

**PRELIMINARY DRAFT: Not for Quotation**

FHA Lending: Recent Trends and Their Implications for the Future

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## I. Introduction

From the vantage point of 2006, it was by no means certain that the Federal Housing Administration (FHA) would be more than a minor player in the mortgage market going forward. Between 2001 and 2006, its share of all first lien mortgage originations by loan count had fallen from 9.1 percent to 3.3 percent and its share of first lien purchase originations had fallen from 14.2 percent to 4.5 percent. But with the collapse of subprime lending in 2007, FHA's market share turned around, and it continued to rise in 2008 and 2009, making a particularly abrupt jump in 2008. In 2009, FHA's share of all first lien mortgage originations stood at 21% and its corresponding share of purchase originations was about 33%.<sup>1</sup> Over the course of three years, the agency had emerged from its period of sharp decline as one of the major supports of the housing market.

FHA's reversal of fortune is well known. However, the question as to whether changes in the scale of FHA lending over the past decade were accompanied by changes in the composition of FHA's borrower pool is one that has received less attention. It is the purpose of this paper to examine whether such changes occurred, and if so, to consider the underlying factors leading to them. The time may be particularly ripe for doing so: In the current year, proposals for the post-crisis evolution of the housing finance system are likely to receive considerable attention from policy-makers. Some proposals may be directly focused on FHA; others will be focused on other components of the system, but will have implications for FHA lending. Understanding the factors that have shaped the FHA borrower pools in the past may

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<sup>1</sup> U.S. Department of HUD, Office of Policy Development and Research, *U.S. Housing Market Conditions, 1<sup>st</sup> Quarter 2011*, historical data, Table 16, available at [http://www.huduser.org/portal/periodicals/ushmc/spring11/Preview\\_USHMC\\_1q11-2\\_Historical.pdf](http://www.huduser.org/portal/periodicals/ushmc/spring11/Preview_USHMC_1q11-2_Historical.pdf). In 2010, purchase share rose to 40.2%, although total share fell slightly as FHA's share of refinance originations declined.

assist policy-makers in evaluating how those pools may change in the future under different scenarios for the housing finance system. Such assessments, in turn, may assist policy-makers in addressing such key questions as the extent to which FHA will continue to serve its “traditional” base--first-time, low- and moderate-income, and/or minority buyers; whether that base is likely to be supplemented by “non-traditional” borrowers; how the FHA loan pool may perform going forward; and the share of the mortgage market that FHA lending will comprise.

My analysis indicates that the characteristics of FHA borrower cohorts (and of the loans that these cohorts obtained) did indeed change over the course of the decade in ways that appear to reflect changes in the housing and mortgage markets during the period, as well as changes in FHA program parameters and changes in other federal policy, including a homebuyer tax credit which was put into place in 2008 and expired in 2010. Because housing markets tend to be fairly local, it is perhaps not surprising that in addition to changes across time, I also find variations in borrower cohorts and loans across regions, and these regional patterns exhibit at least some degree of stability over time. Taken together, findings on national trends and regional variations should provide useful insight to policy-makers on how FHA borrower characteristics (and the size of borrower cohorts) may change in the future in response to changing market conditions and changing housing policies towards FHA and other components of the housing finance system.

The paper proceeds as follows: In Section II, I provide a brief description of the data used in the analysis. Then, to set the stage for an analysis of patterns and trends in the characteristics of FHA’s borrowers and their loans over the course of the past decade, I review trends in FHA volume and market share during that decade in Section III. Sections IV through VI form the core of the paper. They provide empirical information about the pool and, to the

extent possible, suggest factors which may underlie empirical patterns; because purchase borrowers have traditionally comprised the largest share of FHA borrowers, these three sections focus on them, although some information is also provided on borrowers who refinance from a conventional loan to FHA. Section IV provides information from a national perspective on trends in the composition of borrower loan cohorts and on underlying factors influencing the trends, while Section V considers variation in FHA patterns across regions. Section VI focuses in greater depth on the characteristics of two groups of FHA borrowers, those with low FICO scores and those whose scores are particularly high. Potential borrowers of the former type are likely to find it more difficult in the future to get an FHA loan given recent changes in FHA program parameters, while potential borrowers of the latter type might be expected to find improved options outside of FHA as the housing and mortgage markets recover; an in-depth examination of these groups is therefore particularly important in understanding what the future FHA borrower pool may look like. In Section VII, I draw on the paper's empirical findings to identify factors that policy-makers might consider in evaluating how different proposals for the evolution of the housing finance sector might affect the nature of FHA lending.

## II. Data

The principal data source for this research is a set of data files provided to the author by FHA's Division of Evaluation. These files provide information on borrower and loan characteristics for the universe of FHA purchase and refinance endorsements<sup>2</sup> in each calendar year between 2000 and 2009. The data for 2000 through 2008 are not provided in loan-level form, but instead, are organized into pivot tables, essentially multi-dimensional matrices which

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<sup>2</sup> FHA does not make mortgage loans, rather it insures them. An endorsed loan is one that has been accepted as an FHA-covered loan. Loans are made by FHA-approved private lenders and receive endorsements from the FHA, so that an endorsement date will typically lag the loan's closing date.

allow borrower and loan characteristics to be examined along more than one dimension at a time; for example, it is possible to examine the distribution of FICO scores within income groups. Data for 2009 are provided at the loan level. (A list of variables contained in the FHA files is provided in Table 1. Unless otherwise indicated, data presented in this paper are generated from these files.)

The data provided by FHA are supplemented by data from a number of other sources. HMDA data are used to examine the scale of FHA lending at the regional level over time, as measured, for example, by market share and loan volume. Time series information on FHA's national market share is reproduced from historical tables contained in *U.S. Housing Market Conditions* (USHMC), published quarterly by HUD's Office of Policy Development and Research (PD&R).<sup>3</sup> Data from a national proprietary data set, containing servicer-provided loan-level data on loan characteristics and performance, are used on their own and as part of a merged database that also includes HMDA data on borrower characteristics, to supplement data on credit quality that are available in the FHA files.

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<sup>3</sup> As the text indicates, information on national and regional FHA market shares comes from different sources. The reasons for this are discussed in sections where share data are presented. Despite differences in share levels in any given year, different sources tend to be consistent in terms of share trends. See the 2009 second quarter volume of USHMC for a discussion of the reasons that estimates of FHA market share tend to vary across sources.

### III. The Scale of FHA Lending: National Market Share and Loan Volume, 2000-2009<sup>4</sup>

*From the start of the decade through the collapse of subprime.* Table 2 provides information on FHA's national market share during the past decade.<sup>5</sup> This share declined continuously between 2001 and 2006 for all FHA loans and for FHA purchase loans, from 9.1% to 3.3% and from 14.2 % to 4.5%, respectively. During most of these years, market share for FHA refinance loans also fell.

A fall in market share does not necessarily indicate a fall in loan count; instead, it is possible that FHA loan originations could be increasing, but at a slower rate than originations in the market as a whole. While the number of purchase endorsements *did* decline continuously over the period, the number of FHA refinance loans actually grew considerably between 2000 and 2003, and as a result total loan count also rose over this period. (See Table 3.) The large majority of refinance loans in this period took the form of a refinance from one FHA loan to another; these refinances were presumably fueled by falling interest rates at the start of the decade, although the level of refinance activity in 2003 also reflected a relaxation of the regulations for FHA's streamline refinance program that took place late in 2002.<sup>6</sup> In 2004,

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<sup>4</sup> Because of my focus on the characteristics of the borrower pool, I have concentrated on loan counts rather than loan dollars in looking at shares and loan volume. Dollar shares and volume are available in USHMC, historical tables, table 16, at [http://www.huduser.org/portal/periodicals/ushmc/spring11/Preview\\_USHMC\\_1q11-2\\_Historical.pdf](http://www.huduser.org/portal/periodicals/ushmc/spring11/Preview_USHMC_1q11-2_Historical.pdf).

<sup>5</sup> Market share data are reproduced from a time series added by HUD in 2009 to the historical tables included in USHMC. This source was chosen because its calculation of market share is based on first lien loans only. Statistics in Table 2 come from the 2011 1<sup>st</sup> quarter report. While data from HMDA would provide information on FHA market share in 2000 which is not available from USHMC, HMDA data have several drawbacks: They do not provide 100% coverage of mortgage originations; because FHA has historically encouraged its lenders to report data on their loans to HMDA, HMDA data may tend to overstate FHA's share of the market; and, for the early years of the decade, the HMDA database does not include a variable that indicates whether a loan is a first lien. HMDA data are used later in this paper to look at market shares by region because, despite their shortcomings, they are, to the best of the author's knowledge, the best available source for this purpose.

<sup>6</sup> The FHA Streamline Refinance program, which has been in existence since the 1980s, allows for the non-cash-out refinances of existing FHA loans into new FHA loans with less documentation and underwriting than is typically the

however, refinance as well as purchase endorsements fell, both of them sharply, and the overall number of FHA endorsements plunged. Total endorsements reached a low in 2006 at less than half of their 2000 number. (During this period, questions were raised as to the continuing importance of FHA's role in serving its traditional borrowers, given the rise of subprime lending, and some concern was expressed about whether FHA's market presence would remain large enough that it would be able to play an effective role in providing mortgage liquidity in regions of the country suffering a large economic downturn, a role it had played in the past.)

Recent analysis suggests that FHA's sharp loss in share and volume mid-decade was closely related to the expansion of subprime lending, which surged between 2003 and 2004.<sup>7</sup> Subprime loans may have appeared attractive to borrowers who might otherwise have gotten FHA loans for a number of reasons.<sup>8</sup> The FHA loan endorsement process was traditionally very cumbersome and likely lowered the attractiveness of FHA loans in hot housing markets where speedy action might be needed to purchase a house.<sup>9</sup> In some high price markets, limits on the size of allowable FHA loans curtailed the ability of borrowers in those markets to use FHA loans. FHA's inability to respond quickly to product changes elsewhere in the market was also a factor, and it is likely that laxer underwriting standards in the subprime sector—for example, provision of loans without income documentation---may have allowed borrowers to get a larger mortgage and purchase a larger house than would have been possible with an FHA loan. (The

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case for a refinance loan. (See <http://www.hud.gov/offices/hsg/sfh/buying/streamli.cfm> for more information on FHA streamline loans.) While regulations for streamline refinancing were relaxed in 2002, they reverted to their older, stricter form they in mid-November of 2009.

<sup>7</sup> See, for example, Courchane et al, 2009.

<sup>8</sup> See GAO report 07-645, for an in-depth discussion of possible reasons for FHA's loss in share.

<sup>9</sup> The endorsement process was streamlined in 2005.

loss of potential FHA loans to the GSEs as they attempted to meet their affordable housing goals has also been cited as a possible factor in FHA's loss of volume and market share.<sup>10)</sup>

*After the subprime collapse.* With the collapse of subprime lending in 2007, FHA trends reversed direction. Though FHA purchase endorsements continued to fall in that year, the unraveling of subprime lending led to an increase in refinances from conventional loans into FHA towards the end of that year, and total loan count, total market share and market shares for both refinance and purchase loans increased as well (Tables 2 and 3). By 2008, total, purchase, and refinance endorsements were all above their 2000 levels and market shares for these loan categories were well above their 2001 levels; endorsement levels for both purchase and refinance loans rose further in 2009, and purchase share rose considerably as well.<sup>11</sup> Despite the rise in refinance endorsements, FHA refinance share fell slightly, as refinance originations in the market as a whole increased for the first time since 2003.<sup>12</sup>

The increase in conventional-to-FHA refinances associated with the start of FHA's rebound also marked a shift in the composition of its loan cohorts. While purchase loans have

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<sup>10</sup> See Weicher, 2010, available at <http://research.stlouisfed.org/conferences/gse/Weicher.pdf>, for a discussion of GSE affordable housing goals; in particular, Table 1 summarizes goal levels between 1993 and 2008. The goals were substantially higher between 2001 and 2004 than in the 1990's and they were increased further, although more gradually, between 2005 and 2008. Given the timing of the goal increases, it is not clear that the goals would *directly* (i.e., through an increase in loans directly purchased by the GSEs) account for the sudden plunge in FHA share and volume between 2003 and 2004. It should be noted, however, that GSEs could use subprime security purchases as a means for meeting affordable housing goals, raising the possibility that the goals might have affected FHA's market share indirectly by fueling the demand for subprime loans. However, the recently released report of the Financial Crisis Inquiry Commission concluded that the goals "only contributed marginally to Fannie's and Freddie's participation in [risky] mortgages," and more generally, that the GSEs "followed rather than drove Wall Street" [subprime activity] (pp. xxvi-xxvii).

<sup>11</sup> Purchase originations in the market as a whole fell in 2009, continuing a downward trend that began in 2006 (Wackes 2011).

<sup>12</sup> See Wackes, 2011. Over the first two quarters of 2010, FHA refinance activity declined considerably both in volume and share; purchase volume declined as well, but share increased, as purchase volume fell more quickly in the market as a whole (USHMC).



comprised the largest share of FHA loans in all but one year of the past decade,<sup>13</sup> total refinance share was at least 25% in all years but 2000.<sup>14</sup> However, in every year prior to 2006, the large majority of FHA refinances were loans that had already been FHA-insured, while ‘conventional-to-FHA’ refinances were a very small share of FHA originations (Table 3b). In contrast, between 2006 and 2008, the conventional-to-FHA share was considerably larger than the FHA-to-FHA share and stood at about 30% of all FHA lending in the latter two years. In 2009, when the share of FHA-to-FHA refinance loans increased sharply, presumably in response to low interest rates,<sup>15</sup> the shares of FHA-to FHA and conventional-to-FHA refinances were about equal. Even so, the *number* of conventional-to-FHA refinances in 2009 was about the same as the 2008 number.

At least two motives likely underlie the decision of borrowers with conventional loans to refinance into FHA. First, some borrowers may have had loans whose terms they feared they would be unable to meet at some point in the future and viewed a refinance to FHA as a way to lower the probability of a future foreclosure.<sup>16</sup> Second, borrowers may have refinanced into FHA to take advantage of the lower interest rates that were part of Federal Reserve policies in support of the economy. In earlier years, some of these borrowers might have been able to

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<sup>13</sup> The exception is 2003, shortly after regulations for FHA’s streamline refinancing program were relaxed.

<sup>14</sup> Indeed, the refinance share was always at least 30% after 2000, with the exception of 2006.

<sup>15</sup> Increased FHA-to-FHA refinancing in anticipation of stricter requirements to the FHA Streamline Refinance Program that went into place in November of that year may also have been a factor. (See FHA Mortgagee Letter 2009-32.)

<sup>16</sup>With very few exceptions, such borrowers would have been current on their loans at the time that they refinanced into FHA. While FHA had two programs aimed at alleviating the subprime crisis that allowed delinquent borrowers with conventional loans to refinance to FHA--FHASecure, now ended, and Hope for Homeowners (H4H)--very few refinances went to borrowers who were delinquent when they took out the FHA loans. The data files provided to the author by FHA indicate that in calendar year 2008, only 2952 delinquent loans (.5% of all FHA refinances that year) were endorsed through FHASecure. FHAOutlook indicates that there were only 23 H4H endorsements in FY2009.

refinance in the conventional prime segment of the market, but found it difficult to do so, given a tightening of credit standards in the wake of the subprime collapse.<sup>17</sup>

#### IV. The National Borrower and Loan Profiles: 2000 to 2009 Cohorts

FHA has traditionally been thought of as a source of loans for relatively low-income, first-time, and/or minority home purchasers. Its importance for such borrowers stems in large part from underwriting criteria that are more flexible than in the case for prime loans; for example, FHA allows low down payments and it will insure loans to borrowers with blemished credit histories.

However, with the tightening of credit standards and other changes since the collapse of subprime, the FHA borrower profile may have shifted. Borrowers who might not have chosen FHA in the past may now find it to be their best option. This point was suggested in the previous section in the context of borrowers who refinanced from conventional loans into FHA and would be expected to apply to purchase borrowing as well. For example, with a decline in the availability of private mortgage insurance and a decline in the willingness of lenders to allow loan piggybacks as a way to avoid such insurance, it is likely that purchase borrowers with low down payments relative to house value who might, in the past, have been able to get a conventional prime loan, may no longer be able to do so, and may be turning to FHA.<sup>18</sup> And while the tightening of credit may have increased the likelihood of “non-traditional” borrowers

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<sup>17</sup> Data presented in the next section suggest that the first motive was relatively more important in 2007 and 2008 than in 2009.

<sup>18</sup> The scale of FHA purchase lending compared to all purchase lending provides suggestive evidence for the argument that some part of the increase in FHA purchase lending has been fueled by an influx of non-traditional FHA borrowers. In 2009, FHA purchase endorsements were 28 percent higher than their level in 2000, when purchase endorsements were at their prior decade high. In addition, FHA’s 2009 market share of purchase originations was more than double its 2001 level. Given these statistics in conjunction with the large and continuing decline in total purchase originations, it seems reasonable to conjecture that at least part of the sharp rise in FHA purchase loans has come from borrowers who do not fit the traditional FHA borrower profile.

entering the FHA pool, it may have also made it more difficult for some potential borrowers with “traditional FHA characteristics” to get FHA loans.<sup>19</sup>

Other factors may also have affected cohort composition over the course of the decade. In particular, the decade saw a number of changes to the parameters within which FHA operates which could affect whether a mortgage seeker could meet requirements for an FHA loan and/or how good an option an FHA loan was relative to a mortgage from other sources. In addition, a substantial first-time homebuyer tax credit was available to qualifying buyers in 2009 and parts of 2008 and 2010; a smaller, but still substantial, tax credit was also available to repeat homebuyers for the last two months of 2009 and part of 2010.<sup>20</sup> These credits might have affected the number of households choosing to purchase a residence, as well as the timing of purchases that might have occurred even in the absence of the tax credit. Any resulting inflow of borrowers to FHA might lead to short-term disruptions of longer term trends in the FHA borrower profile, most obviously with regard to the mix of first-time and non-first-time borrowers.

This remainder of this section considers whether changes in borrower cohorts did in indeed occur, both before and after the collapse of subprime lending. I focus first on purchase

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<sup>19</sup> While we focus on the tightening of credit standards subsequent to the subprime collapse, it is also possible that the easier terms on which credit was available in the subprime market in its mid-decade heyday also might have affected the FHA borrower profile. This would be the case if borrowers who went subprime at this time, but would have gotten an FHA loan had subprime credit been unavailable, are not representative of all borrowers who would have gotten FHA loans—including those who actually took out FHA loans during the period—had subprime credit not been available.

<sup>20</sup> A description of the first-time and repeat homebuyer tax credits, including discussion of changes in these credits over the 2008 to 2010 period, is available at <http://www.massresources.org/pages.cfm?contentID=119&pageID=12&Subpages=yes#homebuyercredit>.

borrowers,<sup>21</sup> examining changes that occurred in purchase cohorts along the dimensions by which the traditional FHA borrower is defined and considering the role that broader market conditions, as well as the housing tax credit, may have played in changes along these dimensions. Next, I present information on the characteristics of borrowers who have entered the FHA pool in recent years by refinancing a loan initially taken out in the conventional segment of the mortgage market, and compare these borrowers to those who took out FHA purchase loans, both early in the decade and more recently. Finally, I briefly review some key changes to FHA parameters and consider how they may have affected the characteristics of purchase cohorts.

#### Purchase borrower characteristics over the course of the last decade

Table 4 and Figures 1 through 4 provide information on first-time buyer status, income, minority status, and credit record, the dimensions typically used in describing the “traditional” FHA borrower, from 2000 to 2009. FICO score is used as a measure of the quality of borrowers’ credit status at time of home purchase.

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<sup>21</sup> This is done primarily for practical reasons. Because conventional-to-FHA refinances have been such a small share of FHA loans until recently, the pay-off to tracking changes in the characteristics of borrowers who take out such loans over the full decade would be small. Rather, it is of more interest to compare the “conventional-to-FHA refinance” borrowers to purchase borrowers, both early in the decade and in more recent years.

Moreover, while FHA-to-FHA refinances have been, at times, a substantial component of FHA loans, the large majority of these loans have been “streamline”: The very nature of the streamline process is such that there tends to be less information on them than on other loans. The lack of information on FHA-to-FHA refinancers, while unfortunate, is likely to have only limited effect on our ability to track trends in the characteristics of the FHA borrower pool. While FHA-to-FHA refinances have the ability to affect the make-up of a given borrower cohort, they would be expected to have the potential for considerably less impact than either purchase loans or conventional-to-FHA refinance loans on *overall* profile of FHA borrowers, since the FHA-to-FHA borrowers were *already* in the pool and their impact on trends in borrower characteristics would be captured at the time that they initially entered the pool. (Such refinances *do* have the ability to affect the riskiness of a particular loan cohort and the overall loan pool in a variety of ways, although this topic is largely beyond the scope of this paper.)

***First-time purchase status.*** The share of FHA purchasers who are first-time buyers appears to be quite stable over the course of the decade. Except for the first and last years of the period, when share is above 80%, it fluctuates in a narrow band between about 78% and 80%. However, the period between 2007 and 2009, i.e., the period when FHA rebounds after the collapse of subprime lending, shows greater fluctuation than the rest of the series, as share falls from 79.6% in 2007 to 77.6% in 2008 (the low point for the decade) before rising to 80.2% in 2009 (Figure1). A finer examination of data from this period in comparison to earlier periods suggests that in the past few years there has been a tendency for the share of purchase borrowers who are *not* first time homebuyers to increase, but that this tendency has been partially obscured by an influx of first time homebuyers who for whom the timing of purchase—and perhaps the decision to become a homeowner—was influenced by the availability of the first-time homebuyer tax credit.<sup>22</sup> Any tendency for share of non-first-time buyers to increase probably reflects two factors associated with the housing market crisis. First, it is likely that with the tightening of credit standards that has accompanied the crisis, some borrowers who might otherwise have gotten prime loans are not able to do so. Second, because of the fall in house prices, non-first-time homebuyers who, in the past, might have used cash generated from the sale of a previous residence to make a large down payment may not now be able to do so.

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<sup>22</sup> Data provided in FHA Outlook available at ([http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/housing/rmra/oe/rpts/ooe/olmenu](http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/rmra/oe/rpts/ooe/olmenu)) make it possible to look at all purchases and first-time purchases on a month to month basis. In turn, it is possible to construct a measure of the share of purchase loans that went to first-time buyers during the set of months in which a tax credit was available for first-time, but not non-first-time, buyers. This share is similar to that for the three years preceding the introduction of the tax-credit. Since it seems reasonable to assume that the percentage of purchasers who are first-time buyers is higher during the period when the tax credit is in place *only* for first-time borrowers than it otherwise would have been during this period, this suggests that in the absence of the tax-credit the share of first-time borrowers would have been lower, and the share of non-first-time borrowers higher, than in the preceding years. This conclusion continues to hold if one allows for a lag in the period when the tax credit is put into place and the time when it actually begins to affect sales volume. (In the period since the tax credit has expired, first-time buyers' share of all purchase loans has been lower than at any other time since 2000.)

***Income Status.*** Table 4 and Figure 2 indicate that lower-income borrowers (those with incomes below 80 percent of the median income in their areas) were the largest income group in each purchase cohort in the last decade, but that upper-income borrowers (those with incomes above 120 percent of area median) were also a non-trivial share of this group throughout the decade. The table also indicates that the lower-income share of the FHA purchase borrower pool varied considerably over the period. Over the first half of the decade, this share tended to rise somewhat, from about 48% in 2000 to about 55% in 2004; during this period, the share of upper-income borrowers fell from about 17% to about 14%. The trend then reversed for the next four years, with the reverse trend particularly sharp between 2006 and 2008; indeed, by 2008, almost 30% of FHA purchasers had incomes above 120% of median and only 37% were lower income. In 2009, the percentage of lower-income purchasers was considerably higher and was close to the corresponding percentage for 2000; however, the share of purchasers with incomes above 120% of median is still quite high for the decade, about 25%. Furthermore, monthly data for 2009 suggest that the reversal in 2009 is in part related to first-time homebuyer tax credit, which might have made it possible for lower-income households to purchase who would not otherwise have been able to do so.<sup>23</sup>

***Minority Borrowers.*** The share of minority buyers falls continuously, from about 38% in 2000 to about 30% in 2009, a 21% drop in share (Table 4). Between 2003 and 2006, this drop likely reflects a disproportionate move of minority borrowers to the subprime sector; after this point, increased difficulty in getting mortgage credit was probably a source of the decrease, as more “nontraditional” FHA borrowers took out FHA loans.

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<sup>23</sup>While the first-time homebuyer tax credit was extended into 2010, it was initially scheduled to expire at the end of 2009. Monthly data show that as the end of the year approached, the share of borrowers who were lower-income increased.

While the minority share has fallen, the *number* of minority FHA borrowers has experienced a rebound since the collapse of the subprime sector (Figure 3). HMDA data suggest that this increase has occurred even as minority purchasers have been a decreasing share of an overall purchase pool that is itself declining.<sup>24</sup> Together, these points suggest that the share of minority loans that are FHA has increased considerably since the collapse of subprime lending, a conclusion that is consistent with HMDA tabulations.<sup>25</sup> (HMDA data also indicate that although FHA's share of purchase loans taken out by white, non-Hispanic purchase borrowers has also increased considerably, the rate of increase has been smaller than for their minority counterparts.)

***FICO scores.*** Prior to 2004, use of credit scores (FICOs) was not a standard part of the FHA approval process and consequently, this is the first year for which substantial data on this measure are available. While the distribution of FICO scores changes rather dramatically between 2004 and 2009, it is interesting to note that even in the worst borrower cohort in terms of this measure, about a third of borrowers have FICO scores of at least 660, considered by many to be the minimum score at which a borrower can qualify for prime financing (Table 4 and Figure 4).<sup>26</sup>

Between 2004 and 2006, the first three years for which FICO data are available, the distribution of FICO scores is stable: The share of borrowers with FICOS below 620 is close to

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<sup>24</sup>Avery et al., 2010a, Avery et al., 2010b.

<sup>25</sup> In addition, data provided in GAO-07-645 suggest that FHA has a considerably higher share of minority loans than in the early part of the decade prior to its loss of minority borrowers to the subprime sector.

<sup>26</sup> A score of 680 is also frequently cited as the minimum score for prime financing. A borrower with a prime credit score will not necessarily qualify for prime financing, since other factors such as size of down payment also come into play.

38% for each of these years, while the share above 660 is also close to 38% in each year. In 2007, the distribution deteriorates, as the share of borrowers with FICO scores below 620 rises to almost 46%, and the share above 660 falls to 32%. In sharp contrast, almost *half* of FHA purchasers have FICO scores above 660 in 2008, and this is the case for *two-thirds* of borrowers in 2009. Indeed, in 2009, about a third of purchasers have FICO scores above 720. The share of borrowers with scores below 620 drops very sharply in this year to less than 10%.

The shift up of the credit score distribution in 2009 probably reflects two factors. First, as noted earlier, borrowers with high FICO scores who might have gotten prime loans in the past may find this more difficult in the current lending environment and have turned to FHA as an alternative. And there is evidence suggesting that lender behavior, specifically a reluctance to make loans below a FICO score of 620, may explain the low percentage of such loans in the 2009 purchase cohort. Figure 5a, developed with servicer-provided data from the national proprietary set referenced in Section II, shows the 2009 distribution of FICO scores for FHA. There is a high cliff at a FICO score of 620; below that score, very few loans were made. (In the non-FHA segment of the market, the distribution trails off well before the 620 point. See Figure 5b, developed with information from the same database.)<sup>27</sup> Recent program changes by FHA are also likely to curtail lending to borrowers with low credit scores. The agency is requiring a 10% down payment from borrowers with FICOs below 580 (considerably more than the 3.5% down payment requirement for other FHA borrowers) and has put a floor on FICO scores at 500. In the years for which data are available, the percentage of FHA borrowers whose FICO scores

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<sup>27</sup> The same factors probably underlie the smaller, though non-trivial shift of the FICO distribution in 2008: As credit tightened, some high-FICO borrowers who might have gotten prime loans earlier in the decade likely moved to FHA. In addition, data from the same database used to develop Figure 5 show clear evidence of a FICO cliff of the type that appears in Figure 5a, although the cliff is not as high and occurs at a lower FICO score. (Figure available from author.)



were below 500 has always been very low; however, while there are currently few borrowers with FICO scores below 580, in part because of lender requirements, borrowers with FICO scores in the 500 to 580 range have been the source of a non-trivial part of FHA originations in years past, a subject discussed in more detail in Section VI.

#### A Comparison of “Conventional-to-FHA Refinance” Borrowers with FHA Purchase Borrowers

Interestingly, trends in purchase loans across these years that have been discussed earlier also show up in conventional-to-FHA refinance loans. (Table 5) As with purchase loans, there is an improvement in FICO scores across the three years, and a fall in the percentage of borrowers who are minority.<sup>28</sup> Unsurprisingly, the percentage of loan amounts above \$250,000 increases across the years, as it did for purchase loans.

But within each year, there are clear differences in the characteristics of purchase borrowers and those who refinance from conventional loans. The refinance borrowers are less likely to be lower income, they are more likely to be white, and they tend to have lower FICO scores than purchase borrowers in the same cohort. (Also of interest is the fact that the FICO distribution for conventional-to-FHA refinance borrowers, while showing considerable improvement over the corresponding 2007 distribution, nonetheless has a smaller share of borrowers with FICO scores above 660 than the purchase borrower distributions for the mid-decade years 2004, 2005, and 2006.) In addition, the refinance borrowers tend to have larger loans, while there is no strong distinction among the two borrower groups for either PTI or DTI.

Finally, the pattern of change across time *within* the “conventional-to-FHA refinance” group suggests that the reason for refinancing to FHA may have changed over the period. The

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<sup>28</sup> To some extent, trends in borrower income are also similar, though they are considerably less pronounced.

FICO distribution in 2009 is considerably higher than in 2007 and 2008. This suggests that compared to 2009, conventional-to-FHA borrowers in 2007 and 2008, may have been more likely to have been seeking refuge from a risky loan earlier years, while compared to 2007 and 2008, the 2009 conventional-to-FHA borrowers may have been more likely to refinance to an FHA loan in order to take advantage of that year's low rates.<sup>29</sup>

### A Note on FHA Program Changes

FHA determines its program structure within parameters that are set by Congress. Over the course of the decade, Congress mandated changes to some of these parameters, and, in addition, FHA made a number of changes to structure and procedures within existing parameters; a list of key changes during the period is provided in Table 6.

Some of these changes were designed to alleviate risk associated with individual mortgages; these include an increase in required down payment from 3% to 3.5% of purchase price, a drop in maximum allowable LTV from slightly above 97% to 96.5%, banning of the use of seller-funded non-profits as a source of down payment assistance, and, as noted in the previous section, the setting of a minimum FICO score for borrowers and an increase in the required down payment for borrowers with FICO scores below 580. These changes (with the exception of the requirement for a minimum FICO score) require the potential borrower to come up with additional cash in order to complete the mortgage transaction. Since the changes would likely affect which potential borrowers qualify for FHA loans, they also have the potential to change the profile of borrower cohorts.

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<sup>29</sup> The sharp drop in the share of minority borrowers in the conventional-to-FHA refinance group, but not in the purchase borrowers group, may provide some support for this hypothesis, since research evidence suggests that minority borrowers are less likely than whites to refinance in order to take advantage of a lower interest rate. (See Van Order and Zorn, 2002.)

Other program changes are designed to expand the borrower pool. Two of the changes listed in Table 6, the 2008 increase in loan limits and the 2005 streamlining of FHA procedures, do so by affecting how easily a borrower meeting FHA standards for creditworthiness could actually use FHA for purchasing a property in which he or she was interested. A third, the increase in front- and back-end debt ratios deemed acceptable, involves an adjustment to underwriting criteria.<sup>30</sup> Like the changes designed to alleviate risk, this set of changes has the potential to shift the composition of the borrower pool.

A detailed discussion of each of the changes listed in Table 6, along with a consideration of how particular changes might influence the borrower pool, is provided in an appendix to this paper. In the main text, we provide a brief discussion of four items: the ban on the use of down payments from seller funded non-profits; the rise in loan limits; the streamlining of FHA's loan processing procedures; and the new regulations applying to borrowers with low FICO scores. The first three items are discussed in the remainder of this section, while the fourth is covered in Section VI. As a group, these items offer examples of the ways in which Congressional action (or lack of action) may influence both the nature of FHA's borrower pool and how well those borrowers perform; provide important background for examining regional differences in FHA lending trends during the past decade; and provide insight into how the FHA borrower pools in the future may differ from the "traditional" FHA borrower pool.

*Seller-funded down payment assistance.* While FHA does not all seller assistance with down payments. However, during most of the past decade, a loophole in FHA regulations allowed sellers to funnel down payment assistance through what were known as "seller-funded

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<sup>30</sup> It should be noted that each of these changes to expand the borrower pool also have the potential to affect risk. See discussion in the Appendix.

non-profits,” where the seller gave money to a non-profit that was then funneled back into a down payment for the property. At the beginning of the decade, only a small percentage of FHA down payments were funded this way, but between 2000 and 2004 the percentage rose sharply (Figure 6). Between 2004 and 2007, about a third of FHA borrowers received this down payment assistance from seller-funded non-profits and the percentage fell off only slightly in 2008. The “seller non-profit” loans performed considerably worse than other FHA loans, including loans where down payment assistance came from a relative. While purchasers who used seller non-profits tended to show higher risk along other dimensions such as FICO score than other FHA borrowers,<sup>31</sup> the performance difference persisted after such factors were taken into account.<sup>32</sup> FHA identified the problem in mid-decade but was unable to obtain Congressional approval to stop the practice until 2008, with the changed policy taking effect in October of that year. While there are empirical difficulties (discussed in the appendix) in determining the extent to which seller-funded down payment assistance brought new borrowers into the FHA pool and the extent to which it changed the behavior of borrowers who would have been in the pool anyway, the case provides a particularly clear illustration of Congress’s ability to constrain FHA choices about borrower qualifications.

***Loan limits and loan size.*** FHA loan sizes are constrained by loan limits that are determined by Congressional action and which vary across geographic areas based on area house prices. More specifically, the loan limit for a particular area is calculated as a percentage of that

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<sup>31</sup> Tabulations available from author.

<sup>32</sup> See GAO-07-1033T, 2007. For the past two fiscal years, FHA’s capital ratio has fallen below its statutory level. The independent actuarial review of FHA for FY 2010 (accessible at [http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/housing/rmra/oe/rpts/actr/actrmenu](http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/rmra/oe/rpts/actr/actrmenu)) points to the effects of seller-funded non-profits in past years as an important factor for this situation.

area's median housing price, but with a national floor on the minimum loan limit and a national ceiling on the maximum loan limit, both of which are determined as a percentage of the conforming loan limit for the GSEs.

Over the first two-thirds of the decade, there was concern that the ceiling for FHA loans had not kept pace with house prices in some markets, limiting the ability of borrowers in those markets to use FHA loans. In early 2008, under a provision of the Economic Stimulus Act of 2008 (ESA)<sup>37</sup> of particular interest here are the rise in the national loan ceiling from \$362,790 to \$729,750 and the rise in the national floor from \$200,160 to \$271,050. (See Figure 7.) In subsequent years, the loan limit floor and ceiling have remained at the levels specified by ESA. Currently, loan limits in most areas are equal to the national floor.

The increase in loan limits would be expected to increase the share of FHA borrowers coming from geographic areas with high housing prices, and from areas where house prices were rising quickly in comparison to the rate at which loan limits were adjusted. Since, *ceteris paribus*, the amount of household income needed to cover a monthly mortgage payment increases with loan amount, one might also expect the share of upper income borrowers in the FHA pool to increase. (The effects of the 2008 changes to loan limits are apparent in Figure 8, which provides information on loan size over the past decade for purchase cohorts. Between 2007 and 2008, the percentage of FHA loans over \$250,000 increased by a factor of 2.9.)

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<sup>37</sup> The parameters for setting area loan limits and national ceiling and floor were changed at this time. Between 2000 and 2007, the loan limit for an area was equal to 95 percent of the area's median housing price, subject to a national loan floor equal to 48 percent of the conforming loan limit and a national loan limit cap equal to 87 percent of the conforming loan limit. Under this provision, the loan limit for an area was set at 125 percent of the area's median house price, subject to a loan floor equal to 65 percent of the conforming loan limit and a loan ceiling equal to 175 percent of the conforming loan limit. The new loan limit provisions are labeled "temporary" and it is expected that the national ceiling will be lowered to a level provided for in HERA in the near future. (The loan ceilings for FHA and the GSEs are the same under the current regime.)

Because house price levels and appreciation rates vary across geographic regions, changes in loan limits across the previous decade may be helpful in understanding differences in regional FHA lending patterns during the same period and in turn, may shed light on the ways in which Congressional action can affect the FHA borrower pool.

*Streamlining of FHA procedures.* At the start of the decade, the process required to complete the transaction for a mortgage that could receive FHA endorsement was extremely cumbersome. For example, the set of inspections (such as termite inspections) that FHA required on a property often went beyond those required by the jurisdiction in which the property was located, and FHA regulations required sellers to make repairs not only where they were critical for health and safety reasons, but also in more minor instances. Furthermore, while much of the rest of the housing finance industry had moved to electronic methods for data transfer, the data exchange between FHA and lenders with potential FHA loans still involving mailing the physical binders containing information on mortgages back and forth. These procedures tended to increase the time for getting an FHA loan compared to other types of loans and could also result in the seller incurring costs that would not have been necessary had another loan type been used.

In 2005, FHA relaxed a number of regulations related to loan processing, e.g., reducing the number of inspections that were necessary and limiting required repairs to those necessary for health and safety reasons. It also moved to an electronic data transfer system for “direct endorsement” lenders in good standing, to become effective at the start of 2006.<sup>39,40</sup> While the

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<sup>39</sup> A 2000 GAO report defines direct endorsement lenders as those who “have authority to underwrite loans and determine their eligibility for FHA insurance without HUD’s prior review.” See GAO/RCED 00-112, 2000.

<sup>40</sup> See FHA mortgagee letters 05-36 and 05-48.

previous regulations and procedures had the potential to be burdensome throughout the country, they were likely particularly problematic in areas with “hot” housing markets, where sellers could generally find another buyer to replace the potential FHA purchaser quickly, thereby avoiding the time and costs associated with an FHA loan. Since the current processes had likely constrained FHA lending more in such hot markets than elsewhere, the revisions might be expected to increase FHA’s share of loans most in these markets.

## V. Regional Variations in FHA Lending

Housing market conditions vary across regions and it is possible that such variations may lead to variations in both the scale and the composition of demand for FHA loans. In this section, I consider how the broad story of decline and recovery in FHA that occurred at the national level played out in individual regions of the country.<sup>48</sup> I also consider whether the particulars of FHA lending—the composition of borrower pools and the characteristics of loans—are the same across regions. With each of these issues, a number of inter-regional differences are observed, and each sub-section also includes a discussion of the factors that may drive these differences. As in the previous section, analysis focuses on FHA purchase loans which typically form the majority of FHA originations.

### Regional market share and loan volume

Table 7a provides information on FHA market share by division for purchase loans for the years 2000 to 2009, while Table 7b provides information on the distribution of FHA loans

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<sup>48</sup>U.S. census divisions are used to delineate regions for purposes of this paper. A list of census divisions and the states they include is provided in Table 1.

across census divisions for the same years. Table 7c looks at changes in total and purchase loan count relative to 2000 levels for succeeding years. All entries in these tables are calculated from HMDA data.<sup>49</sup>

In 2000, FHA purchase loans were distributed across census divisions in roughly approximate proportion to division population. FHA shares of all purchase originations for six of the divisions (i.e., divisional market share) clustered in a fairly narrow range, from 15% to 17%, and market shares for the other three divisions, New England, WSC, and the Mountain States, did not lay far outside this range. All divisions experienced the same pattern of decline and recovery in FHA lending relative to their 2000 base levels as did the nation as a whole. However, Tables 7a to 7c as a group also show that both the timing and the extent of the decline varied across divisions. In particular, the Coastal Divisions show a different pattern than the Central Division, while the Mountain Division has elements of each pattern. (See Figures 9 through 11.)

The Coastal Divisions--New England, and the Mid-Atlantic, South Atlantic, and Pacific--divisions, lost volume earlier than the Central Divisions (the Pacific Division and New England lost volume as early as 2001), experienced *sharp* volume drops earlier, and also ultimately lost a higher percentage of both volume and market share between 2000 and the divisional low point

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<sup>49</sup> The HMDA database is used for these purposes because it allows the calculations of FHA market share by regions that appear in Table 7a. Use of HMDA data is somewhat problematic for this purpose. First, it includes second liens as well as first, and lien status was not reported to HMDA for the early years of the decade. In order to provide a consistent time series for the full decade, lien status is not taken into account in calculating market share. Second, not all loans are reported to HMDA, and differences in the percentages of FHA and non-FHA loans reported will affect market share calculations. Nonetheless, the HMDA database is, to the best of the author's knowledge, the most complete data base publicly available for tracking FHA's *regional* market share. In addition, HMDA data are used to construct Tables 7b and 7c for purposes of consistency, since the three tables are discussed together, and these latter two tables are subject to the same caveat about incomplete reporting of loans. (FHA does not typically insure second lien loans so the problem non-first lien loans present in calculating FHA market share does not affect the calculations in Tables 7b and 7c, which are based only on FHA's segment of the market.)



than did the Central Divisions. At the low points for these divisions, which occurred in 2005 and 2006, market share had fallen by at least 75% of its 2000 value and volume had fallen by at least 65%. (The Pacific Division is an extreme case, and arguably, could be classified by itself. At the lowest point, its market share was 94% less than its 2000 level and its volume was 92% less than the 2000 base.) All of these divisions had a slight increase in both market share and volume in 2007, followed by much greater increases in 2008. While 2008 market shares were well above their 2000 levels in each division, loan counts still lagged their 2000 levels; by 2009, loan counts were well above their 2000 levels.

In contrast to the Coastal Divisions, the Central Divisions—the East and West North Central divisions and the East and West South Central divisions—experienced a gain in both purchase market share and volume in 2001. While each of these divisions had begun to lose purchase market share by 2002, substantial drops in volume did not occur until 2003 or 2004. Each division reached its minimum market share in 2006, although loan count continued to fall in 2007 for 3 of the 4. The maximum loss in loan share in these divisions was 67% while the maximum loss in loan volume was 62%, both in relation to the 2000 base. (Within the Central Division group, there is a split between North and South, with the Southern divisions losing about 40% of their 2000 volume and the two Northern divisions losing about 60% of their 2000 volume.<sup>50</sup>) While market share bottoms out for these divisions in 2006, three of the four continue to lose volume in 2007. In 2008, both market share and volume are above their 2000 level for all four divisions.

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<sup>50</sup> While the volume loss in the two Northern Central regions is close to the loss in the Mid-Atlantic region, their overall pattern of decline and recovery over the course of the decade is more similar to the other two Central regions, hence the classification with the latter two regions.

Finally, the Mountain Division appears to have characteristics of both the Coastal and Central Divisions. Between 2000 and 2003, the division followed the pattern of the Central Divisions—especially the two South Central divisions—in terms of both share and volume. It then experienced a plunge in volume in 2004 and by 2006, had lost 83% of its 2000 market share and 69% of its volume. Like the Coastal Divisions it experienced small gains in both share and volume in 2007, and like the Central Divisions, it had regained its 2000 levels in both share *and* volume by 2008. In 2009, FHA market share in the Mountain Division for purchase loans was the highest of all nine regions.

*Sources of variation across regions.* An earlier section of this paper provided a number of possible factors that may have made subprime loans attractive to potential FHA borrowers mid-decade. The strength of these factors would be expected to depend on conditions in local housing markets. In the previous section it was noted that limits on the size of allowable FHA loans would be most likely to curtail the ability of borrowers to use FHA loans in markets where housing prices have been traditionally high—because such areas are more likely to be subject to the national ceiling on maximum FHA loan amount—and/or in “hot” markets where house prices are appreciating quickly—because FHA limits may be less likely to keep up with housing prices. It was also noted that to the extent that FHA’s cumbersome endorsement process discouraged potential FHA borrowers, the impact would probably be larger in hot markets, where borrowers considering FHA might fear themselves to be at risk to losing a property to a buyer who did not have to go through the process. In addition, the availability of products that on the surface appeared to increase housing affordability would likely be more important in high-priced markets, as would underwriting standards that made it possible for borrowers to get larger loans.

All of the four Coastal Divisions include states where prices have historically been quite high relative to the rest of the country, *and*, in addition, price appreciation occurred both earlier and to a larger degree than it did the Central divisions in the country. This was particularly the case for New England, the Mid-Atlantic, and the Pacific divisions.<sup>52</sup> (The South Atlantic division had higher house price appreciation rates than the Central divisions in the early part of the decade, but not by as much as was the case for the other three coastal divisions. By 2003, prices in the South Atlantic division were appreciating at a considerably greater rate than in the Central divisions. In contrast, the states in the four Central Divisions have historically tended to have lower prices than those in the Coastal Divisions and they experienced far lower house price appreciation over the first two-thirds of the decade than did the Coastal Divisions. In terms of house price appreciation, the Mountain states look like the Central Divisions in the beginning of the decade, then experience sharp price appreciation in 2004. Overall then, because of differences in the level of housing prices and the rate of house price appreciation across divisions, the ease with which a borrower could use FHA to complete a purchase transaction likely varied across census divisions in the early part of the decade (and may have affected the attractiveness of subprime lending early in the decade as well.) These differences thus offer an explanation for the different patterns of decline and recovery across census divisions which is consistent with the patterns actually observed.

#### Regional variations in borrower and loan pools

Tables 8 breaks out the characteristics of FHA purchase borrowers and their loans by census divisions, while information on loan characteristics is provided in Table 9. (For

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<sup>52</sup> See FHFA house price indices by census division, available at <http://www.fhfa.gov/Default.aspx?Page=214>.

information on a larger selection of loan characteristics at the national level, see Appendix Table A1.) In all but two cases, data are provided for 2000 and 2001, years prior to the expansion of subprime lending and the associated large drop in FHA purchase lending, and for 2008 and 2009, when FHA's resurgence subsequent to the collapse of subprime lending was well underway.<sup>53</sup> In the case of FICO scores, the first two years for which data are provided are 2004 and 2005, because FHA did not routinely collect FICO information prior to 2004.<sup>54</sup> The tables show that all divisions tend to follow national trends over time. For example, the minority share of FHA purchase loans has fallen over time in all divisions. However, within this broad pattern, there is variation across divisions on all characteristics.

One would not, of course, expect the distributions of borrower and loan characteristics to be the same across census divisions, if for no other reason than random factors, so this finding of variation, in and of itself, is by no means surprising. However, two observations about the variation are particularly striking. The first is the extent of the variation across divisions in any given year for many characteristics. For example, the percent of borrowers with incomes above 120% of their area median ranges from a low of 11% to a high of 27% in 2000, and from 15% to 31% in 2009; the percent of borrowers with FICO scores of at least 660 ranges from 39% to 60% in 2008; and the percent of borrowers who receive down payment assistance from "seller non-profits" ranges from 8% to 34% in that year.

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<sup>53</sup> The years 2000 and 2001 were chosen as a baseline for looking at characteristics of the FHA borrower pool in order to avoid any distortions in the pool associated with the subprime period.

<sup>54</sup> The use of 2004 data to examine differences in FICO scores across census divisions may be somewhat problematic: At this point, the exodus from FHA to subprime has started, and 2004 FICO patterns across divisions do not necessarily look like they would have in non-subprime world, and/or have changed differentially across regions. However, given the general regularity of patterns across regions over time, this is a matter of less concern than would otherwise be the case. While FICO data are missing for about half of 2004 loans, this year was selected because of the overall larger number of loans in this year compared to the next few years. Moreover, because of the similarity in overall fico patterns for 2004 and 2005, the first year in which FICO data are available for the large majority of loans, findings would not change if this later year were used.

The second observation is the extent to which patterns of variation across census divisions are stable across time. For example, New England, the Mountain States and the Pacific Division rank among the top four divisions for percent of borrowers with debt-to-income ratios above 41% in all years, while the Mid-Atlantic, West South Central, and Pacific Divisions have the highest percentage of purchase borrowers with incomes above 120% in all four years. The stability in the ranking of FICO distributions over time is particularly noteworthy. The Pacific, New England, West North Central, and Mountain divisions have the highest percentage of fico scores above 660 (and above 720), and conversely, the lowest percentage of scores below 620, in all four time periods. More generally, FICO scores are known to vary systematically across geographies and the patterns across FHA borrowers may reflect this more general variation.<sup>55</sup>

Why do the variations in borrower and loan characteristics occur? Simple hypotheses can be developed for some of the patterns of variation observed in Tables 8 and 9. For example, the New England, Mid-Atlantic, and Pacific divisions tend to have high house prices relative to other parts of the country and this feature may explain how they compare to other divisions on a number of borrower and loan characteristics that would be expected to be closely related to house prices. First, and unsurprisingly, the shares of FHA purchase loans for amounts above \$250,000 are considerably higher in these three divisions in 2008 and 2009 than in other parts of the country. These divisions also have similar rankings on a number of other borrower and loan

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<sup>55</sup> See, for example, the distribution of average credit scores for states and census divisions provided by Experian, one of three major credit-rating agencies, available at <http://www.nationalscoreindex.com/>. Numbers at the Experian website reflect recent conditions, and as a result state and division scores may have been differentially influenced by the foreclosure crisis, whose effects were not distributed evenly across geography. However, a report from the American Legislative Exchange Council, accessible at <http://www.alec.org/am/pdf/accesscredit2008statefactor.pdf>, provides the comparable Experian state averages for 2007, and state rankings tend to be similar to the later rankings based on the more recent information on the Experian website. (In October 2007, Texas had the lowest average credit score, at 666, while Minnesota had the highest, at 721.)

characteristics that might be expected to be closely related to house prices. They hold three of the four highest rankings for percent of payment-to-income ratio above 29% in all years except 2008, when the Mid-Atlantic Division ranks fifth among divisions on this measure. New England and the Pacific division hold two of the top four rankings for debt-to-income ratio above 41% in all four years. The three divisions also hold three of the four lowest rankings for the share of purchase borrowers who are low-to-moderate income (Table 8), consistent with a greater tendency for such borrowers to be priced out of the housing market in high price areas. One would also expect that these high cost divisions would also rank high on the percentage of borrowers who are upper income, both because relatively low income buyers are priced out of the market and because even higher income borrowers may have difficulty in coming up with the down payment necessary for a conventional prime loan in an area where house prices are high. However, while the Mid-Atlantic and Pacific divisions are in the top four on this measure for all years, New England never appears in this group. Instead, the West South Central division appears in all four years and the East South Central appears in three of the four years; neither of the latter two divisions are known for high housing prices. (The case of the West South Central Division, which is also consistently in the bottom four for share of borrowers who are low-to-moderate income, is considered below.) Finally, New England, the Mid-Atlantic, and the Pacific division consistently hold the top three positions for percentage of FHA purchase borrowers who are first time homebuyers. Although the variation across all divisions on this measure is not large, the high ranking of the three divisions is consistent with the argument that in high cost areas, where required down payments are correspondingly high, FHA, with its low down payment requirement, may play a particularly important role in helping first-time buyers get into the market.

The West South Central Division, which is dominated by Texas, on its own provides an interesting example for considering how regional factors may affect borrower characteristics. As in the high cost divisions, low- and moderate-income borrowers make up a relatively low share of FHA purchase borrowers, and, as in the case of the Pacific and Mid-Atlantic divisions, this division has a relatively high share of upper-income borrowers. But, whereas in the high cost states, it is reasonable to hypothesize that this income distribution pattern is likely related to the high cost of housing itself, this is unlikely to be the case in the West South Central division, which ranks last among divisions in 2008 and 2009 in percent of loans that are greater than \$250,000. An alternative explanation is that FHA is used more broadly as a loan source than other divisions, with the result that borrowers are distributed more evenly across the income distribution. Other aspects of FHA lending in the division appear to support this hypothesis. With an FHA purchase market share of 19% in 2000, it ranked second among divisions at the start of the decade and its loan count fell by less than 40% during the subprime period, the lowest percentage drop of any division. In three of the four years for which divisional breakouts are provided, it ranks second in share of purchase borrowers who are not first-time homebuyers, further suggesting that FHA lending has a broader customer base than in other divisions. One factor that may contribute to this pattern is credit quality. The FICO score distribution for FHA purchase borrowers in the West South Central division is quite low compared to other divisions.<sup>57</sup> If it is the case that the FICO distribution for the division's population is low in general, potential homebuyers in the West South Central division may find it more difficult to get a conventional prime loan than borrowers in other divisions and may therefore tend to turn to FHA at a higher rate.

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<sup>57</sup> Texas, in particular, tends to have one of the two lowest average credit scores among the states, as noted in footnote 55.

While high house prices, in the case of New England, the Mid-Atlantic, and the Pacific divisions, and low FICO scores, in the case of the West South Central division, provide possible explanations that are consistent with the patterns seen in these divisions, other patterns of divisional variation appear to be more idiosyncratic, as in the case of the relatively low shares of borrowers in New England and the Mid Atlantic who received down payment assistance from seller non-profits. When apparently idiosyncratic patterns persist over time, as was the case with down payment assistance until it was banned in 2008, there might be value in searching for the underlying factors. One might ask, for example, whether government programs that provided down payment assistance were more common in New England and the Mid Atlantic than in other divisions. Interestingly, the relatively high use of FHA loans in the West South Central Division, which, I have suggested, may be related to area FICO scores, might also be related to a more idiosyncratic factor. It is possible that in this division—basically the Oil Patch Region—where FHA provided mortgage liquidity during the oil bust in the 1980s, use of FHA is high because of “brand loyalty.”

#### VI. Characteristics of Borrowers Most Likely to have a Reduced Presence in Future FHA Pools

Data presented in earlier sections indicate that the characteristics of FHA’s borrower and loan cohorts have changed since the onset of the housing crisis. Changes in FHA regulations, enacted during the crisis (and in some cases, in response to the crisis) and changes in lender behavior have made it more difficult for some types of potential borrowers to qualify for FHA loans, and in other cases, have led to an increase in the probability that some types of borrowers would choose FHA loans. How FHA’s borrower pool develops in the future will of course depend on how the overall housing finance system evolves in the future, and the nature of that evolution is, at this point, uncertain. However, data used in this research make it possible to



consider two questions that are critical to predicting how the future FHA pool may differ from past and current pools. First, one can ask what types of borrowers who were present in the FHA pool prior to the expansion and collapse of subprime lending will find it especially difficult to qualify for an FHA loan going forward; borrowers with particularly low FICO scores will likely be an important component of this group and we examine the characteristics of such borrowers here. Second, one can examine the characteristics of borrowers with FICO scores in the prime range, a group whose presence in the FHA pool has increased considerably since the onset of the housing crisis. These are the borrowers most likely to find have entered the FHA pool because of the tightening of credit in the *prime* segment of the mortgage market and an examination of their characteristics may be helpful in assessing whether demand for FHA loans among potential borrowers with high FICO scores is likely to remain at its current level or whether it will be likely to decrease considerably as the housing market recovers.

#### Borrowers with low FICO scores

Measures to improve the FHA risk profile may, or in some cases, already have, restricted eligibility for or made it more difficult for some potential borrowers to qualify for FHA loans, as was noted in Section IV.<sup>60</sup> Among the measures, one might expect the new FICO-related requirements to have particularly strong effects on the eligibility of potential buyers. While the effects of these changes are restricted to borrowers at the low end of the FICO distribution, for those who are effected, the impact on the probability of getting an FHA loan are likely to be large: For those with FICO scores below 500, FHA lending is now completely proscribed, while

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<sup>60</sup> Among the measures taken that have been noted earlier are the increase in required downpayment (and decrease in allowable LTV), banning of down payment assistance from seller-funded non-profits, designating a minimum allowable FICO score of 500, and raising down payment requirements to 10% for borrowers with FICO scores under 580.

for those who have FICO scores in the 500 to 579 range, the 10% down payment is more than three times higher than it was prior to the end of 2008 and almost three times as much as the down payment other FHA borrowers are required to make; i.e., for those in the 500 to 579 FICO range, the amount of cash needed to obtain an FHA mortgage has grown considerably, in both absolute terms and relative to other FHA borrowers. Moreover, in recent years, the set of potential borrowers unable to get FICO loans because of their FICO scores has been greater than the set affected by new HUD regulations related to FICOS. As noted earlier, lenders in 2009 made very few loans, FHA or otherwise, to potential borrowers with FICO scores below 620, and this pattern persisted in 2010.<sup>62</sup>

To the extent that FICO-related factors are likely to have a large effect on the likelihood that an affected potential borrower can qualify for an FHA loan, as it seems reasonable to assume, and to the extent that the share of potential borrowers affected is non-trivial, then an examination of the characteristics of borrowers in the relevant FICO score range at an earlier reference point may provide valuable information about the characteristics of mortgage seekers who would find it difficult to obtain an FHA loan going forward.<sup>63</sup> Ideally, it would be possible to choose a reference year at the start of the decade for at least two reasons: First, by doing so, one would avoid, as much as possible, any effects of the subprime expansion that might have distorted the FHA borrower pool away from its traditional pattern and second, a year early in the decade comes prior to the widespread use of seller-funded non-profits as a source of down payment assistance, which might also have had distorting effects and which, in any case, is no

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<sup>62</sup> This conclusion is based on an analysis of data from the national proprietary database containing service provided information that was referenced in Section II. Results are available from the author on request.

<sup>63</sup> It should be noted that the ability to extrapolate in this way depends on the assumption that the distribution of FICO scores among population sub-groups has not changed greatly since the reference period.

longer available. However, FHA scores were not routinely collected by FHA before 2004, about a year after the subprime expansion began. In turn, 2004 was chosen as the reference year.<sup>64</sup> Using a relatively small set of observations from a non-FHA source for 2000,<sup>65</sup> it was possible to examine how borrowers of different ethnic/racial and income groups were distributed across the range of FICO scores; the results of this analysis indicated that the 2000 distributions along these dimensions were very similar to those obtained from the 2004 FHA data.<sup>66</sup> This provides at least some assurance that use of the subprime-period 2004 data will not seriously distort conclusions about the characteristics of potential borrowers who are likely to find it considerably more difficult to qualify for an FHA loan now than in the past because of the new FICO-related requirements.

Table 10 provides information on the overall FICO distribution for FHA purchasers in 2004. As it indicates, the share of borrowers with FICO scores below 500 is very small, .87%, so that the effect of FHA's new floor on FICOs would have very little effect on the borrower pool. Fifteen percent of FHA's 2004 borrower pool had FICO scores between 500 and 579. About 15% of this group had an LTV below 90%, suggesting that they would have been able to meet the new down payment requirement for borrowers in their FICO range, while about 14% had an LTV between 90% and 95%; some members of this latter group might have been able find sufficient additional funds for a down payment to reduce LTV to 90%. Thus, the numbers

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<sup>64</sup> FICO scores are available for a larger share of observations for 2005 than for 2004, but 2004 was chosen both because the number of purchase loans was considerably larger in that year and because it is closer to the pre-subprime period. In any event, distributions of borrower and loan characteristics are extremely similar for these years.

<sup>65</sup> This database is a merged file that combines information from HMDA on borrower characteristics with information from the national proprietary database containing servicer-provided information. See Section II. The merge provided about 61,000 observations for the analysis.

<sup>66</sup> Tabulations are available from the author on request.

in Table 10 suggest that if the FICO-related requirements had been in effect in 2004, from 12 to 14% of that year's borrowers would likely not have been able to qualify for their loans.<sup>67</sup> If *lender* reluctance to lend to borrowers with FICO scores below 620 is added to the picture, about 37% of borrowers who received loans in 2004 would not have been able to do so.<sup>68</sup>

Tables 11a and 11b provide information on the characteristics of borrowers with FICO scores below 580 and FICO scores below 620, respectively. (For comparison purposes, data for 2008 and 2009 are also provided.<sup>69</sup>) Table 11a can be thought of as providing information on the characteristics of borrowers whose FICO scores would have been in the affected range had FHA's FICO-related regulations been in effect in 2004, but lenders were willing to make loans to borrowers with FICO scores below 620. Table 11b provides information on the characteristics of borrowers whose FICO scores would have been in the affected range if, not only had the new FHA regulations been in place, but in addition, lenders had not been willing to make loans below a FICO score of 620.

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<sup>67</sup> The share of borrowers in the 2004 FHA purchase borrowers pool who would no longer be able to qualify for an FHA loan solely on the basis of the new FICO-related requirements is equal to (a: share of 2004 purchase borrowers with FICOs below 580) – (b: share of 2004 FHA purchase borrowers with FICOs of at least 500 but below 580)\* (c: share of this group of borrowers who could meet the new FHA down payment requirement), where a=15.87%, b=15%, and c= 8.52% if only borrowers with 2004 LTVs no higher than 90 could meet the new requirement and c=17.04% if all borrowers with 2004 LTVs no higher than 95 could meet the new requirement.

<sup>68</sup> Note that the size of down payment becomes irrelevant in this case, since borrowers with FICOs below 580 would be very unlikely to receive loans in any case.

<sup>69</sup> While the FICO distribution is higher in 2008 than in 2004, and while there is little lending below a FICO score of 620 in 2009, the basic patterns in the 2004 data in terms of the incidence of low FICO scores across borrower groups can still be observed.

As Tables 11a and 11b indicate, the probability that a potential borrower would have a score in the affected FICO range varies considerably across racial/ethnic groups and regions.<sup>70</sup> Among racial/ethnic groups, African-Americans would have been particularly likely to lie in this range. About 28% of this group had FICO scores below 580 in 2004. As a result, although they make up only 14% of all purchase borrowers in 2004, they comprise 24% of borrowers with FICO scores below 580. Furthermore, a majority (54%) of 2004's African-American borrowers had FICO scores below 620, making up about 21% of all borrowers with FICOs below 620. (The incidences of FICOs below 580 and below 620 are also higher among Hispanics than the incidence among purchase borrowers as a whole, but the difference is much smaller than is the case for African-Americans.)

Among census divisions, the percentage of purchase borrowers who had FICO scores below 580 ranged from slightly less than 9% in New England to about 24 % in the West South Central part of the country. While the West South Central division had about 18% of all purchase borrowers in 2004, it had about 30% of borrowers with FICO scores below 580. The same two census regions also had the lowest and highest incidences of borrowers with FICO scores below 620; the incidence was 27% in New England<sup>73</sup> and 46% in the West South Central division; the latter division had a 24% share of all purchase borrowers with FICOS below 620.

Variation across income groups is somewhat less pronounced than across racial/ethnic groups and census divisions. Among income groups, low- and moderate income borrowers have

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<sup>70</sup> Strictly speaking, the data in Tables 11a and 11b should be adjusted to take account of the fact that some 2004 purchase borrowers with FICO scores between 500 and 579 had LTVs below 90% and could thus have met the new FICO-related requirements. However, this adjustment would have minimal effects on implications drawn from Table 11. Relevant tabulations are available from the author.

<sup>73</sup> The incidence of borrowers with FICOs below 620 was also about 27% in the West North Central and Pacific divisions.

the lowest percentage of borrowers with FICO scores below both 580 and 620, 14% and 34% respectively. However, because they made up about 55% of all 2004 purchase borrowers, they comprise the highest share of borrowers in the “below 580” category (47%) and in the “below 620” category (49%).

### Borrowers with high FICO scores

Table 12 provides information on 2009 FHA purchase borrowers with FICO scores that are typically considered to be in the prime range. The table breaks out information for those with FICO scores in the 660 to 719 range and those whose scores are 720 or higher and for first-time and non-first-time homebuyers. The question of interest is whether a group of borrowers with FICO scores in the prime range *and with other characteristics similar to FHA’s current high FICO borrowers* would find it relatively easy to get prime loans if they put off their purchases to a point in the future when the housing market was no longer in crisis. In turn, discussion of Table 12 focuses on two data items that are particularly relevant to addressing this question, debt-to-income ratios (DTI) and LTVs.

The data in Table 12 suggest that borrowers like those in FHA’s high FICO groups might face difficulty in finding a prime loan in a post-crisis housing market (or, in some cases, may be able to get such a loan only at relatively high cost). Thirty-nine percent of borrowers with FICO scores in the 660 to 719 range have DTIs above 45% and thirty-four percent of borrowers with FICOs of 720 or more have such DTIs. (Non-first-time homebuyers are more likely to have such DTIs than first-time homebuyers.) Eighty-six percent of the former group and eighty-five percent of the latter group have LTVs above 95%.<sup>74</sup> About a third of the “660 to 719” group has

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<sup>74</sup> Prior to the housing market crisis, such borrowers might have been able to meet LTV requirements for a prime loan that could be sold to the GSEs by taking out a first lien for 80% of the purchase property’s value and getting a

both a DTI above 45% and an LTV above 95%, as does about 28% of the “above 720” group. And the percentage of each group with neither of these characteristics is less than 10% in both cases. If it is the case that a substantial number of potential buyers have characteristics similar to the FHA’s 2009 group of high FICO borrowers, it would seem likely that that the increase in demand for FHA loans by such borrowers will not be completely reversed in a post-crisis market.

### III. Implications for Policy

The preceding three sections have described trends in FHA borrower and loan characteristics in the past decade, examined geographical differences in FHA lending patterns, and looked at characteristics of FHA borrowers with low and high FICO scores as a first step in thinking about how the FHA borrower pool may change in the future in response to changes in FHA and the housing system more generally. In this section we draw out some of the implications of this empirical work.

***External Influences on FHA.*** More than other players in the housing finance system, FHA is subject to external influences which shape its program structure and its borrower pool and over which it may have relatively little control. First, Congress sets the parameters within which FHA operates and its actions may have considerable unintended consequences for FHA. For example, the failure of Congress to remove the loophole that allowed seller-funded non-

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profits to provide down payment assistance (DPA) to FHA borrowers until the end of 2008, even piggyback loan to cover the rest of the purchase price, thereby avoiding the cost of private mortgage insurance. Today, most of these high LTV borrowers would presumably need private mortgage insurance in order for their loans to qualify for GSE purchase; even if such insurance would be readily available, the overall cost of an FHA loan might still be lower. (Whether these borrowers would likely be able to come up with funds to increase down payment substantially is an interesting question. In theory, at least, they might have chosen to make the minimum down payment even though they could have afforded to put down much more. However, the actual decision to get an FHA loan suggests that even had additional funds for down payment been available, FHA was the better option.)

though FHA had identified the poor performance of loans for which this type of DPA was used, has lengthened the time period over which such loans will have a substantial negative impact on FHA financial position, typically represented by the status of its capital reserves.<sup>76</sup> It is likely that FHA lost many potential loans because Congressionally set loan limits did not keep pace with house prices in some markets.

In addition, because FHA is a mortgage insurer rather a mortgage originator, it likely has less ability to directly shape its borrower pool than other players in the housing finance system. For example, while FHA accepts loans from borrowers with FICO scores between 580 and 619 without requiring a higher down payment than that required from borrowers with higher FICO scores, the number of FHA loans in this category has fallen recently as lenders have been unwilling to make such loans.

In evaluating FHA performance and other FHA outcomes, it is important to keep these factors in mind. In addition, researchers and policy-makers might strive, to the extent possible, to educate lawmakers on the implications of actions they consider vis a vis FHA. (For example, it is important that if lawmakers consider implementing a 5 % or 10% downpayment requirement, they have information on the effects of doing so.) Finally, we note that while it is in general important that the evolution of the housing finance system going forward be considered in an integrated way, this is particularly important in the case of FHA because of the extent to which its borrower pool is shaped by the actions of other players in the system.

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<sup>76</sup> By statute, FHA is required to have a capital reserves equal to at least 2 percent of its outstanding insurance obligations. In both FY2009 and FY2010, this ratio was not met. The independent actuarial review of FHA's mortgage insurance fund (an annual review required by statute) for FY2010 noted that losses associated with this type of DPA was a major contributor to this outcome.



***Regional Variations in FHA lending.*** When Congress sets parameters for FHA and when FHA makes decisions about program structure within those parameters, policy makers should be attuned to the possibility that some policies are likely to have differential effects on different regions of the country. For example, the way in which loan limits were set during the past decade likely had such effects, with the failure of these limits to keep pace with house prices in some parts of the country probably contributing to particularly large declines in FHA market share in those areas. These effects may be non-trivial. Such was the case, for example, with the loss of FHA loans in the Pacific region: Because this region had a relatively large share of FHA lending at the start of the decade, the decline in its loan count had a noticeable impact on the overall scale of FHA lending in the country. Data presented earlier in the paper suggest that new regulations about FICO scores may also affect regions differentially; one might predict that the impact on the West South Central Region may be especially large.

Moreover, policies that affect regions differentially may have implications for the overall distribution of borrower characteristics in the national FHA pool. For example, if a policy leads to a disproportionate reduction in FHA lending in a region that tends to have a high distribution of FICO scores, then the overall credit quality of the pool may be affected, with implications for the performance of FHA loans. Recognizing the possibility of such effects may, in some cases, be important in diagnosing and remedying problems.

***FICO-related restrictions.*** In the past, a non-trivial portion of the FHA borrower population had FICO scores in the 500 to 579 range. In the case of African-Americans in particular, the incidence was higher than 25%, while the incidence among borrowers in the West South Central census division was almost at the 25% level. Borrowers with scores in this range are likely to find it particularly difficult to obtain an FHA loan in the future. (And to the extent

that lenders continue to be reluctant to make loans to borrowers with FICO scores below 620, the portion of the traditional borrower pool that will be affected is considerably larger.) FHA's new regulations presumably reflect its internal assessment of the risk involved with insuring mortgages to borrowers with FICO scores at this level, and as such are understandable.

However, because of the impact of the regulations, and especially the disproportionate affect on potential minority borrowers, policy-makers may want to consider the development of alternative paths to building wealth among affected households and for augmenting their housing choices. For example, programs designed to improve long-term credit quality for affected households, if effective, may provide such households with improved options for home ownership, while increased policy attention to the improving options in the rental market might improve their housing choices. Should FHA consider relaxing its new restriction at some point, mandatory post-purchase counseling for borrowers with low FICOs might increase the likelihood that they would be able to maintain homeownership.

A related issue, given the variation in probability of being affected by the new FICO-related regulations across racial/ethnic groups and given persistent patterns of racial segregation, is the possibility that the affected population tends to be clustered in particular types of neighborhoods. Whether this is actually the case and if so, whether there are implications for neighborhood quality of life, are questions that deserve consideration by researchers and policy makers.

***Future scale of FHA lending.*** In recent Congressional testimony, FHA's then commissioner, David Stevens, noted that FHA's market share, which is well above its historical level, argued that steps to shrink this share are necessary in order to encourage an expansion of

private-market mortgage activity.<sup>77</sup> Data presented here may lead to questions as to how much FHA will be able to reduce its share in the near future, even before considering possible changes in the housing finance sector that might tend to increase demand for FHA loans. As we have noted, FHA's current high FICO borrowers tend to have high LTVs and high debt-to-income ratios.<sup>78</sup> If a substantial share of potential homebuyers with high FICO scores have similar characteristics, demand for FHA loans by high FICO borrowers is likely to remain high. Some of the possible changes in the housing finance system that have been widely discussed, such as a move away from thirty-year mortgages in the non-government sector, would likely tend to increase demand for FHA loans. And to the extent that depressed housing prices have eroded equity that could have been used for a down payment, or limited house price appreciation in the future makes it more difficult to acquire such equity, the demand for FHA loans by non-first-time homebuyers might be expected to increase.

Finally, if FHA undertakes new policies aimed at cutting market share, the question of who is served by FHA will increase in prominence and the need to carefully integrate thinking about FHA's future with thinking about the evolution of other parts of the housing system becomes all the more critical.<sup>79</sup>

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<sup>77</sup> See Stevens, 2011.

<sup>78</sup> Many borrowers in this group have debt-to-income ratios higher than those that the GSEs currently accept.

<sup>79</sup> The current debate over how to define "Qualified Residential Mortgages," whose definition is necessary in order to implement one of the provisions of the Dodd-Frank legislation, makes this latter point particularly clear. See Schoen, 2011.

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## Appendix

This appendix provides information on the changes to the FHA program that occurred during the last decade and that were listed in Table 6 of the main text. Some of these changes have already been discussed in the main text, while others have not. In cases where a change has already been discussed, additional detail is typically provided here.<sup>80</sup> As was noted in the main text, some of the changes put into effect in the previous decade were designed to alleviate risk associated with individual mortgages, while others had the aim of expanding the FHA borrower pool, and the discussion below is organized by these broad categories. Because the changes, for the most part, redefined acceptable characteristics for an FHA loan, it is not surprising that their effects can quickly be seen in the way that the characteristics of newly originated loans change over time; loan characteristics for the 2000 through 2009 loan cohorts are presented in Table A1 and in Figures 6, 7, 8, A1, and A2, and are referred to in the text of the appendix as appropriate.

### Changes designed to alleviate risk

Changes aimed at alleviating risk included an increase in required down payment from 3% to 3.5% of purchase price, a drop in maximum allowable LTV from slightly above 97% to 96.5%, banning of the use of seller-funded non-profits as a source of down payment assistance, and, as noted in the previous section, the setting of a minimum FICO score for borrowers and an increase in the required down payment for borrowers with FICO scores below 580. (The latter two changes are not discussed in this appendix. See footnote 78.) With the exception of the setting of a minimum FICO score, these changes had the effect of increasing the amount of cash

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<sup>80</sup> An exception is new FICO-related regulations, which were discussed in detail in Section IV of the main text. (These changes were actually put into place in the last quarter of 2010, outside of the 2000 to 2009 period covered by this study.)

that the FHA borrower would have to provide in order to complete the purchase transaction. In turn, one might expect certain types of potential borrowers, including lower-income households, those for whom weak credit records are in part a manifestation of poor saving habits, and those whose relatives or other associates lack the resources to provide assistance in accumulating the needed cash, to have more difficulty in meeting FHA requirements.

*Minimum down payment, maximum loan-to-value ratio (LTV).* A number of the changes listed in Table 6 were designed to alleviate risk associated with individual mortgages. Among the changes to FHA parameters designed to alleviate risk were an increase in required minimum down payment and a decrease in maximum allowable LTV ratio. For most of the past decade, FHA borrowers were required to make a minimum cash investment equal to 3 percent of purchase price, while FHA's maximum allowable LTV was slightly above 97 percent for most loans,<sup>81</sup> with the exact percentages determined by certain housing market features.<sup>82</sup> (In effect, the 3 percent cash investment did not necessarily all go into a "down payment" as the term is typically used; for example, some of it might be used for borrower-paid closing costs.) Under the terms of HERA, and effective October 2008, Congress raised the minimum down payment to 3.5 percent and set a maximum LTV of 96.5 percent.

These changes to down payment and LTV requirements are relatively small and may individually have a small effect on the potential borrower's ability to accumulate the necessary

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<sup>81</sup> The maximum allowable LTV for borrowers taking out loans that were less than \$50,000 was slightly higher than 98%.

<sup>82</sup> Effective LTVs could be higher than this because the upfront insurance premium that borrowers pay in order to receive an FHA-insured loan is usually rolled into the loan. (FHA borrowers also pay an annual insurance premium.)

cash and, in turn, may not have much effect on borrower characteristics on their own.<sup>83</sup> In addition, the simultaneous or near-simultaneous timing of these changes with other requirement changes, along with the relatively short time since they have been in effect, contribute to the difficulty in identifying their effects on the borrower pool. (In contrast, the impact on *loan* characteristics can be clearly seen in Figure A1, which charts the LTVs of loans originated over the past decade.)

***Seller-funded down payment assistance.*** FHA allows borrowers to receive down payment assistance from relatives and from certain non-profits. It does not all seller assistance with down payments. However, for most of the past decade, a loophole in FHA regulations allowed sellers to funnel down payment assistance through what were known as “seller non-profits,” where the seller gave money to a non-profit that was then funneled back into a down payment for the property. Figure 6 shows that between 2000 and 2004 there was a sharp rise in the percent of FHA borrowers who received down payment assistance from such “seller non-profits.” Between 2004 and 2007, about a third of FHA borrowers received this type of down payment assistance and the percentage fell off only slightly in 2008. The “seller non-profit” loans performed considerably worse than other FHA loans, including loans where down payment assistance came from a relative. While purchasers who used seller non-profits tended to show higher risk along other dimensions such as FICO score,<sup>84</sup> the performance difference persisted

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<sup>83</sup> However, their impact in concert with other changes that are individually small may be non-trivial. (For example the increase in required down payment from 3% to 3.5% and the fall in maximum allowable LTV may be individually small, but cumulatively, and in concert with the banning of down payment assistance from seller funded non-profits, and with another proposed change in regulations that reduces the amount of allowable seller-paid closing costs, these changes may have a non-trivial effect on the amount of cash a borrower needs to provide at closing.)

<sup>84</sup> Tabulations available on request from the author.



after such factors were taken into account.<sup>85</sup> FHA identified the problem in mid-decade but was unable to obtain Congressional approval to stop the practice until 2008, with the changed policy taking effect in October of that year.

While the effect of down payments funded by seller non-profits on *loan performance* is clear, it is not possible to distinguish, with the data available to the author, whether the availability of such down payments had an impact on the observable characteristics of borrowers taking out FHA loans and in turn, whether the banning of such down payments has in and of itself led to changes in the observable characteristics of recent borrower cohorts. Because the use of down payments from seller-funded non-profits expanded sharply at the same time that sub-prime mortgage lending was expanding, it would be difficult to separate the effects of these two phenomena on borrower characteristics. (For example, the share of the borrower pool made up of lower-income borrowers increases as the use of seller-funded down payments increases. This might have occurred because such down payments allowed more lower-income households to get an FHA mortgage, or it might be related to the effects of subprime expansion on the borrower pool or to some other factor.) Adding to this difficulty is the fact that borrower FICO scores, a characteristic that one might expect to be particularly influenced by the availability of seller-funded down payments, are not available in the years when the use of such down payments was growing. Finally, the available data do not allow one to discern the extent to which seller-funded down payments were used by borrowers who could not have obtained an FHA mortgage otherwise and the extent to which they were used by borrowers who would otherwise have been able to provide the down payment required to take out an FHA loan on their own, but who used

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<sup>85</sup> See GAO report 07-1033T.

seller-funded assistance because it was available. To the extent that the former group dominated among all borrowers using seller-funded down payment assistance, one might expect to see changes in the characteristics of the borrower pool;<sup>86</sup> to the extent that the latter group dominated, such changes would be less likely.<sup>87</sup>

#### Changes designed to expand the FHA borrower pool

Two of the changes discussed below, the 2008 increase in loan limits and the 2005 streamlining of FHA procedures, do so by affecting how easily a borrower meeting FHA standards for creditworthiness could actually use FHA for purchasing a property in which he or she was interested. The third, the increase in front- and back-end debt ratios deemed acceptable, involves an adjustment to underwriting criteria.

***Loan limits and loan size.*** To the extent that FHA's borrower pool is disproportionately made up of lower-income borrowers and first-time borrowers--who cannot draw upon equity built up in a previous purchase as a source of down payment, one would expect loan sizes to tend to be lower than in the conventional market.<sup>88</sup> Borrower characteristics, however, are not the only factor that might tend to reduce the size of FHA loans relative to those in the conventional market. FHA loan sizes are constrained by loan limits that are determined by Congressional

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<sup>86</sup> For example, some borrowers might not have had the option of obtaining a down payment from relatives or other associates. Such borrowers might differ systematically from borrowers who did have this option.

<sup>87</sup> To the extent that borrowers using seller-funded down payment assistance use it because it was available rather than because it was needed, one might hypothesize that their lower equity stakes in their homes led to changes in their behavior.

<sup>88</sup> Another factor comes into play as well during the period under consideration: While FHA required income verification for loans it endorsed, "no documentation" loans that did not require such verification were common in the subprime sector. In turn, in comparing loan sizes for borrowers with FHA loans and borrowers with subprime loans whose *actual* incomes were the same, one would expect average loan size to be greater for subprime borrowers than for FHA borrowers, *ceteris paribus*.

action and which vary across geographic areas based on area house prices. More specifically, the loan limit for a particular area is calculated as a percentage of that area's median housing price, but with a national floor on the minimum loan limit and a national ceiling on the maximum loan limit, both of which are determined as a percentage of the conforming loan limit for the GSEs. Any area with a loan limit greater than the floor is termed a "high cost" area.

Over the first two-thirds of the decade, there was concern that the ceiling for FHA loans had not kept pace with house prices in some markets, limiting the ability of borrowers in those markets to use FHA loans. (In 2007, slightly less than 20 percent of high cost areas in the lower 48 states were subject to the national loan limit ceiling.) The parameters for calculating the FHA loan limit were changed considerably in early 2008, under a provision of the Economic Stimulus Act of 2008 (ESA);<sup>89</sup> of particular interest here are the rise in the national loan ceiling from \$362,790 to \$ 729,750 and the rise in the national floor from \$200,160 to \$271,050. In subsequent years, the loan limit floor and ceiling have remained at the levels specified by ESA.<sup>90</sup> Currently, loan limits in most areas are equal to the national floor, while the large majority of high cost areas is not subject to loan limit ceiling. (Figure 7 shows national ceilings and floors between 2000 and 2010. (The effects of the 2008 changes to loan limits are apparent in Table

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<sup>89</sup> Between 2000 and 2007, the loan limit for an area was equal to 95 percent of the area's median housing price, subject to a national loan floor equal to 48 percent of the conforming loan limit and a national loan limit cap equal to 87 percent of the conforming loan limit. Under this provision, the loan limit for an area was set at 125 percent of the area's median house price, subject to a loan floor equal to 65 percent of the conforming loan limit and a loan ceiling equal to 175 percent of the conforming loan limit. The new loan limit provisions are labeled "temporary" and it is expected that the national ceiling will be lowered to a level provided for in HERA in the near future. (The loan ceilings for FHA and the GSEs are the same under the current regime.)

<sup>90</sup> For high cost areas not subject to the loan limit ceiling, loan limits are currently equal to the higher of two amounts, the 2008 limits specified by ESA and limits calculated under a provision of the Housing and Economic Recovery Act of 2008 (HERA), passed after ESA. This procedure for determining loan limits in high cost areas was provided for in the American Recovery and Reinvestment Act of 2009.

A1, which provides information on loan size over the past decade for purchase cohorts. Between 2007 and 2008, the percentage of FHA loans over \$250,000 increased by a factor of 2.9.)

The increase in loan limits would be expected to increase the share of FHA borrowers coming from geographic areas with high housing prices, and from areas where house prices were rising quickly in comparison to the rate at which loan limits were adjusted. Since, *ceteris paribus*, the amount of household income needed to cover a monthly mortgage payment increases with loan amount, one might also expect the share of upper income borrowers in the FHA pool to increase.

Finally, we note that the increase in loans limits is not necessarily risk neutral. For example, a recent report on FHA lending from the George Washington University Center for Real Estate and Urban Analysis discusses reasons that the larger FHA loans made possible by the increase in loan limits might be expected to perform worse than smaller ones.<sup>91</sup>

***Streamlining of FHA procedures.*** At the start of the decade, the process required to complete the transaction for a mortgage that could receive FHA endorsement was extremely cumbersome. For example, the set of inspections (such as termite inspections) that FHA required on a property often went beyond those required by the jurisdiction in which the property was located, and FHA regulations required sellers to make repairs not only where they were critical for health and safety reasons, but also in more minor instances. Furthermore, while much of the rest of the housing finance industry had moved to electronic methods for data transfer, the data exchange between FHA and lenders with potential FHA loans still involving mailing the

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<sup>91</sup> This report is available at <http://business.gwu.edu/files/fha-assessment-report-02-2011.pdf>.

physical binders containing information on mortgages back and forth. These procedures tended to increase the time for getting an FHA loan compared to other types of loans and could also result in the seller incurring costs that would not have been necessary had another loan type been used.

In 2005, FHA relaxed a number of regulations related to loan processing, e.g., reducing the number of inspections that were necessary and limiting required repairs to those necessary for health and safety reasons.<sup>92</sup> It also moved to an electronic data transfer system for “direct endorsement” lenders in good standing.<sup>93,94</sup> While the previous regulations and procedures had the potential to be burdensome throughout the country, they were likely particularly problematic in areas with “hot” housing markets, where sellers could generally find another buyer to replace the potential FHA purchaser quickly, thereby avoiding the time and costs associated with an FHA loan. Since the current processes had likely constrained FHA lending more in such hot markets than elsewhere, the revisions might be expected to increase FHA’s share of loans most in these markets.

***Payment-to-income and debt-to-income ratios.*** At the start of the decade, FHA’s handbook noted that a payment-to-income ratio (PTI) of 29 percent or less and a debt-to-income ratio (DTI) of 41 percent or less were acceptable for borrowers. However, in 2005, the acceptable PTI and DTI ratios were raised to 31 and 43 percent respectively, again with the

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<sup>92</sup> As in the case of changes to loan limits, these changes would not necessarily be risk neutral, since they could lead to a greater likelihood that a borrower would face higher costs in maintaining his or her home in the future because fewer repairs were required prior to purchase, and in turn, find it more difficult to make mortgage payments,

<sup>93</sup> A 2000 GAO report defines direct endorsement lenders as those who “have authority to underwrite loans and determine their eligibility for FHA insurance without HUD’s prior review.” See GAO/RCED 00-112, 2000.

<sup>94</sup> FHA mortgagee letters 05-36 and 05-49.

provision that ratios could rise above these levels on the basis of compensating factors. Figure A2 indicates that the percentage of purchase borrowers with PTI ratios above 29 percent and the percentage of purchase borrowers with DTI ratios above 41 percent both rose in the second part of the past decade.

The increase in acceptable DTI and PTI ratios might be expected to increase the risk that borrowers would be unable to meet their mortgage obligations. Interestingly, at the time that these changes were put into effect, the FHA commissioner argued that because of tax changes recently put into effect, households had more *disposable* income than had previously been the case and therefore, for any given income amount, were better able to take on a loan of a particular size than had been the case prior to the tax changes;<sup>95</sup> in effect, he argued that because of the tax changes, the higher acceptable ratios did not necessarily increase risk.

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<sup>95</sup> See FHA Mortgagee Letter 05-16.

# Tables

# Table 1: Variables in data files provided by FHA

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Each variable except endorsement year has two or more categories. For 2000 through 2008, each year's data is organized into pivot tables, in effect, a multi-dimensional matrix of loans including all possible combinations of borrower and loan characteristics. The data files provide the loan count for each non-empty cell. For 2009, data are provided at the loan level, and PTI and DTI variables are provided as continuous, rather than categorical variables.

## Endorsement Year

## Endorsement Month\*

## Loan Type:

- *Purchase*
- *FHA to FHA refinance-streamline, no appraisal necessary*
- *FHA to FHA refinance-streamline, appraisal required*
- *FHA to FHA refinance- not streamline*
- *Conventional to FHA*
- *Conventional (delinquent) to FHA*

## Income Class:

- *income  $\leq$  50% of area median (*med\_inc*)*
- *50% *med\_inc* < income  $\leq$  80% *med\_inc**
- *80% *med\_inc* < income  $\leq$  100% *med\_inc**
- *100% *med\_inc* < income  $\leq$  120% *med\_inc**
- *income > 120% *med\_inc**

## First Time Buyer Status:

- *Yes*
- *No*

## Race/Ethnicity:

- *Native American*
- *Asian American*
- *African American*
- *Hispanic*
- *White, Non-Hispanic*

## FICO Class:

- *< 500*
- *500-579*
- *580-619*
- *620-659*
- *660-719*
- *$\geq$  720*

## Loan Amount Class:

- *\$10,000-50,000*
- *\$50,000-100,000*
- *\$100,000-\$150,000*
- *\$150,000-\$200,000*
- *\$200,000-\$250,000*
- *GT \$250,000*

## LTV Class:

- *0-80*
- *80-90*
- *90-95*
- *95-97*
- *97-98*
- *98-100*
- *GT100*

## PTI Class (Front end ratio):

- *0-.25*
- *.25-.29*
- *GT .29*

\*Y2009 only.



**DTI Class (Back end ratio):**

- 0-.35
- .35-.41
- GT .41

**Receipt of Downpayment Assistance from Seller Non-Profit:**

- Yes
- No

**Census Division:**

- **New England**  
Maine  
New Hampshire  
Vermont  
Massachusetts  
Rhode Island  
Connecticut
- **Middle Atlantic**  
New York  
New Jersey  
Pennsylvania
- **East North Central**  
Ohio  
Indiana  
Illinois  
Michigan  
Wisconsin

**Census Division (continued):**

- **West North Central**  
Minnesota  
Iowa  
Missouri  
North Dakota  
South Dakota  
Nebraska  
Kansas
- **South Atlantic**  
Delaware  
Maryland  
District of Columbia  
Virginia  
West Virginia  
North Carolina  
South Carolina  
Georgia  
Florida
- **East South Central**  
Kentucky  
Tennessee  
Alabama  
Mississippi
- **West South Central**  
Arkansas  
Louisiana  
Oklahoma  
Texas

**State\***

**\*Y2009 only.**

**Table 2: FHA Market Share between 2000 and 2010**

<b>Year</b>	<b>FHA Market Share by Loan Count (%) (First lien loans)*</b>		
	<b><u>Total</u></b>	<b><u>Purchase</u></b>	<b><u>Refinance</u></b>
2000	NA	NA	NA
2001	9.1	14.2	5.3
2002	6.4	11.1	3.6
2003	5.5	8.5	4.1
2004	4.7	6.6	3.0
2005	3.1	4.5	1.8
2006	3.3	4.5	2.0
2007	5.1	6.1	4.1
2008	19.8	24.1	15.6
2009	21.1	32.6	14.8
2010	19.9	40.2	10.4

**Source: Table is reproduced from Table 16, Historical Tables, HUD PD&R Current Housing Market Conditions, 4<sup>th</sup> Quarter 2010.**

**\*Calendar year originations**

**Table 3a: Number of FHA-Insured Loans by Purpose and Source, 2000-2009\***

Year	<u>Total</u>	<u>Purchase</u>	<u>Refinance</u>			
			<u>All</u>	<u>FHA-to-FHA</u>	<u>Conv-to-FHA (Current)</u>	<u>Conv-to-FHA (Delinquent)**</u>
2000	869,627	806,753	62,874	32,980	29,894	---
2001	1,148,201	801,433	346,768	292,952	53,816	---
2002	1,199,511	789,723	409,788	349,863	59,925	---
2003	1,352,385	668,293	684,091	615,195	68,896	---
2004	769,109	496,895	272,214	226,392	45,822	---
2005	469,675	329,719	139,956	106,100	33,856	---
2006	415,472	302,181	113,291	413,19	71,972	---
2007	472,695	293,410	179,285	40,959	138,326	342
2008	1,352,250	810,566	541,684	113,543	428,141	2952
2009	1,896,378	1,033,172	836,206	436,180	426,932	94

Source: Data provided by FHA.

\*Calendar year endorsements.

\*\* Not applicable before 2007.

**Table 3b: Share of FHA-Insured Loans by Purpose and Source, 2000-2009\***

<b>Year</b>	<b>% Purchase</b>	<b>% FHA to FHA Refi</b>	<b>% Conventional Current to FHA Refi</b>	<b>% Conventional Delinquent to FHA Refi**</b>
2000	92.8	3.8	3.4	---
2001	69.8	25.5	4.7	---
2002	65.8	29.2	5.0	---
2003	49.4	45.5	5.1	---
2004	64.6	29.4	6.0	---
2005	70.2	22.6	7.2	---
2006	72.7	9.9	17.3	---
2007	62.1	8.6	29.3	0.1
2008	59.9	8.2	31.7	0.2
2009	54.5	23.0	22.5	0.0

**Source: Data provided by FHA.**

**\*Calendar year endorsements.**

**\*\* Not applicable before 2007.**

**Table 4: FHA Purchase Loans: Borrower Characteristics, 2000 to 2009**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Income</b>										
% $\leq$ 80% of area median	47.88	49.47	52.38	53.83	54.61	53.08	47.34	39.76	37.03	46.85
% > 120% of area median	17.13	16.45	15.12	14.46	14.25	15.22	18.78	24.42	29.05	23.81
<b>% Minority</b>	37.53	36.16	35.57	34.19	35.30	32.62	30.20	31.72	30.52	28.96
<b>% First-Time Buyers</b>	81.32	78.98	79.36	78.51	77.81	79.33	79.10	79.59	77.54	80.15
<b>FICO Score</b>										
% < 620	NA	NA	NA	NA	37.13*	37.48	37.76	45.51	26.74	8.48
% $\geq$ 660	NA	NA	NA	NA	38.06	37.59	38.12	31.94	49.08	67.05
% $\geq$ 720	NA	NA	NA	NA	14.15	14.39	15.32	12.77	21.62	33.15

Source: Data provided by FHA (Calendar year endorsements).

\*FICO information missing for 53% of cases.

**Table 5: Comparison of FHA Purchase Loans and Refinances to FHA from Conventional Loans, Y2007 to Y2009: Borrower and Loan Characteristics**

	2007			2008			2009	
	Purchase	Conv. to FHA Refi		Purchase	Conv. to FHA Refi		Purchase	Conv. to FHA Refi
<b>Income</b>								
% ≤ 80% of area median	39.8	32.9		37.0	30.8		46.9	32.9
% ≥ 120% of area median	24.4	28.3		29.1	32.6		23.8	33.6
<b>% Minority</b>	31.7	28.6		30.5	25.7		29.0	17.6
<b>FICO Score</b>								
% < 620	45.5	52.4		26.7	36.9		8.5	10.9
% > 660	31.9	21.3		49.1	34.3		67.1	62.7
% > 720	12.8	5.4		21.6	10.7		33.2	26.6
<b>Loan Amount</b>								
% ≤ \$100,000	29.3	18.7		20.5	14.6		19.9	13.4
% > \$250,000	4.8	10.1		13.9	17.4		15.7	19.4
<b>% PTI &gt; .29</b>	35.8	38.9		39.4	40.5		39.6	34.1
<b>% DTI &gt; .41</b>	45.8	44.6		51.8	49.3		52.0	49.0

Source: Data provided by FHA (Calendar year endorsements).

## **Table 6: Some Recent Changes in FHA Program Structure**

- FHA determines its program structure within parameters that are set by Congress
- Mid-decade changes
  - Increase in debt-to-income and payment-to-income ratios deemed acceptable
  - Streamlining of process for getting an FHA loan
- Early 2008: Change in how loan limits calculated (Congressional action)
- Changes made via Housing and Economic Recovery Act of 2008
  - Rise in downpayment from 3% to 3.5%
  - Lowering of maximum allowable LTV from above 97% to 96.5%
  - Banning of the use of seller-funded non-profits as a source of down payment assistance

## Table 7: Trends in FHA Purchase Lending Across Census Divisions\*

Table 7a: FHA Purchase Market Share

Census Division	Share of All Division Purchase Loans that are FHA									
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>New England</b>	12.78	12.48	9.43	6.89	4.17	2.46	2.78	3.96	17.94	29.84
<b>Mid-Atlantic</b>	14.64	14.45	10.93	8.92	5.55	3.70	4.26	5.79	18.88	33.65
<b>South Atlantic</b>	16.42	16.46	13.26	9.90	6.01	3.27	3.29	5.43	24.49	35.91
<b>East North Central</b>	15.20	16.74	14.30	11.55	7.94	5.50	5.33	6.79	25.86	37.22
<b>West North Central</b>	16.20	16.87	14.48	11.40	8.29	5.81	5.55	6.18	24.33	36.45
<b>East South Central</b>	16.56	18.72	17.04	14.59	10.52	7.63	7.24	8.44	24.97	32.77
<b>West South Central</b>	19.04	20.30	19.02	16.77	12.63	8.59	7.53	9.99	27.10	37.56
<b>Mountain</b>	20.41	21.04	19.02	15.21	7.91	3.73	3.68	6.41	32.34	43.48
<b>Pacific</b>	15.59	14.41	9.74	5.94	2.31	1.02	0.94	1.98	23.16	37.76

Source: HMDA Files.

\*Calendar Year Originations



**Table 7b: Share of FHA Purchase Loans by Census Division**

<b>Census Division</b>	<b>Division's Share of FHA Purchase Loans</b>									
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>New England</b>	3.55	3.31	3.07	2.69	2.74	2.45	2.58	2.68	3.10	3.71
<b>Mid-Atlantic</b>	8.98	8.55	7.99	8.22	7.82	7.96	9.47	10.01	8.11	9.42
<b>South Atlantic</b>	22.18	22.44	21.72	21.15	21.21	19.68	19.66	20.59	20.56	19.20
<b>East North Central</b>	14.28	15.18	15.57	15.82	16.48	17.71	16.88	15.22	14.17	13.33
<b>West North Central</b>	6.19	6.25	6.44	6.54	7.26	8.11	7.89	6.81	7.30	7.81
<b>East South Central</b>	5.33	5.56	5.81	6.54	7.34	8.60	9.01	8.53	6.08	5.00
<b>West South Central</b>	12.39	12.84	14.04	15.52	18.65	20.98	21.41	21.47	14.62	12.85
<b>Mountain</b>	10.95	11.45	12.41	13.34	12.16	10.21	9.52	10.15	12.28	11.64
<b>Pacific</b>	16.15	14.42	12.96	10.18	6.34	4.30	3.57	4.54	13.78	17.05

Source: HMDA Files

**Table 7c: Changes in FHA Purchase Loan Count from Y2000 Base**

Census Division	Loan Count in 2000	Change in FHA Purchase Loan Count as Percentage of Y2000 FHA Purchase Loan Count								
		2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>New England</b>	27,409	-1.62	-22.57	-42.08	-57.56	-73.01	-74.02	-72.74	-14.53	35.50
<b>Mid-Atlantic</b>	69,390	0.37	-20.38	-30.12	-52.11	-65.4	-62.36	-59.83	-11.57	35.78
<b>South Atlantic</b>	171,380	6.58	-12.35	-27.24	-47.37	-65.36	-68.37	-66.55	-9.27	12.03
<b>East North Central</b>	110,385	11.94	-2.46	-15.51	-36.51	-51.61	-57.83	-61.62	-2.91	20.72
<b>West North Central</b>	47,803	6.38	-6.86	-19.39	-35.38	-48.8	-54.48	-60.32	15.43	63.28
<b>East South Central</b>	41,176	9.98	-2.45	-6.35	-24.23	-36.97	-39.67	-42.31	11.67	21.43
<b>West South Central</b>	95,782	9.15	1.41	-4.45	-17.21	-33.92	-38.35	-37.59	15.49	34.12
<b>Mountain</b>	84,628	10.14	1.45	-7.07	-38.9	-63.59	-68.98	-66.6	9.78	37.58
<b>Pacific</b>	124,814	-5.95	-28.17	-51.89	-78.39	-89.61	-92.12	-89.86	-16.5	36.57

Source: HMDA Files

## Table 8: Purchase Borrower Characteristics by Census Division\*

### Table 8a: First Time Homebuyers

	% of purchasers who are first-time homebuyers			
	2000	2001	2008	2009
New England	83.8	81.1	81.1	82.4
Mid-Atlantic	84.0	81.8	81.3	83.3
South Atlantic	79.6	77.5	78.0	79.6
East North Central	81.1	79.7	78.2	80.5
West North Central	82.3	79.5	77.5	78.8
East South Central	75.1	73.0	73.6	75.0
West South Central	80.1	75.5	74.9	76.7
Mountain	80.6	78.5	76.1	78.9
Pacific	84.7	83.7	79.6	84.2

### Table 8b: Income Distribution

	% with income $\leq$ 80% of area median				% with income $>$ 120% of area median			
	2000	2001	2008	2009	2000	2001	2008	2009
New England	47.9	48.6	34.8	46.5	15.5	15.0	25.9	20.8
Mid-Atlantic	42.6	44.1	36.4	43.3	20.3	19.5	28.3	25.0
South Atlantic	57.9	58.3	39.6	49.0	11.6	11.8	26.9	22.7
East North Central	55.3	57.2	49.4	56.9	11.4	10.8	19.4	16.9
West North Central	56.5	60.3	49.5	58.7	11.0	9.6	18.4	15.1
East South Central	50.7	53.7	41.5	48.9	16.8	15.5	25.9	22.7
West South Central	42.5	43.3	31.8	39.3	22.9	22.7	34.4	30.4
Mountain	47.7	49.0	35.1	50.8	15.1	14.8	28.4	21.2
Pacific	31.6	32.2	19.2	35.7	27.4	26.2	46.0	31.4

\*Color legend follows Table 8d.

**Table 8c: Minority Purchasers by Region**

	% of purchasers who are minority				Change in % minority 2000 to 2009	Change in percentage points 2000 to 2009
	2000	2001	2008	2009		
New England	21.36	23.32	21.36	18.9	.12	2.46
Mid-Atlantic	37.04	35.22	26.69	24.7	.33	12.34
South Atlantic	42.00	40.87	38.44	35.0	.17	7.00
East North Central	28.98	26.41	18.50	17.0	.41	11.98
West North Central	14.61	14.24	12.10	11.5	.21	3.11
East South Central	26.57	24.50	23.01	20.0	.25	6.57
West South Central	42.24	41.47	37.90	35.6	.16	6.64
Mountain	34.86	35.03	26.41	25.3	.27	9.56
Pacific	52.13	51.30	44.50	44.5	.15	7.63

\*Color legend follows Table 8d.

**Table 8d: FICO Distribution by Region**

	% with FICO < 620				% with FICO ≥ 660				% with FICO ≥ 720			
	<u>2004</u>	<u>2005</u>	<u>2008</u>	<u>2009</u>	<u>2004</u>	<u>2005</u>	<u>2008</u>	<u>2009</u>	<u>2004</u>	<u>2005</u>	<u>2008</u>	<u>2009</u>
New England	27.1	27.0	20.6	6.2	48.3	48.1	55.8	71.9	19.6	20.6	25.9	37.5
Mid-Atlantic	34.3	32.4	25.2	8.2	41.2	43.3	50.5	68.4	15.4	17.3	22.3	34.4
South Atlantic	40.2	40.8	30.0	9.6	33.3	32.7	45.6	65.5	11.6	11.3	19.8	32.6
East North Central	40.9	41.0	27.8	8.6	33.9	33.3	47.6	66.4	11.8	12.2	21.1	32.6
West North Central	27.4	28.2	22.8	7.9	47.0	46.6	53.7	69.9	19.2	19.2	26.1	36.6
East South Central	34.5	34.1	29.99	9.0	39.7	39.1	45.0	63.7	15.0	15.4	19.3	30.9
West South Central	45.9	46.1	36.61	11.5	32.9	32.4	39.2	59.3	12.4	12.4	15.3	26.4
Mountain	28.9	28.3	20.9	7.4	45.7	45.9	54.9	69.3	17.8	18.5	24.7	34.4
Pacific	27.7	26.1	16.9	6.1	45.7	47.4	59.9	72.1	16.7	18.4	26.8	36.4

**Source: Data provided by FHA (calendar year endorsements).**

	Blue entry ranks in top four for its year.
	Yellow entry ranks in bottom four for its year.
When ties for fourth place occur in either case, both regions are shaded.	

## Table 9: Purchase Loan Characteristics by Census Division\*

**Table 9a: Loan Amount**

	% with loan ≤ \$100,000				% with loan > \$200,000				% with loan > \$250,000			
	2000	2001	2008	2009	2000	2001	2008	2009	2000	2001	2008	2009
New England	40.7	30.1	4.4	4.9	3.9	8.0	50.3	48.2	0.7	2.0	26.1	26.9
Mid-Atlantic	52.9	52.0	23.5	18.7	7.2	9.7	35.1	40.4	2.1	3.0	23.2	26.7
South Atlantic	52.5	44.5	15.1	18.0	0.9	2.1	29.6	30.4	0.0	0.0	15.1	16.6
East North Central	55.7	50.3	37.6	36.6	1.1	1.8	11.2	13.6	0.1	0.2	4.1	5.6
West North Central	64.4	56.7	29.3	26.3	0.0	0.1	12.3	13.0	0.0	0.0	3.8	4.4
East South Central	70.5	64.0	31.3	27.1	0.0	0.2	9.2	12.6	0.0	0.0	2.6	4.2
West South Central	72.1	64.6	28.0	24.9	0.0	0.0	8.4	12.5	0.0	0.1	2.3	3.9
Mountain	36.6	29.5	7.4	15.0	1.4	3.3	33.7	25.9	0.0	1.0	13.6	11.1
Pacific	28.5	22.2	4.7	6.5	7.1	11.4	60.6	54.3	0.7	2.0	39.7	35.9

\*Color legend follows Table 9b.

**Table 9b: Front End Ratio (PTI), Back End Ratio (DTI) & Seller Down Payment Assistance**

	PTI Ratio > .29				DTI Ratio > .41					% Seller Assisted Downpayment				
	2000	2001	2008	2009	2000	2001	2008	2009		2000	2001	2004	2008	2009**
New England	39.73	37.61	51.49	49.71	38.52	37.65	55.44	54.18	.18	0.61	5.94	9.67	.2255	
Mid-Atlantic	37.41	32.83	42.45	44.34	34.80	33.68	51.37	52.74	.17	0.52	4.33	7.56	.2839	
South Atlantic	34.16	31.26	43.83	42.45	37.79	36.69	52.61	52.02	2.82	6.98	30.84	31.33	.5449	
East North Central	27.96	25.38	29.98	30.49	32.53	32.19	45.30	45.82	3.08	10.17	41.49	33.40	.5767	
West North Central	22.72	22.36	30.37	31.83	33.17	35.15	47.38	47.01	.65	3.57	23.76	27.72	.8282	
East South Central	21.85	20.14	27.12	28.61	32.70	33.06	43.62	44.54	2.64	8.09	35.88	32.39	.5384	
West South Central	22.94	21.08	27.90	29.97	34.53	34.47	46.93	49.05	.82	2.74	34.64	30.82	.4500	
Mountain	43.02	40.50	44.50	39.72	41.80	40.24	56.93	53.24	4.13	9.28	35.41	34.20	.7381	
Pacific	54.61	51.78	58.12	55.51	45.54	46.00	64.61	61.27	2.92	5.98	15.07	21.52	.2521	

Source: Data provided by FHA (calendar year endorsements).

\*\* Entries may represent loans made in Y2008 but endorsed in Y2009.

	Blue entry ranks in top four for its year.
	Yellow entry ranks in bottom four for its year.
	When ties for fourth place occur in either case, both regions are shaded.

**Table 10: Distribution of FICO Scores among 2004 FHA Purchase Borrowers**

<b>FICO range</b>	<b>% of borrowers in FICO range</b>
< 500	0.87
500-579	15.0
580-619	21.3
620-659	24.8
660-719	23.9
≥ 720	14.2
<b>% of borrowers in 500 to 570 range</b>	
---- with LTV < 90	8.5
---- with LTV < 95	17.0*

\*That the shares of borrowers in the 500 to 570 FICO range with LTVs below 90 and LTVS between 90 and 95 are the same is coincidence.

**Source: Data provided by FHA (calendar year endorsements).**



## Table 11: Low FICO Scores: Incidence Within and Distribution across Borrower Groups

Table 11a: Purchase Borrowers, FICO Scores <580

		% of Group Members with FICO Scores <580			Group's Share of Purchase Borrowers with FICO Scores <580			Share of all Purchase Borrowers		
		2004	2008	2009	2004	2008	2009	2004	2008	2009
<b>Race Group</b>	<b>Native American</b>	15.71%	8.75%	1.34%	0.57%	0.56%	0.51%	0.67%	0.52%	0.42%
	<b>Asian</b>	12.62%	4.93%	0.57%	3.35%	1.74%	2.03%	3.15%	2.89%	3.92%
	<b>African-American</b>	27.60%	14.73%	2.24%	24.45%	22.10%	19.75%	14.00%	12.40%	9.74%
	<b>Hispanic</b>	19.22%	9.24%	1.38%	18.15%	16.42%	18.62%	17.47%	14.72%	14.89%
	<b>Non-Hispanic White</b>	12.80%	6.98%	0.92%	53.47%	59.20%	59.09%	64.70%	69.48%	71.04%
<b>Income Class</b>	<b>0-80</b>	14.26%	7.24%	0.86%	47.40%	32.17%	36.55%	54.61%	37.03%	46.85%
	<b>80-100</b>	16.72%	8.46%	1.23%	21.11%	19.76%	19.00%	19.37%	19.14%	17.04%
	<b>100-120</b>	18.37%	9.05%	1.37%	14.09%	16.36%	15.20%	11.77%	14.79%	12.31%
	<b>&gt; 120</b>	18.48%	8.91%	1.36%	17.40%	31.71%	29.24%	14.25%	29.05%	23.81%
<b>Census Divisions</b>	<b>N Eng</b>	8.85%	5.27%	0.76%	1.58%	1.86%	2.47%	2.68%	2.88%	3.56%
	<b>Mid-Atl</b>	13.73%	7.61%	1.08%	7.29%	7.43%	9.01%	8.18%	7.99%	9.17%
	<b>S-Atl</b>	16.82%	9.66%	1.19%	21.33%	24.11%	20.89%	21.34%	20.58%	19.27%
	<b>E N Cent</b>	17.24%	8.55%	1.04%	18.56%	14.66%	12.61%	16.10%	14.11%	13.26%
	<b>W N Cent</b>	9.23%	6.54%	1.00%	4.28%	5.46%	6.86%	7.02%	6.88%	7.54%
	<b>E S Cent</b>	12.71%	8.74%	1.02%	6.04%	7.10%	5.03%	7.11%	6.71%	5.39%
	<b>W S Cent</b>	24.44%	13.36%	1.84%	29.67%	25.52%	22.66%	18.43%	15.77%	13.51%
	<b>Mtns</b>	10.65%	5.25%	0.82%	7.74%	7.67%	8.79%	12.38%	12.03%	11.60%
<b>Pacif</b>	9.61%	3.88%	0.77%	3.51%	6.18%	11.69%	6.77%	13.06%	16.70%	

Source: Data provided by FHA (calendar year endorsements).

**Table 11b: Purchase Borrowers, FICO Scores <620**

		% of Group Members with FICO Scores <620			Group's Share of Purchase Borrowers with FICO Scores <620			Share of all Purchase Borrowers		
		2004	2008	2009	2004	2008	2009	2004	2008	2009
<b>Race Group</b>	<b>Native American</b>	37.38%	28.85%	10.02%	0.58%	0.56%	0.50%	0.67%	0.52%	0.42%
	<b>Asian</b>	34.71%	18.89%	4.98%	3.94%	2.04%	2.33%	3.15%	2.89%	3.92%
	<b>African-American</b>	54.45%	42.61%	16.54%	20.62%	19.64%	19.25%	14.00%	12.40%	9.74%
	<b>Hispanic</b>	41.23%	29.61%	10.23%	16.64%	16.15%	18.20%	17.47%	14.72%	14.89%
	<b>Non-Hispanic White</b>	32.59%	23.66%	7.04%	58.22%	61.60%	59.72%	64.70%	69.48%	71.04%
<b>Income Class</b>	<b>0-80</b>	34.40%	25.46%	8.50%	48.87%	34.74%	47.07%	54.61%	37.03%	46.85%
	<b>80-100</b>	39.25%	27.90%	8.99%	21.18%	20.00%	18.10%	19.37%	19.14%	17.04%
	<b>100-120</b>	41.47%	28.63%	8.90%	13.60%	15.90%	12.95%	11.77%	14.79%	12.31%
	<b>&gt; 120</b>	40.66%	26.85%	7.77%	16.36%	29.35%	21.87%	14.25%	29.05%	23.81%
<b>Census Divisions</b>	<b>N Eng</b>	27.07%	20.58%	6.15%	2.07%	2.24%	2.61%	2.68%	2.88%	3.56%
	<b>Mid-Atl</b>	34.27%	25.21%	8.15%	7.78%	7.57%	8.92%	8.18%	7.99%	9.17%
	<b>S-Atl</b>	40.21%	29.95%	9.51%	21.80%	23.00%	21.87%	21.34%	20.58%	19.27%
	<b>E N Cent</b>	40.85%	27.83%	8.52%	18.80%	14.68%	13.45%	16.10%	14.11%	13.26%
	<b>W N Cent</b>	27.41%	22.83%	7.83%	5.44%	5.87%	7.03%	7.02%	6.88%	7.54%
	<b>E S Cent</b>	34.46%	29.99%	8.88%	7.00%	7.49%	5.73%	7.11%	6.71%	5.39%
	<b>W S Cent</b>	45.90%	36.61%	11.36%	23.83%	21.53%	18.37%	18.43%	15.77%	13.51%
	<b>Mtns</b>	28.87%	20.82%	7.25%	8.97%	9.36%	10.06%	12.38%	12.03%	11.60%
<b>Pacif</b>	27.65%	16.85%	5.98%	4.32%	8.27%	11.95%	6.77%	13.06%	16.70%	

Source: Data provided by FHA (calendar year endorsements).

**Table 12: Characteristics of 2009 Purchase Borrowers with FICO Scores of at least 660**

		FICO between 660 and 719			FICO of 720 or above		
		All buyers with FICO from 660 to 719	First-time buyers w. FICO fr. 660 to 719	Non-first - time buyers w.FICO fr. 660 to 719	All buyers w. FICO $\geq$ 720	First time-buyers w. FICO $\geq$ 720	Non-first-time buyers w. FICO $\geq$ 720
<b>Distribution by Income Class</b>	<50% of area median	13.82%	15.75%	5.57%	12.25%	14.61%	5.19%
	Between 50% and 80% of area median	31.94%	34.91%	19.29%	33.49%	37.83%	20.53%
	Between 80% and 100% of area median	16.68%	17.20%	15.25%	17.08%	17.34%	16.33%
	Between 100% and 120% of area median	12.54%	12.00%	14.84%	12.31%	11.40%	15.05%
	>120% of area median	24.88%	20.14%	45.04%	24.87%	18.82%	42.90%
<b>Distribution by Race/Ethnicity</b>	Native American	0.42%	0.43%	0.41%	0.36%	0.37%	0.32%
	Asian	4.29%	4.60%	2.95%	4.50%	4.95%	3.17%
	African-American	8.62%	8.89%	7.47%	5.00%	5.17%	4.52%
	Hispanic	15.26%	16.23%	11.16%	11.43%	12.12%	9.36%
	Non-Hispanic, White	71.40%	69.85%	78.01%	78.71%	77.39%	82.63%
<b>Median: Front End Ratio (PTI)</b>		26.5	27.2	23.4	27.4	28.4	24.5
<b>Median: Back End Ratio (DTI)</b>		42.2	41.8	44.1	40.6	40.0	42.5
<b>LTV Distribution</b>	<b>0-80</b>	1.65%	1.55%	2.05%	1.16%	1.16%	1.17%
	<b>80-90</b>	5.13%	4.66%	7.10%	5.03%	4.76%	5.83%
	<b>90-95</b>	7.09%	6.71%	8.70%	9.02%	8.76%	9.79%
	<b>95-97</b>	81.22%	82.15%	77.28%	80.81%	81.36%	79.19%
	<b>97-98</b>	2.60%	2.49%	3.09%	2.26%	2.17%	2.54%
	<b>98-10</b>	0.76%	0.81%	0.55%	0.55%	0.60%	0.40%
	<b>&gt;100</b>	1.55%	1.63%	1.23%	1.16%	1.19%	1.08%
Table continued on next page							

Source: Data provided by FHA (calendar year endorsements).

**Table 12, continued**

		FICO between 660 and 719			FICO of 720 or above		
		All buyers with FICO from 660 to 719	First-time buyers w. FICO fr. 660 to 719	Non-first - time buyers w.FICO fr. 660 to 719	All buyers w. FICO $\geq$ 720	First time-buyers w. FICO $>$ 720	Non-first-time buyers w. FICO $\geq$ 720
<b>High LTVs and/or DTIs</b>							
	<b>% with LTV &gt;95%</b>	86.13%	87.08%	82.15%	84.78%	85.32%	83.21%
	<b>% with DTI &gt;45</b>	39.40%	37.70%	46.30%	33.80%	31.30%	41.00%
	<b>% with DTI &lt; 45 and LTV &lt;95</b>	8.3	8	9.6	9.6	9.7	9.2
	<b>% with DTI &gt; 45 or LTV &gt;95</b>	58.3	59.6	52.8	62.8	64.4	58
<b>% with DTI &gt; 45 and LTV &gt;95</b>	33.4	32.4	37.5	27.6	25.9	32.8	

Source: Data provided by FHA (calendar year endorsements).

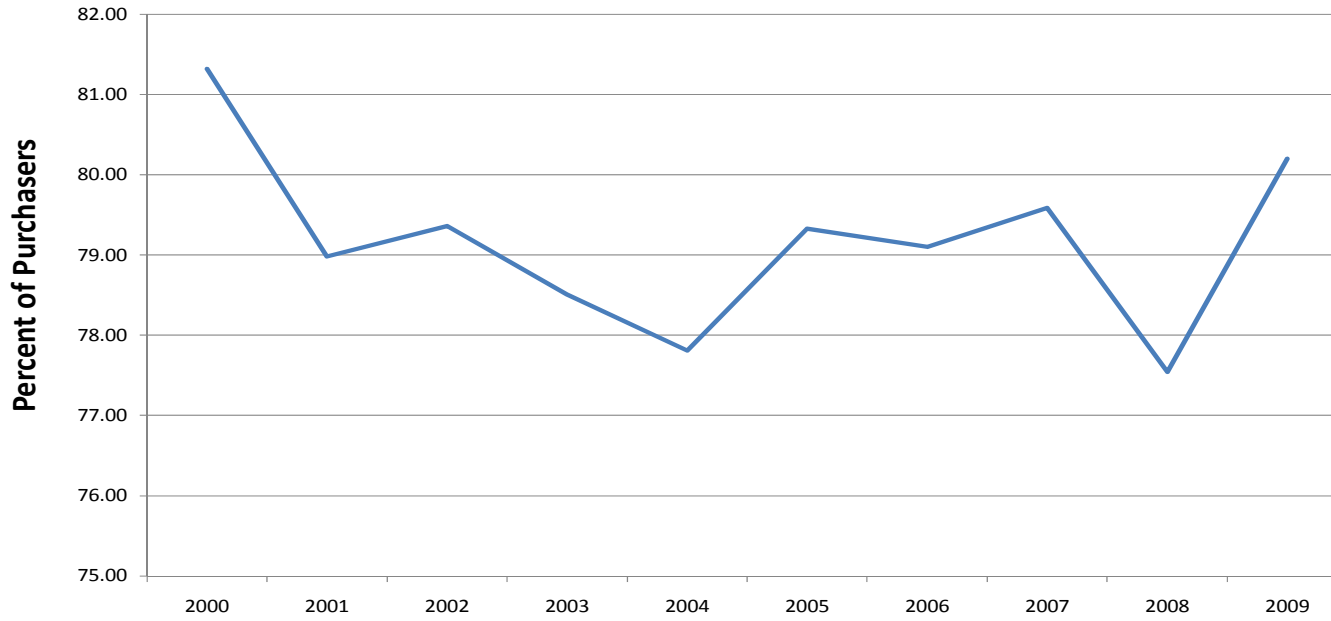
**Table A1: FHA Purchase Loans: Loan Characteristics, 2000-2009**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Loan Amount</b>										
<b>% ≤ \$100,000</b>	50.82	44.95	39.79	34.91	34.56	34.95	32.40	29.30	20.45	19.85
<b>% &gt; \$200,000</b>	2.52	3.96	5.59	6.98	7.25	6.66	8.74	12.75	26.68	28.50
<b>% &gt; \$250,000</b>	0.36	0.52	1.17	2.19	2.55	2.22	2.83	4.78	13.92	15.72
<b>LTV</b>										
<b>% LTV ≤ .95</b>	11.62	10.64	10.29	10.24	11.52	12.01	12.88	12.53	13.03	14.60
<b>% .95 &lt; LTV ≤ .97</b>	35.45	39.67	42.78	45.70	46.60	46.13	44.87	47.83	56.26	80.27
<b>% .97 &lt; LTV ≤ .98</b>	48.98	46.81	44.68	42.38	40.21	40.28	40.64	38.03	29.08	2.93
<b>% LTV ≥ .98</b>	3.95	2.88	2.26	1.67	1.67	1.57	1.60	1.60	1.62	2.19
<b>% PTI &gt; .29</b>	35.52	32.40	32.71	31.86	32.85	31.90	35.16	35.80	39.37	40.00
<b>DTI</b>										
<b>% &gt; .35</b>	66.59	65.15	66.49	66.45	67.29	66.65	69.50	70.72	74.27	72.40
<b>% &gt; .41</b>	37.57	37.03	38.69	39.07	39.94	40.08	44.11	45.80	51.79	52.30
<b>% of Loans where Downpayment Assistance is Provided by “Seller Non-Profit”</b>	2.30	6.03	10.93	21.23	29.78	33.70	32.76	35.99	27.91	0.50

Source: Data provided by FHA (Calendar year endorsements).

# Figures

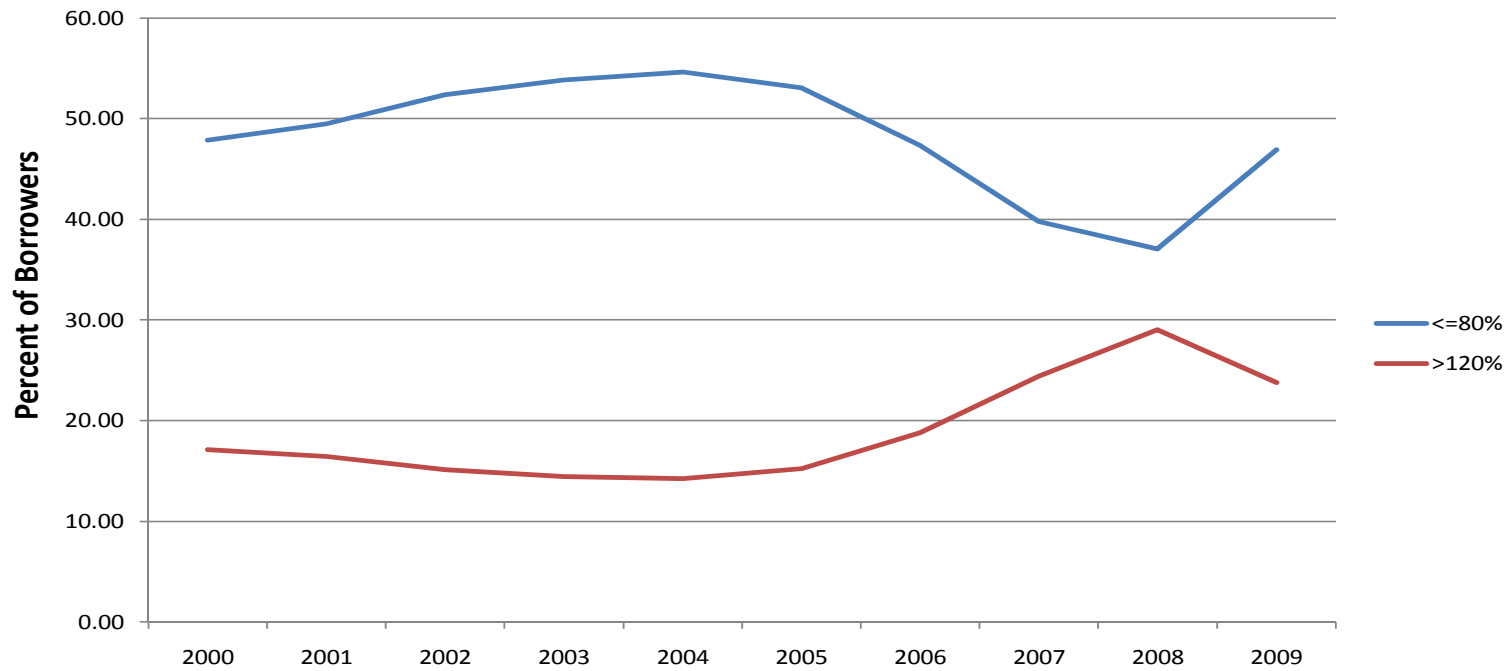
**Figure 1**  
**Percent of FHA Purchase Loans Going to First-Time Homebuyers\***



Source: Data provided by FHA, U.S. Department of Housing and Urban Development

\*Data are for calendar year endorsements

**Figure 2**  
**Income as a Percentage of Area Median Income**  
**for FHA Purchase Borrowers\***



Source: Data provided by FHA, U.S. Department of Housing and Urban Development

\*Data are for calendar year endorsements



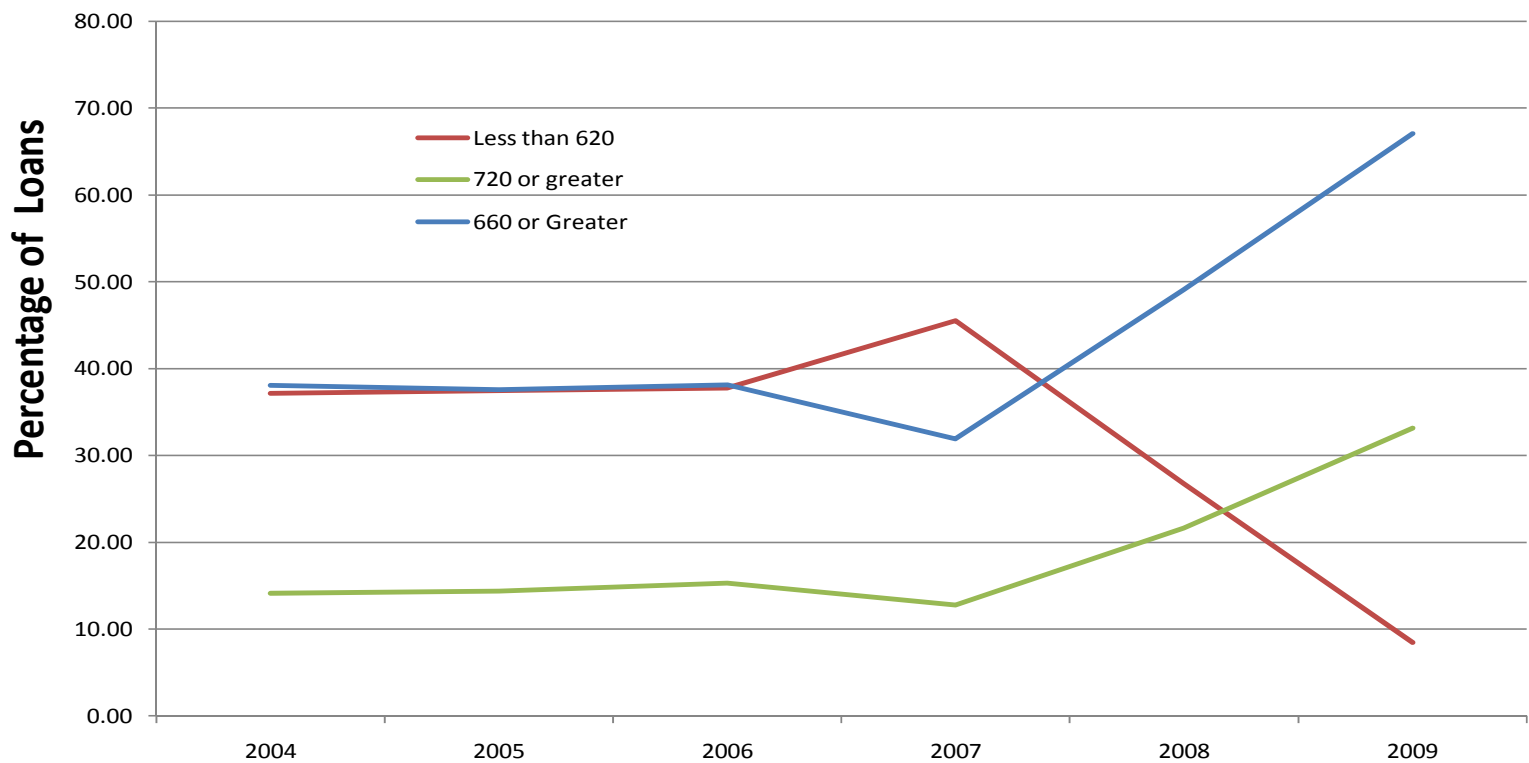
**Figure 3**  
**Number and Share of FHA Purchase Borrowers**  
**Who Are Minority\***



Source: Data provided by FHA, U.S. Department of Housing and Urban Development

\*Data are for calendar year endorsements

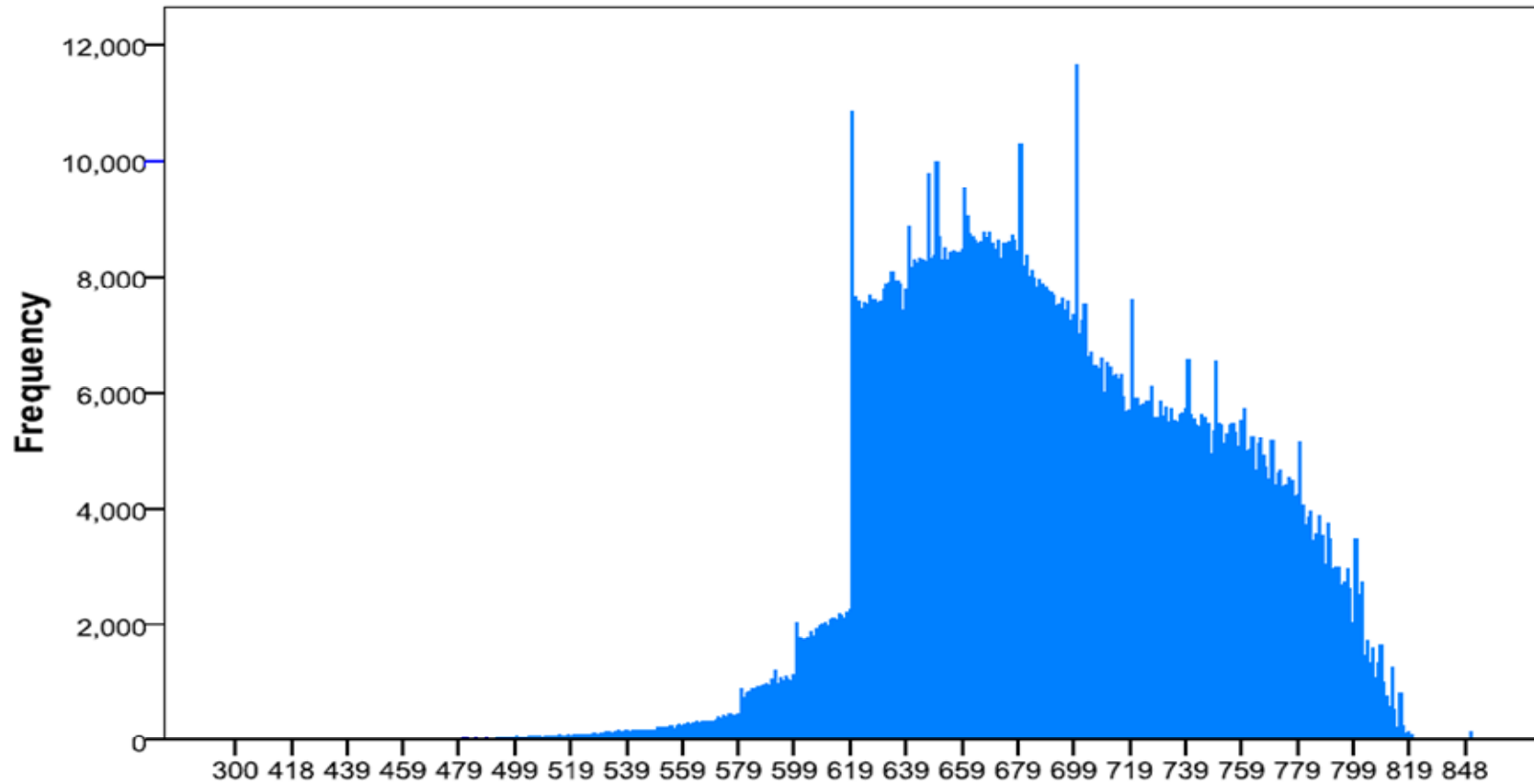
**Figure 4**  
**FHA Purchase Loans, Distribution of FICO Scores\***



Source: Data provided by FHA, U.S. Department of Housing and Urban Development

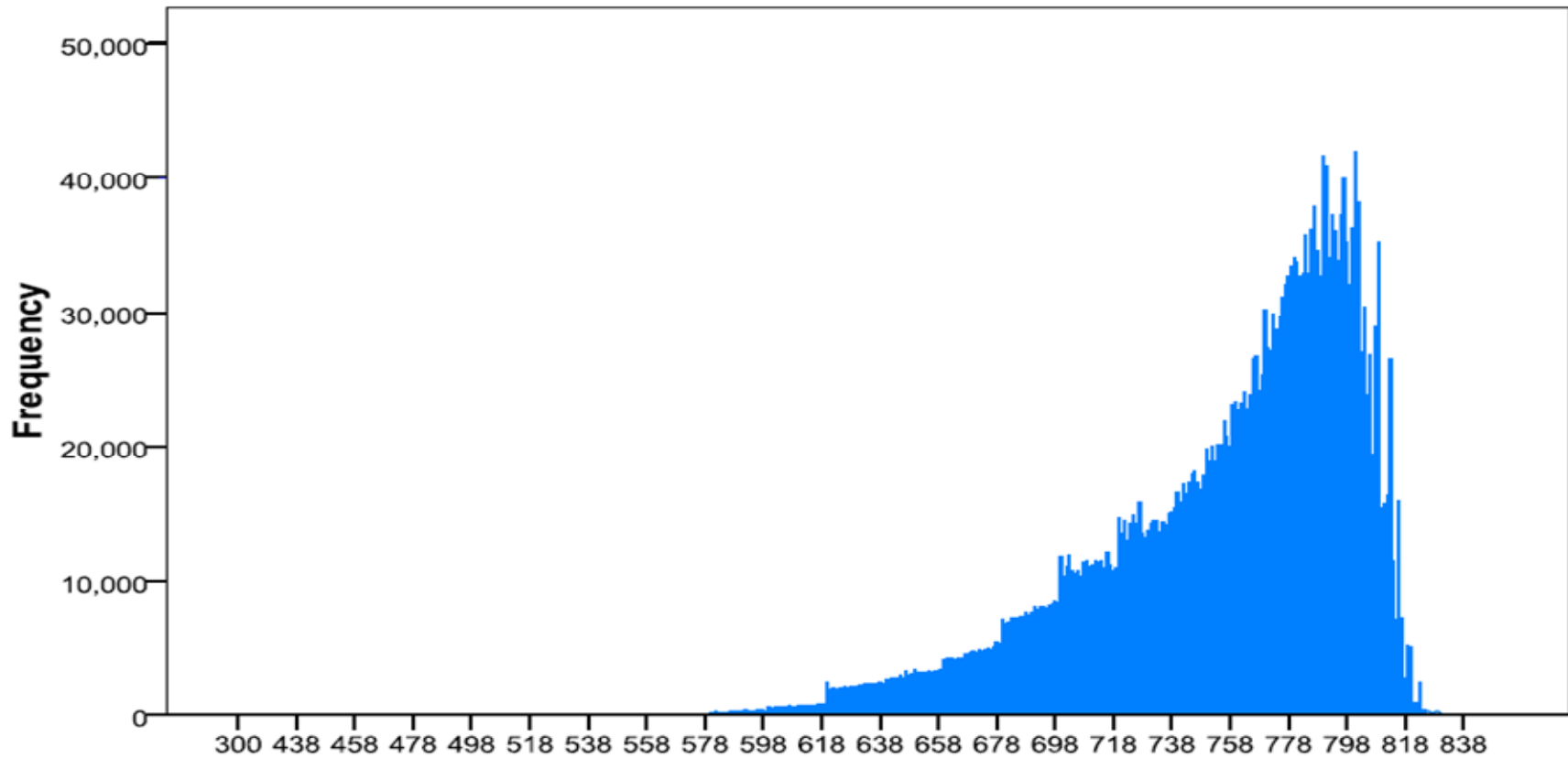
\*Data are for calendar year endorsements

**Figure 5a**  
**Distribution of FICO Scores**  
**FHA Loan Originations, 2009**



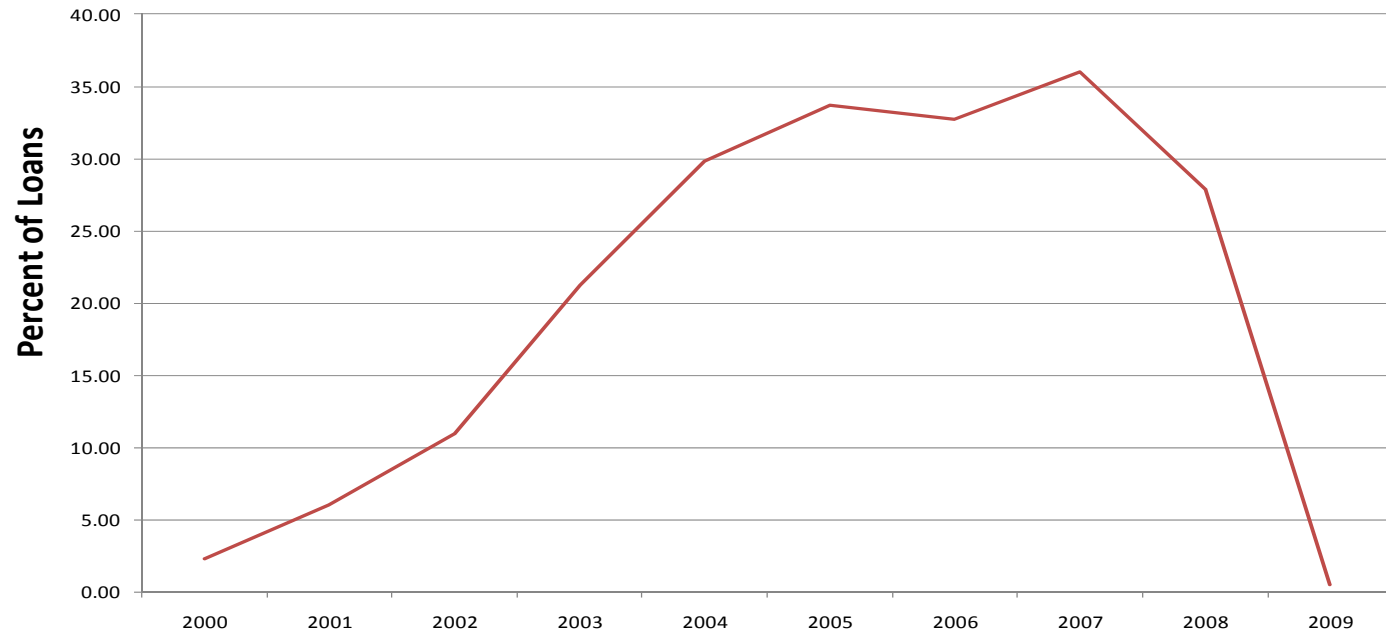
Source: Servicer-provided information from national proprietary loan-level database

**Figure 5b**  
**Distribution of FICO Scores**  
**Non-FHA Loan Originations, 2009**



Source: Servicer-provided information from national proprietary loan-level database

**Percent of Purchase Loans Where Down Payment Assistance Is Provided by “Seller Nonprofit”\***

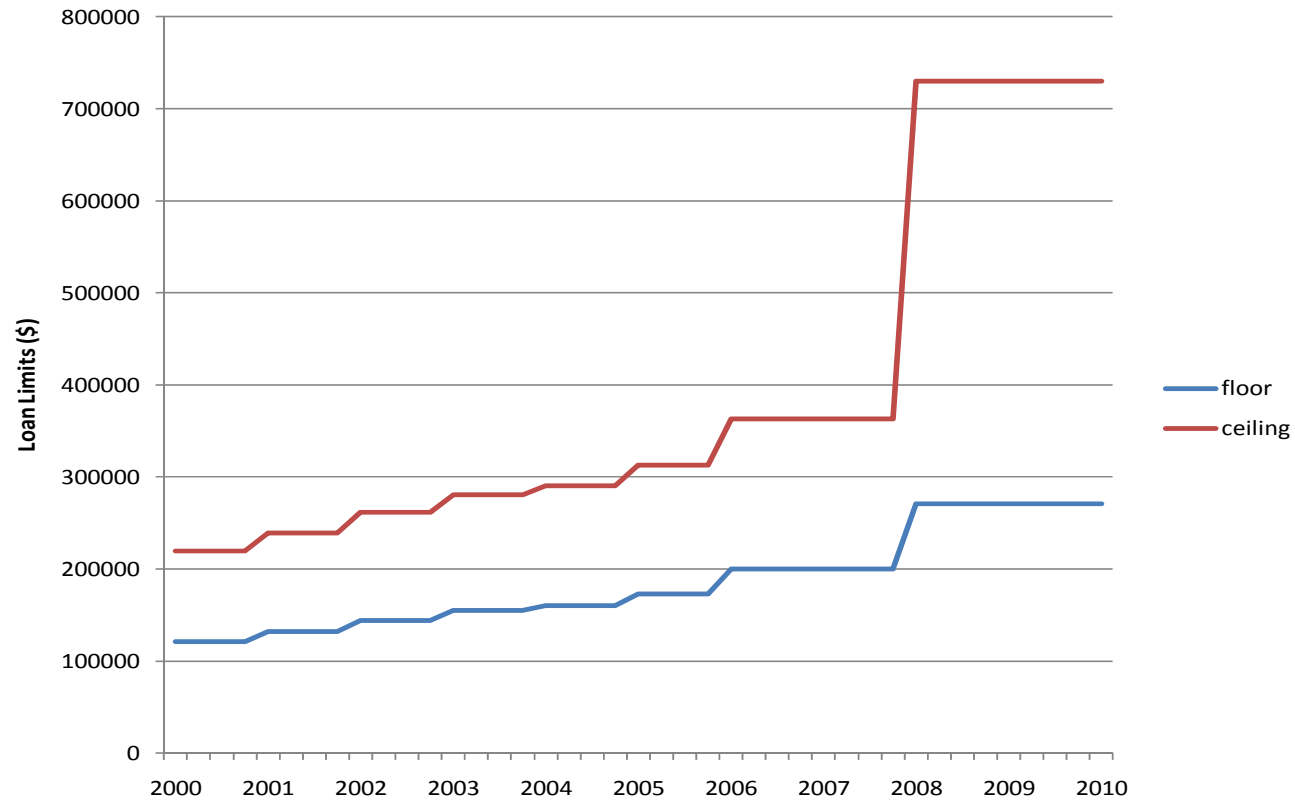


Source: Data provided by FHA, U.S. Department of Housing and Urban Development

\*Data are for calendar year endorsements

**Figure 6**

### National Floors and Ceilings on FHA Loan Limits, 2000-2010 \*

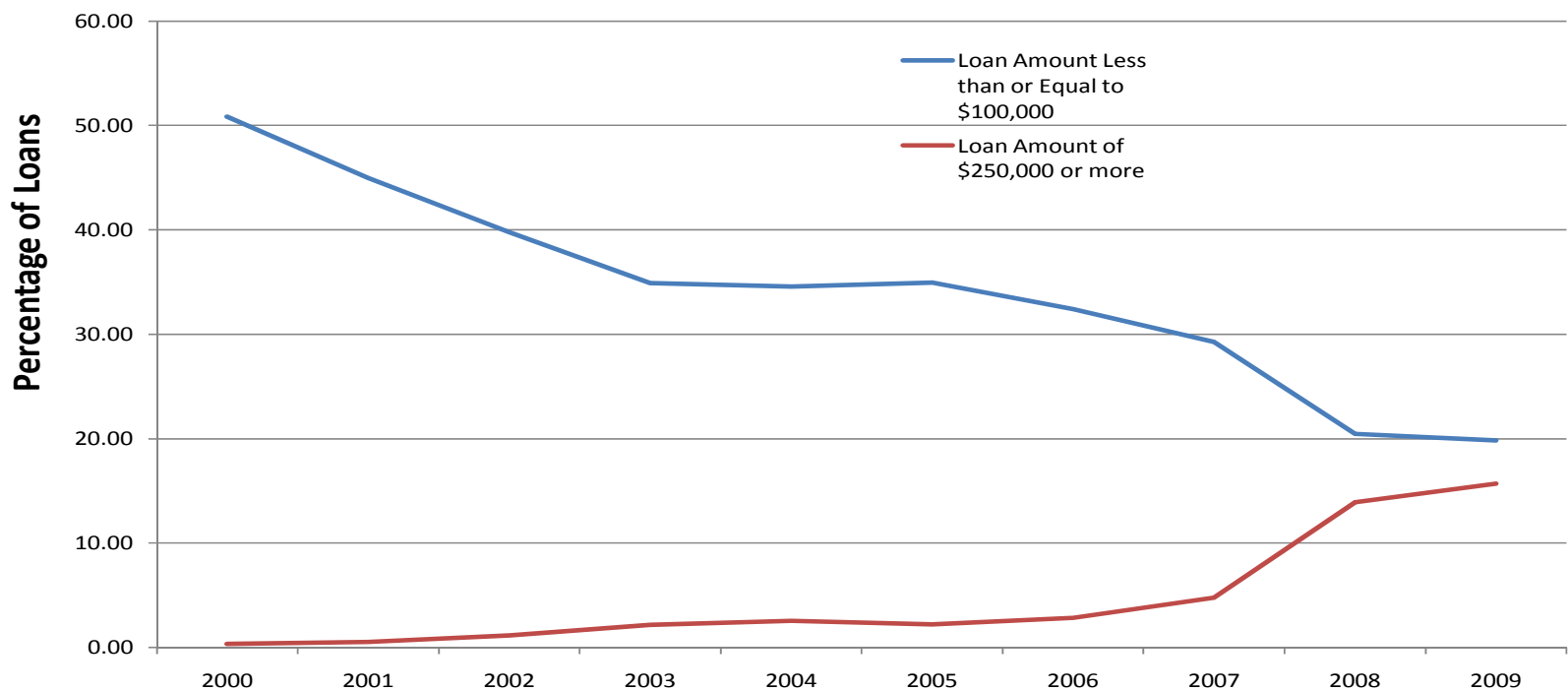


Source: U.S. Department of Housing and Urban Development

\*Limits for lower 48 states.

Figure 7

### Loan Amounts, FHA Purchase Loans\*



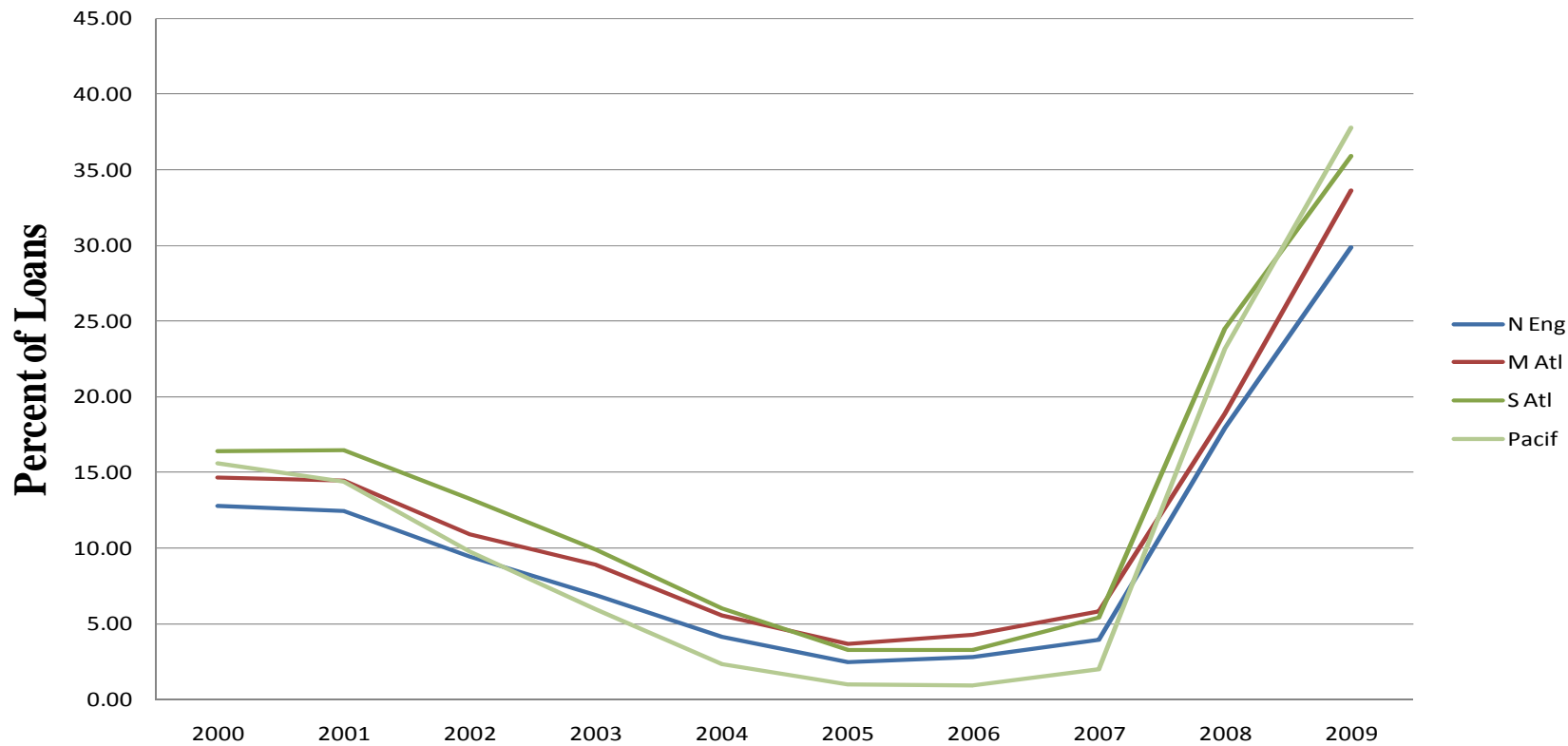
Source: Data provided by FHA, U.S. Department of Housing and Urban Development

\*Data are for calendar year endorsements

Figure 8

**Figure 9: FHA Purchase Market Share by Census Divisions\***

**Figure 9a: Coastal Divisions**

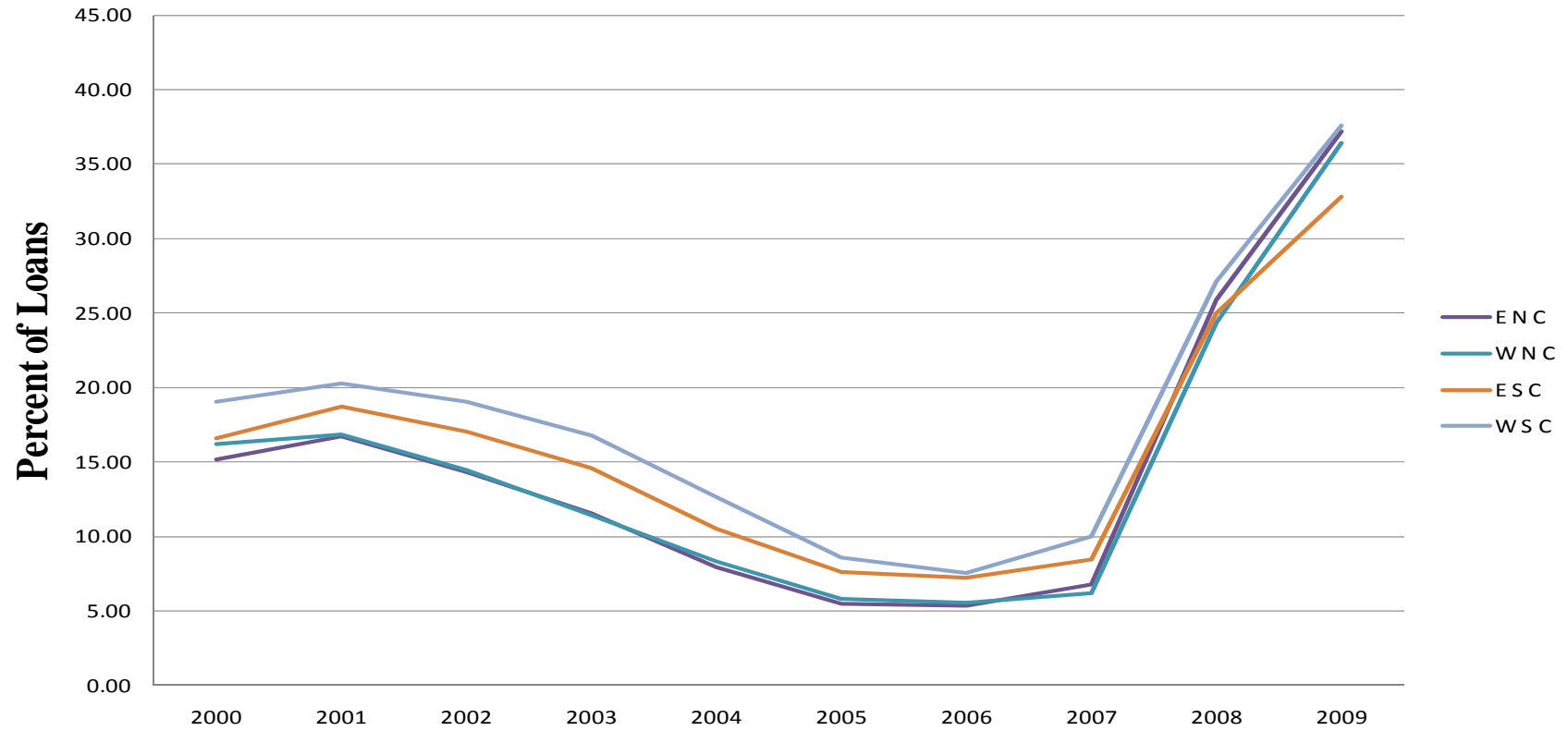


Source: HMDA files

\*Data are for calendar year originations.

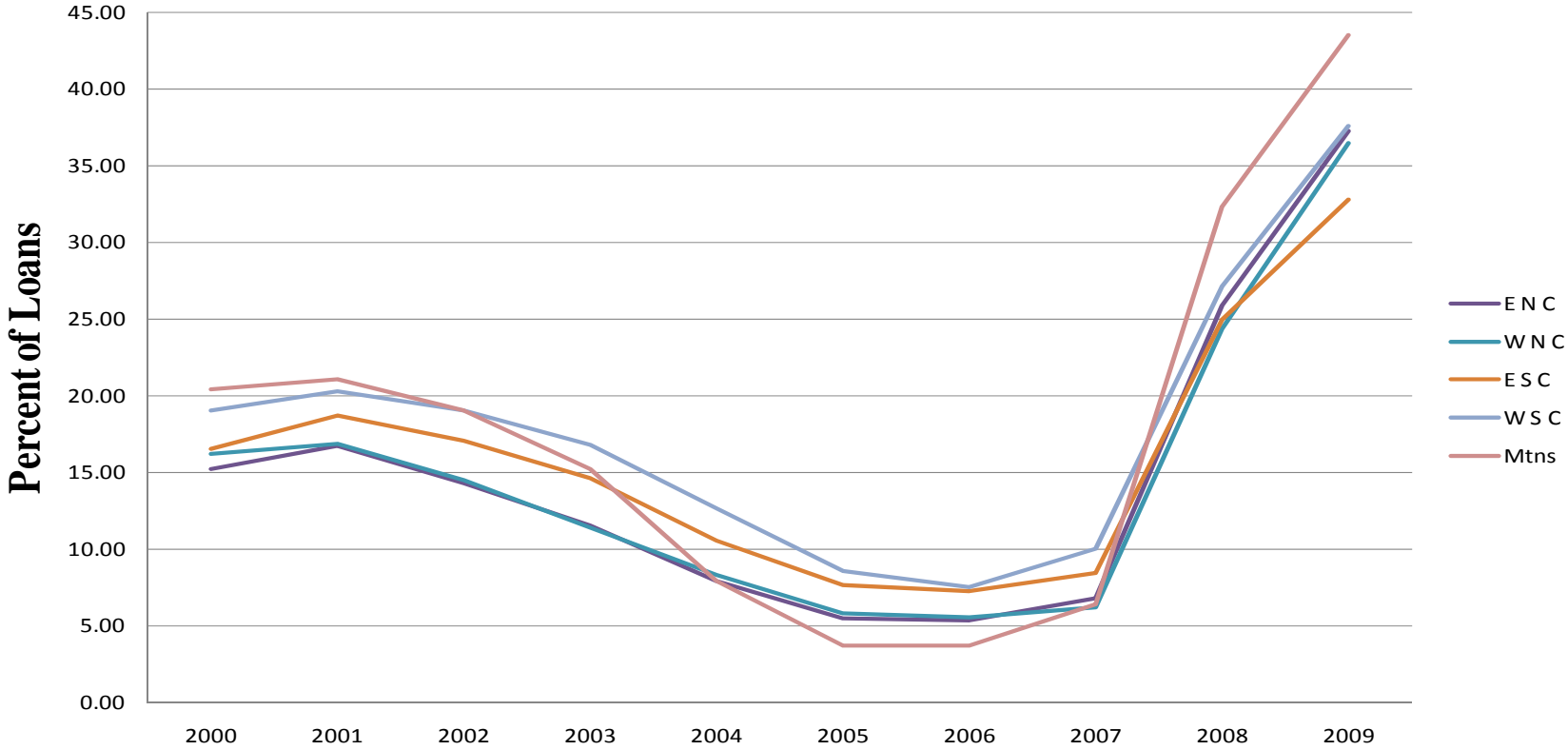


**Figure 9b: Interior Census Divisions Excluding Mountain Division**



Source: HMDA files

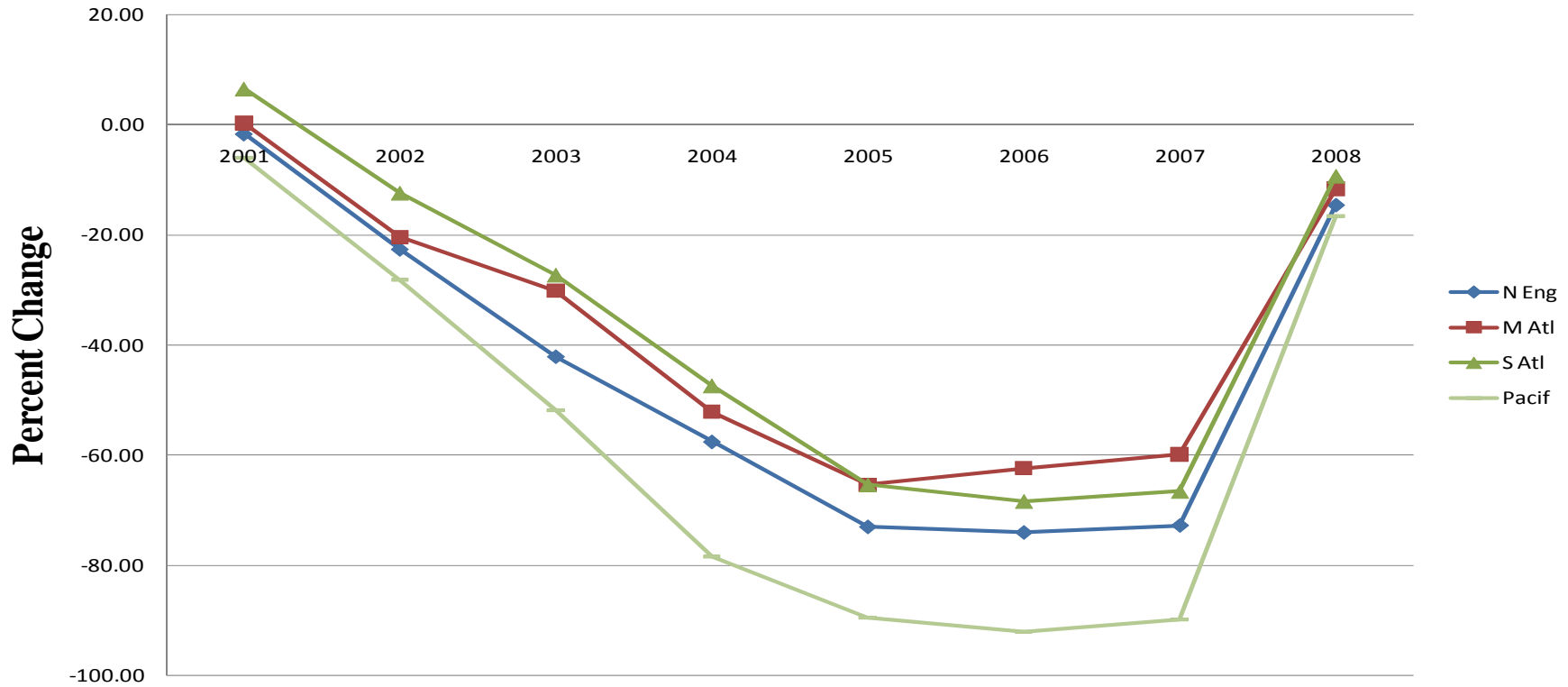
**Figure 9c: Interior Census Divisions Including Mountain Division**



Source: HMDA files

**Figure 10: Percent Change in FHA Purchase Lending from Y2000 Base, by Census Divisions\***

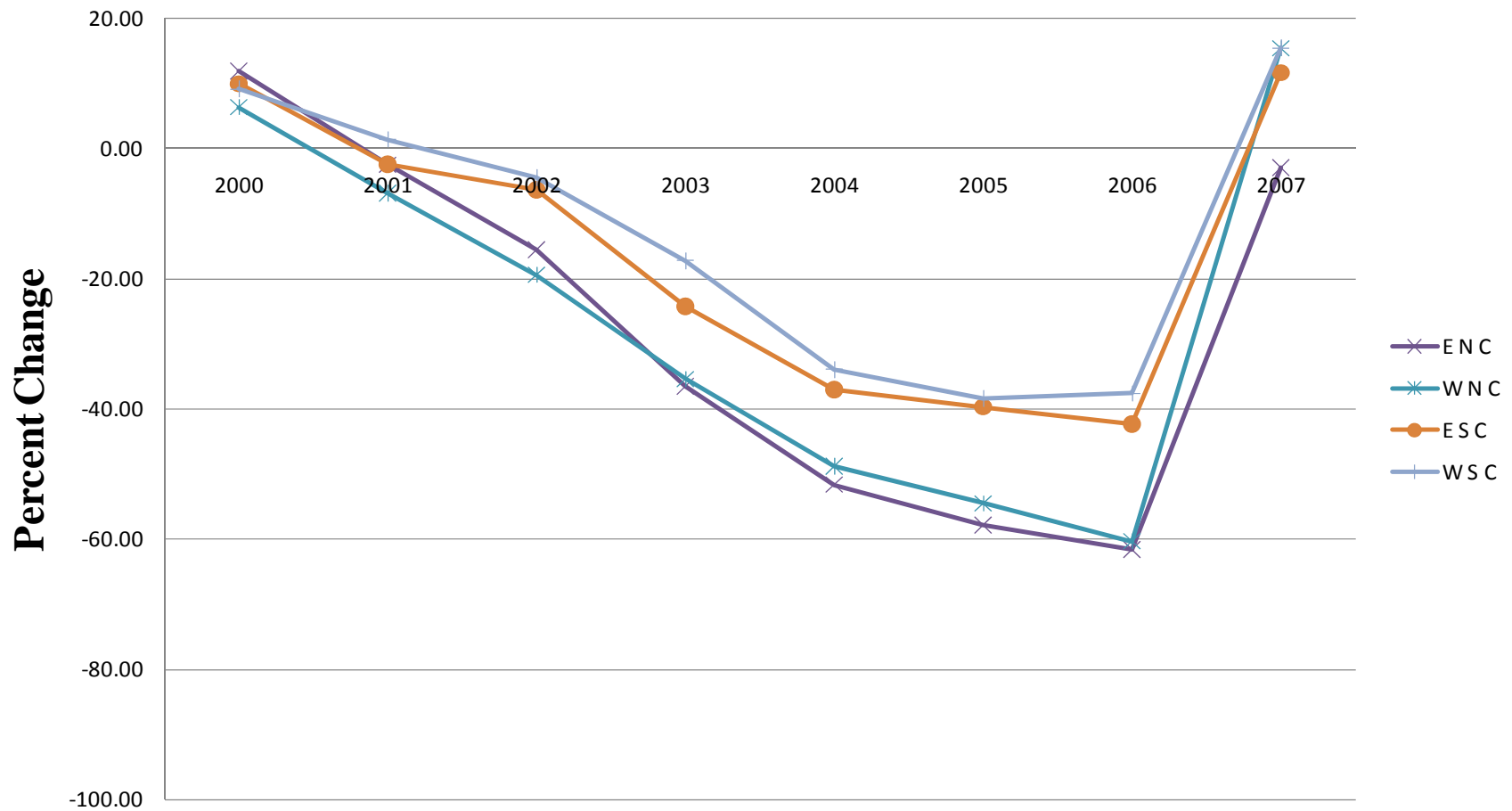
**Figure 10a: Coastal Census Divisions**



Source: HMDA files

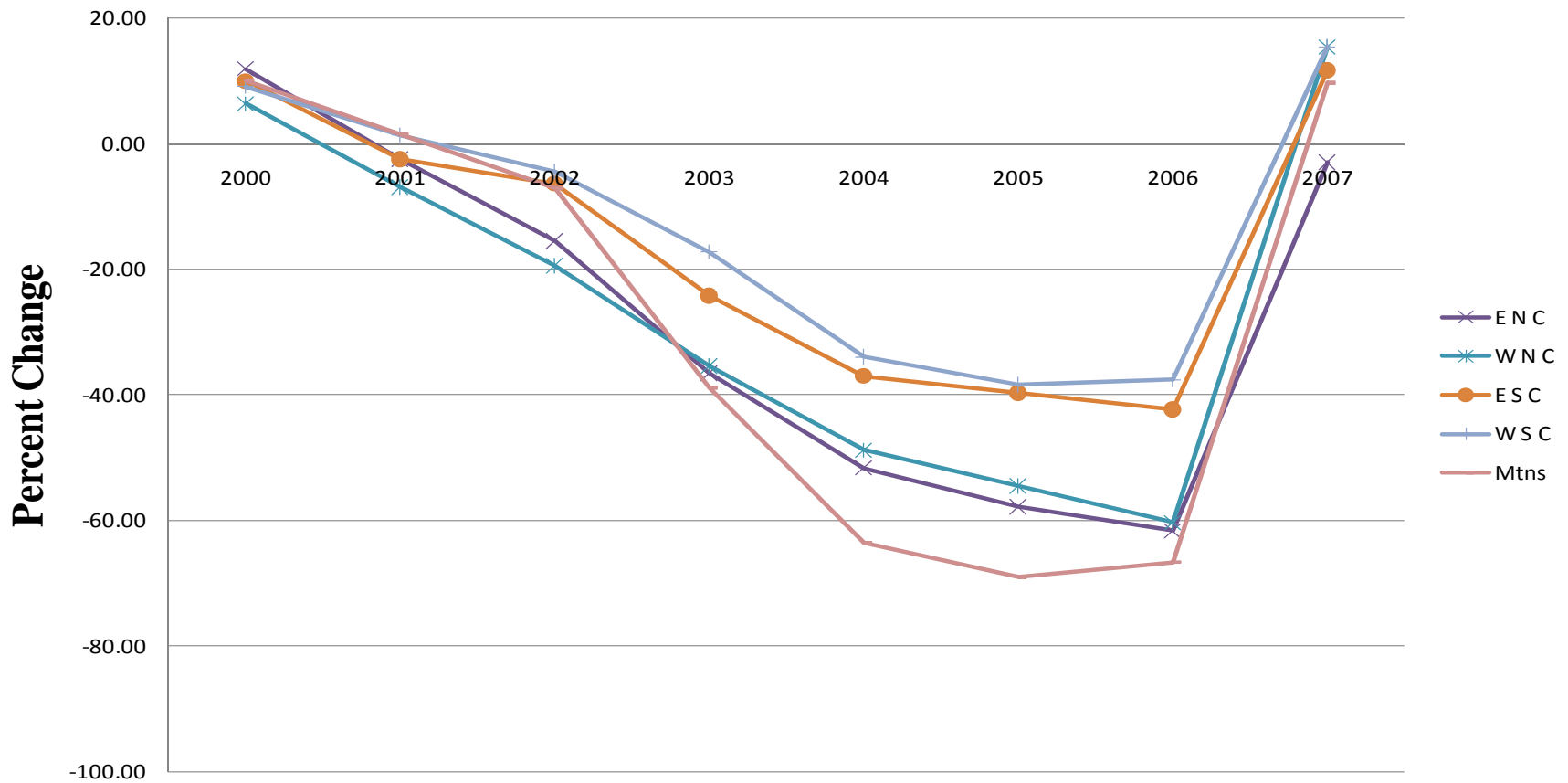
\*Data are for calendar year originations.

**Figure 10b: Interior Census Divisions Excluding Mountain Division**



Source: HMDA files

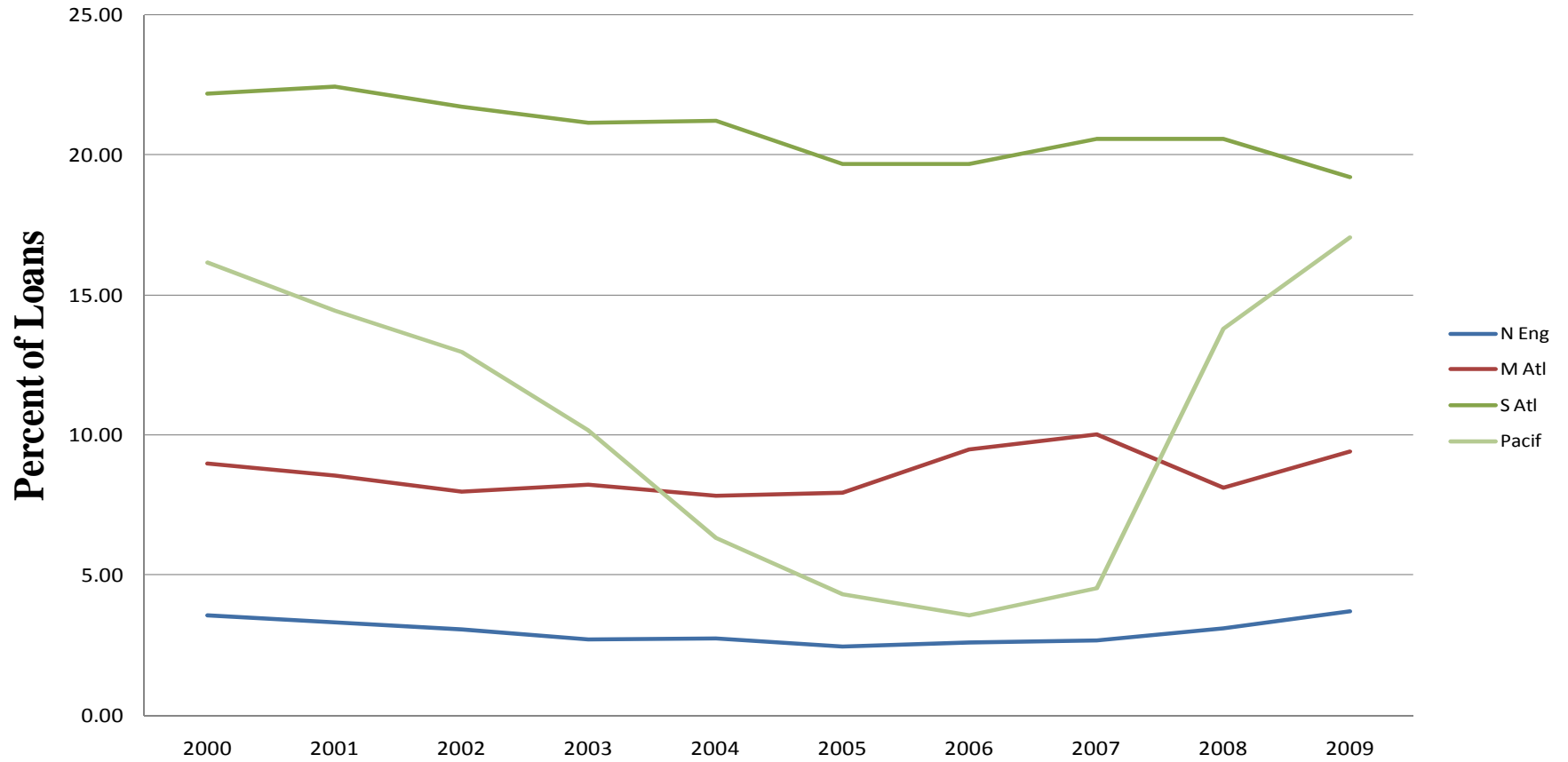
**Figure 10c: Interior Census Divisions Including Mountain Division**



Source: HMDA files

**Figure 11: Share of all FHA Purchase Loans by Census Divisions\***

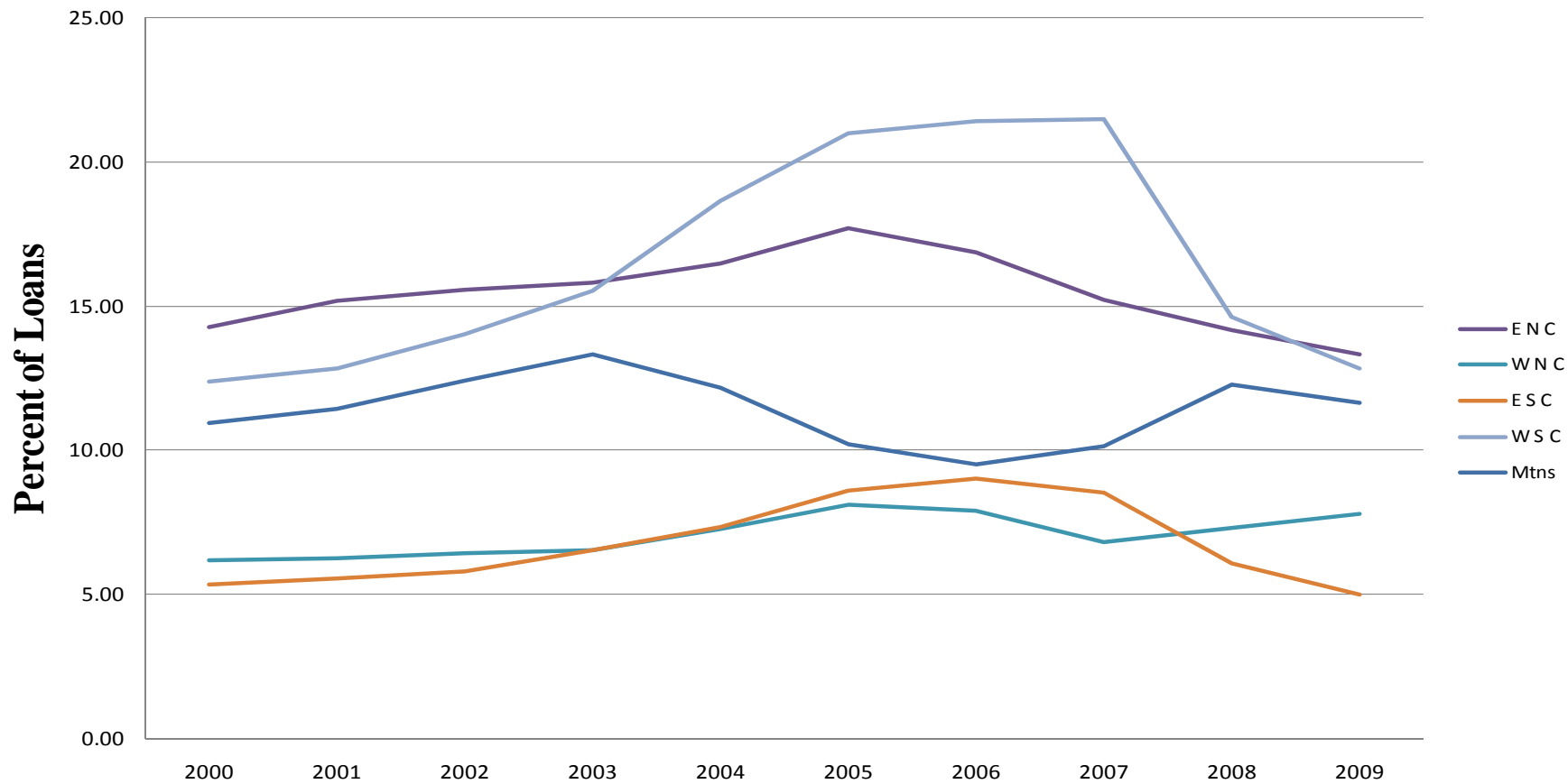
**Figure 11a: Coastal Census Divisions**



Source: HMDA files

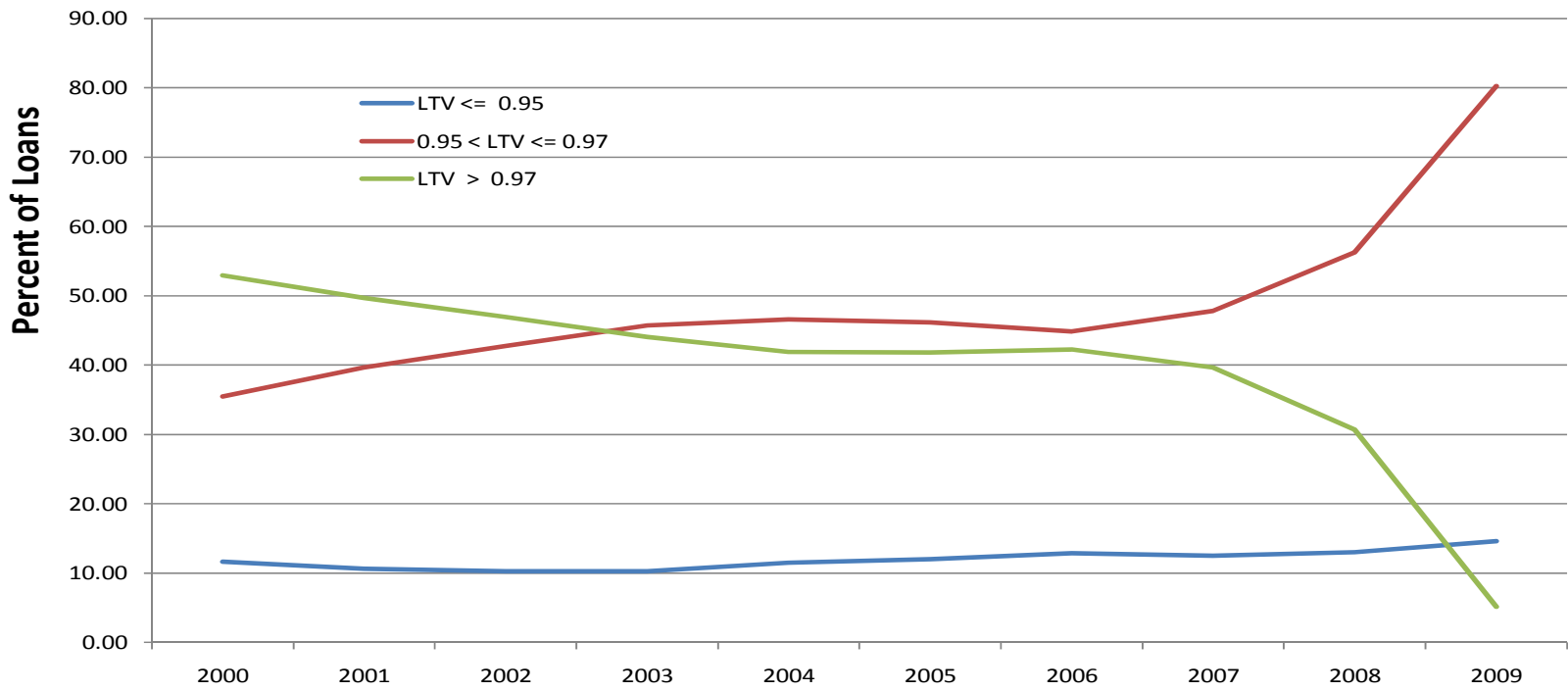
\*Data are for calendar year originations.

**Figure 11b: Interior Census Divisions Including Mountain Division**



Source: HMDA files

### Loan-to-Value Ratio, FHA Purchase Loans\*



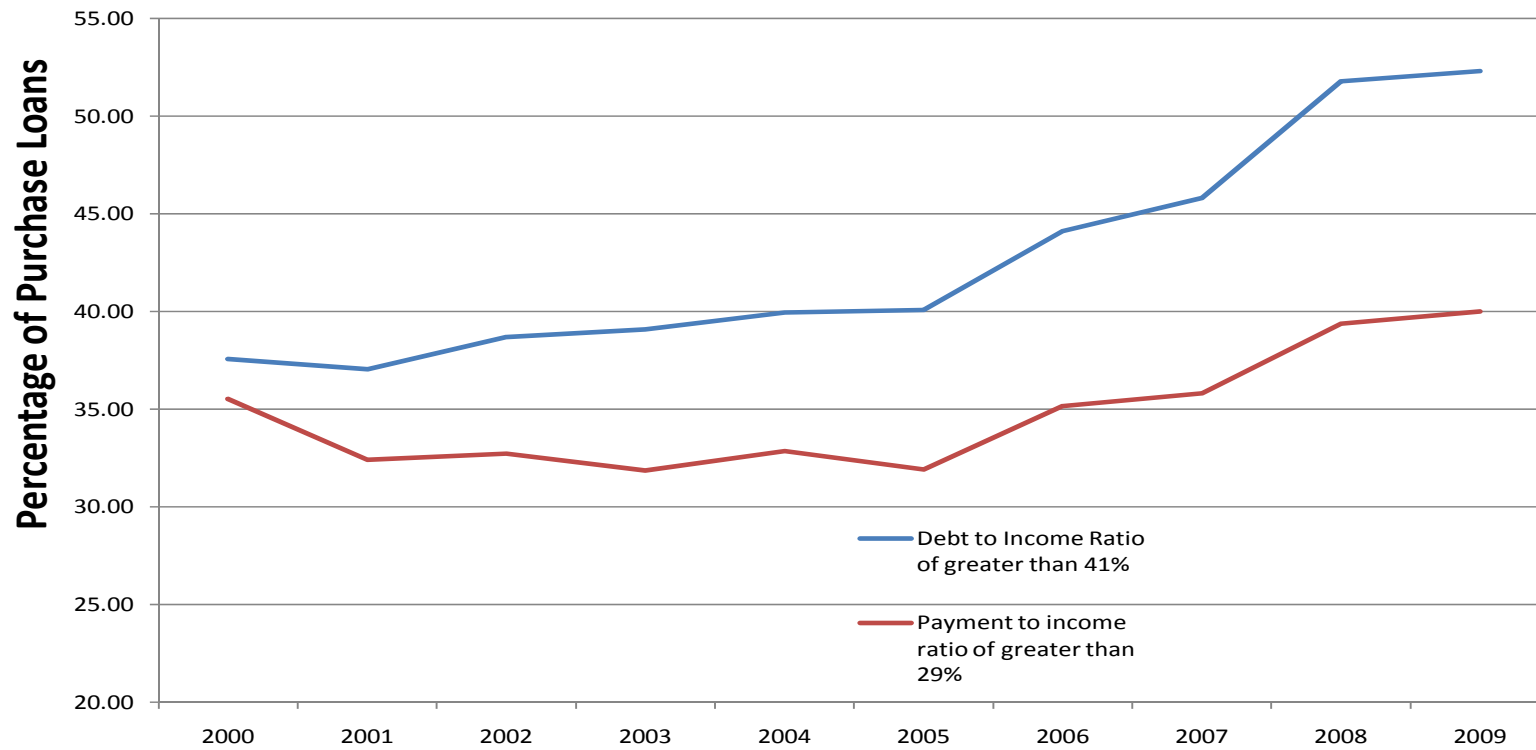
Source: Data provided by FHA, U.S. Department of Housing and Urban Development

\*Data are for calendar year endorsements

Figure A1



## FHA Purchase Loans, Debt-to-Income and Payment-to-Income Ratios\*



Source: Data provided by FHA, U.S. Department of Housing and Urban Development

\*Data are for calendar year endorsements

Figure A2

