d)(4) and 223(f) not well-suited to owners of small multifamily properties?
    b. What have been the contributions and barriers of SPP?
2. What is the process for originating an SPP loan? How is this different from the large multifamily loan origination process?
    a. How many lenders are approved to offer small multifamily mortgage insurance through SPP?
    b. What are the requirements for obtaining this approval? What is the process?
3. What is the annual volume of loans originated under SPP?
    a. What are the obstacles to larger loan volumes?
    b. Has the program experienced periods of greater activity in the past? If so, why (and what has changed since then)?
4. What modifications to SPP or to other FHA multifamily programs (221[d][4] and 223[f]) would have to be made to increase loan volumes?
    a. Would these modifications increase risk? If so, what changes in underwriting criteria or other program guidelines or processes would have to be made in order to manage these risks?

All Past FHA Programs

5. Has FHA ever played a significant role in providing financing for small multifamily properties? If so, when, and using what program? How has FHA's role in this market changed since the 1980s?
6. Are you aware of any other past FHA small multifamily (5 to 50 units) financing options intended to address the market requirements for projects in this category; either on a "spot" or "global" financing basis?
    a. Did it/they adequately address the needs of small multifamily properties?
    b. What were the characteristics of these financing options?
    c. When was the financing option(s) ended?
    d. What features (processing, underwriting, valuation, securitization, servicing, risk profile, etc.) made the financing option(s) unsuccessful?
    e. Who were the target participants of these investor programs?
        i. Did they serve one/two primary target groups, or a wider range of ownership entities (for example, CDHOs, REITs)?
        ii. How much did that targeting, if any, matter to the success and failures of these programs?

Limitations and Recommendations for a New FHA Investor Program

7. Is there a need for an FHA program that would provide financing for small multifamily properties?
    c. If so, is this need greater in specific parts of the country or market types?
8. What type of FHA small multifamily (5 to 50 units) financing options do you think would be successful within the current risk environment in meeting the current market requirements?
    d. What features would you like to see in these financing options; and what features would you not like to see in these financing options?
9. What are the obstacles/risks to implementation of these financing options (for example, regulatory, legislative, political, underwriting, systems, etc.)?

Risk Management and Underwriting Concerns

10. Of the obstacles for financing small multifamily properties (higher risk, cost of origination, servicing costs), which of these is the greatest barrier?
11. Are these obstacles the same across the spectrum of small multifamily properties? Or are the obstacles different for properties with 5 to 10 units, 11 to 20 units, 21 to 50 units? (Or some other breakdown of unit counts?)
12. How do different measures of risk relate to each of these segments? Is each relevant across the range of small multifamily properties? What are the obstacles, if any, to using these risk measures for small multifamily properties of varying sizes?
    a. LTV
    b. DSCR
    c. NOI
    d. Borrower's credit score
    e. Reserves
    f. Other?

Lenders

FHA programs

1. Small Projects Processing was introduced in 1996 for use by owners of 5- 20-unit properties, combining features of 221(d)(4) and 223(f).
    a. Why are/were 221(d)(4) and 223(f) not well-suited to owners of small multifamily properties?
    b. Have you ever used the SPP program? If so, do you still use the program?
    c. If so, were/are there barriers or challenges to using the program? What improvements did it make over 221(d)(4) and 223(f)?
    d. If so, what is/was the process for originating an SPP loan? How is this different from the large multifamily loan origination process?
2. Are you aware of any other past FHA small multifamily (5 to 50 units) financing options intended to address the market requirements for projects in this category; either on a "spot" or "global" financing basis?
    a. Did it/they adequately address the needs of small multifamily properties?
    b. What were the characteristics of these financing options?
    c. What features (processing, underwriting, valuation, securitization, servicing, risk profile, etc.) made the financing option(s) successful or unsuccessful?

Limitations and Recommendations for a New FHA Investor Program

3. Is there a need for an FHA program that would provide financing for small multifamily properties?
4. What type of FHA small multifamily (5 to 50 units) financing options do you think would be successful within the current risk environment in meeting the current market requirements?
    a. What features would you like to see in these financing options; and what features would you not like to see in these financing options?

Risk Management and Underwriting Concerns

5. Of the obstacles to financing small multifamily properties (higher risk, cost of origination, servicing costs), which of these do you see as the greatest barrier?
6. Are these obstacles the same across the spectrum of small multifamily properties? Or are the obstacles different for properties with 5 to 10 units, 11 to 20 units, 21 to 50 units? (Or some other breakdown of unit counts?)
7. How do different measures of risk relate to each of these segments? Is each relevant across the range of small multifamily properties? What are the obstacles, if any, to using these risk measures for small multifamily properties of varying sizes?
    a. LTV
    b. DSCR
    c. NOI
    d. Borrower's credit score
    e. Reserves
    f. Other?
8. What are the obstacles/risks to implementation of these financing options (for example, regulatory, legislative, political, systems, etc.)?

Ginnie Mae

1. Is there currently a program in place to securitize new FHA small multifamily projects, either on an individual loan basis on a multi-loan pool basis? If so, how does this program work?
2. Have securitization options or lack thereof affected the ability to finance small multifamily properties?
3. Are you aware of any past FHA small multifamily (5 to 50 units) insurance programs intended to address the market requirements for projects in this category; either on a "spot" or "global" financing basis?
    a. Did it/they adequately address the needs of small multifamily properties?
    b. What were the characteristics of these financing options?
    c. What features (processing, underwriting, valuation, securitization, servicing, risk profile, etc.) made the financing option(s) successful or unsuccessful?
    d. Were loans insured with these programs securitized? If so, how?
4. Is there currently a need for an FHA small multifamily (5 to 50 units) financing option?
5. Is there a market demand for a small multifamily projects pooling structure?
    a. If so, how or are you planning to meet that demand?

6. What type of FHA small multifamily (5 to 50 units) financing options do you think would be successful within the current risk environment in meeting the current market securitization requirements?
    a. What features would you like to see in these financing options; and what features would you not like to see in these financing options?
7. What are the obstacles/risks to implementation of these financing options in a desirable securitization structure (for example, regulatory, legislative, political, systems, etc.)?

Associations (NAR/MBA)

1. Small Projects Processing was introduced in 1996 for use by owners of 5- to 20-unit properties, combining features of 221(d)(4) and 223(f).
    a. Why are/were 221(d)(4) and 223(f) not well-suited to owners of small multifamily properties?
    b. Did your members ever use the SPP program? If so, do they still use the program?
    c. If so, were/are there barriers or challenges to using the program? What improvements did it make over 221(d)(4) and 223(f)?
    d. If so, what is/was the process for originating an SPP loan? How is this different from the large multifamily loan origination process?
1. Are you aware of any past FHA small multifamily (5 to 50 units) financing options intended to address the market requirements for projects in this category; either on a "spot" or "global" financing basis?
    a. Did it/they adequately address the needs of small multifamily properties?
    b. What were the characteristics of these financing options?
    c. When was the financing option(s) ended?
    d. What features (processing, underwriting, valuation, securitization, servicing, risk profile, etc.) made the financing option(s) successful or unsuccessful?
2. Is there currently a need for an FHA small multifamily (5 to 50 units) financing option?
3. What type of FHA small multifamily (5 to 50 units) financing options do you think would be successful within the current risk environment in meeting the current market requirements?
    a. What features would you like to see in these financing options; and what features would you not like to see in these financing options?
4. What are the obstacles/risks to implementation of these financing options (for example, regulatory, legislative, political, systems, etc.)?

All

1. What type of FHA small multifamily (5 to 50 units) financing option would encourage you to finance/insure/securitize more projects? Check all that apply.
    - FHA controlled program
    - Delegated program
    - Lender controlled program
    - Other, explain_____
2. What financing sources are currently available for properties in the small multifamily (5 to 50 units) category? Check all that apply.
    - Banks/Depositories
    - Private Investors/Conduits
    - GSEs
    - Rural Development
    - Loan Fund
    - Savings and Loans
    - Community development Banks
    - Community Development Finance Institutions
    - Small Business Administration
    - Farm Credit System
    - Nonprofit organizations
    - State Agencies
    - Owner financing
    - Other_____
3. Is there currently a need for a Ginnie Mae small multifamily (5 to 50 units) securitization option? Check all that apply.
    - Yes
    - No
    - I don't know
4. Do you have a preference for a loan using this new financing option to be securitized or held in portfolio? Check all that apply.
    - Securitized
    - Held in portfolio
    - No preference

Appendix F. FHA Multifamily Program Underwriting Guidelines

	FHA 221(d)(4)	FHA 223(f)	Small Project Processing	FHA 542(b) and 542(c)	Title I	Section 220	Section 241
Property type	5-unit or more detached, semidetached, row, walkup, or elevator-type rental or cooperative housing	At least 5 residential units with complete kitchens and baths	5- to 20-unit multifamily. Not eligible: projects in military impact areas; projects with project-based Section 8 rental assistance; IOI, and rental housing in use less than 3 years.	5+ unit multifamily properties meeting eligibility for LIHTC and originated, underwritten, serviced, and disposed of by qualified state and local HFAs	Individual homes, apartment buildings, and nonresidential structures, as well as new construction of nonresidential buildings	Detached, semidetached, row, walk-up, or elevator type rental housing in urban renewal areas, code enforcement areas, and other areas where local governments have undertaken designated revitalization activities	Multifamily rental housing and healthcare facilities; only for projects that already carry HUD-insured or held mortgages.
Loan purpose	New construction or substantial rehabilitation	Purchase or refinancing of existing multifamily housing	Development, rehabilitation, and refinancing; projects must also comply with all applicable statutory and regulatory requirements of 223(f) and 221(d)(4).	Tier I: 50/50 risk sharing between FHA and qualified participating entities Tier II: 90/10 risk sharing between FHA and qualified participating entities When replacement cost ratio for new construction and substantial rehabilitation projects or LTV for existing projects are > 75% HFA assumes at least 25% of risk. When these ratios are < 75%, HFA assumes 10–25%.	Improvements, alterations, and repairs	Construction or rehabilitation	Improvements and additions to, and equipment
Program status	Active.	Active.	SPP is a processing option that is apparently unused.	Active.	Active; rental property investors eligible.	Active.	Active.
Loan volume	9 small multifamily projects were insured in FY 2012, 175 projects total; average size of $15.4 million.	105 small multifamily mortgages insured in FY 2012, 644 total; average size $8.7 million.		Became a permanent program in 1992. 12 small multifamily mortgages insured in FY 2012, 83 total; average size $8.1 million.		8 projects were insured in FY 2012; average size of $40 million. Rarely used for small multifamily (7 mortgages from 2000-2010).	1 mortgage insured in FY 2012 for $7.1 million.

	FHA 221(d)(4)	FHA 223(f)	Small Project Processing	FHA 542(b) and 542(c)	Title I	Section 220	Section 241
Loan amount	No minimum or maximum	No maximum	$1 million or less	No maximum	Multifamily property improvement loans to $60,000 or an average of $12,000 per dwelling unit, whichever is less.	Lesser of 90% of replacement cost value (100% for nonprofit organizations); 90% of net income capitalized by loan constant; per-unit statutory limits as established by HUD	90% of HUD-FHA estimated value of the improvements, additions, or equipment, provided total indebtedness complies with FHA limits for the area and rules for primary mortgage program.
LTV ratio	Varies from 83.3% to 90% depending on affordability of project. Is based either on replacement cost or DSCR: 1.11 DSCR – 90% LTV; 1.15 DSCR – 87% LTV; 1.20 DSCR – 83.3% LTV.	Amount based on DSCR/total cost of acquisition/value: a. 90%—for Section 202 & 202/8 direct loans b. 87%—for projects with 90% or greater rental assistance b. 85%—for projects that meet the definition of Affordable Housing; or c. 83.3%—for market-rate projects. Refinance: The greater of 80% of LTV, or the cost to refinance	80 percent of value for acquisition/refinance under Section 223(f) or 85 percent of replacement cost for new construction/substantial rehabilitation under Section 221(d)(4).	Relies on organization's own underwriting standards	No maximum	Same as 221(d)(4)	Not applicable
Interest rate	Negotiated with lender	Negotiated with lender	Fixed rate; negotiated with lender	Negotiated with lender	Fixed; negotiated with lender	Same as 221(d)(4)	Negotiated with lender
Loan term/amortization	Up to 40 years for new construction, 35 years for purchase, or 75% of the remaining economic life of the property, whichever is less	Up to 35 years or 75% of the remaining economic life of the property, whichever is less, provided that the term may not be less than 10 years.	30 years for existing projects and 35 years for new construction/substantial rehabilitation	50/50 risk share relies on HFA's own underwriting standards.90/10 risk shares rely on FHA guidelines. Loan must be fully self-amortizing	Up to 20 years; self-amortizing	40 years, self-amortizing	Loan term cannot exceed remaining term of mortgage. Amortization follows primary mortgage amortization plan
Debt-service-coverage	As of 2010, a. 1.11 DSCR (90% maximum LTV)—for projects with 90% or greater rental assistance; b. 1.15 DSCR (87% maximum LTV)—for projects that meet the definition of Affordable Housing; or c. 1.20 DSCR (83.3% maximum LTV)—for market-rate projects.	a. 90% (1.11 DSCR)—for Section 202 & 202/8 direct loans b. 87% (1.15 DSCR)—for projects with 90% or greater rental assistance c. 85% (1.18 DSCR)—for projects that meet the definition of Affordable Housing; or d. 83.3% (1.20 DSCR)—for market-rate projects	1.2 at 90-percent occupancy	Relies on organization's own underwriting standards	Not applied	Same as 221(d)(4)	Not applied

	FHA 221(d)(4)	FHA 223(f)	Small Project Processing	FHA 542(b) and 542(c)	Title I	Section 220	Section 241
Eligible borrowers	Private nonprofit, profit motivated, public body	For-profit and nonprofit borrowers	All	Single asset, sole purpose mortgagors eligible under FHA guidelines	Owner of the property to be improved; person leasing the property (provided that the lease will extend at least 6 months beyond the date when the loan must be repaid); or someone purchasing the property under a land installment contract.	Same as 221(d)(4)	Mortgagors with a primary loan insured or held by FHA.
Repairs	Substantial Rehabilitation	Critical repairs must be performed before endorsement. Noncritical repairs, approved by HUD, may be completed after endorsement.	Noncritical repairs required on Section 223(f) projects may be completed after closing.	Critical repairs must be performed before endorsement. Noncritical repairs, approved by HUD, may be completed after endorsement.	Loan proceeds intended for property improvement	Same as 221(d)(4)	Loan proceeds intended for improvements, additions to, and purchase of equipment
Prior defaults/ claims	An REO Schedule shows unacceptable contingent liabilities or refinance risk that could destabilize the principals or distressed real estate that could materially impact their financial position.	Not prohibited, but lender must document the economic, physical, operational or management changes to justify new insurance.	SPP blends aspects of single-family and small business underwriting with criteria appropriate for multifamily rental projects. In general, the lender reviews the Borrower's credit history, track record and personal assets, and the project's actual or estimated cashflows.	Relies on organization's own underwriting standards	Not prohibited; borrower must not be more than 30 days delinquent on subject property	Same as 221(d)(4)	None specified
Reserve for replacements	The minimum reserve for replacement deposit is $250 per unit per year or higher.	Same as 221(d)(4)	Determined as needed by lender according to age and condition of property and borrower experience and net worth	Negotiated with lender	None required	Same as 221(d)(4)	Not applicable
Credit verification		"Rejection Because of Unacceptable Credit," bankruptcy, insolvency, pending litigation with HUD and the REO schedule. No material, unmitigated contingent liabilities included in financial statement analysis. Principals with greater than $250,000,000 of outstanding FHA insured debt.	Lender will analyze creditworthiness of Borrower and present conclusions to HUD. HUD will perform Mortgage Credit Analysis to determine creditworthiness of Borrower.	Required		Relies on organization's own underwriting standards	Required

	FHA 221(d)(4)	FHA 223(f)	Small Project Processing	FHA 542(b) and 542(c)	Title I	Section 220	Section 241
Financial reserves		Added working capital and operating deficit escrow requirement; working capital escrow percentage increased from 2 to 4 percent; and operating deficit escrow is now based on the greater of the appraisal and underwriting analysis, 3 percent of mortgage amount or 4 months of debt service.	Same as 223(f) and 221(d)(4).	Not required		Relies on organization's own underwriting standards	Not required
Income documentation		Same as 221(d)(4)		Relies on organization's own underwriting standards			
Asset documentation	The requirement for submission of 3-year balance sheet is expanded.	Expanded requirements for Section 223(f) financial analysis.	Same as 223(f) and 221(d)(4).	Relies on organization's own underwriting standards	Source of funds for initial payment must be documented	Same as 221(d)(4)	
Recourse	Nonrecourse	Nonrecourse	Nonrecourse	Nonrecourse	Nonrecourse	Nonrecourse	Nonrecourse
Servicing	Audited annual financial statements are required.	Same as 221(d)(4)	Audited annual financial statements are not required; annual financial statements must be certified as true and correct.	Relies on organization's own process		Same as 221(d)(4)	
Secondary market access	Ginnie Mae	Ginnie Mae	Ginnie Mae	None		Ginnie Mae	None
Subordinate financing	Secondary liens are permitted in the case of HUD insured second mortgages (supplemental loans and operating loss loans) and other governmental loans.	In certain cases, second mortgages may be permitted where acquisition or refinancing costs are greater than the mortgage amount. The secondary debt may have no foreclosure rights.	Same as 223(f) and 221(d)(4).	542(c) lien must be primary mortgage. Second mortgages by the HFA allowed	Loan must be in first or second position	Same as 221(d)(4)	Loan cannot be in first position
Prepayment provisions and prohibition	HUD permits, but does not impose, prepayment restrictions on insured loans.	5 years from the date of endorsement for insurance unless modified by HUD	Same as 223(f) and 221(d)(4).	No prohibitions		Same as 221(d)(4)	No prohibitions

HUD = U.S. Department of Housing and Urban Development. LTV = loan to value ratio. FHA = Federal Housing Administration. REO = real estate owned. DSCR = debt service coverage ratio. HFA = housing finance agency. LIHTC = low income housing tax credit.
[a]Section 542(b) is omitted from this table because no FHA-specified guidelines exist; requirements are specified in risk-sharing agreements with each qualified participating entity (QPE). http://www.hud.gov/offices/hsg/mfh/progdesc/riskshare542b.cfm.

Appendix G. Title I, Section 220, and Section 241

The Title I, Section 220 and Section 241 programs all have limited activity, and as a whole are not a significant source of financing for rental property investors. The Property Improvement Loan Insurance Title I (Title I) program, the largest of these three programs, offers loans for improvement to single-family houses, apartment buildings, and other structures, similar to a home equity loan. Loan sizes are limited to $25,000 for single-family residences, and $60,000 or $12,000 per unit for multifamily properties, whichever is less. These loans may be combined with 203(k) rehabilitation loans. In FY 2012, 7,050 new loans were endorsed through Title I.

Section 220 insures mortgages for construction or rehabilitation of rental housing (single-family or multifamily) in designated urban revitalization areas. Although Section 220 may be used for single-family or multifamily properties of any size, in practice it favors larger projects and does not appear to be used for single-family properties. In FY 2012, eight projects were endorsed under Section 220, with an average loan size of $40 million. From 2000 through 2010, only seven small multifamily projects were insured under Section 220. Many studies suggest that single-family and small multifamily rentals are older housing stock and suffer from deterioration and delayed maintenance.[118] Given the importance of concerns about property maintenance to these property types, Title I and Section 220's financing for improvements should be relevant for each market segment. However, the programs are not heavily used.

Section 241, Supplemental Loans for Multifamily Projects, finances improvements and additions to multifamily rental housing. It offers loans for multifamily rental housing and healthcare facilities that already have HUD-insured or HUD-held mortgages to fund improvements, additions, and equipment purchases. In FY 2012, HUD endorsed one new Section 241 loan, for $7.1 million, presumably for a large facility.

[118] See, for example, Mallach 2007 and HUD, Small Multifamily Risk Sharing Roundtable, presentation, May 12, 2012.

Appendix H. Multifamily Loan Performance

An important component of a new loan program is an understanding of the likely performance of the loans that will be originated. Previous analysis of multifamily loan performance either has used logistic regression to model the relationship between a binary default indicator and loan characteristics (for example, Archer et al., 2002) or has modeled the competing risks of default and prepayment using a multinomial logit model (for example, Grovenstein et al., 2005). The existing evidence on multifamily mortgage default emphasizes the importance of the LTV ratio, the DSC ratio, and the stability of vacancy rates and cashflow. (See, for example, Archer et al., 2002; Goldberg and Capone, 2002; Grovenstein et al., 2005.) Evidence also shows that the interest-rate-risk premium coefficient for fixed-rate and ARM loans is positive and highly significant (Archer et al., 2002).

These studies also show that LTV and DSC ratios are endogenous to the underwriting process. That is, lenders may require lower LTVs from risky loan applicants to mitigate risk, so mortgages with low or moderate LTVs may be just as likely to default as mortgages with high LTVs (Grovenstein et al., 2005).

The ideal dataset for this analysis would include a large number of small multifamily loans originated across a long period of time, so that performance of loans in different economic conditions can be observed. Detailed information about the borrowers and the loans, such as LTV, DSCR, location, the interest rate and type (fixed or variable), loan amount, and the loan type (self-amortizing or balloon) are all necessary for reasonable estimates of how different risk factors affect loan performance under different conditions.

The data available for this study fell well short of the ideal. We obtained RealtyTrac data from HUD, which contain data on multifamily loan originations and foreclosure filings, and we used Freddie Mac's publicly available Multifamily Loan Performance Database (MLPD). RealtyTrac data lack key loan and borrower characteristics, but is useful for describing the extent to which rates of foreclosure filings vary by year of origination, loan size, and interest rate. Very few foreclosures are observed in MLPD, which may be an interesting comment on the conservative nature of Freddie Mac's multifamily underwriting, but we document the underwriting and loan characteristics of foreclosed and nonforeclosed properties.

H.1 RealtyTrac and MLPD Data

RealtyTrac data contain property-level information on sales, loans, and foreclosure filings for 2005–2012.[119] In total, data on 99,232 multifamily loan transactions total $105 billion. A comparison with Home Mortgage Disclosure Act (HMDA) data and information from the MBA on multifamily loan originations shows that the RealtyTrac data do not represent complete coverage of the market. Exhibit H-1 shows that compared with multifamily HMDA data, in 2008 through 2012 RealtyTrac data represented 30 percent of small multifamily lending, 9 percent of large multifamily lending, and 27 percent of total multifamily lending. Coverage varies somewhat over time, ranging from 21 percent of loans in HMDA in 2012 to 36 percent in 2010.

[119] RealtyTrac data for 2012 includes transactions through September.

Exhibit H-1. Multifamily Market Share Captured by RealtyTrac

	Multifamily Loan Originations (by data source)			Market Share Represented in RealtyTrac (as a share of)	
	RealtyTrac	MBA	HMDA	MBA (%)	HMDA (%)
2005	23,163	49,727		47	NA
2006	22,715	50,959		45	NA
2007	16,707	48,577		34	NA
2008	8,198	33,304	31,509	25	26
2009	6,348	20,678	19,135	31	33
2010	6,800	22,256	19,128	31	36
2011	7,472	31,144	27,111	24	28
2012	7,829	NA	36,761	NA	21

HMDA = Home Mortgage Disclosure Act. MBA = Mortgage Bankers Association. NA = data not available.
Sources: RealtyTrac data; MBA Survey of Commercial/Multifamily Finance Annual Origination Volumes; HMDA data

By comparison. MBA data, which is a combination of an MBA lender survey and HMDA data, represent between 24 and 47 percent of the market, with better coverage in 2005 (with 47 percent of the market) and worsening over time (with a low of 24 percent of the market in 2012).

Importantly, coverage of the market in RealtyTrac varies by market with certain urban areas overrepresented in the RealtyTrac multifamily data and underrepresented in others, limiting the external validity of descriptive analyses. For example, exhibit H-2 shows the Chicago MSA represents 41 percent of all small multifamily loan originations in the RealtyTrac sample in 2008. In HMDA data, only 11 percent of small multifamily loan originations are in the Chicago MSA. Chicago is similarly overrepresented in every year in the RealtyTrac sample. The New York and Los Angeles MSAs are also overrepresented, as are Miami, Philadelphia, and San Diego. Overall, 23 percent of the RealtyTrac multifamily loan data were from properties in California, 11 percent were from Florida, and 40 percent were from Illinois. Other areas are correspondingly underrepresented.

Exhibit H-2. Comparison of Multifamily Market Share in RealtyTrac and HMDA

	Share of Small Multifamily Originations in RealtyTrac			Share of Small Multifamily Originations in HMDA		
MSA	2008 (%)	2010 (%)	2012 (%)	2008 (%)	2010 (%)	2012 (%)
Chicago	41	32	26	11	12	6
New York	10	7	10	3	3	2
Los Angeles	8	6	9	2	2	2
Miami	3	4	4	1	2	1
Philadelphia	3	3	2	1	1	1
San Diego	3	4	8	1	2	2

HMDA = Home Mortgage Disclosure Act. MSA = metropolitan statistical area.
Sources: RealtyTrac data; HMDA data

The strength of RealtyTrac data is that it contains both mortgage originations and foreclosure filings, and matching the two allows for descriptions of cumulative foreclosure rates by origination year, loan size, and some loan characteristics (such as loan amount and interest rate). It has two primary limitations:

(1) the RealtyTrac data file does not include important underwriting characteristics, including the debt-service coverage ratio, LTV ratio, or the borrower's credit score,[120] and (2) the RealtyTrac data also lack information about the number of units in each property.

Freddie Mac's MLPD contains panel data on about 11,000 multifamily loans purchased by Freddie Mac and held in portfolio from 1994 through the first quarter of 2011, with a total origination UPB of $112 billion.[121] The sample used for this report is limited to the 8,983 MLPD loans purchased by Freddie Mac in 2000–11. The database includes information on key outcomes such as whether a loan ever experienced foreclosure. In addition, the MLPD includes a variety of multifamily loan characteristics, including the following:

- LTV ratio.
- DSCR ratio.
- Unpaid principal balance when the loan was purchased.
- Current interest rate.
- An indicator for whether the loan had a fixed or variable interest rate.

Because it includes these loan characteristics, the MLPD is in some ways an improvement over RealtyTrac data. MLPD has notable drawbacks, however. First, it captures only loans held in Freddie Mac's portfolio and, therefore, misses important segments of the multifamily mortgage market.[122] Freddie Mac's share of the multifamily loan market has at times been quite small—only 10 percent in 2005—although it peaked at 42 percent in 2009 and, more recently, was 27 percent in 2011. Although most of Freddie Mac's multifamily loan business is held in portfolio, a percentage of loans are securitized and sold.[123] These loans are not included in MLPD. More importantly, however, is that loans held in Freddie Mac's portfolio perform considerably better than loans in commercial mortgage-backed securities (CMBS) or those originated by FHA lenders.[124] Therefore, foreclosures are rarely observed.

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120 We computed an LTV ratio based on the price and loan amount associated with a transaction. We found the LTV ratio based on these variables to be unreliable, however. The price associated with the transaction often appears to be underestimated, leading to more than one-half of all observations with LTV ratios greater than 1.00 (that is, loan amount greater than the price).

121 See: http://www.freddiemac.com/multifamily/pdf/mf_securitization_investor-presentation.pdf.

122 GAO, "Fannie Mae and Freddie Mac's Multifamily Housing Activities Have Increased," 2012. http://www.gao.gov/assets/650/647800.pdf.

123 Most of Freddie Mac's multifamily business, as measured by unpaid principal balance, was historically held in portfolio. For example, most multifamily loans were retained in portfolio by Freddie Mac in every year from 1994 through 2007 except 2003. In 2003, the percentage of unpaid principal balance retained was 45 percent. In 1994 through 2002 and 2004 through 2007, the percentage of unpaid principal balance retained in portfolio ranged from 65 percent in 2002 to 93 percent in 2006 (GAO, 2012).

124 For example, Freddie Mac's serious delinquency rate (loans 60 days or more delinquent as of December 31, 2011) for loans acquired or guaranteed in 2005 was 0.9 percent compared with 5.6 percent for CMBS multifamily lenders and 1.2 percent for FHA multifamily lenders (see http://www.gao.gov/assets/650/647800.pdf).

H.2 Multifamily Foreclosures in RealtyTrac

RealtyTrac data are used to explore variation in rates of foreclosure filings across properties by—

- **Year of transaction.** The rate of foreclosure filings may differ by property purchase year, which may reflect variations in underwriting standards over time as well as economic conditions at the time of the transaction and afterward. RealtyTrac data used in this analysis covers 2005–12, a period that includes transactions before, during, and after the Great Recession.[125]
- **Property size.** Small multifamily loans may experience different levels of foreclosure risk than large multifamily properties because of differences in the predictability and impact of vacancies. RealtyTrac data do not include the number of units in the property, so small multifamily loans are defined as those with a principal balance of $5 million or less in high-cost areas and $3 million or less anywhere else.[126]
- **Loan characteristics.** The rate of foreclosure filings may vary for loans with different loan amounts or interest rates. A property's cashflows—and whether these cashflows are positive or negative—are affected by the interest rate on the loan. In addition, rental property investors' willingness to default on a loan may depend on the loan amount.

H.2.1 Performance by Year of Origination

Loans originated in 2005-2006 have the longest period over which to observe loan performance, but comparisons of loan performance during shorter periods of time are also useful. Exhibit H-3 presents cumulative foreclosure rates and the cumulative number of foreclosures by year of loan origination for small multifamily loans.[127] The columns in the table present the percent and number of loans originated in a given year that were foreclosed in each year after origination, up to 8 years after origination. For example, the far right column shows that of the 23,335 loans originated in 2005, 14.3 percent (or 3,340 total loans) foreclosed within 8 years after origination.

Exhibit H-3 shows that relatively few loans experience foreclosure within 1 year of origination: first-year foreclosure rates ranged from a low of 0.2 percent for the 2006 and 2012 vintages to a high of 1.6 percent for 2009 vintage loans. Cumulative foreclosure rates can escalate quickly within the first 5 years of origination. For example, although only 0.6 percent of small multifamily loans originated in 2007 experienced foreclosure within 1 year of origination, 10.0 percent of loans originated in 2007 were foreclosed within 3 years of origination and 19.7 percent of loans originated in 2007 were foreclosed within 5 years of origination.

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[125] The Great Recession officially lasted from December 2007 to June 2009.

[126] For a list of high-cost MSAs see: http://www.fhfa.gov/webfiles/24675/High_Cost_Area_Loan_Limits_CY2013_HERA.pdf.

[127] For the small and large multifamily exhibits in this section, the sample used for each exhibit varies, depending on the variables used. For example, exhibits 4-9 and 4-10 include only loans with nonmissing interest rate data, but exhibits that do not use interest rate information do not have this restriction.

Exhibit H-3. Cumulative Foreclosure Rate for Small Multifamily Loans

Cumulative Foreclosure Rate

(Cumulative Number of Foreclosures)

Origination Year	Number of Loans Originated	Foreclosed Less Than 1 Year After Origination	Foreclosed Less Than 2 Years After Origination	Foreclosed Less Than 3 Years After Origination	Foreclosed Less Than 4 Years After Origination	Foreclosed Less Than 5 Years After Origination	Foreclosed Less Than 6 Years After Origination	Foreclosed Less Than 7 Years After Origination	Foreclosed Less Than 8 Years After Origination
2005	23,335	0.3% (60)	0.5% (113)	2.9% (668)	5.9% (1,386)	9.6% (2,240)	11.9% (2,788)	13.8% (3,216)	14.3% (3,340)
2006	22,778	0.2% (40)	2.9% (656)	7.1% (1,627)	12.3% (2,813)	15.7% (3,583)	18.5% (4,221)	19.3% (4,404)	
2007	16,493	0.6% (106)	3.5% (582)	10.0% (1,643)	15.6% (2,578)	19.7% (3,256)	21.2% (3,493)		
2008	8,083	0.9% (71)	4.8% (386)	9.5% (766)	13.2% (1,067)	14.7% (1,192)			
2009	6,270	1.6% (102)	4.6% (289)	7.0% (439)	8.1% (507)				
2010	6,615	0.8% (55)	2.3% (152)	3.0% (200)					
2011	7,167	0.8% (58)	1.0% (74)						
2012	7,405	0.2% (18)							

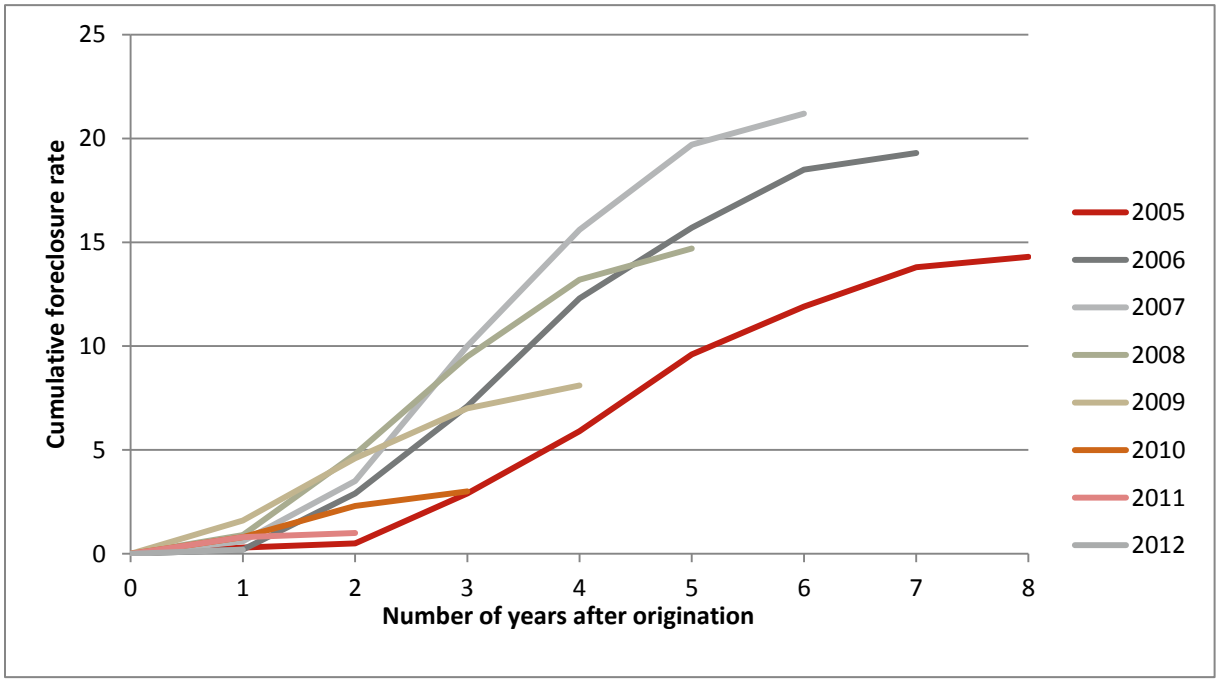
Notes: Cumulative foreclosure rate is the total number of multifamily loans originated in the identified year that have foreclosed, divided by the total number of multifamily loans originated in the identified year. Cumulative number of foreclosures is the total number of multifamily loans originated in the identified year that have foreclosed since beginning of origination year. Small multifamily loans are those with a principal balance of $5 million or less in high-cost areas and $3 million or less anywhere else.

Source: Tabulation of RealtyTrac data

The poor performance of the 2007 vintage in particular is not an anomaly in the RealtyTrac data. Fannie Mae's 10K filing for their 2009 fiscal year notes that their 2007 multifamily loan acquisitions are showing signs of stress. They attribute elevated 2007 vintage delinquencies to the fact that the loans were acquired at the peak of multifamily property values, which have fallen since then along with rents (DiPasquale, 2011).

In general, small multifamily loans originated from 2006 through 2008 experienced the highest cumulative rates of foreclosure filings of any vintage. Cumulative foreclosure rates within 4 years of origination for loans originated from 2006 through 2008range from 12.3 (for 2006 vintage loans) to 15.6 percent (for 2007 vintage loans), but the cumulative foreclosure rates for loans originated in 2005 and 2009 are only 5.9 and 8.1 percent, respectively. This pattern is shown in exhibit H-4, which shows that loans originated from 2006 through 2008 have steeper cumulative foreclosure rate curves than loans originated in other years.

Exhibit H-4. Cumulative Foreclosure Rate, by Origination Year Small Multifamily Loans



Source: Tabulation of RealtyTrac data

Exhibit H-5 presents cumulative foreclosure rates and cumulative number of foreclosures by year of loan origination for large multifamily loans. The columns of exhibit H-5 present the percent and number of loans originated in a given year that were foreclosed less than 1 year after origination, up to 8 years after origination. Loans originated in 2005 initially performed well with only 1.0 percent of these loans experienced foreclosure within 3 years of origination. However, the cumulative foreclosure rate jumped in subsequent years, with 15.5 percent of large multifamily loans originated in 2005 foreclosed within 8 years of origination. Loans originated in years 2006-2009 appear to be on a similar loan performance path, as the cumulative foreclosure rate 4 years after origination ranges from 7.6 to 8.8 percent for loans originated in these years. This pattern is also suggested by the cumulative foreclosure rate curves in exhibit H-6. Loans originated in 2010-2012 are on track to have better performance than loans originated in previous years. For example, only 1.8 percent of loans originated in 2010 experienced foreclosure within 3 years of origination.

Exhibit H-5. Cumulative Foreclosure Rate for Large Multifamily Loans

Cumulative Foreclosure Rate

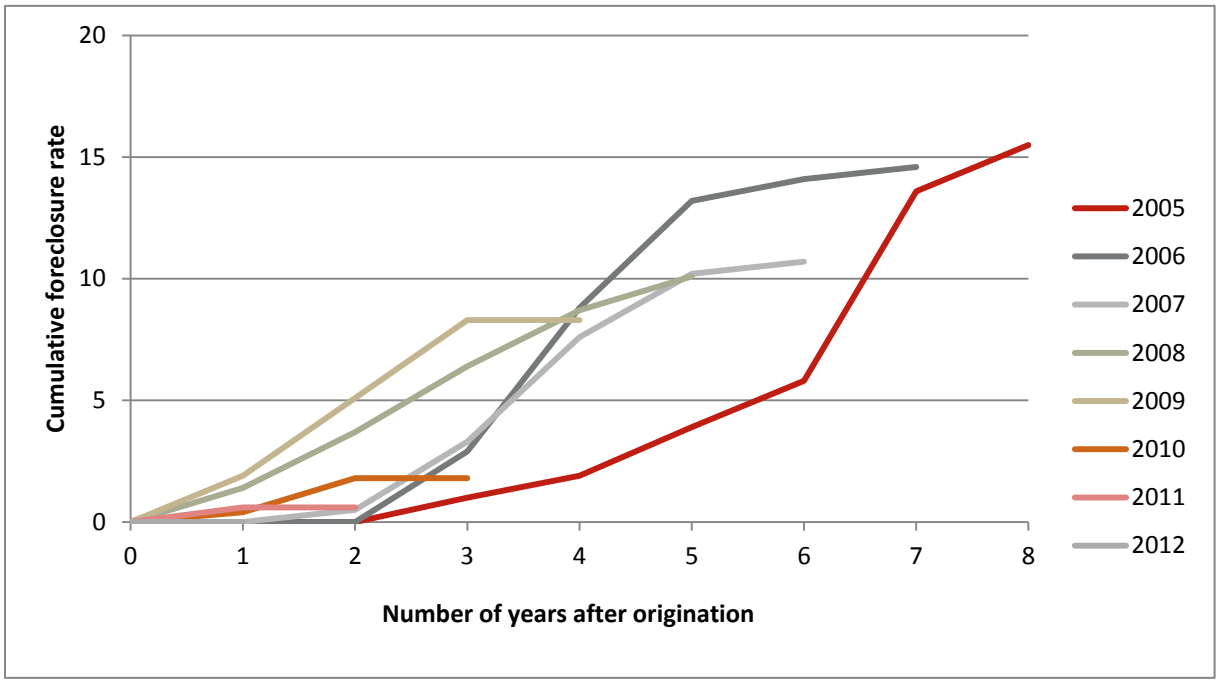
(Cumulative Number of Foreclosures)

Origination Year	Number of Loans Originated	Foreclosed Less Than 1 Year After Origination	Foreclosed Less Than 2 Years After Origination	Foreclosed Less Than 3 Years After Origination	Foreclosed Less Than 4 Years After Origination	Foreclosed Less Than 5 Years After Origination	Foreclosed Less Than 6 Years After Origination	Foreclosed Less Than 7 Years After Origination	Foreclosed Less Than 8 Years After Origination
2005	103	0% (0)	0% (0)	1.0% (1)	1.9% (2)	3.9% (4)	5.8% (6)	13.6% (14)	15.5% (16)
2006	205	0% (0)	0% (0)	2.9% (6)	8.8% (18)	13.2% (27)	14.1% (29)	14.6% (30)	
2007	394	0% (0)	0.5% (2)	3.3% (13)	7.6% (30)	10.2% (40)	10.7% (42)		
2008	218	1.4% (3)	3.7% (8)	6.4% (14)	8.7% (19)	10.1% (22)			
2009	157	1.9% (3)	5.1% (8)	8.3% (13)	8.3% (13)				
2010	227	0.4% (1)	1.8% (4)	1.8% (4)					
2011	353	0.6% (2)	0.6% (2)						
2012	482	0% (0)							

Notes: Cumulative foreclosure rate is the total number of multifamily loans originated in the identified year that have foreclosed, divided by the total number of multifamily loans originated in the identified year. Cumulative number of foreclosures is the total number of multifamily loans originated in the identified year that have foreclosed since beginning of origination year. Large multifamily loans are those with a principal balance of $5 million or more in high-cost areas and $3 million or more anywhere else.

Source: Tabulation of RealtyTrac data

Exhibit H-6. Cumulative Foreclosure Rate, by Origination Year Large Multifamily Loans



Source: Tabulation of RealtyTrac data

In general, small multifamily loans experienced higher rates of foreclosure than large multifamily loans. For example, the cumulative foreclosure rate 5 years after origination for small multifamily loans originated in years 2005-2008 ranges from a low of 9.6 percent for loans originated in 2005 to a high of 19.7 percent for loans originated in 2007. The corresponding cumulative foreclosure rates for large multifamily loans are markedly lower, ranging from a low of 3.9 percent for loans originated in 2005 to a high of 13.2 percent for loans originated in 2006.

H.2.2 Loan Performance by Loan Characteristics

RealtyTrac data are not sufficiently detailed for multivariate regression, so this section presents cross-tabs of loan performance by loan amount and interest rate quartile. Loan amount and interest rate quartiles are defined based on data from the 2005-2012 RealtyTrac sample. The cross-tabs generated from RealtyTrac include the following in exhibits H-7 through H-10.

- Exhibit H-7: Cumulative Foreclosure Rates by Loan Amount for Small Multifamily Loans;
- Exhibit H-8: Cumulative Foreclosure Rate by Loan Amount for Large Multifamily Loans;
- Exhibit H-9: Cumulative Foreclosure Rate by Interest Rate for Small Multifamily Loans;
- Exhibit H-10: Cumulative Foreclosure Rate by Interest Rate for Large Multifamily Loans.

Exhibit H-7. Cumulative Foreclosure Rate, by Loan Amount (small multifamily loans)

Cumulative Foreclosure Rate
(Cumulative Number of Foreclosures)
[Number of Loans]

Loan Amount Range (based on 2005–2012 sample)	Time Since Origination					
	< 1 Year (includes loans originated from 2005–2012)	< 2 Years (includes loans originated from 2005–2011)	< 3 Years (includes loans originated from 2005–2010)	< 4 Years (includes loans originated from 2005–2009)	< 5 Years (includes loans originated from 2005–2008)	< 6 Years (includes loans originated from 2005–2007)
0 to < 25th percentile ($11,049 to < $120,000)	0.9% (208) [23,823]	3.2% (705) [22,042]	7.5% (1,511) [20,221]	12.2% (2,248) [18,453]	16.2% (2,711) [16,784]	18.5% (2,779) [15,052]
25th to < 50th percentile ($120,000 to < $220,800)	0.4% (100) [24,713]	1.9% (433) [22,960]	5.3% (1,127) [21,110]	9.6% (1,856) [19,263]	13.7% (2,413) [17,551]	16.0% (2,490) [15,540]
50th to < 75th percentile ($220,800 to < $360,000)	0.4% (89) [24,257]	2.4% (554) [22,919]	6.7% (1,462) [21,683]	11.4% (2,337) [20,450]	15.4% (2,939) [19,082]	17.8% (3,031) [17,063]
75th to 100th percentile ($360,000 to $5,000,000)	0.4% (98) [24,300]	2.3% (509) [21,825]	5.9% (1,151) [19,613]	9.9% (1,778) [17,888]	12.6% (2,072) [16,446]	14.6% (2,075) [14,228]

Source: Tabulation of RealtyTrac data

Exhibit H-8. Cumulative Foreclosure Rate, by Loan Amount (large multifamily loans)

Cumulative Foreclosure Rate
(Cumulative Number of Foreclosures)
[Number of Loans]

Loan Amount Range (based on 2005–2012 sample)	Time Since Origination					
	< 1 Year (includes loans originated from 2005–2012)	< 2 Years (includes loans originated from 2005–2011)	< 3 Years (includes loans originated from 2005–2010)	< 4 Years (includes loans originated from 2005–2009)	< 5 Years (includes loans originated from 2005–2008)	< 6 Years (includes loans originated from 2005–2007)
0 to < 25th percentile ($3,005,960 to < $5,921,000)	0.8% (4) [533]	2.0% (9) [461]	4.3% (15) [352]	10.2% (30) [294]	14.2% (34) [239]	16.2% (25) [154]
25th to < 50th percentile ($5,921,000 to < $9,500,000)	0.4% (2) [535]	0.8% (3) [378]	2.8% (8) [284]	6.7% (14) [208]	10.3% (17) [165]	10.8% (12) [111]
50th to < 75th percentile ($9,500,000 to < $24,605,942)	0.2% (1) [535]	0.7% (3) [422]	4.3% (14) [329]	7.8% (21) [269]	10.7% (25) [234]	13.4% (25) [186]
75th to 100th percentile ($24,605,942 to $945,336,832)	0.4% (2) [536]	2.3% (9) [396]	4.1% (14) [339]	5.6% (17) [306]	6.0% (17) [282]	6.0% (15) [251]

Source: Tabulation of RealtyTrac data

Exhibit H-9. Cumulative Foreclosure Rate, by Interest Rate (small multifamily loans)

Cumulative Foreclosure Rate
(Cumulative Number of Foreclosures)
[Number of Loans]

Interest Rate Range (based on 2005–2012 sample)	Time Since Origination					
	< 1 Year (includes loans originated from 2005–2012)	< 2 Years (includes loans originated from 2005–2011)	< 3 Years (includes loans originated from 2005–2010)	< 4 Years (includes loans originated from 2005–2009)	< 5 Years (includes loans originated from 2005–2008)	< 6 Years (includes loans originated from 2005–2007)
0 to < 25th percentile (2.718 to < 5.135)	0.3% (29) [8,958]	0.7% (56) [8,008]	1.2% (40) [3,306]	1.7% (9) [528]	0.9% (3) [322]	1.9% (6) [322]
25th to < 50th percentile (5.135 to < 5.930)	0.2% (19) [9,408]	0.7% (65) [9,408]	1.6% (150) [9,102]	2.4% (164) [6,892]	2.1% (63) [3,067]	3.3% (97) [2,934]
50th to < 75th percentile (5.930 to < 6.400)	0.0% (2) [9,547]	0.4% (35) [9,547]	1.2% (112) [9,547]	2.4% (228) [9,547]	3.9% (375) [9,547]	6.7% (588) [8,734]
75th to 100th percentile (6.400 to 7.000)	0.1% (6) [9,311]	0.4% (38) [9,311]	1.4% (126) [9,311]	2.7% (256) [9,311]	5.2% (488) [9,311]	6.9% (435) [6,338]

Source: Tabulation of RealtyTrac data

Exhibit H-10. Cumulative Foreclosure Rate, by Interest Rate (large multifamily loans)

Cumulative Foreclosure Rate
(Cumulative Number for Foreclosures)
[Number of Loans]

Interest Rate Range (based on 2005–2012 sample)	Time Since Origination					
	< 1 Year (includes loans originated from 2005–2012)	< 2 Years (includes loans originated from 2005–2011)	< 3 Years (includes loans originated from 2005–2010)	< 4 Years (includes loans originated from 2005–2009)	< 5 Years (includes loans originated from 2005–2008)	< 6 Years (includes loans originated from 2005–2007)
0 to < 25th percentile (2.804 to < 4.775)	1.4% (2) [142]	2.9% (3) [104]	5.3% (2) [38]	0% (0) [0]	0% (0) [0]	0% (0) [0]
25th to < 50th percentile (4.775 to < 5.678)	0% (0) [180]	0.6% (1) [180]	1.2% (1) [86]	0% (0) [33]	0% (0) [1]	0% (0) [1]
50th to < 75th percentile (5.678 to < 6.440)	0% (0) [155]	1.3% (2) [155]	1.9% (3) [155]	3.2% (5) [155]	2.2% (3) [135]	4.1% (5) [121]
75th to 100th percentile (6.440 to 7.000)	0% (0) [168]	0.6% (1) [168]	0.6% (1) [168]	0.6% (1) [168]	1.2% (2) [168]	2.0% (2) [101]

Source: Tabulation of RealtyTrac data

Exhibit H-10 presents cumulative small multifamily foreclosure rates by loan amount quartile.[128] Cumulative foreclosure rates are, in general, lowest for loans with a loan amount in the highest loan amount quartile. For example, the far-right column shows that 14.6 percent of loans in the top loan amount quartile experienced foreclosure within 6 years of origination compared with loans in the lower three quartiles of the loan amount distribution with foreclosure rates of 16.0 to 18.5 percent.

Similar to small multifamily loans, cumulative foreclosure rates for large multifamily loans are lowest for loans with a loan amount in the highest loan amount quartile. Cumulative foreclosure rates for large multifamily loans are shown in exhibit H-11. Similar to exhibit H-10 for small multifamily properties, the far-right column shows that loans in the top loan amount quartile experienced the lowest cumulative foreclosure rate of any quartile, 6.0 percent within 6 years of origination. The cumulative foreclosure rate for loans in the lower three quartiles of the loan amount distribution during the same period range from 10.8 to 16.2 percent.

Exhibit H-11. Underwriting Characteristics, by Foreclosure Status

	Small Multifamily		Large Multifamily	
	Non-foreclosed	Foreclosed	Non-foreclosed	Foreclosed
LTV ratio (x 100)	65.5	75.2	69.7	75.1
Percent of loans with LTV 0.00 to 0.70	49.7	12.5	41.9	13.7
Percent of loans with LTV 0.70 to 0.80	43.3	75.0	46.2	60.8
Percent of loans with LTV 0.80 to 1.00	7.0	12.5	11.9	25.5
DCR at origination	1.88	1.36	1.70	1.48
Percent of loans with DCR 0.00 to 1.30	21.1	25.0	16.1	27.5
Percent of loans with DCR 1.30 to 1.50	31.1	75.0	32.1	31.4
Percent of loans with DCR 1.50 or greater	47.9	0.0	51.7	41.2
Observations	2,134	8	6,790	51

DCR = debt-service coverage ratio. LTV = loan to value.
Note: Loans purchased by Freddie Mac in 2000–2011.
Source: Tabulation of data in Freddie Mac's Multifamily Loan Performance Database

Exhibit H-12 shows that, among small multifamily loans, cumulative foreclosure rates, in general, are lower for loans with an interest rate in lower interest rate quartiles. For example, the far-right column shows that the cumulative foreclosure rate within 6 years of origination is 1.9 percent, 3.3 percent, 6.7 percent, and 6.9 percent for loans in the first, second, third, and fourth quartiles of the interest rate distribution, respectively.

[128] Exhibits H-11 through H-14 do not report the cumulative foreclosure rate in the seventh year after origination (using only data from loans originated in 2005 and 2006) or eighth year after origination (using data only from loans originated in year 2005). Limiting the sample to loans originated in 2005 and 2006 leaves a relatively small number of loans in each loan amount quartile, leading to noisy estimates of foreclosure rates.

Exhibit H-12. Proposed Multifamily Program Design Underwriting Standards

Debt-service coverage ratio	1.11 for affordable housing and 1.20 for market-rate housing
Loan-to-value—based on as rehabilitated value or as constructed value	83.3 to 90.00 percent for purchase and 80.00 percent for refinance

Interest rate information is missing for most large multifamily loans, and foreclosures are not common events so too few observations are available to draw conclusions. As shown in exhibit H-13, among this small sample, higher interest rates are generally associated with *lower* foreclosure rates for large multifamily loans. This inverse relationship between interest rates and foreclosure rates for large multifamily loans is opposite of the relationship found for small multifamily loans.

Exhibit H-13. Number (Percent) of Loans in LTV-DCR Categories, Small Multifamily Loans

	DCR 1.70 or Greater	DCR 1.50 to 1.70	DCR 1.30 to 1.50	DCR 0.00 to 1.30	Total
LTV 0.00 to 0.60	**389 (18.2)**	**49 (2.3)**	**53 (2.5)**	**30 (1.4)**	**521 (24.3)**
LTV 0.60 to 0.70	**138 (6.4)**	**141 (6.6)**	**165 (7.7)**	**97 (4.5)**	**541 (25.3)**
LTV 0.70 to 0.80	**93 (4.3)**	**174 (8.1)**	**392 (18.3)**	**270 (12.6)**	**929 (43.4)**
LTV 0.80 to 1.00	**15 (0.7)**	**22 (1.0)**	**59 (2.8)**	**55 (2.6)**	**151 (7.1)**
Total	**635 (29.7)**	**386 (18.0)**	**669 (31.2)**	**452 (21.1)**	**2,142 (100.0)**

DCR = debt coverage ratio. LTV = loan to value.
Note: Loans purchased by Freddie Mac in 2000–2011.
Source: Tabulation of data in Freddie Mac's Multifamily Loan Performance Database

H.3 Multifamily Foreclosures in Freddie Mac's Multifamily Loan Performance Database

As noted previously, Freddie Mac's MLPD contains more detail on loan characteristics than RealtyTrac, but foreclosures are so rare that the sample of foreclosed is very small. To be precise, only 8 out of 2,142 small multifamily loans in the MLPD database experienced foreclosure, a miniscule percentage. Given the small number of foreclosures, we did not attempt multivariate analysis, and the cross-tabs done instead describe what appears to be a very conservatively underwritten portfolio of multifamily loans. This description may be useful in helping FHA determine some underwriting guidelines of a program with very good loan performance.

H.3.1 LTV and DCR by Loan Performance

Exhibit H-14 compares the LTV ratio and DCR of loans that did not experience foreclosure with loans that did. The values of LTV and DCR observed for nonforeclosed and foreclosed loans indicate that loans beyond certain thresholds have very low risk of default. For instance, only 1 out of 1,063 small multifamily loans with an LTV ratio under 0.70 experienced foreclosure. Similarly, 0 out of 1,021 small multifamily loans with a DCR greater than 1.5 experienced foreclosure. Among large multifamily loans, only 7 out of 2,845 loans with an LTV under 0.70 experienced foreclosure, as did only 21 loans out of 3,510 loans with a DCR greater than 1.5.

Exhibit H-14. Number (Percent) of Loans in LTV-DCR Categories, Large Multifamily Loans

	DCR 1.70 or Greater	DCR 1.50 to 1.70	DCR 1.30 to 1.50	DCR 0.00 to 1.30	Total
LTV 0.00 to 0.60	693 (10.1)	104 (1.5)	86 (1.3)	42 (0.6)	925 (13.5)
LTV 0.60 to 0.70	630 (9.2)	503 (7.4)	537 (7.9)	253 (3.7)	1,923 (28.1)
LTV 0.70 to 0.80	485 (7.1)	813 (11.9)	1,241 (18.1)	631 (9.2)	3,170 (46.3)
LTV 0.80 to 1.00	85 (1.2)	222 (3.3)	332 (4.9)	184 (2.7)	823 (12.0)
Total	1,893 (27.7)	1,642 (24.0)	2,196 (32.1)	1,110 (16.2)	6,841 (100.0)

DCR = debt coverage ratio. LTV = loan to value.
Note: Loans purchased by Freddie Mac in 2000–2011.
Source: Tabulation of data in Freddie Mac's Multifamily Loan Performance Database

Although the samples are too small to draw any conclusions, it is interesting to note that foreclosed loans are more risky than nonforeclosed loans as indicated by LTV and DCR. Nonforeclosed small multifamily loans had an average LTV ratio of 66 percent, 10 percentage points lower than foreclosed small multifamily loans. The average DCR of nonforeclosed small multifamily loans was also higher, at 1.88 compared with 1.36 for foreclosed loans. Similarly, for large multifamily loans, the average LTV ratio is lower (by 6 percentage points) and the average DCR is higher for nonforeclosed loans at 1.70 relative to foreclosed loans at 1.48.

Comparing small and large multifamily loans, LTV ratios are higher and the DCRs are lower for large multifamily loans, suggesting that Freddie Mac's small multifamily loans are more conservatively underwritten. This could help explain why the foreclosure rate of large multifamily loans at 0.8 percent is double the foreclosure rate observed for small multifamily loans of 0.4 percent.

The loans in the MLPD are most likely quite different than those that would be originated under a new FHA small multifamily loan program. Design option 1 in the previous section relies on underwriting guidelines used in FHA's 221(d)(4) and 223(f) programs for loans for which the lender takes 10 percent of the risk and FHA takes 90 percent of the risk. Those guidelines, which are repeated in exhibit H-15, place FHA loans in the highest risk categories shown in exhibit H-14.

Exhibit H-15. Loan Terms and Interest Rates, by Foreclosure Status

	Small Multifamily Loans		Large Multifamily Loans	
	Nonforeclosed	Foreclosed	Nonforeclosed	Foreclosed
Mortgage term (years)	11.4	7.8	10.7	10
Percent fixed interest rate	92.4	100	83.8	96.1
Percent balloon loan	84.2	100	92.3	98.0
Interest rate (for loans with variable interest rate, average across all recorded quarters)	6.1	5.9	5.6	5.9
Percent of loans with interest rate 0.0 to 5.0	9.0	0	20.2	7.8
Percent of loans with interest rate 5.0 to 6.0	38.7	62.5	45.9	60.8
Percent of loans with interest rate 6.0 to 7.0	34.1	37.5	23.1	19.6
Percent of loans with interest rate greater than 7.0	18.2	0	10.8	11.8
Observations	2,134	8	6,790	51

Note: Loans purchased by Freddie Mac in 2000–2011.
Source: Tabulation of data in Freddie Mac's Multifamily Loan Performance Database

Among loans that were in these risk categories—with LTVs of more than 0.80 or DCRs of less than 1.3—foreclosure rates are somewhat higher than overall foreclosure rates. In the MLPD, one small multifamily loan out of 149 loans with an LTV of more than 0.80 was foreclosed, as were 13 of 808 large multifamily loans. Two of 250 small multifamily loans with DCRs of less than 1.3 were foreclosed, as were 14 of 1,093 large multifamily loans. Loans purchased by Freddie Mac typically do not involve risk sharing, so these figures are not necessarily an indicator of how loans with shared risk would perform.

Exhibits H-13 and H-14 combine LTV and DSC, showing the number and percent of loans in each LTV-DSC ratio categories for small and large multifamily loans, respectively. Loans in the top-left corner of the exhibit represent those with the lowest risk (denoted by light pink shading), because they have the lowest LTV ratios (0 to 60 percent) and the highest DCR values (1.70 or greater). Conversely, loans in the bottom-right corner of the exhibit represent those with the highest risk (denoted by dark red shading), because they have the highest LTV ratios (80 to 100 percent) and lowest DCR values (0 to 1.30). Loans in the top-right or bottom-left of the exhibits represent loans with mixed risk characteristics, because they have low LTV ratios and low DCR values or high LTV ratios and high DCR ratios, respectively.

Each exhibit highlights the very low risk of loans purchased by Freddie Mac. Exhibit H-13 shows that only 3 percent of small multifamily loans have an LTV ratio greater than 80 percent and a DCR less than or equal to 1.30—a condition that is likely to characterize most of the loans originated under a new FHA small multifamily loan program. Exhibit H-14 tells a similar story, because 3 percent of large multifamily loans are in this relatively high-risk category. Reinforcing the endogeneity of LTV and DCR in underwriting identified in research (Archer et al., 2002; Goldberg and Capone, 2002), loans with a relatively high-risk LTV tend to have relatively low risk DCR and vice versa.

H.3.2 Loan Terms and Interest Rates by Loan Performance

Exhibit H-15 shows some other characteristics of nonforeclosed and foreclosed loans. Small and large multifamily loans have similar loan terms, at roughly 10 years. Small multifamily loans appear to be more likely to have a fixed rate and less likely to involve a balloon payment. For small and large multifamily loans, the average mortgage term is longer for nonforeclosed loans relative to foreclosed loans. In addition, more foreclosed loans have a fixed interest rate and be a balloon loan than nonforeclosed loans.[129] For large multifamily loans, the average interest rate for foreclosed loans is higher than the average interest rate of nonforeclosed loans, as expected. For small multifamily loans, however, the average interest rate for foreclosed loans is lower than that of nonforeclosed. This is likely a peculiarity of this particular tiny set of foreclosed loans.

Exhibit H-16 shows that a disproportionate share of loans (in fact, most loans) that eventually foreclosed was purchased from 2004 through 2007. This is true despite the fact that this cohort of loans has a shorter period over which to observe performance than loans purchased from 2000 through 2003. The period from 2004 through 2007 led up to the recent mortgage market crisis and is known for high rates of risky lending and high foreclosure rates in the single-family market (Jaffee, 2010; Pinto, 2009).[130] [131] Although the Freddie Mac-purchased loans held in portfolio contained in the MLPD were low risk, they could have been adversely affected by the rapid reduction in housing prices as well as the general economic strain caused by the crisis.

Exhibit H-16. Freddie Mac Purchase Year, by Foreclosure Status

	Small Multifamily		Large Multifamily	
	Nonforeclosed	Foreclosed	Nonforeclosed	Foreclosed
Percent purchase date 2000–2003	38.8	12.5	26.2	27.5
Percent purchase date 2004–2007	36.6	87.5	45.4	52.9
Percent purchase date 2008–2011	24.6	0.0	28.4	19.6
Observations	2,134	8	6,790	51

Note: Loans purchased by Freddie Mac in 2000–2011.
Source: Tabulation of data in Freddie Mac's Multifamily Loan Performance Database

[129] Balloon loans are loans that do not fully amortize over their term. As a consequence, a balloon payment is required at the end of the term to repay the remaining principal balance.

[130] Jaffee, Dwight M. The Role of the GSEs and Housing Policy in the Financial Crisis. Rep. Financial Crisis Inquiry Commission, 25 Feb. 2010. Web. http://www.fcic.gov/hearings/pdfs/2010-0227-Jaffee.pdf.

[131] Pinto, Edward. "Acorn and the Housing Bubble." *Wall Street Journal*, 12 Nov. 2009. http://online.wsj.com/article/SB10001424052748703298004574459763052141456.html?mod=rss_opinion_main.

Appendix I. Delegated Processing, Underwriting, and Insurance Procedures for Multifamily Option 1

- A MAP lender works with the sponsor to fully process, close and insure the loan.
- FHA performs compliance monitoring/oversight reviews, but the processing, underwriting, and insurance decision is delegated to the MAP lender.
- Once the firm commitment has been issued by the MAP lender, a package of required exhibits are submitted to FHA for a monitoring/oversight review to determine if issuance of the Final Commitment by the MAP lender complies with FHA's programmatic, underwriting, and insuring requirements.
- After review of the package, FHA may require the MAP lender to provide additional information/documentation to support FHA's processing, underwriting, and insurance decision.
- If the loan complies with FHA's programmatic, underwriting, and insuring requirements, FHA will monitor the loan during the pre-Final Commitment stage of processing.
- Once the MAP lender issues the Final Commitment, FHA would repeat the monitoring/oversight process to determine if issuance of the Final Commitment by the MAP lender complies with FHA's programmatic, underwriting, and insuring requirements.
- If the loan complies with FHA's programmatic, underwriting, and insuring requirements, the MAP lender is responsible for closing and servicing the loan.
- If the loan defaults, FHA will require the MAP lender to share in any loan loss using one of two loss-sharing arrangements:
  - 50 percent of losses borne by HUD, 50 percent borne by the lender.
  - 90 percent of losses borne by HUD, 10 percent borne by the lender.
- Delegation would not be dependent on the risk-sharing arrangement selected. Instead, the variety of choices is intended to provide the maximum opportunity for lenders to manage capital requirements. However, the FHA must establish criteria for maximum and minimum levels of risk sharing in each category.
- All projects originated using the delegated MAP lender process will be subject to increased monitoring; if any substantial noncompliance with programmatic, underwriting, and/or insuring requirements is found, FHA will take appropriate actions, which may include those currently available or those that may become available, including referral of lender to HUD's Mortgagee Review Board for administrative actions and civil money penalties if a pattern or practice is identified.

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