

# Where Have All the Loans Gone? The Impact of Credit Availability on Mortgage Volume

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Credit availability for mortgage purchases has been very tight over the post-crisis period. In fact, over the past decade, the number of mortgages originated to purchase a home declined dramatically. In this commentary, we examine this decline and explain how limited access to credit has contributed to the drop. We estimate the number of “missing loans” that would have been made if credit availability were at normal levels—we find this number could be as high as 1.2 million units annually. We show that the trend of decreasing purchase originations is not uniform across race and ethnicity. Minority borrowers, especially African Americans and Hispanics, have been disproportionately shut out of the market. And the distribution is not equal across states, with Florida particularly impacted.

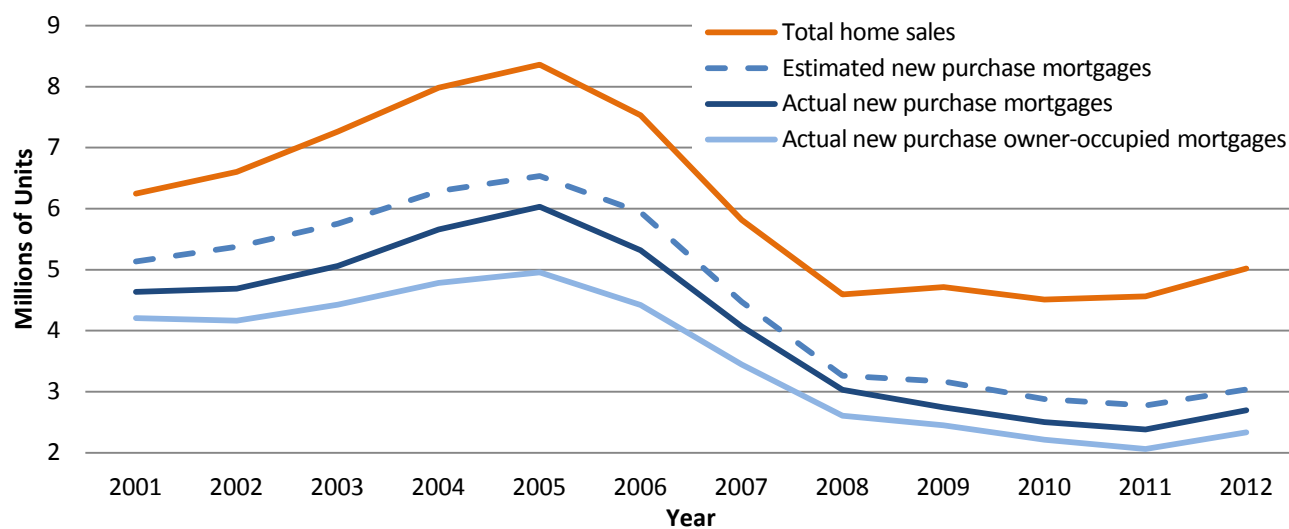
We know that limited credit availability has severe consequences: it means fewer individuals will become homeowners, at exactly the point in the economic cycle when it is advantageous to do so, depriving these individuals of the chance to build wealth. It means the housing market will recover more slowly, because there is a more limited pool of potential buyers for each home. Ultimately, it hinders the economy through fewer new home sales, and less spending on furnishings, landscaping, renovation, and other consumer spending that goes along with home purchases. Indeed, this analysis speaks to the urgency of expanding the credit box, an issue that needs to be addressed quickly by policymakers.

## Explaining the Drop in First Lien Purchase Mortgages

Our major data source is Home Mortgage Disclosure Act (HMDA) data. Although this is a very rich dataset, it has certain limitations: it is released once a year with approximately a nine-month lag, the latest available data cover 2012, and the data have changed since 2000. In particular, in 2004, key changes were instituted that allowed researchers to identify whether a loan is a first or second lien, and to distinguish the borrower’s race from ethnicity.

Second liens were relatively uncommon early in the period, ramped up considerably during the crisis, and have now all but disappeared. In the first two sections of the commentary, we examine only first liens to explain the drop in mortgages used for home purchases and to quantify the number of loans that were not made due to limited credit availability. For our analysis of race and ethnicity and the geographic breakdown, we look at all purchase activity (both first and second liens) because we wanted to go back to 2001 and were less comfortable with estimating the missing data on a more granular level.

In 2001, there were 4.93 million first lien mortgages originated for home purchases based on Urban Institute estimates of HMDA data.<sup>1</sup> The number of originations rose to 6.03 million in 2005 and dropped to 2.74 million in 2012 (figure 1). This represents a 44.4 percent decline since 2001 and a 54.5 percent drop from the peak volume of 2005. If we look exclusively at owner-occupied purchase

**Figure 1: Home Sales and New Purchase Mortgage Volume**

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

Note: Actual and estimated purchase mortgages include only first liens.

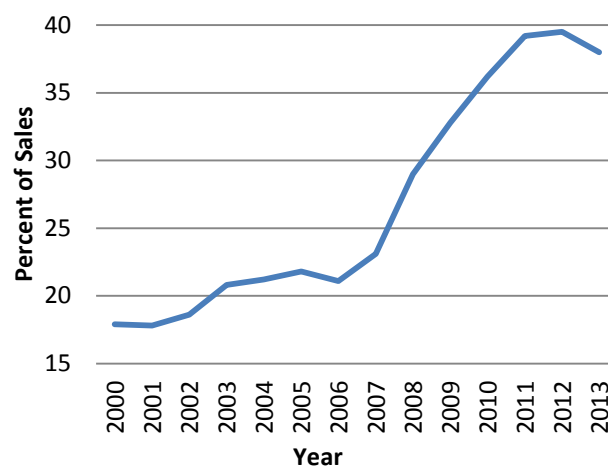
loans, the decline was even steeper: 4.48 million owner-occupied purchase loans in 2001, but only 2.37 million in 2012, a 47 percent decline.

Lower sales activity is only partially to blame for this drop in new mortgage volume. Sales volume has gone from 6.25 million units in 2001, up to 8.36 million units in 2005, and down to 5.01 million units in 2012. This represents a 20 percent decrease from 2001 to 2012, less than half of the rate of decline of new purchase mortgages over the same period.

An increase in all-cash purchases, a sign of investor activity in the housing market, explains the bulk of the decrease in purchase mortgages. CoreLogic's all-cash data series indicates that the share of all-cash sales crept up from 17.8 percent in 2001 to 23.1 percent in 2007, before soaring to 39.5 percent in 2012 (figure 2). In figure 1, we multiply the number of home purchase transactions (new plus existing home sales) by the portion of those transactions that have mortgages (the non-cash share) to estimate the number of purchase mortgages. That number is slightly higher than the total number of loans from the HMDA data, but given the different data sources, the small difference is not surprising.

The close alignment of the HMDA data with the estimated number of mortgages based on home

sales data means that we can largely explain the drop in originations by the concurrent decline in home sales and the increase in the all-cash share. The rise in sales from 2001 to 2005 can be traced to rapidly increasing home prices that spurred new home construction and enabled existing homeowners to trade up for more expensive properties, while products such as interest-only and negative amortization loans enabled some riskier borrowers to purchase first homes. Then, during the

**Figure 2: Share of All-Cash Home Sales**

Source: CoreLogic.

recession, the number of home sales fell as high unemployment and house price depreciation contributed to a decrease in household formation and lower homeowner mobility. The percentage of American homeowners who moved declined from 7.5 percent per year in 2005 to 5 percent in 2012, as borrowers with little or negative equity were locked into their homes, and few found jobs that required them to relocate.

The increase in the cash share is partly due to more limited demand. Nearly 7 million homes have been lost to foreclosure since the crisis began. It takes at least three to five years to qualify for a new mortgage after a foreclosure, and many foreclosed-upon borrowers have no desire to own again. The homeownership rate is down from 69 percent in 2005 to 65 percent in 2012, meaning approximately 5 million former owner-occupants are now renters (122 million households  $\times$  4 percent decrease in homeowners). Moreover, credit availability has been a deterrent for first-time homebuyers and has made it more difficult for current owners to trade up, so many of the foreclosed-upon homes have ended up in the hands of investors paying all cash. If credit were more available, more of these homes would be owner-occupied. In the next section, we quantify how many loans are missing due to tight credit.

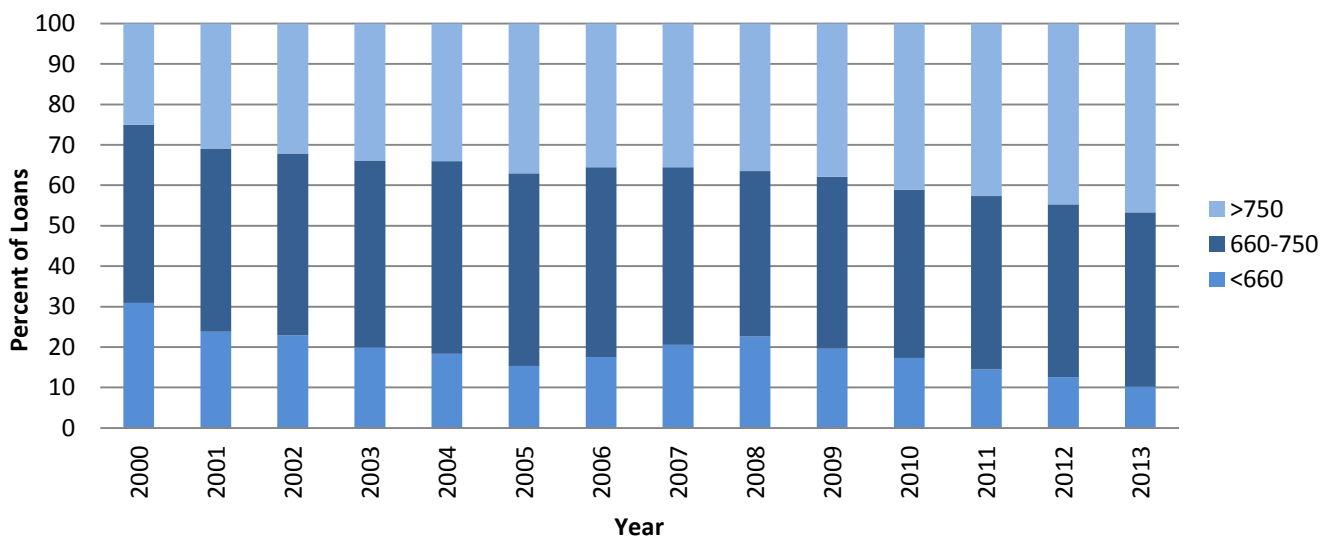
Although HMDA data exist only through 2012, we believe that 2013 will show a small increase in purchase mortgages. Home sales rose to 5.51 million units from 5.03 million units in 2012 (corresponding to a small increase in mobility), and the cash share was down from 39.5 to 38 percent, reflecting the continuing recovery and lower investor interest as house prices have gained. While we expect this trend to continue over the next few years, the pace will be slow without expanded credit availability.

## How Many Loans Are Missing Due to Tight Credit?

How can we quantify the tightness of the credit box? Figure 3, based on CoreLogic data, provides supplemental data we can use to derive the answer. In 2001, 24 percent of purchase loans had FICO credit scores under 660, but that share dropped to 13 percent in 2012, and further to 10 percent in 2013. The share of loans with FICOs greater than 750 increased from 31 percent in 2001 to 45 percent in 2012 and 47 percent in 2013.

We want to estimate the number of loans that would have been made in 2012 if credit availability standards had been what they were in 2001. In order to estimate the number of missing 2012 loans, we first look at the drop in the loan count for each

**Figure 3: FICO Score at Origination for Purchase Loans**



Source: CoreLogic Prime Servicing and Urban Institute calculations.

Note: Includes all purchase loans, not limited to first liens.

of three FICO buckets: < 660, 660–750, and > 750. The cut-offs were chosen so that the lower bucket would represent borrowers with a somewhat compromised credit history, the middle bucket was meant to represent borrowers with a solid credit history, and the top bucket was chosen to represent borrowers with pristine credit. Table 1 shows that the number of new purchase borrowers declined by 18 percent in the > 750 FICO group, 46 percent in the 660–750 group, and 70 percent in the < 660 group.

We use this information to calculate an upper and lower bound of the impact of tightening credit access on purchase origination volume. The upper bound is determined by assuming that the > 750 bucket was unconstrained by credit availability considerations, but the other buckets were constrained. Thus, if credit availability were not an issue, all three buckets would have contracted at the same rate as the high FICO bucket (18 percent), rather than the much greater contraction rates that the middle and lower buckets experienced. The lower bound is determined by assuming that both the 660–750 and > 750 buckets were unconstrained, and that only the < 660 bucket was constrained. According to this lower bound estimate, the < 660 bucket would have contracted at the same 46 percent as the 660–750 bucket had credit availability not been an issue.

Based on the upper bound calculation, 1.22 million fewer purchase mortgages were made in 2012 than would have been the case had credit availability remained at 2001 levels. We reach this conclusion as follows. The volume of > 750 FICO loans is down by 18 percent in 2012 compared with 2001. If we assume that each of the lower FICO buckets would have declined by 18 percent (rather than declines of 70 and 46 percent for the < 660 and 660–750 buckets, respectively) if there were no change in credit availability, the total number of loans made to borrowers with FICO scores in the < 660 and 660–750 buckets would have been 1.77 million. The actual number of loans for these groups was 1.23 million, a difference of 540,000. We then multiply this difference by 2.23 to match our loan count to HMDA data; this differential arises both because CoreLogic has more limited coverage than HMDA, and because FICO scores are missing for some of the CoreLogic loans. This allows us to conclude there are 1.22 million (540,000 × 2.23) missing first lien loans.

This is, however, likely to overstate the impact of tighter credit. We calculate a lower bound estimate, using a similar methodology, to be 273,000 missing 2012 first lien purchase loans. For this estimate, we assume only the < 660 FICO prospective borrowers are affected by the credit tightness. In this case, we would have expected the < 660 FICO bucket to drop by the same 46 percent as the 660–750 bucket

**Table 1: How Many Purchase Loans Are Missing Due to Credit Availability: An Upper and Lower Bound Estimate**

Loan Category			Percent Decline	Number of Loans in 2012, Assuming No Constraint >750	Difference between >750 Unconstrained and Actual	Number of Loans in 2012, Assuming No Constraint >650	Difference between >650 Unconstrained and Actual
	2001	2012					
CL Loans, <660	512,454	154,473	69.9	421,184	266,711	276,912	122,439
CL Loans, 660–750	971,596	525,017	46.0	798,550	273,533	525,017	0
CL Loans, >750	667,579	548,680	17.8	548,680	0	548,680	0
CL Loans, Total	2,151,629	1,228,170	42.9	1,768,414	540,244	1,350,609	122,439
HMDA Total	4,932,840	2,741,602	44.4				
CL to HMDA Ratio	0.44	0.45					
HMDA to CL Ratio	2.29	2.23					
<b>Missing Loans</b>					<b>Upper Bound</b> 1,205,967		<b>Lower Bound</b> 273,317

Source: HMDA, CoreLogic Prime Servicing, and Urban Institute calculations.

Note: CoreLogic and HMDA loans limited to first lien purchases for this calculation.

(rather than the actual drop of 70 percent) were there no credit constraints. Unscaled, this would have produced an extra 122,439 loans, or 273,317 after scaling for the loans either not included the CoreLogic database or missing FICOs (again, the scaling factor was done by multiplying by 2.23). These calculations are shown in table 1.

The truth is somewhere between these estimates, but likely closer to the upper bound because many prospective borrowers with FICO scores well above 660 are affected by the tight credit box and credit overlays. The differential drop between the > 750 bucket and the 660–750 one certainly suggests there are some credit constraints for many of the borrowers in this group. The long-term impact of the credit tightness on households is particularly strong given that potential borrowers have been locked out of the market at an opportune time to buy their own home and begin to build wealth.

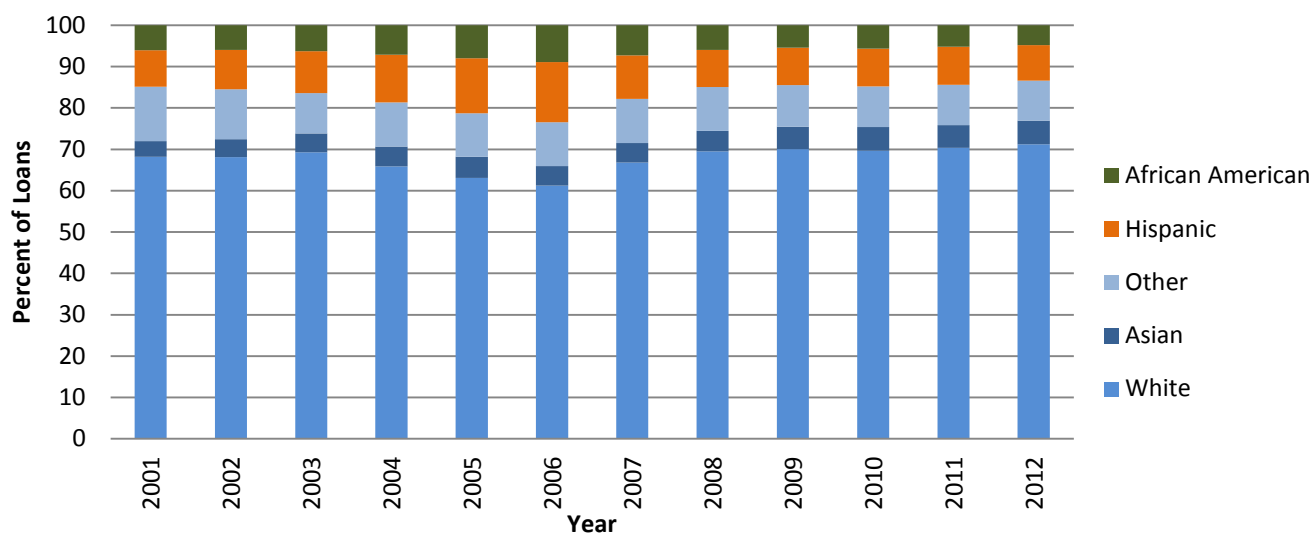
## Distributional Effects by Race and Ethnicity

We used HMDA data to tabulate the number of purchase originations, both total and owner-occupied only, by race and ethnicity between 2000 and 2012. The results show that the distribution of the missing loans is anything but even.

African Americans and Hispanics have been hit far more heavily than non-Hispanic whites and Asians. Figure 4 shows the annual distribution of purchase loans originated by race and ethnicity. The share of non-Hispanic white borrowers increased from 68.1 percent of the total in 2001 to 71.2 percent of the total in 2012, and the share of Asian borrowers rose from 3.8 to 5.7 percent. By contrast, the share of African American borrowers spiked from 6.0 percent in 2001 to 8.0 percent in 2005, before dropping to 4.8 percent in 2012. The pattern for the Hispanic share is similar: 8.85 percent in 2001 to 13.3 percent in 2005, before dropping to 8.6 percent in 2012.

It is more interesting to express these numbers in terms of the decline in the count of purchase loans rather than only the change in market share, as we have done in table 2.<sup>2</sup> Comparing 2001 to 2012, the number of purchase loans to African American and Hispanic borrowers declined by 55 and 45 percent, respectively. In contrast, purchase loans to non-Hispanic whites and Asians dropped 41 and 15 percent, respectively. In terms of loan counts, comparing 2001 with 2012, the number of purchase loans to African American borrowers decreased from 292,944 to 131,470, while the number of purchase loans to Hispanic borrowers decreased from 430,043 to 236,507.

**Figure 4: Share of Purchase Originations by Race and Ethnicity**



Source: HMDA and Urban Institute calculations.

Note: Includes all purchase loans, not limited to first liens.

**Table 2: Purchase Origination Volume by Race and Ethnicity**

	White	Hispanic	African American	Asian	Other	Total
2001	3,311,645	430,043	292,944	184,541	637,907	4,857,080
2005	4,670,848	986,206	592,559	380,647	773,942	7,404,202
2012	1,953,021	236,507	131,470	156,662	263,942	2,741,602
Difference, '01-'05	1,359,203	556,163	299,615	196,106	136,035	2,547,122
Difference, '05-'12	-2,717,827	-749,699	-461,089	-223,985	-510,000	-4,662,600
Difference, '01-'12	-1,358,624	-193,536	-161,474	-27,879	-373,965	-2,115,478
Pct. change, '01-'05	41.0	129.3	102.3	106.3	21.3	52.4
Pct. change, '05-'12	-58.2	-76.0	-77.8	-58.8	-65.9	-63.0
Pct. change, '01-'12	-41.0	-45.0	-55.1	-15.1	-58.6	-43.6

Source: HMDA and Urban Institute calculations.

Note: Includes all purchase loans, not limited to first liens. Volume measured by loan count.

This long-term decline masks enormous variability over the period. From 2001 to 2005, the volume of purchase mortgages to African Americans increased by 102 percent, for Hispanics by 129 percent, and for Asians by 106 percent. The expansion for non-Hispanic whites was more modest, at 41 percent. From 2005 on, however, the number of purchase loans to African American and Hispanic borrowers declined by 76 and 78 percent, respectively, compared with 56 and 59 percent declines in the number of loans to non-Hispanic white and Asian borrowers. The differential impact of the boom and bust on potential homebuyers of different races is stark.

### Distributional Effects by State

Not only are there differences across racial and ethnic groups, but the drop across geographic areas has not been uniform, as shown by the state level data in table 3. Florida was the hardest-hit state, with a 61 percent drop in the number of purchase loans and a 63 percent drop in the number of owner-occupied purchase loans. This reflects the fact that the rapid growth in the population in the early 2000s was followed by a much slower growth period. In addition, many Florida communities hit hard by foreclosures and short sales have become magnets for the REO (real estate owned) -to-rental cash buyers. Other Sand States such as California, Arizona, and Nevada also experienced large drops in purchase activity (between 45 and 49 percent), but not nearly as large as Florida. We believe the difference between Florida and the other Sand States reflects the fact that home price recovery in

Florida has been weaker, because it has a larger overhang of foreclosed properties.

A number of other states experienced drops of more than 50 percent. New Jersey, New York, Connecticut, Ohio, and Illinois had very slow population growth over this period. Further compounding their declines, these states have judicial foreclosure processes, which foster longer foreclosure timelines and a heavy overhang of foreclosed properties, inhibiting the sales of nondistressed neighboring properties.<sup>3</sup> The populations of Michigan and Rhode Island actually declined over the period, contributing to lower demand for credit. Finally, Georgia's presence reflects Atlanta's status as a hotspot for institutional REO-to-rental operators.

The smallest drops, not surprisingly, are in those states that have experienced rapid growth in population—such as Wyoming, Nebraska, South Dakota, and Utah. But even in states with very strong population growth, there is an absolute decline in the number of mortgages to support home purchases—a fact that is itself very telling.

### Conclusion

These results illustrate that constrained credit availability has decreased the number of purchase mortgages being made in the current environment, especially for prospective owner-occupants. Moreover, the effect has been uneven across race and ethnicity and across states. While new originations declined among all groups,



**Table 3: Change in Purchase Originations by State, 2001–2012**

State	Number of Loans in Thousands		Percent Change	Percent Change, Owner-occupied Only
	2001	2012		
FL	410.8	160.6	-60.9	-63.0
NJ	132.5	59.4	-55.1	-57.4
MD	114.9	51.6	-55.1	-56.5
CT	58.7	26.8	-54.4	-55.6
PR	30.6	14.1	-54.0	-52.7
IL	211.8	98.1	-53.7	-55.9
GA	165.4	77.2	-53.3	-54.9
MI	162.3	75.8	-53.3	-54.3
RI	16.2	7.7	-52.8	-55.7
OH	180.9	87.5	-51.6	-51.9
NV	62.8	32.1	-49.0	-54.5
CA	610.0	313.6	-48.6	-53.8
VA	161.0	86.9	-46.0	-47.9
AZ	141.5	77.4	-45.3	-50.8
All U.S.	4932.8	2741.6	-44.4	-47.0
NY	186.8	104.3	-44.2	-46.4
MS	32.8	18.3	-44.1	-46.1
IN	102.4	58.7	-42.7	-42.1
NM	27.2	15.7	-42.3	-44.2
NC	146.4	84.5	-42.3	-43.4
NH	20.6	11.9	-42.2	-44.9
OR	63.5	37.4	-41.1	-44.0
CO	126.2	75.2	-40.4	-43.1
PA	162.6	97.1	-40.3	-41.9
HI	15.1	9.1	-39.9	-32.7
MN	95.8	57.7	-39.7	-43.2
AL	64.1	38.7	-39.6	-40.8
DE	15.6	9.4	-39.5	-45.0
WI	81.0	49.2	-39.2	-42.5
WA	116.5	71.0	-39.0	-41.7
MO	90.7	55.9	-38.4	-42.3
VT	7.8	5.0	-36.1	-38.7
TN	93.0	59.7	-35.9	-38.5
MA	96.6	62.1	-35.7	-39.4
SC	67.6	44.0	-35.0	-36.0
KS	40.6	26.6	-34.6	-36.8
DC	10.0	6.7	-33.6	-36.2
ME	16.1	10.7	-33.3	-37.0
TX	380.1	253.4	-33.3	-36.5
ID	25.6	17.3	-32.4	-36.3
KY	51.9	35.8	-31.1	-33.6
WV	17.7	13.2	-25.6	-28.3
AR	36.3	27.3	-24.7	-29.1
LA	51.0	38.6	-24.3	-24.3
AK	9.7	7.5	-23.1	-20.3
OK	47.7	38.1	-20.1	-23.0
MT	11.0	9.0	-17.7	-20.9
SD	10.6	9.0	-15.3	-16.1
IA	37.1	32.0	-13.8	-20.0
UT	41.1	37.0	-10.0	-12.4
WY	7.7	7.2	-6.5	-7.4
NE	19.8	18.6	-6.0	-11.3
ND	6.8	9.8	44.0	42.1

Source: HMDA and Urban Institute calculations.

Note: Includes all purchase loans, not limited to first liens.

African Americans and Hispanics have been affected more strongly than non-Hispanic whites and Asians.

The consequences of this are severe in that fewer individuals will become homeowners, at exactly the point in the economic cycle when it is advantageous to do so. These individuals hence lose a valuable opportunity to build wealth. And it has consequences for the housing market and the broader economy. It means the housing market will recover more slowly, because there are fewer potential buyers for each home (hence the large increase in the cash sales share). Ultimately, it hinders the economy through fewer new home sales, and less spending on the myriad of items that go along with home purchases. There is an urgent need to expand the credit box to improve opportunities for households to build wealth and strengthen the economic recovery.

## Endnotes

<sup>1</sup> HMDA has first lien origination volume from 2004 onward. Prior to that, the lien information on firsts and seconds are combined. However, Inside Mortgage Finance has second lien information broken out for the 2001 and later period. We scaled HMDA data on second liens to data from Inside Mortgage Finance for 2004, and then used the scaled estimates to subtract out second liens from total origination for the 2001–2003 period.

We chose 2001 as our base year, because it was pre-bubble (2004–2007) and was a year that was not heavily distorted by either unusually low interest rates causing huge refinancing activity, or unusually high interest rates causing broad access to credit. We did not want to use 2002 or 2003, as those years experienced unprecedented refinancing activity, and 2000 was a year of very high interest rates.

<sup>2</sup> Prior to 2004, race and ethnicity were contained within one variable in HMDA data. The choices included White, Hispanic, African American, Asian, American Indian, and other, and they were mutually exclusive (respondents could not select both “Hispanic” and “White,” for example). For 2004 and later, race and ethnicity were separated:

the racial choices included White, African American Asian, American Indian, Native Hawaiian or other Pacific Islander, and other. The ethnicity choices were Hispanic or Latino or not Hispanic or Latino. For our purposes, we are treating this as one continuous series.

<sup>3</sup> Immergluck, Dan, and Geoff Smith. 2006. "The External Costs of Foreclosure: The Impact of Single-Family Mortgage Foreclosures on Property Values." *Housing Policy Debate* 17(6): 57–79.



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