



The Impact of Tight Credit Standards on 2009–13 Lending

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Borrowers with anything less than pristine credit have a hard time getting a mortgage today. Mortgage credit is much tighter than it was at the peak of the housing bubble in 2005 and 2006, as is both expected and appropriate. But credit is also significantly tighter than it was in 2001, before the housing crisis. Today’s lenders are simply not originating loans for borrowers with less than perfect credit.

How exactly does this tight lending environment affect borrowers? According to our estimates, an additional 1.25 million loans would have been made in 2013 if the cautious standards of 2001, rather than the severe standards of 2013, had been in place. Between 2009 and 2013, the number of “missing” loans grew from 0.50 million to 1.25 million annually, for a total of more than 4 million missing loans over the five years.

African American and Hispanic families have been particularly affected by this tight credit environment. In 2013, the severe standards meant lending to African American and Hispanic borrowers was 50 and 38 percent less, respectively, than what it was in 2001. In contrast, the more severe standards reduced lending to white borrowers by about 31 percent and did not reduce lending to Asian families at all.

Why Is Credit So Tight?

The Housing Finance Policy Center has written extensively about the tight credit box, exploring the factors leading to restricted lending and quantifying how limited access has become.

One such factor is lender overlays due to repurchase risk (Goodman and Zhu 2013; Parrott and Zandi 2013). About 80 percent of the loans made in the past few years have been bundled into securities guaranteed either explicitly or implicitly by the US government.¹ For these loans, the government retains the right to put the credit risk back on a lender if the agency finds a mistake in the underwriting of the loan. Because a great deal of uncertainty has existed over how government agencies enforce this right, lenders have reduced their risk with their own credit overlays, lending only to borrowers with far better credit than is required by the agencies.

The Federal Housing Agency (FHA), the Federal Housing Finance Agency (FHFA), and the government-sponsored enterprises (GSEs) are all clarifying the rules and regulations in this area, with the FHFA and the GSEs much further along than the FHA (Goodman, Parrott, and Zhu 2015). Even so, lenders remain reluctant to extend credit to less-than-pristine borrowers. Their reluctance is reinforced by the high costs of servicing delinquent loans, as outlined in Goodman (2014), and fears of litigation by the Department of Justice, the HUD Inspector General, or State Attorneys General.

Li and Goodman have measured the amount of market credit risk due to both borrower risk and product risk.² Their results show that the current total credit risk is less than a third of what it was at the height of the housing boom in 2006 and less than half of the normal 2001 level. The market could take twice the credit risk it has taken and still remain well within the cautious standards of 2001–03.

Tight credit ultimately hinders the economy; it slows all the associated economic activity that comes with home buying.

It is also clear that the economic crisis and tightening of credit have disproportionately affected communities of color, particularly African Americans and Hispanics. Lending to African American and Hispanic households declined more significantly than lending to white and Asian households from 2001 to 2012 (Goodman, Zhu, and George 2014). After accounting for a range of borrower characteristics, African Americans and Hispanics were deterred from or denied mortgage credit at a higher rate than white borrowers, though not quite as disproportionately as traditional observed denial rates indicate (Li and Goodman 2014).

A tight credit box has severe consequences. It means that fewer families will become homeowners at an opportune point in the housing market cycle, depriving these families of a critical wealth-building opportunity. A tight credit box slows the housing market recovery by limiting the pool of potential borrowers. Ultimately, tight credit hinders the economy, as it slows all the associated economic activity that comes with home buying, such as furniture purchases, landscaping, and renovations.

Data, Methodology, and a Comparison to Goodman, Zhu, and George (2014)

Data

In March 2014, we estimated in [Where Have All the Loans Gone? The Impact of Credit Availability on Mortgage Volume](#) (hereafter, GZG 2014) that as many as 1.2 million more loans would have been made in 2012 if credit standards had been equivalent to the cautious standards of 2001. In this brief, we calculate a similar number using the most recent 2013 Home Mortgage Disclosure Act (HMDA) data merged with CoreLogic servicing data. We also apply a new and improved methodology that both revises our estimate for missing loans in previous years and allows us to examine the distribution of missing loans across race and income groups.

GZG 2014 used aggregated 2012 HMDA data and CoreLogic prime servicing data to roughly estimate the “missing loans” for the whole market.³ Because it did not match the data at the loan level, GZG 2014 could not produce a distribution of missing loans across race and income groups. To more accurately quantify the impact of tightened credit by race and take advantage of the 2013 HMDA data that were released in September 2014, this brief matches HMDA and CoreLogic servicing data by loan using fields including loan amount, origination date, geography (using a cross walk between census tract and zip code), and several secondary factors. The resulting merged data contains five important variables: FICO score, race/ethnicity, loan-to-value (LTV) ratio, borrower income, and loan amount.

We applied a raking ratio estimation procedure, explained in box 1, to the merged data so that it is representative of the entire loan universe. We iterate the weighting process until the weighted sample distribution agrees with the population for all control variables. The merging of the two datasets resulted in a lower record count than indicated by the HMDA data alone, both because the CoreLogic servicing data does not include all originations and because we failed to match about 15 percent of the CoreLogic loans in the merging. To more accurately estimate the missing loans count, we apply a scaling factor to the HMDA data.

Methodology

As in GZG 2014, we use 2001 as our benchmark because it was pre-bubble (2004–07) and not heavily distorted by unusually low mortgage interest rates (which triggered significant refinance activity in 2002–03) or unusually high interest rates, (as in 2000, when lenders were stretched to make loans).

BOX 1

Weighting Procedures

The weighting procedure iteratively adjusts one variable at a time to achieve the same distribution as in the control group. The control group is the CoreLogic data for FICO and LTV, and the HMDA data for race/ethnicity, income, and loan amount. An example will make this clearer: let's choose FICO scores.

We multiply each FICO category by the ratio of the population total in the CoreLogic servicing database to the merged sample for that category, so the FICO distribution of the sample agrees with the FICO distribution in the servicing database. Next, we adjust the weighted sample distribution using another control variable, like race/ethnicity categories, so the sample distribution matches the race and ethnicity distribution in the HMDA database. We repeat the weighting procedure for LTV using CoreLogic servicing data and for income and loan amount using HMDA data.

After we finish, the new weighted FICO category totals of the adjusted sample may no longer match the corresponding population total in servicing data. Thus, we iterate the weighting process until the weighted sample distribution agrees with the population for all control variables.

The weighting mechanism is more commonly achieved by creating a cross-classification of the categorical control variables, then matching the total of the weights in each cell to the control total. In our case, the cross-classification is FICO * LTV * race * income * loan amount. We cannot use it, however, because this approach can spread the sample too thinly over a large number of cells, and because we don't have a unique population to have a joint distribution of all the variables since we use two separate databases. Instead, we opted to use a raking estimation procedure.

In GZG 2014, the “missing loans” estimate assumed that, if lending standards hadn't changed, then the loan volume would contract by the same percentage for both lower-credit score borrowers and the highest-credit score borrowers if there had been no change in lending standards. In this brief, we relax the definition of the highest score group to a 720 FICO, instead of 750 FICO in GZG 2014. More specifically, we look at first-lien originations in 2001, and compare them to subsequent years, using three FICO buckets: below 660, 660 to 720, and above 720. We find, not surprisingly, that the number of loans declined more markedly in the lower-FICO buckets than in the higher-FICO buckets. We assume that if 2013 credit availability were equal to that of 2001, the lower-credit score borrowers would have experienced the same decline in loan volume as higher-credit score borrowers. The gap between the hypothetical estimate and the actual volume is the number of missing loans.

Empirical Results

How Many Loans Are Missing?

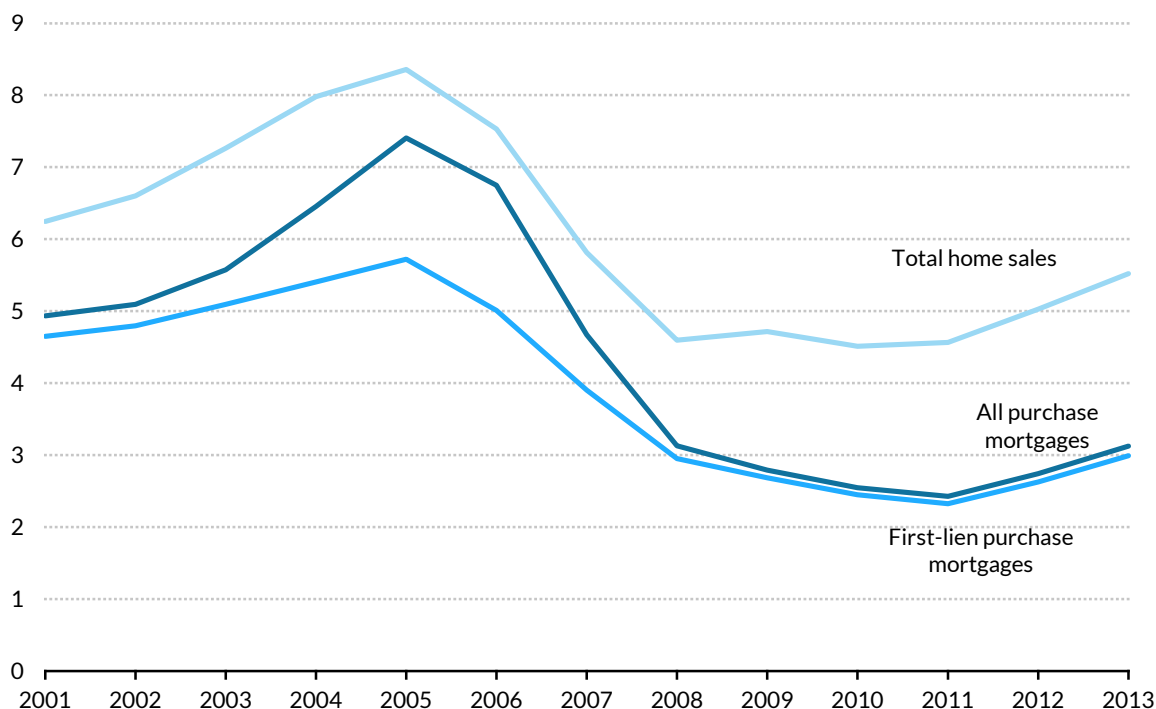
The volume of mortgage loans made to purchase a home fluctuated considerably between 2001 and 2013. According to HMDA data, 4.75 million loans were made for home purchases in 2001 (figure 1); we estimate 4.65 million of these, or 98 percent, were first liens.⁴ HMDA data show that first-lien origination purchase loans increased to 5.7 million in 2005, then dropped to 3.0 million in 2013, a 37 percent decline since 2001 and a 50 percent decline from the peak volume in 2005.

Lower sales activity is only partly responsible for this decline. New and existing sales were 6.25 million units in 2001 (0.91 million in new sales, 5.34 million in existing sales). They increased to 8.36 million units in 2005 (1.28 million new, 7.08 million existing) and declined to 5.52 million units in 2013 (0.43 million new, 5.09 million existing). Thus, the drop in sales activity was 14 percent, less than half of the 36 percent decline in first-lien purchase mortgages.

FIGURE 1

Home Sales and New Purchase Mortgage Volume

Millions of units



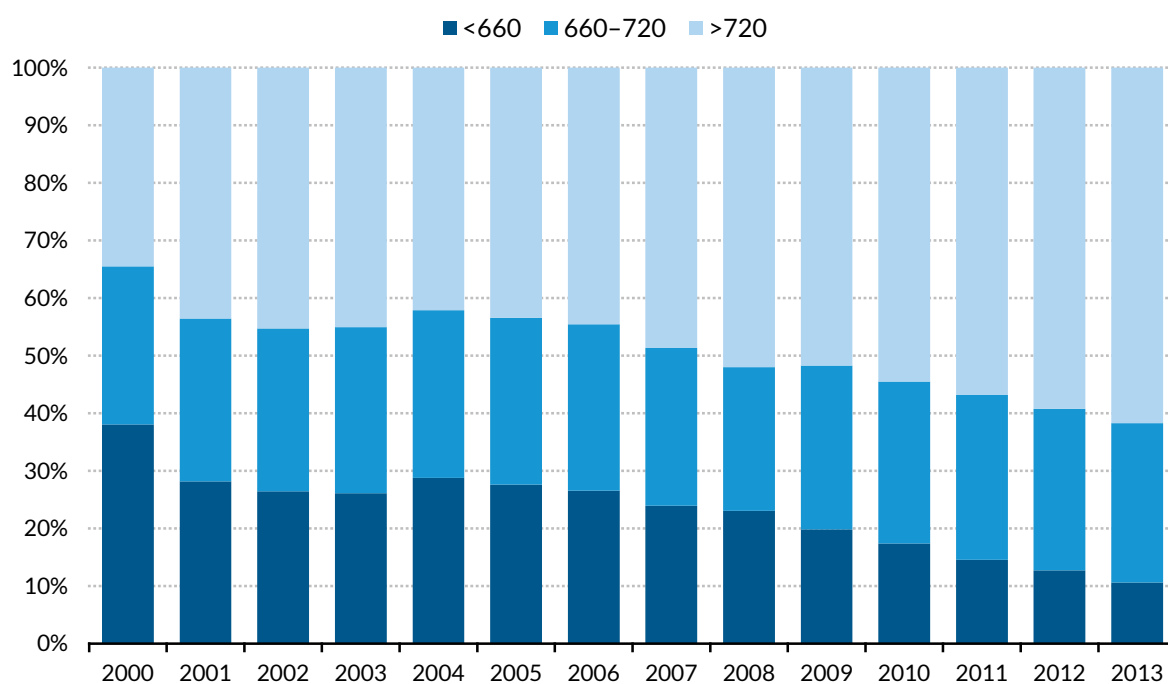
Sources: USCensus Bureau, National Association of Realtors, HMDA, and Urban Institute.

Note: Purchase mortgage counts are derived from HMDA data. First liens for 2001–03 are Urban Institute estimates.

With home sales down modestly but mortgage activity down dramatically, cash sales made up the difference; their share increased from 18 percent in December 2001 to 38 percent in 2013. We believe the rise in the cash sales share reflects both limited credit availability and more limited demand for homeownership. Figure 2 shows the distribution of credit scores, based on CoreLogic servicing data, and supports the point that credit has become much less available to borrowers with lower credit scores. The figure divides borrowers into three credit buckets based on FICO score: <660, 660–720, and >720. Against a backdrop of a declining loan count, the share of borrowers with FICO scores below 660 declined from 28 percent to 11 percent of the total from 2001 to 2013, and those with FICO scores between 660 and 720 remained at 28 percent of the total. Meanwhile the share of borrowers with FICOs above 720 increased from 44 percent to 62 percent of the total.

FIGURE 2

FICO Score Distribution of New-Purchase Borrowers



Source: Urban Institute calculations from HMDA and CoreLogic data.

Table 1 reviews the procedure we used to calculate the “missing loans” for 2013. As discussed, there were 4.65 million first liens in 2001 according to HMDA data, and we have 2.56 million first liens in the merged dataset. Consequently, we scale up our loan count by a factor of 1.82.

$$\text{Factor}_{2001} = \frac{2001 \text{ HMDA}}{2001 \text{ merged}} = \frac{4.65}{2.56} = 1.82 \quad (1)$$

Similarly, for 2013, the number of first liens in the merged dataset for 2013 is 1.54 million out of a HMDA total of 2.99 million, requiring us to scale up our loan count by a factor of 1.94.

$$\text{Factor}_{2013} = \frac{2013 \text{ HMDA}}{2013 \text{ merged}} = \frac{2.99}{1.54} = 1.94 \quad (2)$$

For 2013, after scaling, the total number of loans in each FICO category is 0.31 million <660, 0.83 million 660–720, and 1.85 million >720. For 2001, after scaling, the total number of loans in each category is 1.31 million <660, 1.31 million 660–720, and 2.03 million >720. We calculate the rate of decline from 2001 to 2013 using the scaled numbers:

$$\text{Decline} = (\text{Scaled}_{720_{2013}} - \text{Scaled}_{720_{2001}}) / \text{Scaled}_{720_{2001}} = (2.03 - 1.85) / 2.03 = 8.9\% \quad (3)$$

We assume that the >720 FICO category was unconstrained by credit availability but the lower FICO categories were constrained. That is, if credit availability had remained constant, the lending volume in the <660 and 660–720 categories should have contracted at the same rate as >720 FICO category. The number of loans in the above-720 FICO group declined 8.9 percent. Applying this rate of decline to both the <660 and 660–720 categories, the adjusted numbers in 2013 are

$$(1 - 8.9\%) * \text{scaled}_{660_{2001}} = 1.19 \text{ million} \quad (4)$$

and

$$(1 - 8.9\%) * \text{scaled}_{660-720_{2001}} = 1.20 \text{ million} \quad (5)$$

Thus, as shown in table 1, the total number of missing loans is:

$$(1.19 - 0.31) + (1.20 - .83) = 1.25 \text{ million} \quad (6)$$

TABLE 1

How Many Purchase Loans Are Missing Because of Credit Availability?

Loan category	2001	2013	2001, scaled to HMDA	2013, scaled to HMDA	Decline	2013, assuming no constraint >720	Difference, >720 unconstrained and actual
CL-HMDA merged loans, <660	720,614	163,692	1,310,317	317,474	75.8%	1,193,697	876,222
CL-HMDA merged loans, 660–720	723,009	427,262	1,314,672	828,657	37.0%	1,197,664	369,007
CL-HMDA merged loans, >720	1,114,387	951,802	2,026,327	1,845,980	8.9%	1,845,980	0
CL-HMDA merged loans, total	2,558,010	1,542,756	4,651,317	2,992,112	35.7%	4,237,341	1,245,229
HMDA alone, total	4,651,317	2,992,112	-	-	-		-
HMDA alone to CL-HMDA, merged ratio	1.82	1.94					

Source: Urban Institute calculations from HMDA and CoreLogic data.

The number of missing loans has grown from 0.50 million in 2009 to 1.25 million in 2013—more than 4 million over the five years.

Table 2 shows our calculations on the number of “missing loans” through time. Using this methodology, the number of missing loans has grown, from 0.50 million in 2009 to 1.25 million in 2013, for a total of more than 4 million over the five years. A close look at table 2 highlights the assumptions implicit to this analysis. Comparing 2009–12 with 2001, there were very large drops in total home sales and, to be expected, large drops in the number of loans even with FICO scores above 720. In more detail, the drop in the >720 bucket was 23.3 percent from 2001 to 2012 and 8.9 percent from 2001 to 2013. Since we calibrated the missing loans to the drop in the >720 bucket, the number of missing loans was lower in 2012 than in 2013.

Are we overstating the year-to-year change? Perhaps. Certainly the very limited volume of home sales and the large drop in the share of borrowers with FICO scores above 720 were caused, to some extent, by pre-crisis homeowners deciding not to sell their homes because the small number of qualified buyers meant homeowners could not get their desired price. Our calculations also do not account for the potential impact of the concern that buying a home may be less attractive than it once was, as a home is no longer seen as a store of value. Since we do not account for these effects, the number of missing loans may actually have been higher than indicated in previous years, and our change may be overstated. Some corroboration for this point comes from the fact that the drop in the number of applications in the >720 bucket is larger than the drop in home sales from 2009 to 2012, although it reversed (by a small amount) in 2013.

TABLE 2

Missing Loans by Vintage

Year	Home sales (millions)	Decline in home sales since 2001 (%)	Total purchase loans (millions)	Decline in >720 FICO loans since 2001 (%)	Missing loans
2001	6.25	—	4.65	—	—
2009	4.71	24.5	2.69	31.5	501,253
2010	4.51	27.8	2.45	34.1	615,315
2011	4.57	26.9	2.32	34.9	703,577
2012	5.03	19.5	2.63	23.3	941,714
2013	5.52	11.6	2.99	8.9	1,245,229

Sources: Urban Institute calculations of HMDA and CoreLogic data, US Census Bureau, and National Association of Realtors.

Might we be overstating the current number of missing loans? Some of these loans very likely were not made because potential homeowners are choosing to rent instead. And it is very possible that this would affect lower-credit score borrowers more heavily than their high-credit score counterparts, as the large expansion in credit between 2005 and 2007 was in many cases to borrowers in less-affluent communities, who then watched their neighbors struggle with foreclosures. That is, our measure picks up both a lack of credit availability and a decline in the demand for homeownership. Even so, it is inconceivable that a decline in demand could explain a 76 percent drop in borrowers with FICO scores below 660, but only a 9 percent drop in borrowers with scores above 720.

Missing Loans in 2013 by Race and Ethnicity

We are able to separate the universe of borrowers into five groups based on race and ethnicity: non-Hispanic white, non-Hispanic black, Hispanic, Asian, and other/missing. For each racial and ethnic category, we calculate the scaled number of loans in 2013 and 2001 using the respective scaling factors. The scaled number of loans for non-Hispanic whites is 2.17 million in 2013 and 3.14 million in 2001. These numbers are shown in table 3.

Table 3 also shows the total drop in the unadjusted number of loans for different racial and ethnic groups. For example, the number of loans for all races is down 36 percent from 2001 to 2013. The number of loans to white borrowers is down 31 percent, the number of loans to Hispanic borrowers is down 38 percent, the number of loans to African American borrowers is down 50 percent, and the number of loans to Asian borrowers actually is up 8 percent. Thus, it appears that African American and Hispanic borrowers have been particularly affected by the tight credit availability, while Asian families have more loans than they did in 2001.

TABLE 3

Missing Loans by FICO Score and Race and Ethnicity

	All FICO Scores				>720 FICO		660–720 FICO		<660 FICO	
	2001 total	2013 total	Missing loans	Decline	Share	Decline	Share	Decline	Share	Decline
White	3,144,779	2,174,870	690,018	30.8	64.2	6.4	25.9	36.2	9.9	72.1
Hispanic	400,235	248,514	116,100	37.9	40.5	-9.1	43.4	15.3	16.1	77.9
Black	277,409	137,627	115,093	50.4	33.4	3.6	44.4	8.9	22.2	81.2
Asian	172,818	186,506	-29,069	-7.9	78.3	-56.2	17.3	38.7	4.4	69.2
Missing/other	656,076	244,595	353,089	62.7	64.0	48.0	26.0	65.5	10.0	85.7
All races	4,651,317	2,992,112	1,245,229	35.7	61.7	8.9	27.7	37.0	10.6	75.8

Source: Urban Institute calculations from HMDA and CoreLogic data.

Note: Shares are computed within each race and ethnicity group. Declines are the percent decline in loans from 2001 to 2013.

Tight credit availability has hit African American and Hispanic borrowers far more heavily than white borrowers.

The distributional effects by race and ethnicity are strong. White families constitute 72 percent of total loans (2.17 million/2.99 million) but only 55 percent of missing loans (0.69 million/1.25 million). Hispanic families constitute 8 percent of total loans and 9 percent of missing loans. Black families constitute 5 percent of total loans and 9 percent of missing loans. Again, the analysis illustrates that tight credit availability has hit African American and Hispanic borrowers far more heavily than white borrowers.

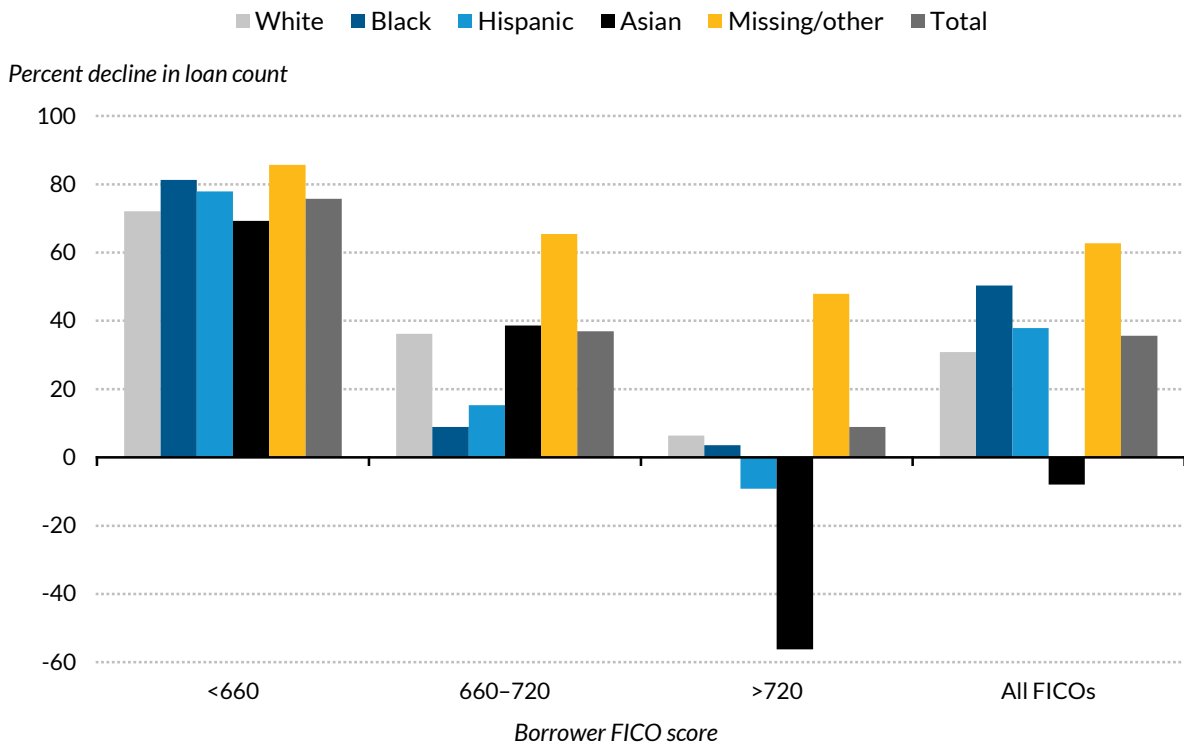
Figure 3 shows the race and ethnicity effects crossed with FICO categories. For example, from 2001 to 2013, white borrowers with FICO scores above 720 saw a 6 percent decline in the number of loans, those with scores between 660 and 720 saw a 36 percent decline, and those with scores below 660 saw a 72 percent decline. As shown in figure 3:

- For FICO scores below 660, the 2001–13 decline in the number of loans was massive across all race and ethnicity groups. Most categories have drops of 72 percent or higher.
- For FICO scores between 660 and 720, the largest drops were to whites (36 percent) and Asians (39 percent). By contrast, both Hispanic and African American borrowers had far more moderate declines of 15 and 9 percent, respectively.
- For FICO scores above 720, drops in the number of loans were moderate. The number of loans for Hispanic and Asian groups actually increased.

Despite the similarities across the buckets, the decline in the number of loans to African American families declined the most because the FICO distribution within this group is the most skewed to lower-credit score borrowers. This is shown in table 3, which reveals that 33 percent of African American families have FICO scores above 720, 45 percent have scores between 660 and 720, and 22 percent have scores below 660. Among white families, 64 percent have FICO scores above 720, 26 percent have scores between 660 and 720, and 10 percent have scores below 660.

FIGURE 3

Decline in Lending Volume by FICO Score and Race and Ethnicity, 2001–13



Source: Urban Institute calculations from HMDA and CoreLogic data.

Note: Exact decline rates and the share of borrowers within each group are shown in table 3.

Credit availability has a weak relationship to income, a much stronger relationship to credit score.

Missing Loans in 2013 by Income

Real income appears to have a much weaker relationship to the number of missing loans than credit score does. If we look at unadjusted income, as on the left side of table 4, we find that lower-income groups have a high number of missing loans. There are no missing loans for the highest-income group. However, that analysis is very misleading, as far fewer families earn less than \$30,000 a year in 2013 versus 2001, using unadjusted dollars. Thus, we need to scale for inflation.

There are two ways to scale for inflation: deflate 2013 incomes to be comparable to 2001 incomes, or inflate 2001 incomes to be comparable to 2013 levels. We did the former, using the consumer price index. Once we do this, on the right side of the table, we see the percentage decline in the numbers of loans is lowest for borrowers with incomes (in 2001 dollars) between \$30,000 and \$90,000. The very lowest income bucket and the higher income buckets are down less. Our interpretation of these results: credit availability is primarily a credit score–based phenomenon, and less an income-based one. We further investigate the correlation between income and FICO score. The correlation between income and FICO is 12 percent for 2001 and 14.5 percent for 2013. That result shows that income is not correlated with FICO and hence is not a good indicator of credit availability.

TABLE 4

Missing Loans by Income

Income (\$1,000s)	Unadjusted Income		Income Adjusted to 2001 Dollars	
	Missing loans	Decline, 2001–13 (%)	Missing loans	Decline, 2001–13 (%)
<30	313,859	66.8	74,349	22.6
30–60	743,712	50.6	526,010	38.4
60–90	334,691	38.2	367,530	41.0
90–120	41,670	16.6	141,797	35.1
>120	-188,703	-20.5	135,543	30.0
Total	1,245,229	35.7	1,245,229	35.7

Sources: Urban Institute calculations of HMDA and CoreLogic data and the US Bureau of Labor Statistics.

Conclusion

In this brief, we quantify how many loans were “missing” because of tight credit availability between 2009 and 2013. While total home sales were down 14 percent from 2001 to 2013, the total first liens for mortgage purchase were down 36 percent. When we look across FICO buckets, we find that loans to borrowers with FICO scores above 720 are down very modestly (8.9 percent), while loans to borrowers with FICO scores between 660 and 720 are down by a very significant 37 percent, and loans to those with FICOs below 660 are down by a staggering 76 percent. If we assume that borrowers with FICOs above 720 are not credit constrained, and that the number of loans to borrowers with lower FICO scores would, in a consistent credit environment, have decreased at the same rate (8.9 percent), we find there would have been about 1.25 million additional loans in 2013 under the 2001 standards.

The “missing loan” number has grown considerably through time.⁵ This 1.25 million should be regarded as an upper bound, as we have not explicitly considered how much of this drop stems from a lower demand for homeownership.

When we look at the numbers by race and ethnicity, we find that African American and Hispanic families have steeper drops than white families. However, once we consider FICO scores as well as race/ethnicity, these results disappear entirely or, in some cases, reverse. Loans to borrowers with

FICO scores below 660 are down more than 70 percent regardless of race or ethnicity, though the decline remains steeper for African American and Hispanic borrowers. Loans to borrowers with FICO scores above 720 are down marginally for whites and blacks and are up for Hispanics and Asians. For borrowers with FICO scores between 660 and 720, black and Hispanic families have less significant drops than white and Asian families.

We find evidence that lending to African American and Hispanic households is disproportionately affected largely because more low-FICO borrowers are African American or Hispanic. This finding aligns to some degree with the real denial rate analysis by Li and Goodman (2014) that showed that much of the difference in mortgage denial rates across race and ethnicity groups disappeared when accounting for borrower credit characteristics.

Finally, we looked at missing loans by income. Once we scale to remove the effects of inflation, we find that income is much less explanatory than credit score in determining credit availability.

This research suggests that policymakers should continue and strengthen efforts to improve access to credit; the problems are particularly acute for borrowers with less-than-pristine credit scores. Resolving the uncertainty surrounding agency repurchases, the high costs of servicing delinquent loans, and other factors contributing to extraordinarily elevated lending standards will be critical for cultivating and sustaining a more robust recovery in the housing and mortgage markets, and for improving equity in access to mortgage credit for traditionally underserved communities.

Notes

1. Ginnie Mae securities, which back mortgages from the Federal Housing Administration, the Department of Veterans Affairs, and the Department of Agriculture's Rural Development Program, are explicitly guaranteed by the US government. Fannie Mae and Freddie Mac mortgages are implicitly guaranteed.
2. See Wei Li and Laurie Goodman, "The Mortgage Market Can Tolerate Twice as Much Credit Risk," *Metro Trends* (blog), March 2, 2015, <http://blog.metrotrends.org/2015/03/mortgage-market-tolerate-credit-risk/>.
3. Home Mortgage Disclosure Act data are the most complete source of origination data. All depository institutions with 25 loans or more must report, as must all non-depository institutions with 100 loans or more. This set contains data on loan amount, race, income, and census tract. CoreLogic servicing data contains data on about 60 percent of the outstanding one- to four-family mortgages. The CoreLogic data contains information on loan amount, credit score (FICO), loan-to-value ratio, and zip code as well as loan performance.
4. HMDA began separating first liens from second liens in 2004. Thus, for this analysis, we need to estimate the share of loans in 2001, 2002 and 2003 that were seconds. In a fall 2010 *Journal of Fixed Income* article entitled "Second Liens: How Important?" Laurie Goodman, Roger Ashworth, Brian Landy and Ye Kin show that, for 2001 and 2002 vintage private-label securities origination, there were simultaneous seconds on about 3 percent of the loans, rising to 7.5 percent in 2003. It is reasonable to assume the numbers for the entire market would be slightly lower. We assume 2 percent of 2001 and 2002 loans, and 5 percent of 2003 loans, were seconds. The results are not very sensitive to this assumption.
5. We will update this analysis after the 2014 HMDA results are released in late 2015.

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