Tennessee Housing Development Agency

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Tennessee Home Lending Trends in 2018

Analysis from Home Mortgage Disclosure Act (HMDA) Data

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Key Findings

In 2018, mortgage activity (all applications regardless of outcome; including home purchase, refinancing and home improvement) in Tennessee showed signs of slowing, similar to national trends. Nearly 287,000 applications for home purchase, refinancing and home improvement loans in Tennessee led to 148,214 loan originations, which represented a ten percent decrease from 2017. In the nation, the total number of originated loans of all types and purposes declined by 16 percent.

Declining refinance loan origination was the source of mortgage origination slow down. In 2018, the number of refinance loans originated for one- to four-family dwellings declined by 17 percent from the previous year, while home purchase loan originations did not change significantly.

The 2018 data reveal that there were more cash-out refinances than traditional refinances. For the first time, HMDA data broke out traditional refinance loans, and cash-out refinances where borrowers reduce their equity in their homes in exchange for cash.

Davidson County led with 9,784 home purchase loan originations in 2018, representing an eight percent decline from its 2017 total. Shelby and Knox Counties followed Davidson County. Davidson County also led refinance loan originations, followed by Shelby and Rutherford Counties.

Conventional mortgages have continued increasing their market share and hit their highest percent of total purchase loan volume of the past decade, at nearly 60 percent of originations in 2018. FHA loans, which represented just under 10 percent of the market pre-crisis and reached as high as 42 percent after the crash, fell from 23.8 percent in 2017 to 22.2 percent in 2018. However, VA-insured loans remained near all-time highs in terms of market share in 2018 at around 12 percent (from around five percent in 2007) of all owner-occupied home purchase loans originated.

Minority borrowers are more likely to use nonconventional loan products. Compared to white borrowers, a higher percentage of both African-American and Hispanic/Latino borrowers receive FHA-, VA- or USDA-insured home mortgage loans.

In 2018, African-American borrowers made up a slightly higher percentage of total borrowers, increasing from 7.2 percent in 2017 to 7.5 percent. The slight increase in share by African-American borrowers mirrors the small decline in the percentage of white borrowers, from 82.6 percent to 80.9 percent. Low-income borrowers’ share of home purchase loan originations also slightly increased in 2018 from the previous year.

Denial rates for all home purchase loan applicants declined slowly compared to 2017. However, denial rates for minorities were still higher than for white borrowers. Asian and Other Minority applicants experienced slight increases in their denial rates.

2018 Mortgage Loan Activity in Tennessee

This report provides an overview of mortgage market activity and lending patterns in Tennessee using the Home Mortgage Disclosure Act (HMDA) data[1] from 2009 until 2018 and compares different demographic groups and lender types. All the information provided in this report is related to the mortgage loan applications and mortgages originated in Tennessee, unless noted otherwise.

The HMDA data collected in 2018 differ from previous years with the addition of new and expanded fields as well as updated reporting guidelines and definitions for some data points. To make the data as comparable as possible to the previous years, Consumer Financial Protection Bureau (CFPB) methodology[2] is used.

In this report, we also looked at Tennessee Housing Development Agency's (THDA's) share in the Tennessee home loans market in 2018. THDA does not report to HMDA because THDA is not the direct lender, but, most lenders that originate the loans for THDA borrowers do report to HMDA. We compared the home purchase loans reported in HMDA data files in Tennessee in 2018 with the THDA loan portfolio.

1. MORTGAGE APPLICATIONS AND ORIGINATIONS

In 2018, 1,132 institutions reported data on 286,805 home mortgage applications and purchased loans in Tennessee.[3]

These loan applications in 2018 led to 148,214 loan originations, a 61 percent approval rate[4] in the amount of nearly $33 billion. Both the number of applications and originations in 2018 were lower than they were in 2017. As shown in Table 1, 2018 saw a 10 percent decline in the number of loans originated from 2017. Similarly, the total dollar value of loans originated declined by nearly one percent compared to 2017. Tennessee is roughly on track with national trends[5], where the total number of originated loans of all types and purposes declined by 12.6 percent.

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[1] For more information about what HMDA data is and what are the new and revised data elements in 2018 HMDA data, please check Appendix A at the back of the report.

[2] Regarding 2018 data, CFPB published two articles; one for analyzing trends in mortgage applications and originations in the nation and another one for introducing the new and/or revised data points in 2018 HMDA data. These articles provide detailed explanations about the new data points and changes to the existing data points. Both articles can be downloaded at https://www.consumerfinance.gov/data-research/hmda/.

[3] The 2015 HMDA rule required institutions that originated at least 100 open-end line of credits (LOCs) in each of the two preceding calendar years to report data on open-end LOCs beginning with data collected in 2018. However, in 2017, the Bureau temporarily increased the open-end reporting threshold to 500 open-end LOCs for calendar years 2018 and 2019. To make this data comparable to the data reported in previous years, we excluded all open-end LOCs, except those open-end LOCs that are reverse mortgages, and applications for a loan purpose other than purchase, home improvement, or refinance. To put in context; in 2018, in Tennessee, there were 42,504 open-end LOCs applications that were not reverse mortgage. We excluded these applications.

[4] Regardless of loan or property type, lien or occupancy status or loan purpose. Excluding the applications withdrawn by applicant and files closed for incompleteness.

[5] A short synopsis of nationwide observations from 2018 HMDA can be found in this press release.

Table 1. Reporting Institutions, Applications and Originations and $ Value, 2009-2018

Activity Year	Number of Reporting Institutions	Number of Loan Applications Reported	Number of Loans Originated	Dollar Value of Loans Originated (Billions of Current $)
2009	1,126	406,028	187,776	$29.51
2010	1,034	335,917	153,282	$24.10
2011	983	304,377	137,943	$21.73
2012	1,012	373,362	180,686	$29.93
2013	1,053	358,454	172,612	$28.10
2014	1,032	262,821	130,220	$22.21
2015	1,060	305,114	155,616	$29.04
2016	1,105	350,490	174,965	$34.00
2017	1,106	326,416	164,577	$32.90
2018[6]	1,132	286,805	148,214	$33.20

In 2018, close to 50 percent of all the loans in the state were originated by 33 financial institutions. Around 20 of these lenders with high volume of mortgage originations were THDA approved lenders as of August 2019. With more than 8,000 originated loans statewide, Quicken Loans ranked number one with the highest number of loans followed by Mortgage Investors Group (MIG), Regions Bank and Pinnacle Bank. Combined, these four institutions originated 16 percent of all loans originated in Tennessee in 2018. Quicken Loans is not a THDA approved lender, but MIG, Regions Bank and Pinnacle Bank are all THDA approved lenders. In 2018, these three lenders originated more than 20 percent of the nearly 5,000 THDA loans funded during the year.

Of 1,132 institutions reporting to HMDA, 105 institutions did not have any loans originated. It is possible that the institution had applications, but they were denied by the institution or withdrawn by the applicants. In some cases, the institution purchased the loans originated by other banks or the institution originated loans in other states even though it did not have any loan origination in Tennessee. Wells Fargo reported the highest number of loans in 2018, but only 17 percent of those reported loans were originated in 2018 and 71 percent of reported loan applications by Wells Fargo were originated previously and purchased in 2018. Another financial institution with large volume of loans reported and high loan purchase portfolio was PennyMac Loan Services. Mortgage Investors Group (MIG) was among the top 10 institutions with the highest number of loans originated in the 10-year period in Tennessee. MIG has been the top originating agent of Tennessee Housing Development Agency (THDA) loans for over 10 years.

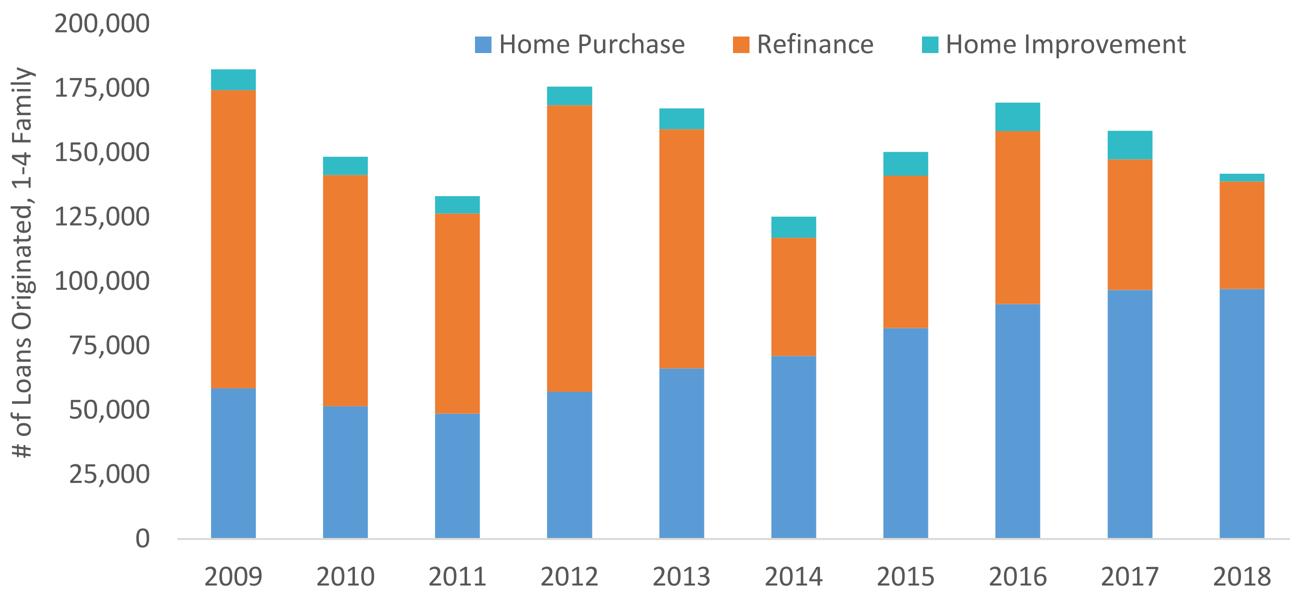
[6] 2015 HMDA rule required institutions that originated at least 100 open-end line-of credits (LOCs) in each of the two preceding calendar years to report data on open-end LOCs beginning with data collected in 2018. To make the data reported here as consistent as possible with historical HMDA data, following the Bureau, we excluded all open-end LOCs, except those open-end LOCs that are reverse mortgages, and applications for a loan purpose other than purchase, home improvement, or refinance. For more detailed explanation about the data and reporting changes, please see: Dietrich, J., Liu, F., Skhirtladze, A., Davies, M., Jo, Y., and Candilis C. (2019), "Data Point: 2018 Mortgage Market Activity and Trends.

2. HOME PURCHASE VERSUS REFINANCE[7]

According to HMDA data, in 2018, financial institutions reported 265,865 home purchase, refinancing and home improvement loans for one- to four-family site-built dwellings.[8] In the same year, there were an additional 982 reported loan applications for site-built multifamily dwellings and 19,958 applications for manufactured homes (both one- to four-family and multi-family dwellings).

In 2018, refinance loans originated for one- to four-family dwellings declined by 17 percent year over year, and accounted for 30 percent of all loans originated for one- to four-family dwellings during the year.

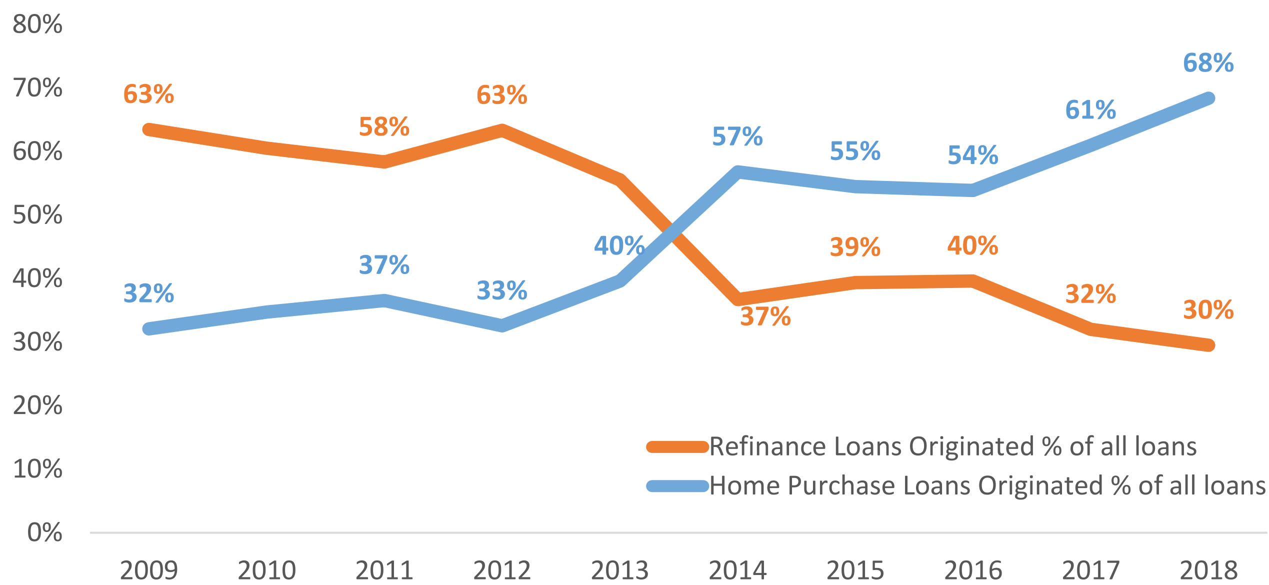
Figure 1. The Number of Mortgage Loans Originated, 1-4 Family Dwellings, 2009-2018



[7] First lien owner-occupied, one- to four-family, site-built home mortgage loans originated for home purchase and refinance purposes in 2017 and 2018 by county can be found in Appendix B.

[8] That number also includes the loans originated in the previous years and purchased by the financial institutions during the year, and preapproval requests. As it is explained in Appendix A in more detail, there were some significant changes in data reported in 2018. One of those issues related to discussion here is the property type. In the past the reporting financial institutions only reported whether the loans were for one- to four-family, manufactured or multifamily homes. In 2018, this characteristic was represented by two variables: construction type and number of units. That allowed us to separate manufactured home construction for single family and multifamily types.

Figure 2. The Percent of Home Purchase and Refinance Mortgage Loan Originations in Total Loan Originations, 1-4 Family Dwellings, 2009–2018



In Table 2, the number of loans reported to HMDA and various types of action taken by the financial institutions are separated for one- to four-family, manufactured and multifamily dwellings, and the loans for one- to four-family dwellings are further separated based on the loan purpose (purchase, refinance and home improvement).

As Table 2 indicates, in contrast to declining refinance loan originations, home purchase loans originated for one- to four-family dwellings did not change significantly from previous year, and accounted for 68 percent of all loans originated for one- to four-family dwellings. Refinancing volume is generally dictated by the available interest rates. As annual average mortgage interest rates increased to 4.54[9] in 2018 from 3.99 in 2017, the volume of refinance loan applications and originations declined from the previous year and reached their lowest levels of the decade. Home improvement loan originations were consistently on the rise since a 2011 low, but, in 2018, originations declined by 73 percent compared to 2017 and it was at the lowest level since 2004 (the earliest we have detailed HMDA data for Tennessee). Reporting rule changes predicated this substantial drop.[10] The 2015 HMDA rule excluded unsecured home improvement loans starting with the data collected for 2018, while the prior years included those unsecured loans, and it is not possible to separate previous years' data that would be compatible with 2018. The volume of multifamily loan originations more than doubled compared to the previous year.

[9] See http://www.freddiemac.com/pmms/pmms_archives.html

[10] Dietrich, J., Liu, F., Skhirtladze, A., Davies, M., Jo, Y., and Candilis C. (2019), "Data Point: 2018 Mortgage Market Activity and Trends," p.10.

Table 2. Total Loan Applications and Action Taken by the Financial Institutions, 2009-2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1-4 Family										
Home Purchase										
Applications*	118,638	103,839	98,742	113,508	128,899	126,868	140,447	156,869	167,874	167,232
Originated	58,509	51,531	48,691	57,175	66,207	71,069	81,942	91,226	96,705	97,018
Denied	9,544	8,794	8,746	10,815	11,663	10,178	10,138	10,806	10,892	10,342
Purchased**	37,257	32,500	30,869	33,452	36,210	31,450	33,186	36,767	39,566	36,873
Other***	13,328	11,014	10,436	12,066	14,819	14,171	15,181	18,070	20,711	22,999
Refinancing										
Applications*	259,264	204,643	174,109	226,436	194,628	101,059	128,792	152,857	115,079	92,295
Originated	115,722	89,818	77,683	111,247	92,850	45,902	59,199	67,098	50,724	41,861
Denied	40,090	34,880	30,917	35,426	36,566	24,410	28,075	36,261	21,343	18,747
Purchased**	59,245	42,693	30,675	36,017	25,970	9,681	12,843	13,869	11,831	8,797
Other***	44,207	37,252	34,834	43,746	39,242	21,066	28,675	35,629	31,181	22,890
Home Improvement										
Applications*	17,118	14,056	14,064	16,029	16,806	18,008	18,592	21,383	22,296	6,338
Originated	8,089	7,080	6,793	7,241	8,126	8,145	9,196	11,055	11,126	2,972
Denied	5,488	4,944	5,393	6,584	6,674	7,490	7,267	7,580	7,713	1,843
Purchased**	1,084	685	600	720	547	465	392	481	563	494
Other***	2,457	1,347	1,278	1,484	1,459	1,908	1,737	2,267	2,894	1,029
Multifamily										
Applications*	407	363	436	585	593	601	683	633	652	982
Originated	321	296	354	489	478	493	574	512	479	796
Denied	44	29	36	42	40	42	44	42	45	75
Purchased**	13	9	13	7	9	3	12	17	41	1
Other***	29	29	33	47	66	63	53	62	87	110
Manufactured										
Applications*	10,601	13,016	17,026	16,804	17,528	16,285	16,600	18,748	20,515	19,958
Originated	5,135	4,557	4,422	4,534	4,951	4,611	4,705	5,074	5,543	5,567
Denied	3,287	5,618	7,898	8,214	8,166	7,302	6,618	7,268	8,411	8,118
Purchased**	583	272	252	211	224	286	479	633	648	458
Other***	1,596	2,569	4,454	3,845	4,187	4,086	4,798	5,773	5,913	5,815

*Applications includes all the loan applications reported by financial institutions to HMDA during the year regardless of the action taken and the loans purchased by the financial institutions.

**Purchased includes loans purchased by the financial institution during the year.

***Other includes: Applications that were approved but not accepted by the applicant, applications withdrawn by the applicant, and files closed for incompleteness in addition to Preapproval Requests that were denied and Preapproval Requests that were approved but not accepted by the applicant.

Trends in First-Lien Mortgage loans on Owner-occupied, One- to Four-Family Dwellings[11] Metropolitan Statistical Areas (MSAs)[12], 2009-2018

Home purchase loan originations for first-lien, owner occupied, one- to four-family site-built homes in the state slightly declined from 2017. Even though the decline was negligible, at less than half a percent, it is still significant considering that the loan originations had been in an upward trend since 2011. There was a similar change in trends in other MSAs too.

Table 3 provides the number of home purchase loans originated by the MSAs[13] between 2007 and 2018.

The Chattanooga, Johnson City, Kingsport and Nashville MSAs experienced year-over-year declines, similar to the state, in the home purchase loan originations, and, although the Jackson and Knoxville MSAs experienced increasing loan originations, their respective increases were much smaller compared to the previous years. For example, in the Jackson MSA, loan originations in 2018 increased by two percent from 2017, while in 2017, there was a ten percent annual increase. Similarly, in the Knoxville MSA, one percent increase in loan originations was negligible compared to 18, 15 and six percent annual increases in the prior years. The level of home purchase loan originations in the Clarksville, Cleveland, Knoxville and Morristown MSAs was the highest in the period between 2007, the year just before the housing market crash, and 2018. Mortgage activity in the Clarksville MSA was quite strong considering the slowdown or even declining trends in other parts of the state.

In 2018, home purchase loans originated in the Nashville MSA declined by five percent compared to 2017. Thirty-seven percent of all home purchase loans originated in the state were in the Nashville MSA during 2018. In the Memphis MSA, the increasing trend continued in 2018 with a four percent annual increase in home purchase loan originations. However, the home purchase loan origination in the Memphis MSA was still nearly 25 percent less than 2007 level at the onset of housing market crash. Even with five percent annual decline in home purchase loan originations in the Chattanooga and Nashville MSAs, the mortgage loan volume in 2018 surpassed the pre-housing crisis 2007 level of mortgage activity. The Memphis MSA was the furthest from its 2007 level, reaching just 76 percent of pre-recession home purchase loans levels in 2018 after four percent annual increase in mortgage loan activity.

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[11] The discussion in the following sections is based on first-lien mortgage loans on owner-occupied one- to four-family, site-built dwellings, unless otherwise specified.

[12] Data for the Metropolitan Statistical Areas (MSAs), which include counties from other neighboring states, are only for the counties in Tennessee. “Kingsport” refers to the Kingsport-Bristol-Bristol MSA and Nashville refers to the Nashville-Davidson–Murfreesboro–Franklin MSA.

[13] Office of Management and Budget (OMB) released the revised delineations of Metropolitan Statistical Areas in February 28, 2013, which affected the HMDA data collected on or after January 1, 2014. After the change in 2013, Maury County was added to the Nashville MSA; Stewart County was excluded from the Clarksville MSA; Campbell, Morgan and Roane Counties were added to the Knoxville MSA; Grainger County was removed from the Morristown MSA and added to the Knoxville MSA; and Crockett County was added to the Jackson MSA. To accurately compare the loan originations in 2017 to previous years, we used the 2013 MSA delineations for all years between 2007 and 2017. This way, the change between two different time periods will be the result of change in the mortgage activity rather than the change in geography.

Table 3. First-Lien *Home Purchase* Loans Originated for Owner-Occupied 1-4 Family Dwellings, 2007-2018, MSA and State

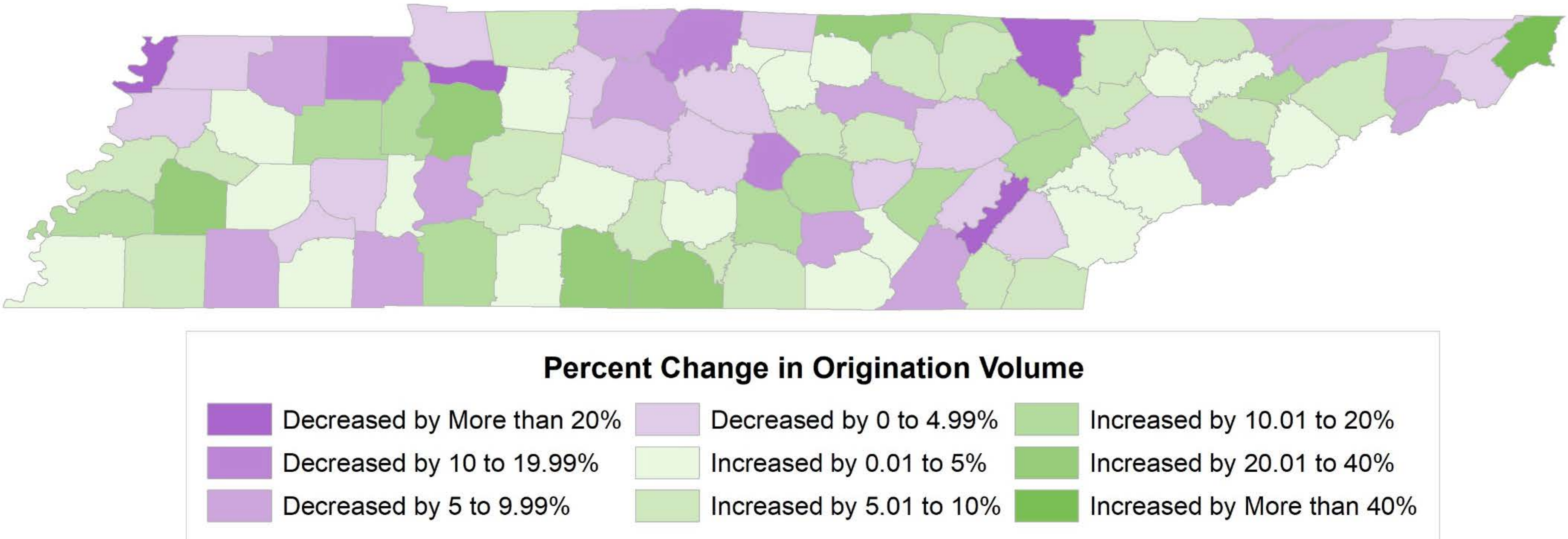
Comparing Regional Trends to Pre-Housing Crisis, 2007 Level of Mortgage Activity

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 % of 2007
Chattanooga	4,726	3,436	3,222	2,842	2,632	3,166	3,837	4,010	4,529	5,137	5,304	5,037	107%
Clarksville	4,221	2,362	3,305	2,515	2,952	3,042	2,912	3,183	3,228	3,877	4,442	4,867	115%
Cleveland	1,076	867	720	663	682	747	934	964	1,102	1,288	1,267	1,378	128%
Jackson	1,494	1,113	1,008	811	782	836	982	934	1,072	1,211	1,328	1,359	91%
Johnson City	2,220	1,646	1,397	1,271	1,246	1,417	1,503	1,538	1,874	2,049	2,225	2,087	94%
Kingsport-Bristol	2,218	1,748	1,391	1,309	1,176	1,390	1,533	1,588	1,916	2,003	2,230	2,188	99%
Knoxville	11,292	8,131	7,107	6,295	5,672	6,532	7,770	8,294	9,779	11,245	11,968	12,103	107%
Memphis	12,916	8,042	7,686	6,687	5,745	6,463	6,999	7,124	7,908	9,029	9,461	9,841	76%
Morristown	1,062	744	638	577	551	600	691	807	972	1,043	1,126	1,246	117%
Nashville	29,168	20,613	18,137	16,237	15,462	19,243	23,333	25,228	29,950	32,349	33,146	31,560	108%
TENNESSEE	81,647	56,122	51,377	45,433	42,716	50,279	58,613	61,998	72,172	80,282	84,515	84,275	103%

In 2018, 12 percent of all home purchase loans originated in the state were in Davidson County, followed by Shelby County with nearly 10 percent and Knox County with eight percent. In 37 counties, home purchase loan volume decreased compared to 2017. Obion County's home purchase loan originations remained unchanged from 2017 to 2018. The balance, 58 counties, saw an increase in origination. Small rural counties with low loan volume, such as Johnson County, saw larger percentage increases in origination, even if these represented relatively small gains in volume; Johnson County jumped from 48 loans in 2017 to 90 in 2018, representing an 88 percent increase. The largest volume increase in home purchase loans among the counties with 1,000 or more originations in 2018 was in Montgomery County, followed by Bradley County (a 10 percent and a nine percent annual increase, respectively). In Montgomery County home purchase loans increased from 4,444 in 2017 to 4,886 in 2018, and, in Bradley County, the loan originations increased from 1,165 to 1,269. Nearly 10,000 home purchase loans were originated in Davidson County, an eight percent annual decline.

The following map shows the percentage change in the home purchase loan originations for single family site-built homes from 2017 to 2018.

Map 1: Percent Change in Originations, First-lien, Owner-Occupied, One- to Four-Family, Site-Built Home Purchase Loans, 2017 to 2018



Refinance volume offered a different story for several MSAs. A decline of 18 percent in refinance loan originations in 2018 puts the statewide volume at the lowest level of the 10-year period. Recovery efforts and declining interest rates caused two peak years in refinance loan originations, 2009 and 2012. In all metro areas, the number of refinance loans originated declined from 2017 and in all of them, refinance activity was well below 2009 and 2012 peak levels. In 83 counties, the refinance volume declined from the previous year. Refinance activity, while important to track in terms of mortgage activity, is a different type of indicator because it is, as mentioned earlier, often a function of interest rates and not the other factors that influence overall sales volume.

Table 4. First-Lien *Refinance* Loans Originated for Owner-Occupied 1-4 Family Dwellings, 2009-2018, MSA and State

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Chattanooga	5,844	4,548	3,948	5,841	4,936	2,425	3,067	3,498	2,511	2,198
Clarksville	2,713	2,134	2,493	3,727	2,580	1,371	1,818	2,157	1,404	1,027
Cleveland	1,755	1,549	1,239	1,733	1,310	663	856	929	658	575
Jackson	1,528	1,341	1,032	1,549	1,359	674	756	868	656	465
Johnson City	3,101	2,304	1,971	2,646	2,146	940	1,283	1,421	1,023	866
Kingsport	3,385	2,284	1,953	2,574	2,089	1,048	1,384	1,398	1,126	989
Knoxville	17,962	13,201	10,271	14,940	11,763	5,398	7,162	8,111	5,745	4,730
Memphis	11,963	10,326	8,256	13,151	10,633	4,891	6,101	7,150	5,006	3,718
Morristown	1,769	1,302	1,076	1,404	1,216	660	799	878	678	568
Nashville	36,832	29,531	24,996	35,387	29,281	14,094	20,247	24,582	18,233	14,744
TENNESSEE	105,611	80,768	68,283	98,720	79,463	37,793	51,603	60,096	44,564	36,430

See Appendix B for the home purchase and refinance loans originated in 2015 through 2018 by county.

3. CONVENTIONAL VERSUS GOVERNMENT-INSURED LOANS[14]

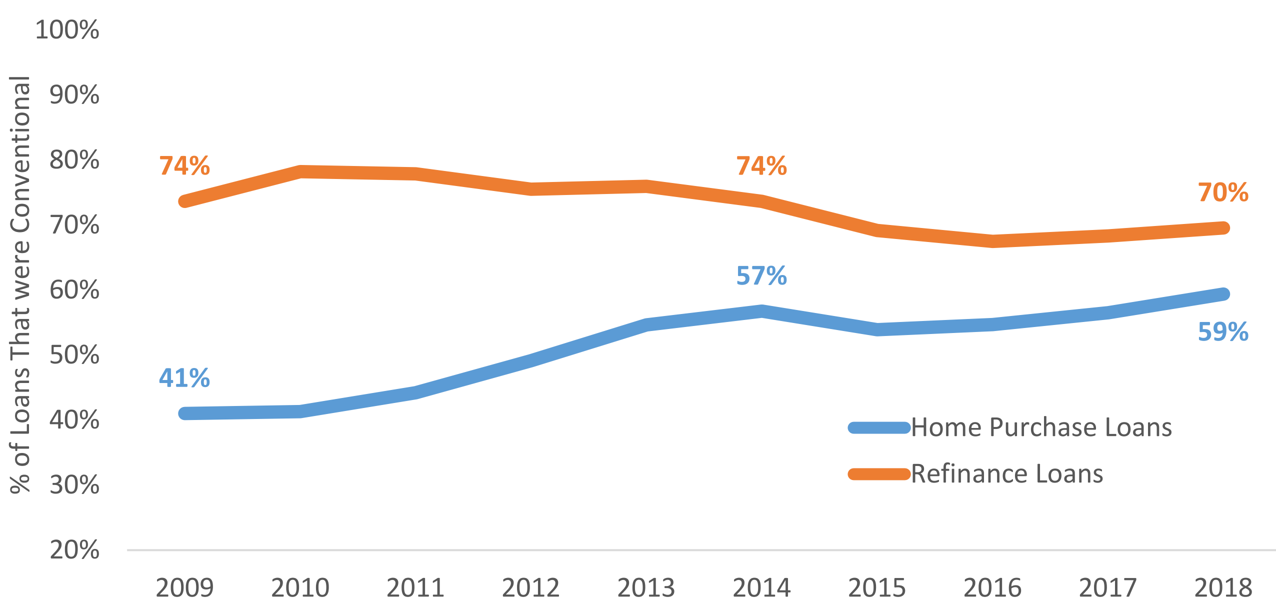
In 2018, conventional loans hit their highest percent of total purchase loan volume of the past decade, at nearly 60 percent of originations. In 2018, while conventional first-lien, owner occupied, one- to four-family, site-built home purchase loan originations increased by five percent from 2017, government-insured (FHA-, VA- and USDA-insured) loans declined by seven percent annually. In the big picture, this is a continuation of a decade long trend in the aftermath of the housing market crash.

Table 5. First-Lien Loans Originated for Owner-Occupied 1-4 Family Dwellings, 2009-2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Home Purchase										
Conventional	41.0%	41.3%	44.2%	49.1%	54.7%	56.8%	53.9%	54.7%	56.5%	59.4%
FHA	41.8%	41.8%	34.1%	30.0%	24.3%	20.5%	25.3%	25.4%	23.8%	22.2%
VA	9.9%	9.9%	12.4%	11.5%	11.7%	12.6%	12.0%	12.3%	12.3%	12.3%
FSA/RHS	7.3%	7.0%	9.3%	9.4%	9.3%	10.2%	8.7%	7.6%	7.4%	6.1%
Refinance										
Conventional	73.7%	78.2%	77.9%	75.5%	75.9%	73.7%	69.2%	67.5%	68.3%	69.6%
FHA	22.6%	17.9%	14.1%	14.9%	15.1%	12.8%	17.1%	15.3%	16.6%	16.7%
VA	3.6%	3.8%	7.9%	9.2%	8.5%	13.4%	13.7%	17.1%	14.7%	13.5%
FSA/RHS	0.1%	0.1%	0.2%	0.4%	0.4%	0.1%	0.1%	0.2%	0.3%	0.1%

In the nation also, the nonconventional loan share among first-lien, home-purchase loans for one-to-four-family, owner-occupied, site-built declined to 33 percent in 2018 from 36.3 percent in 2017.[15]

Figure 3. Share of Conventional Loans in Total Loans Originated, 2009-2018

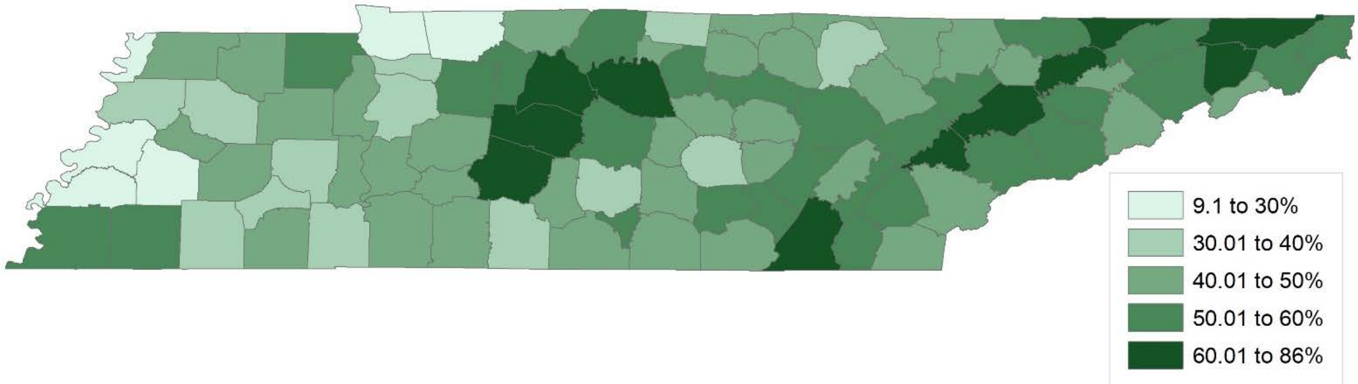


[14] First lien, owner-occupied, home purchase loans for one- to four-family dwellings separated by insurer (conventional, FHA-, VA- and FSA/RHS-insured) and by county can be found at Appendix B.

[15] Dietrich, J., Liu, F., Skhirtladze, A., Davies, M., Jo, Y., and Candilis C. (2019), "Data Point: 2018 Mortgage Market Activity and Trends, Page 21.

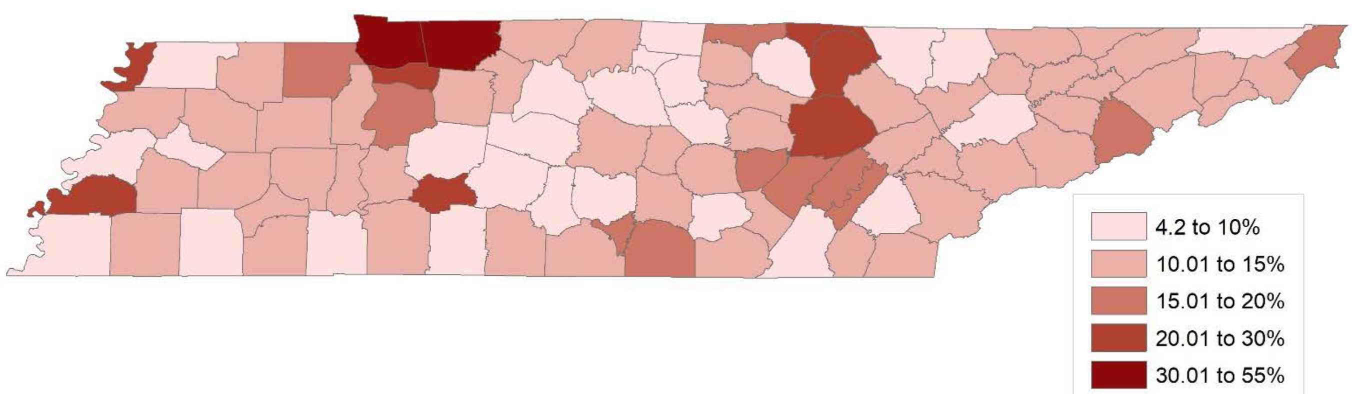
Following maps show the share of first-lien, owner-occupied, one- to four-family, site-built home purchase loans originated in each county by type of insurer (conventional, FHA-, VA- or RHS-Insured).

Map 2: Share of Conventional Loans Originated, 2018

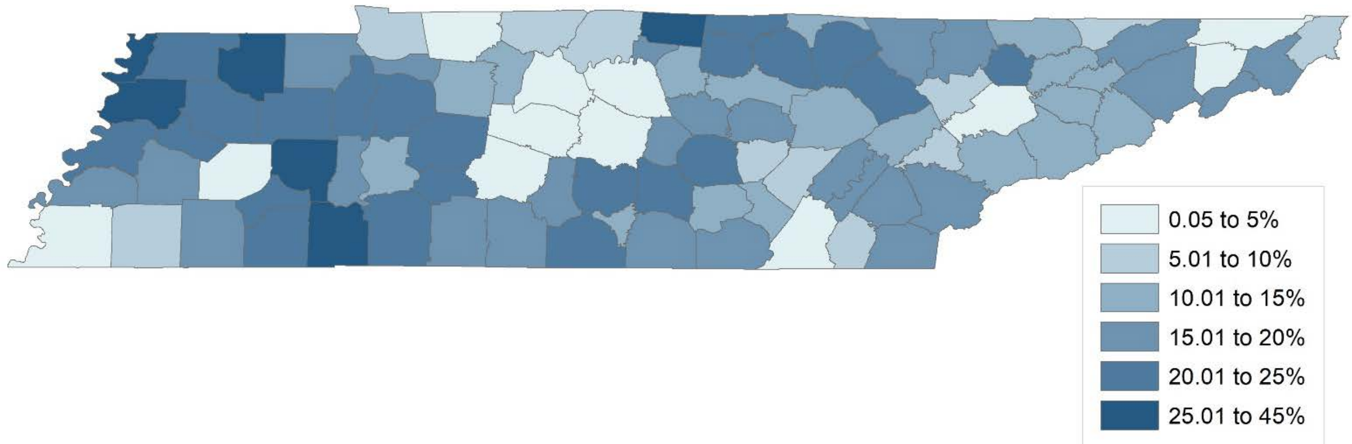


Map 3: Share of FHA-Insured Loans Originated, 2018

Map 4: Share of VA-Insured Loans Originated, 2018



Map 5: Share of RHS-Insured Loans Originated, 2018



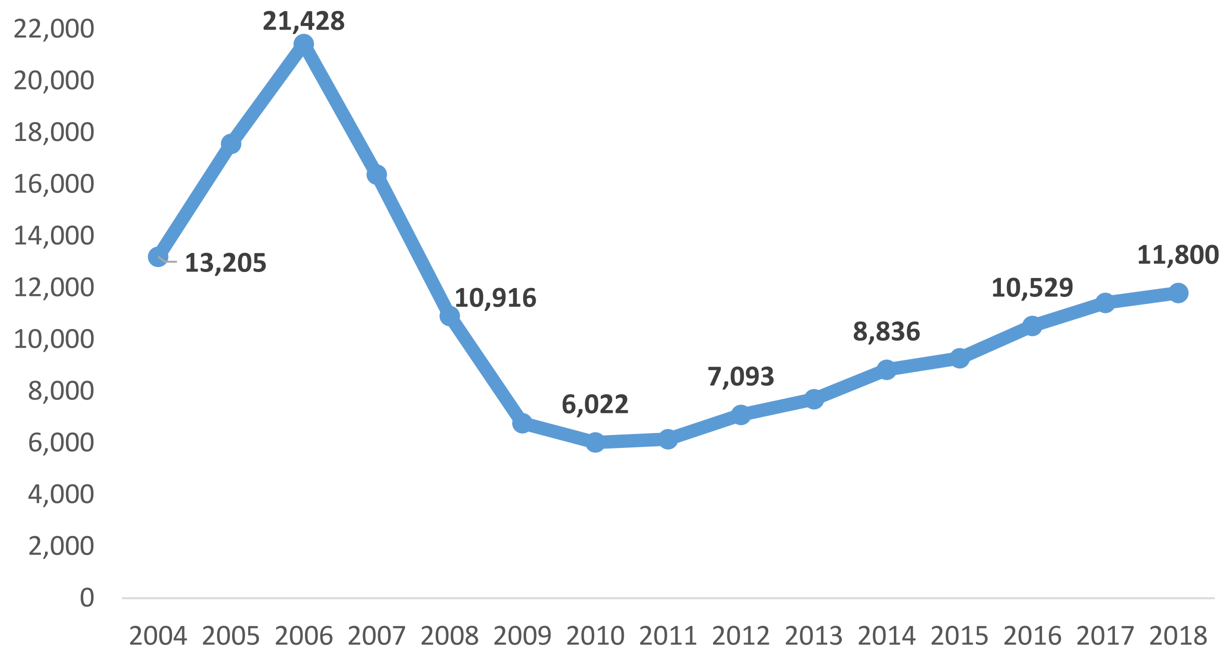
Refinance loans were almost exclusively conventional before the housing market crisis (higher than 90 percent). When the housing market crisis began, this share declined, but remained higher than home purchase loans. In 2018, 70 percent of all refinance loans originated were conventional.

4. MORTGAGE LOANS FOR NON-OWNER-OCCUPIED HOMES

Financial institutions also report the loan applications and originations for non-owner-occupied homes: rental properties, second homes and/or vacation homes. For the data collected in 2018 and after, the "occupancy type" variable is more detailed. It is possible to identify if the mortgage loan is for a principal residence, second residence or an investment property. However, since such detail was not available in the previous years, it is not possible to make a comparisons over time. In 2018, there were nearly 12,000 non-owner-occupied home purchase loans originated, and only 28 percent of them were for second homes, while remaining 72 percent were for an investment property. For the refinance loans originated, the percent of investment property loans was even higher, 91 percent.

As Figure 4 shows, the non-owner-occupied home purchase loan originations reached its 15-year peak in 2006 and started declining in the subsequent years, bottoming out in 2011. Non-owner-occupied home purchase loans have been trending upward since that time. In 2018, with a three percent year-over-year increase, non-owner-occupied home purchase loan originations were 96 percent higher than the 2010 low, but still 45 percent less than the 2006 peak. It is possible that HMDA data underestimate non-owner-occupied home purchases because of the high number of cash only purchases by investors.

Figure 4. First-Lien Home Purchase Loans Originated for Non-Owner-Occupied Homes, 2004-2018



While the HMDA data reported before 2018 only classified applications as owner-occupied, non-owner-occupied and not applicable, the 2015 HMDA Rule revised the reporting of occupancy type to include Principal Residence, Second Residence and Investment Property. Of all non-owner-occupied home purchase loan originations,[16] a majority (72 percent) of non-owner-occupied loan originations were for investment properties. Loans for investment property made up even a higher portion of non-owner occupied refinance loans, where 91 percent of non-owner-occupied loan originations were for investment property and only nine percent were for second residence.

Table 6. First Lien, Single Family Site-Built Loans Originated by Purpose and Occupancy

	Home Purchase	Refinancing	Home Improvement	Other Purposes	TOTAL by Occupancy
Principal Residence	84,275	36,430	1,604	1,420	123,750
Second Residence	3,273	386	40	80	3,779
Investment Property	8,527	4,010	407	220	13,174
TOTAL by Loan Purpose	96,075	40,826	2,051	1,720	140,703

Shelby County had the highest number of single family site-built home loans originated for investment properties followed by Davidson County. Sevier County ranked number one with the highest number of single family site-built home loans originated for second residences followed by Davidson County. In terms of investment properties, the list of 10 counties with the highest number of loans originated included large urban counties and loan origination in those counties made 70 percent of total origination in the state for this purpose, while the top 10 list of counties for single family home loan

[16] First lien, single family, site-built.

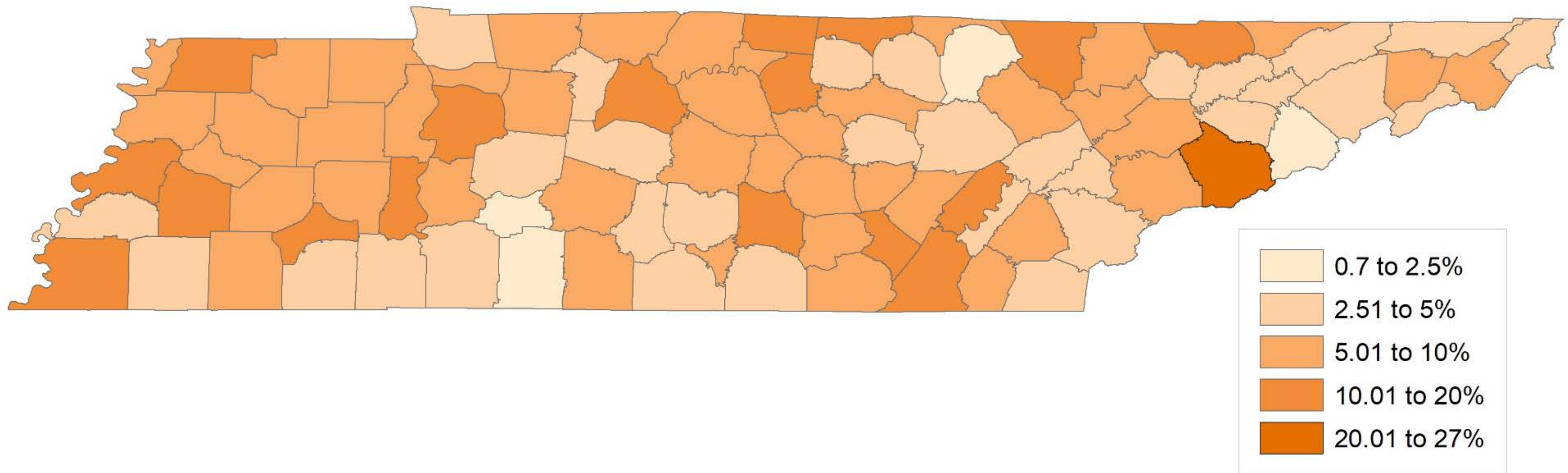
originations for second residences included smaller counties like Campbell and Cumberland and the loans originated in those 10 counties comprised 56 percent of similar loans in the overall state.

In Sevier County, nearly 500 loans originated for second homes (such as vacation properties) represented 25 percent of all home purchase loans originated. Pickett County, although it had less than 15 second home loans originated, had the highest second home loans originated as percent of total home purchase loans with 37 percent. Crockett, Haywood, Lauderdale and Trousdale Counties did not have any loans for second homes. Although nearly 2,000 loans originated for investment properties in Shelby County was, by far, the highest among all counties in 2018, Sevier County had the highest percent of loans originated for investment properties.

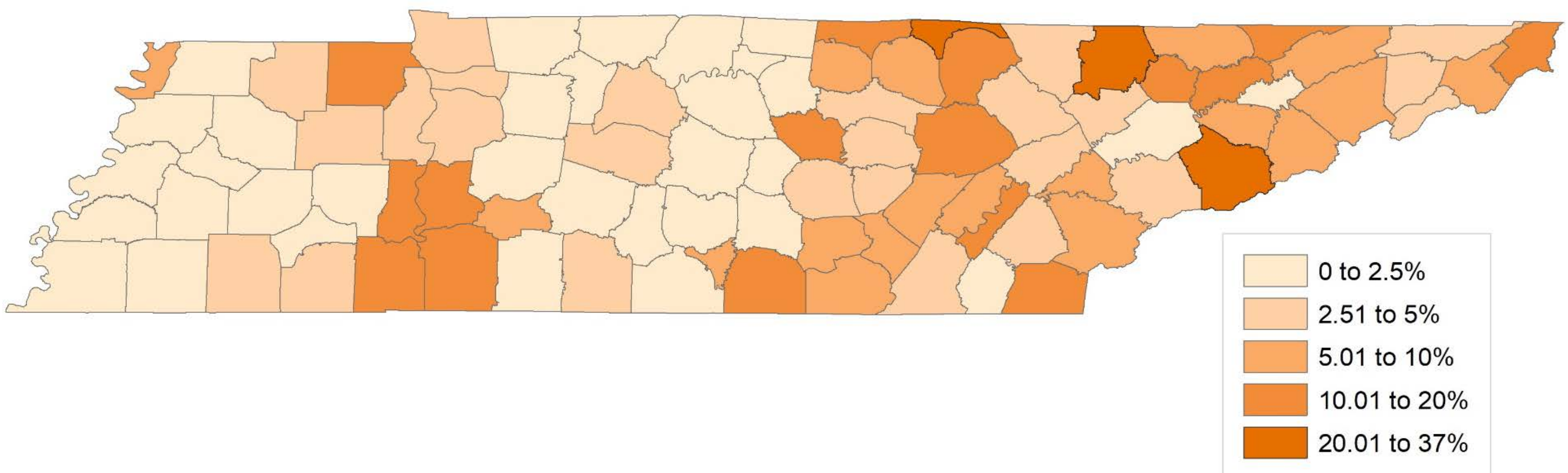
The data on investment property and second residence patterns show some familiar storylines. Memphis, which has recently seen an influx of single family rental properties, tops the state in terms of investment properties. However, the top tourist destination, Gatlinburg, is in the county that tops the list for second residence purchase loans.

Following maps show the home purchase loans originated for investment properties and second residences as percent of total home purchase loans.

Map 6: Loans Originated for Investment Properties as Percent of Total Home Purchase Loans, 2018



Map 7: Loans Originated for Second Homes as Percent of Total Home Purchase Loans, 2018



Nearly all loans originated for non-owner-occupied single family site-built properties were conventional. FHA and VA insured a small number of refinance loans for investment properties, but, especially in the second residence loan market, government-insured loans were nonexistent. On average, investment property buyers paid a higher interest rate than second residence buyers and loans for principal residence. Second home and investment property borrowers, on average, had higher income than borrowers purchasing their principal residences.

The denial rates were lower for applicants of investment properties than for principal and second residences. Less than eight percent of investment property applicants were denied while the denial rate for loans involving principal residences and second residences were over nine percent.

5. APPLICANT INCOMES AND LOAN AMOUNTS[17]

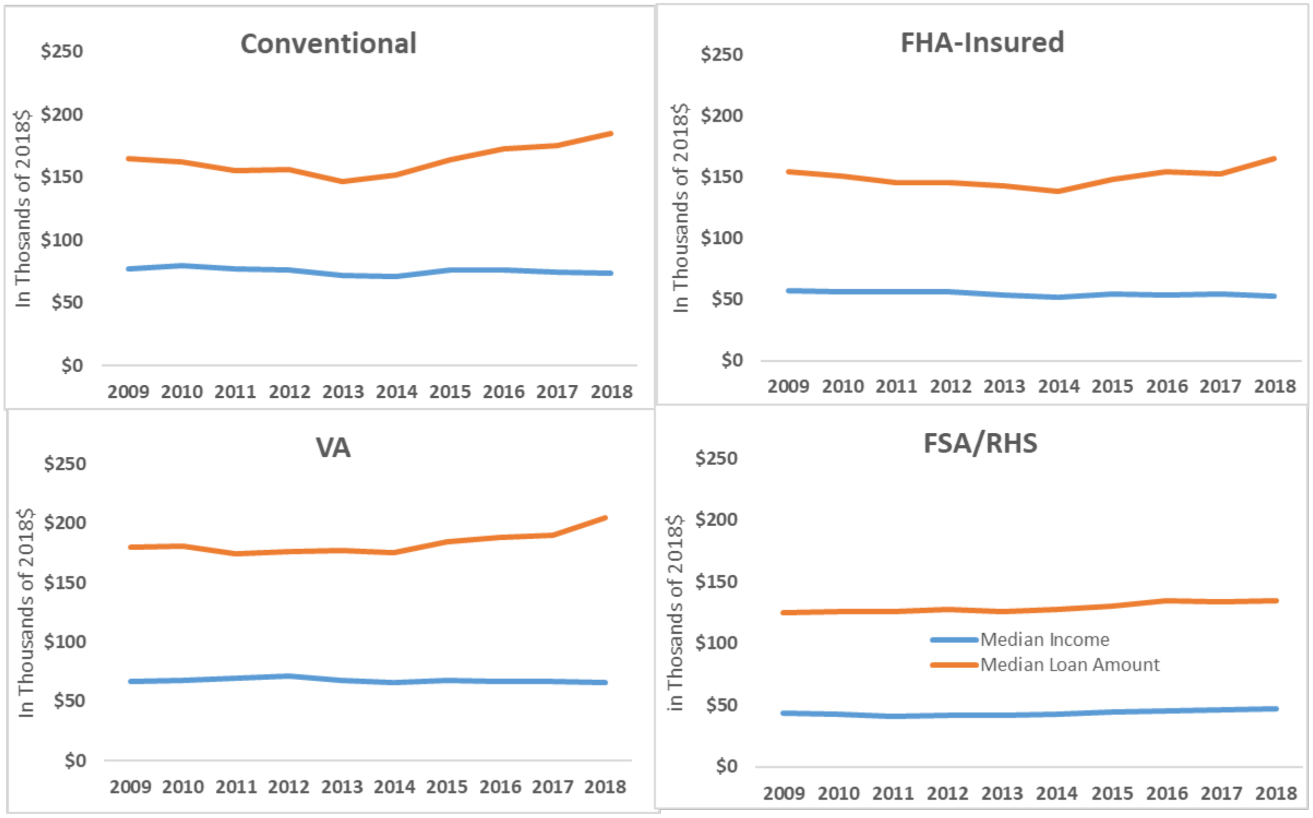
Financial institutions reporting HMDA data report the loan amounts requested and the applicant incomes considered in making the underwriting decision. The income information is not always required, and 13 percent of loan applications did not include applicant income.[18] In 2018, median income of home purchase loan borrowers[19] with income information was $70,000 in the state. With $125,000, Williamson County borrowers had the highest median income among counties, followed by Wilson County.

Figure 5 compares the inflation adjusted median income and loan amount for each loan type. Applicants who applied for FSA/RHS-insured loans had the lowest median income and, in real terms, their income was nearly flat. For each of the four loan types, the gap between the loan amount and income is increasing in the recent years.

Across the ten years examined, on average, conventional loan applicants had a higher income than nonconventional loan applicants. In 2018, median income of conventional loan applicants was $74,000, slightly lower than the previous year (adjusted for inflation), while for FSA/RHS insured loan applicants, median income was $47,000. In between the two, median income of FHA-insured loan applicants was $53,000. Median loan amounts for VA-insured loans were higher than median conventional loan amounts. In 2018, inflation adjusted median loan amount increased from 2017 for all loan types.

[17] Discussion in this section forward includes exclusively the home purchase loan applications and originations.
[18] In some occasions financial institutions reporting HMDA data may mark the "applicant's income" field as "not applicable (NA)." Some of these reasons: the institution does not take the applicant's income into account when making underwriting decisions, the loan or application is for a multifamily dwelling, the transaction is a loan purchase and the institution chooses not to collect the information, the transaction is a loan to an employee of the institution and the institution seeks to protect the employee's privacy, even though institution relied on his or her income, or the borrower or applicant is a corporation, partnership, or other entity that is not a natural person. For more information about HMDA data fields see: A Guide to HMDA Reporting: Getting it Right (Edition effective January, 1, 2018), Federal Financial Institutions Examination Council, at https://www.ffiec.gov/hmda/pdf/2018guide.pdf
[19] First-lien, owner-occupied, home purchase loans for one- to four-family site-built homes.

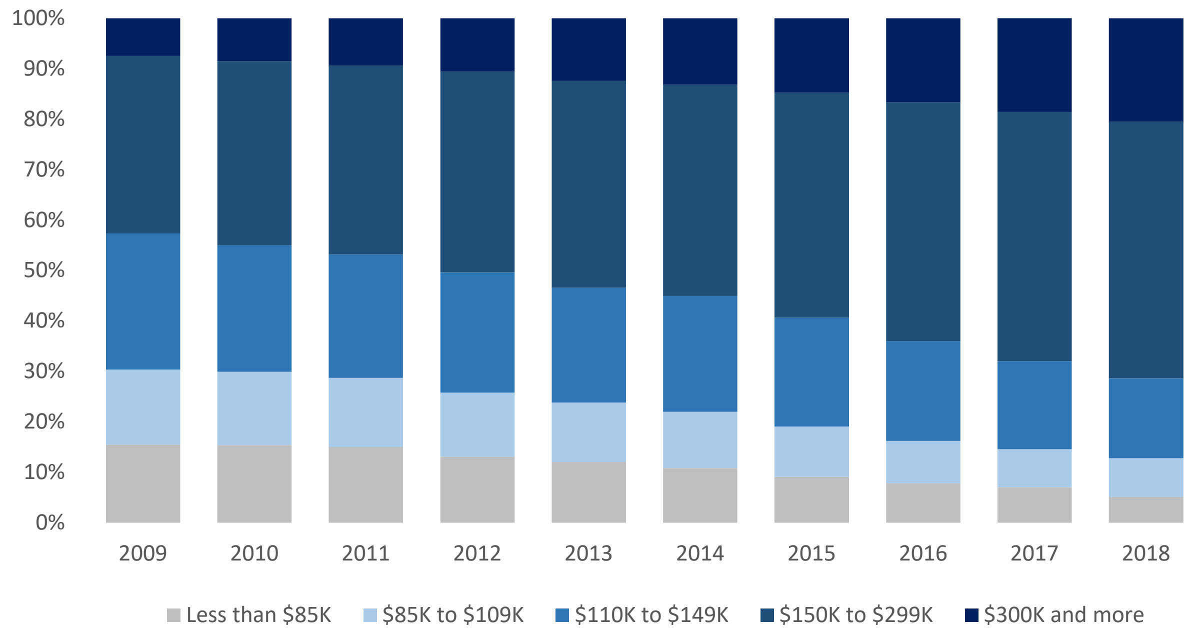
Figure 5. Median Income and Loan Amount by Insurer, in Thousands 2018$, 2009-2018



In 2018, six percent of home purchase loans and four percent of similar refinance loans originated had loan amounts above the national conforming loan limit of $453,100[20]. In the following figure, we looked at the distribution of home purchase loans that were originated between 2009 and 2018 by loan amount[21]. While more than half of the home purchase loans originated in 2008 were less than $150,000, by 2018, these loans constituted less than 30 percent of all loans originated in the year. Declining shares of lower priced home purchases in the total of home purchase loan origination is a sign of eroding affordability in the housing markets.

[20] For the loans originated in 2018, the conforming loan limit (the maximum mortgage loan amount that Fannie Mae and Freddie Mac will guarantee) was $494,500 for the counties in the Nashville MSA and $453,100 for the rest of the state.
[21] Loan amounts are non-inflation adjusted nominal values.

Figure 6. Home Purchase Loans Originated, Nominal Loan Amount, 2009-2018



In 2018, the average loan amount was the highest in Williamson County, nearly $430,000, followed by Davidson County. The average loan amount in Lake County was less than $100,000. Average and median loan amounts also varied by the borrower race and ethnicity. In 2018, with nearly $275,000, average Asian borrowers took the largest home purchase loan, while the average loan amount for all home purchase loans originated was $230,358.

Table 7. Average and Median Loan Amount by Race, 2018

Race	Number of Borrowers	Average Loan Amount	Median Loan Amount
White	68,168	$227,601	$195,000
Black or African-American	6,350	$204,543	$185,000
Asian	1,935	$274,773	$245,000
Joint[22]	1,145	$270,127	$245,000
American Indian or Alaska Native	182	$208,022	$185,000
Native Hawaiian or Other Pacific Islander	107	$213,318	$195,000
2 or more Minority Races	78	$214,744	$205,000
Race Not Available	6,310	$266,415	$225,000
All Borrowers	84,275	$230,358	$195,000

[22] An applicant's derived race is categorized as "Joint" if applicant has one or more minority race and co-applicant is White or if co-applicant has one or more minority race and applicant is White.

6. ANALYSIS BY DEMOGRAPHIC GROUPS AND INCOME LEVELS[23]

HMDA data allow for an examination of loan applications, originations and denials based on various demographics. HMDA data report race, ethnicity and gender for both the applicant and co-applicant, if available.[24]

We also looked at the applicants' income compared to the estimated area median family income[25] (AMFI) of the census tract where they applied to identify the percent of loan applications, originations and denials for low-income applicants[26] and to examine loan terms that may vary based on income.

Since 2013, the share of total home purchase and total refinance loans originated for black or African-American borrowers has been increasing (Table 8), reversing a trend of decline in the years prior to 2013. 2018 saw a partial continuation of the post-2013 trend, with a slight increase in the share of home purchase loan originations going to African-American borrowers, but neither an uptick nor decline in the African-American borrower share of refinances. However, in the years before the housing market crash, the percent of home purchase loans originated for African-American borrowers was 10 percent or higher, and even with this slight increase in 2018, the share of lending for African-American borrowers was still lower than what it was prior to the financial crisis. For example, both in 2005 and 2006, home purchase loans originated for African-American borrowers comprised 12 percent of all home purchase loans.

The percent of home purchase loans to Hispanic or Latino[27] borrowers were the highest they have been in the past 10 years.[28] Table 8 provides more detailed data for the last 10 years.

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[23] For the analysis from this point on, unless otherwise specified, we will consider first-lien loans for owner-occupied, site-built, one to four family dwellings.

[24] For the loans that are purchased, the institutions do not have to collect or report race. If the borrower or applicant is not an actual person (for example, a corporation or a partnership), race will be "not applicable." Each applicant can report belonging to up to five racial groups. In this report, we defined combined race categories. The methodology for determining and defining those combined race categories is explained in Appendix D.

[25] The MFI reported in HMDA data files and used in these calculations is the estimated Tract MFI, which is the census tract's estimated MFI for each year, based on the HUD estimate for the Metropolitan Statistical Area (MSA)/Metro Division (MD) or non-MSA/MD area where the tract is located. For tracts located outside of an MSA/MD, the MFI is the statewide non-MSA/MD MFI.

[26] A low- to moderate-income (LMI) applicant is defined as someone who earns less than 80 percent of area median family income. A middle-income applicant earns more than 80 percent but less than 120 percent of the estimated AMFI. If the applicant's income is more than 120 percent of the estimated AMFI, then the applicant is labeled as a high-income applicant.

[27] Ethnicity is also combined for applicant and co-applicant. If either one (applicant or co-applicant) is reported as "Hispanic and Latino," that application is classified as "Hispanic or Latino."

[28] First-lien, owner-occupied, 1-4 family, site-built, home purchase and refinance loan originations by race and by county in 2018 can be found at Appendices E and F.

Table 8. Borrower Characteristics and Purpose of the Loan, 2009-2018

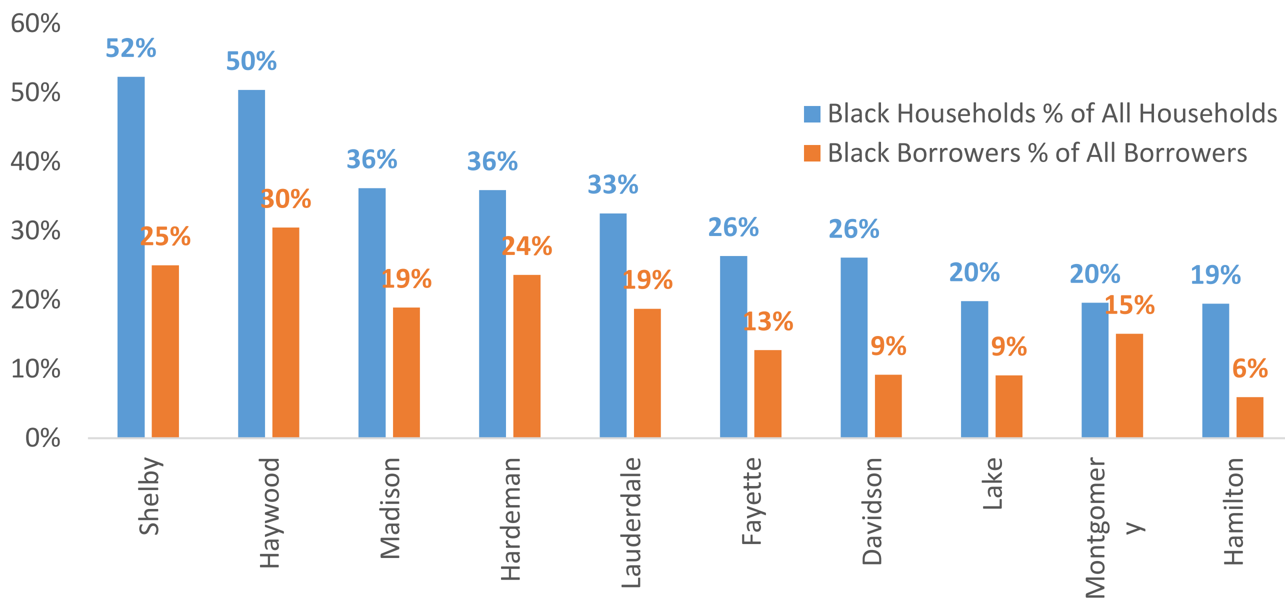
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
					I. Home Purchase Loans					
Borrower Race										
American Indian	0.4%	0.5%	0.5%	0.3%	0.3%	0.4%	0.4%	0.4%	0.2%	0.2%
Asian	1.6%	1.5%	1.5%	1.6%	1.8%	1.8%	1.8%	2.0%	2.2%	2.3%
African-American	7.9%	8.6%	7.4%	7.2%	6.2%	6.4%	6.5%	6.8%	7.2%	7.5%
Native Hawaiian	0.2%	0.1%	0.2%	0.1%	0.1%	0.2%	0.1%	0.1%	0.2%	0.1%
White	82.3%	82.8%	83.5%	83.8%	84.6%	84.4%	84.7%	83.5%	82.4%	80.9%
Joint	0.8%	0.7%	0.9%	0.9%	1.0%	1.1%	1.2%	1.2%	1.3%	1.4%
Race Not Available	6.6%	5.8%	5.9%	5.9%	5.9%	5.7%	5.2%	5.9%	6.4%	7.5%
Borrower Ethnicity										
Hispanic or Latino	2.4%	2.5%	2.7%	2.7%	3.0%	3.2%	3.4%	3.8%	3.9%	4.3%
Borrower Income										
Low to Moderate Income	40.1%	38.4%	35.7%	34.8%	30.2%	30.0%	30.2%	28.3%	26.4%	28.0%
Middle Income	26.1%	25.3%	25.5%	25.5%	25.8%	26.4%	26.5%	26.4%	27.7%	27.4%
High Income	32.5%	35.2%	37.8%	38.7%	43.0%	42.9%	42.5%	44.7%	45.3%	43.7%
Missing	1.3%	1.0%	1.0%	0.9%	1.1%	0.7%	0.8%	0.7%	0.7%	0.9%
					II. Refinance Loans					
Borrower Race										
American Indian	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.3%	0.3%
Asian	1.0%	1.0%	1.2%	1.2%	1.2%	1.0%	1.1%	1.3%	1.0%	0.8%
African-American	4.7%	4.3%	4.7%	5.4%	6.9%	8.0%	7.8%	8.1%	8.7%	8.7%
Native Hawaiian	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%
White	84.3%	85.3%	84.9%	84.6%	82.7%	80.2%	79.9%	78.4%	76.9%	77.4%
Joint	0.8%	0.8%	0.8%	0.9%	0.9%	1.2%	1.0%	1.0%	1.1%	0.9%
Race Not Available	8.7%	8.2%	7.9%	7.6%	7.8%	8.9%	9.7%	10.7%	11.8%	11.7%
Borrower Ethnicity										
Hispanic or Latino	1.6%	1.6%	1.8%	1.8%	2.1%	2.3%	2.2%	2.3%	2.6%	2.4%
Borrower Income										
Low to Moderate Income	21.9%	21.7%	21.3%	20.7%	21.2%	24.7%	21.1%	19.2%	24.5%	32.4%
Middle Income	22.1%	22.5%	21.7%	20.9%	21.4%	21.9%	20.4%	19.5%	23.2%	24.7%
High Income	42.5%	46.7%	44.5%	44.5%	43.0%	39.6%	39.9%	41.8%	41.0%	38.4%
Missing	13.5%	9.1%	12.5%	13.8%	14.3%	13.8%	18.5%	19.5%	11.3%	4.5%
Home Purchase Loans	51,377	45,433	42,716	50,279	58,613	61,998	72,172	80,282	84,515	84,275
Refinance Loans	105,611	80,768	68,283	98,720	79,463	37,793	51,603	60,096	44,564	36,430

NOTE: First lien mortgage loans originated for one-to-four family, site-built owner-occupied homes.

With more than 30 percent of total borrowers, Haywood County had the highest percent of home purchase loan borrowers who were black followed by Shelby County with 25 percent and Hardeman County with nearly 24 percent. These counties have been at the top of the list for African-American borrower share since 2016. This undoubtedly correlates strongly with each county’s existing population; more than 50 percent of all households were black in Haywood and Shelby Counties and in Hardeman

County 36 percent of all households were black in 2018.[29] Especially among the counties with a high percentage of home purchase loans originated for black borrowers, the lending pattern follows the racial distribution of households in the county, meaning that, compared to the rest of the counties in the state, counties that have a high percentage of black households also have a relatively higher percentage of all loans are originated for black borrowers. However, there is still a large discrepancy between the black households share in total households and their share in total home purchase loan originations. The following figure compares these two for the ten counties with the highest percent of black households in the state according to 2018 American Community Survey (ACS) five-year estimates.

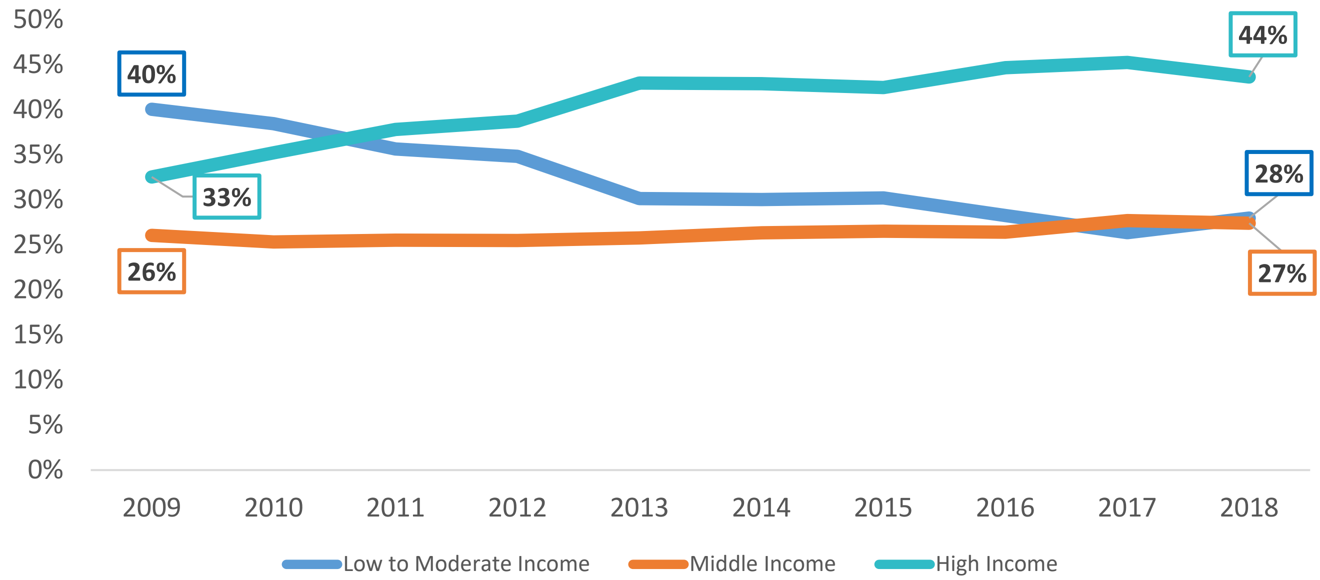
Figure 7. 2018 Racial Lending Patterns and Household Racial Composition, 10 Counties with the Highest Share of Black Households, Home Purchase Loans



Borrower income is an important factor in determination of mortgage origination.[30] For a short period between 2009 and 2011, low- to moderate income (LMI) borrowers accounted for a higher percentage of home purchase loans than high-income borrowers. However, starting in 2012, high income borrowers' percentage in total loans originated exceeded the LMI borrowers again. Since then, the distance between the percentage of high-income borrowers and LMI borrowers is getting larger. In 2018, 28 percent of all home purchase loans originated were for LMI borrowers, up from 26 percent in 2017. The percentage of loans originated for middle-income borrowers was steady over the years, but always lower than the LMI and high-income borrowers. In 2017, this shifted to where nearly 28 percent of total originations were from middle-income borrowers, exceeding the share of LMI borrowers. In 2018, with the slight increase in the share of LMI borrowers, the long-term trend returned.

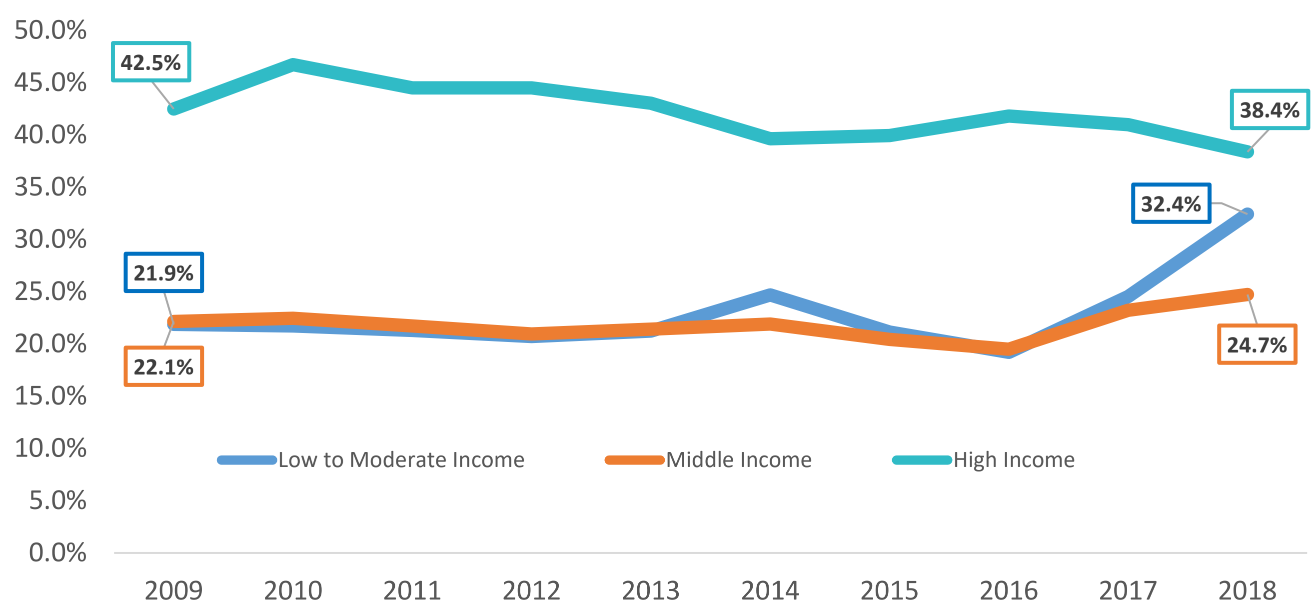
[29] American Community Survey (ACS), 5-year estimates, 2014-2018.
[30] The number of first-lien home purchase and refinance loans originated for owner-occupied, one- to four-family dwellings separated by race and county is provided in Appendices E and F.

Figure 8. The Percent of *Home Purchase* Loans Originated, Borrower Income, 2009-2018



The picture is somewhat different for the *refinance* loans originated. As the following figures[31] show, high-income borrowers have consistently accounted for a higher percentage of refinance loans originated than other income categories. In 2018, 38 percent of all refinance loans originated were for high-income borrowers compared to 41 percent in the previous year.

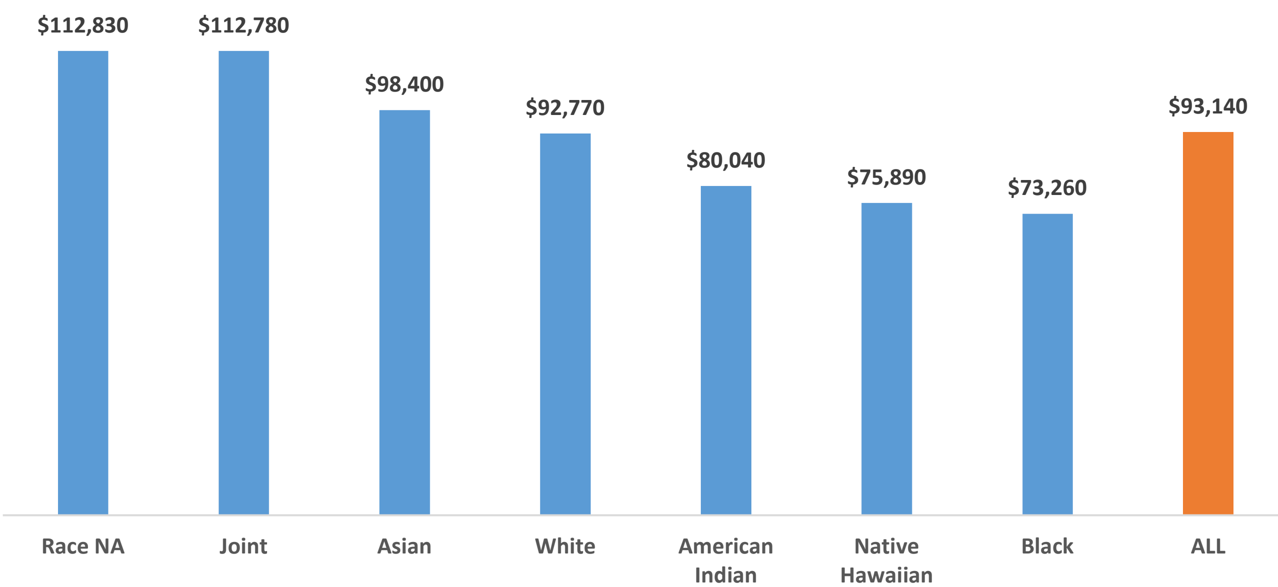
Figure 9. The Percent of *Refinance* Loans Originated, Borrower Income, 2009-2018



[31] Not included in the figures is the borrowers whose income information that was not provided. Especially for the refinance loan originations, the borrowers without income information is a relatively higher portion of all refinance loan borrowers. For example, in the last three years of this study (2016-2018), 14 percent or more of all refinance loan borrowers did not have income information.

In 2018, among the home purchase loan borrowers with race and income information provided, black borrowers had the lowest average and median income followed by Native Hawaiian borrowers. Thirty-nine percent of black borrowers had incomes at or below 80 percent of Area Median Income (AMI, meaning that they were "low-to moderate-income (LMI)," while 28 percent of all borrowers were LMI in 2018.

Figure 10. Average Income by Race, Home Purchase Borrowers with Income Information, 2018



Racial differences in lending extend to what types of loans different racial groups tend to use. African-American and Hispanic borrowers have historically and presently use nonconventional loans (FHA-, VA-, RHS- and FSA-insured loans) at higher rates than white borrowers. Non-conventional loans usually have lower downpayment requirements. Considering that income and net worth of African-American and Hispanic households are substantially lower on average than white households[32], it is possible that minority and non-white borrowers prefer these loan products with lower downpayment requirements. It is also possible that a lender may steer[33] minority and non-white borrowers to these loan products even though they would be eligible for conventional mortgages.

The following table displays the nonconventional, first-lien mortgage loans originated for site-built, one-to four-family owner-occupied homes separated by borrower demographics and loan purpose. The percentages given in the table represent the nonconventional loans made to borrowers in a race category as a percent of all loans made to borrowers in that racial group (including conventional and nonconventional loans). For example, in 2018, 17 percent of all loans made for Asian borrowers were nonconventional loan products.

[32] Recent Trends in Wealth-Holding by Race and Ethnicity: Evidence from the Survey of Consumer Finances, Board of Governors of Federal Reserve System.

[33] Agarwal, Sumit, Gene Amromin, Itzhak Ben-David, Douglas D. Evanoff. "Loan Product Steering in Mortgage Markets," NBER Working Paper No. 22696, September 2016, available at http://www.nber.org/papers/w22696

Table 9. Borrower Characteristics and Loan Purpose, Nonconventional Loans, 2009-2018

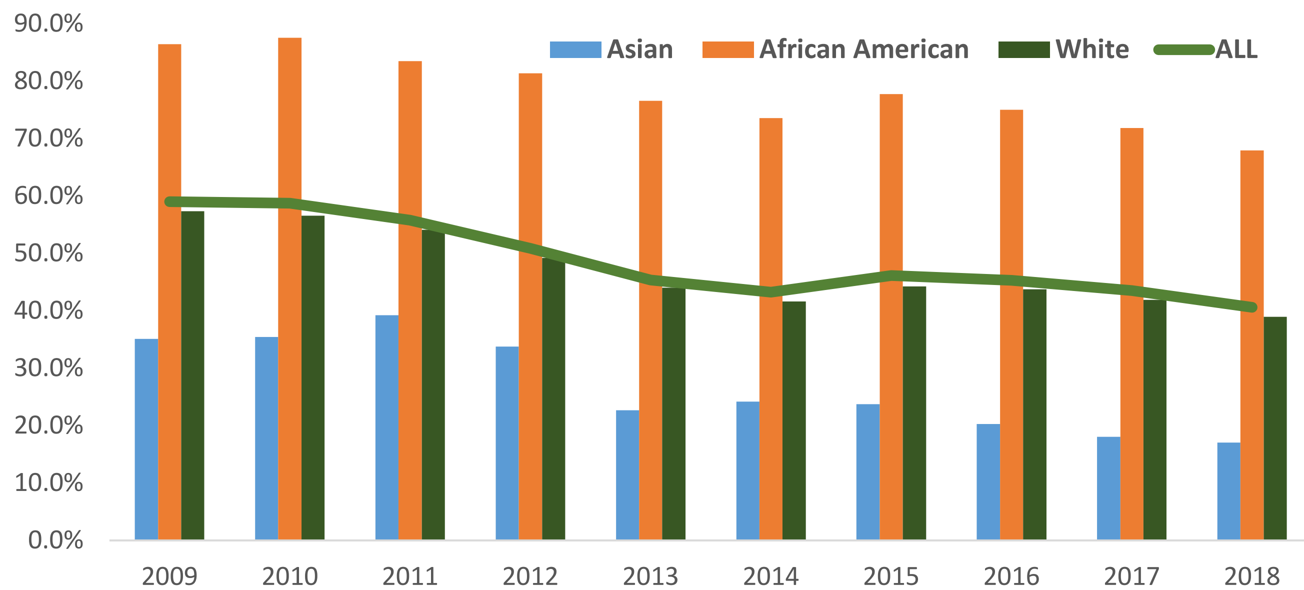
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
				I. Home Purchase Loans						
Borrower Race										
Asian	35.1%	35.4%	39.2%	33.7%	22.6%	24.1%	23.7%	20.2%	18.1%	17.1%
African-American	86.4%	87.6%	83.5%	81.3%	76.6%	73.6%	77.7%	75.0%	71.8%	67.9%
White	57.3%	56.6%	54.1%	49.2%	44.0%	41.6%	44.2%	43.7%	41.9%	38.9%
Joint	58.7%	58.4%	58.8%	54.8%	52.5%	53.4%	54.3%	51.9%	51.8%	46.3%
Race Not Available	54.4%	54.7%	50.7%	43.1%	37.8%	38.1%	43.6%	41.1%	38.2%	36.7%
Other Minority	40.3%	33.1%	39.9%	37.6%	35.5%	33.9%	37.4%	39.9%	56.1%	53.3%
Borrower Ethnicity										
Hispanic or Latino	75.2%	75.1%	72.6%	65.5%	61.5%	60.8%	60.6%	58.7%	56.1%	49.9%
Not Hispanic or Latino	59.1%	58.8%	56.0%	51.2%	45.5%	43.0%	45.8%	45.2%	43.4%	40.5%
Not provided	51.4%	50.2%	45.6%	39.4%	35.3%	36.7%	42.1%	38.5%	36.6%	36.5%
Borrower Income										
Low to moderate income	71.6%	73.0%	70.0%	65.8%	60.9%	58.2%	61.4%	58.7%	55.0%	50.3%
Middle income	65.5%	65.2%	64.2%	58.3%	55.1%	53.4%	55.7%	56.5%	54.0%	50.6%
High Income	39.3%	39.4%	37.5%	33.2%	29.2%	26.9%	29.6%	30.6%	30.7%	28.5%
All Borrowers	*59.0%*	*58.7%*	*55.8%*	*50.9%*	*45.3%*	*43.2%*	*46.1%*	*45.3%*	*43.5%*	*40.6%*
				I. Refinance Loans						
Borrower Race										
Asian	12.8%	11.8%	11.3%	12.4%	13.1%	20.7%	14.9%	11.0%	12.6%	14.4%
Black or African-American	58.4%	48.3%	50.6%	48.8%	46.0%	47.6%	54.2%	56.9%	52.6%	49.1%
White	24.4%	20.5%	20.6%	22.8%	22.0%	23.0%	27.6%	29.2%	28.3%	27.5%
Joint	30.7%	26.1%	29.0%	35.6%	34.5%	57.2%	40.8%	43.1%	38.3%	41.2%
Race Not Available	29.5%	22.0%	23.0%	26.9%	27.1%	33.7%	38.7%	39.7%	38.4%	35.1%
Other Minority	21.5%	17.2%	20.2%	27.3%	23.6%	24.5%	31.3%	40.4%	41.9%	48.6%
Borrower Ethnicity										
Hispanic or Latino	39.4%	29.9%	33.6%	24.3%	36.5%	25.4%	37.7%	40.5%	35.7%	33.6%
Not Hispanic or Latino	25.9%	21.8%	21.9%	23.8%	23.7%	33.4%	30.0%	31.6%	30.9%	29.8%
Information not provided	28.6%	20.6%	21.9%	20.0%	25.4%	32.5%	37.3%	39.2%	36.7%	34.4%
Borrower Income										
Low to moderate income	27.0%	24.4%	20.6%	18.4%	15.0%	17.0%	21.0%	23.5%	28.9%	33.7%
Middle income	23.4%	22.1%	20.9%	17.6%	15.6%	19.4%	20.8%	22.1%	28.7%	31.9%
High Income	12.4%	12.1%	11.8%	10.0%	9.7%	12.2%	13.4%	13.2%	19.0%	22.3%
All Borrowers	*26.3%*	*21.8%*	*22.1%*	*48.5%*	*24.1%*	*52.5%*	*30.8%*	*32.5%*	*31.7%*	*30.4%*

First lien loans originated for owner-occupied, site-built, 1-4 family dwellings
"Other Minority" refers to American Indian Alaskan Native and Native Hawaiian, Pacific Islander

Table 9 reveals that, in 2018, nonconventional loan utilization among home purchase loan borrowers declined for all race, ethnicity and income categories. African-American borrowers used nonconventional government-insured (FHA, VA and/or FSA/RHS insured) loans more often than conventional loans. For example, 68 percent of all African-American borrowers used nonconventional loans for home purchase, while in the same year, only 41 percent of all home purchase loans were nonconventional. The data also show that, among various race and income categories, the share of nonconventional loans is in a declining trajectory since 2010, except a sudden uptick in 2015 coinciding with a decline in mortgage insurance premium (MIP) for most FHA-insured loan borrowers. After the housing market crash, conventional lending largely disappeared and the void was filled by government insured loans, especially FHA-insured ones. This was even more dramatic for nonwhite minority and low- to moderate-income borrowers. Not shown here, in 2008, the percentage of white borrowers who used nonconventional loan products increased from 16 percent to 40 percent, while the share of black borrowers with a nonconventional home purchase loan increased from 25 percent to 69 percent of all African-American home buyers. That percentage continued increasing and reached to 88 percent in 2010. Similar trends were visible in all other race categories. In 2018, in all race categories and for all borrowers, the share of nonconventional loans were lower than in 2017. This is a sign that conventional loan products are returning to the market.

The following figure displays that African-American borrowers are more likely to use nonconventional loans than borrowers of other racial categories.

Figure 11. Non-Conventional Share of Home Purchase Loans, by Race, 2009-2018



A comparison of borrowers who received nonconventional (FHA, VA or FSA/RHS insured) first lien home purchase loans for owner-occupied one- to four-family dwellings with race and county loan totals is given in Appendix G.

7. DENIAL RATES AND DENIAL REASONS

We calculated denial rates by dividing the number of loans denied by the financial institution by the total number of loan applications, excluding the number of applications withdrawn and closed for incompleteness and the loans that were originated previously and purchased by financial institutions during the reporting calendar year.

In the following table, denial rates are separated by race and loan type, i.e. conventional versus nonconventional. The table shows variations in denial rates across different race categories. However, the denial rates data in the absence of other important borrower and loan characteristics such as the applicants' credit scores and loan to value (LTV) ratios should be considered carefully. In 2018, variables such as credit score, debt-to-income (DTI) ratio and combined loan-to-value (CLTV) ratios were reported as part of the HMDA data; however, to protect the applicant and borrower privacy, credit score was not included in the 2018 publicly available loan-level HMDA data file and DTI was disclosed only in ranges.[34]

Additionally, looking back to the housing crisis years captures a range of issues that make the comparison of denial rates across time tricky. For example, in the years prior to housing market crash, looser underwriting standards brought riskier borrowers with weaker credit profiles to the market, increasing the demand for loans. After the crisis, it is possible that some borrowers with blemished credit histories or with lower income might self-select not to apply for a loan.

In Tennessee, the denial rate of all applicants in different race categories (including conventional and nonconventional loans) who applied for a home purchase loan slightly declined from 10 percent in 2017 to 9.4 percent in 2018. In fact, for all race categories except Asian and other minority (including American Indian and Native Hawaiian) applicants, the denial rates in 2018 were lower than the previous year, which is a continuation of the trend in the last several years in the state and the nation. Nationwide, denial rates continued a downward trend.[35]

[34] Dietrich, J., Liu, F., Skhirtladze, A., Davies, M., Jo, Y., and Candilis C. (2019), "Data Point: 2018 Mortgage Market Activity and Trends," p. 43.
[35] Ibid, p. 38.

Table 10. Denial Rates, Home Purchase Loans, Loan Type, 2009-2018

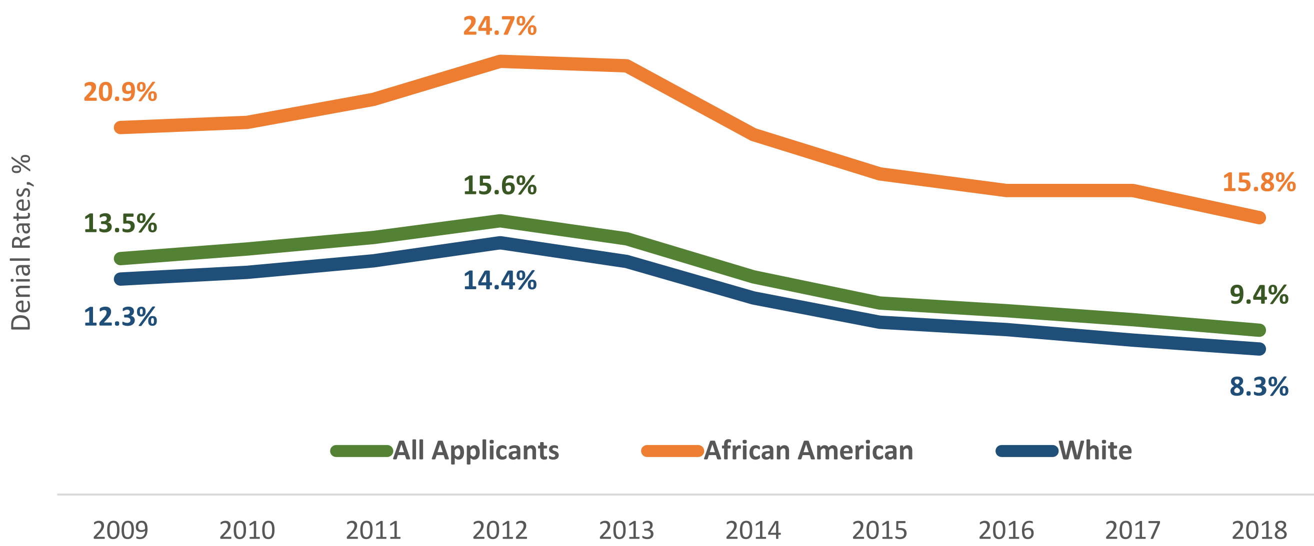
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
I. Home Purchase Loans										
Conventional and Nonconventional										
All Applicants	13.5%	14.0%	14.7%	15.6%	14.6%	12.4%	10.9%	10.5%	10.0%	9.4%
Race										
Asian	13.6%	15.5%	16.9%	16.2%	16.2%	13.3%	12.1%	11.5%	9.3%	10.9%
African-American	20.9%	21.2%	22.6%	24.7%	24.5%	20.5%	18.3%	17.4%	17.4%	15.8%
White	12.3%	12.7%	13.3%	14.4%	13.3%	11.2%	9.8%	9.4%	8.8%	8.3%
Joint	11.6%	15.6%	13.6%	15.5%	16.6%	11.9%	8.7%	10.4%	10.0%	9.2%
Other Minority	14.6%	15.5%	13.4%	19.0%	21.7%	14.3%	14.7%	15.2%	13.7%	14.6%
Race NA	17.0%	19.5%	21.1%	19.9%	19.2%	18.9%	17.2%	15.7%	15.3%	12.7%
Ethnicity										
Hispanic	16.5%	16.9%	16.1%	19.0%	19.6%	17.1%	14.9%	12.6%	12.2%	11.4%
Not Hispanic	13.0%	13.5%	14.0%	15.1%	14.1%	11.8%	10.4%	10.0%	9.5%	8.9%
Conventional Only										
All Applicants	15.4%	15.1%	15.6%	15.5%	12.9%	10.9%	9.7%	9.1%	8.6%	7.7%
Race										
Asian	13.2%	13.8%	17.5%	15.9%	13.7%	13.3%	11.7%	10.8%	8.4%	9.9%
African-American	37.2%	35.4%	31.4%	32.0%	27.7%	22.4%	21.6%	19.1%	18.1%	15.2%
White	14.2%	13.9%	14.5%	14.6%	11.9%	9.8%	8.8%	8.2%	7.7%	6.8%
Joint	15.0%	19.1%	12.2%	13.8%	15.0%	11.4%	7.3%	9.5%	9.4%	7.8%
Other Minority	17.2%	15.6%	14.4%	20.6%	21.6%	11.5%	14.6%	14.4%	14.6%	14.5%
Race NA	18.4%	19.6%	21.4%	17.4%	17.7%	16.7%	15.9%	14.0%	13.6%	11.4%
Ethnicity										
Hispanic	21.7%	20.7%	18.8%	20.6%	17.3%	17.4%	14.2%	11.3%	12.3%	10.1%
Not Hispanic	15.0%	14.6%	14.7%	14.9%	12.4%	10.2%	9.1%	8.6%	8.1%	7.2%

NOTE: First lien home purchase loans for site-built one-to-four family owner-occupied homes.

At 15.8 percent, African-American applicants had the highest denial rate in 2018, albeit a decline from 17.4 percent in 2017. With a 14.6 percent denial rate, other minority applicants followed African-American applicants. Among the nonwhite race categories, Asian applicants had the lowest denial rates, although it increased from less than 10 percent in 2017 to nearly 11 percent in 2018. Hispanic applicants who applied for a conventional home purchase loan also had higher denial rates than the non-Hispanic applicants who applied for a similar home purchase loan, which was higher than the previous year. Conventional loan applicants, on average, experienced lower denial rates than conventional and non-conventional loan applicants combined, although differences among various racial categories persisted in similar proportions. The denial rate for African-American borrowers applying for a conventional loan has fallen dramatically from 2009 to 2018. The African-American applicant conventional loan denial rate in 2009 was 2.4 times what it was in 2018.

The following figure compares the denial rates of home purchase loans for all, white and African-American applicants.

Figure 12. Denial Rates[36], Purchase, African-American and White Applicants, 2009-2018



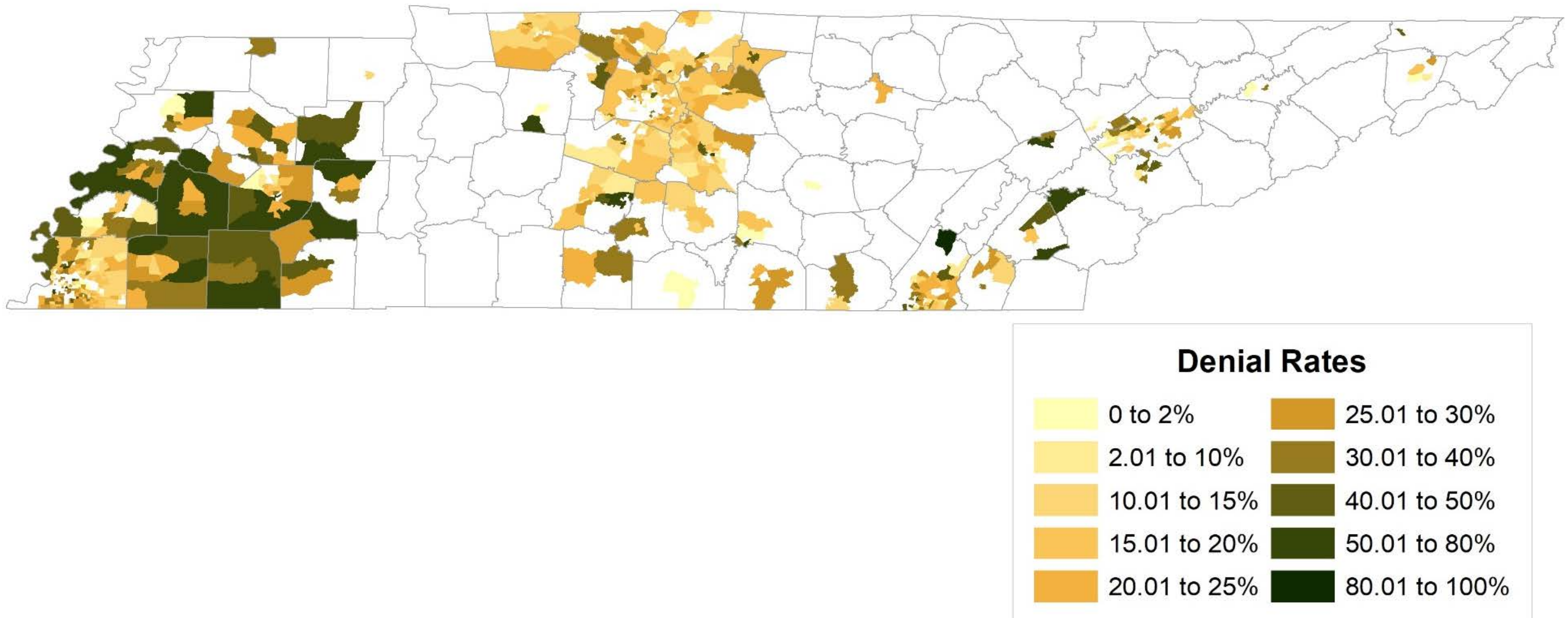
African-American applicants were consistently denied more often than white and all other applicants. This difference was more pronounced before the housing market crash with a large dip in 2009. Since 2012, the denial rates for home purchase loan applicants of all races have been declining.

Following maps display the denial rates for black and white applicants between 2014 and 2018. The denial rates are calculated only for the census tracts with 10 or more applicants in each race category between 2014 and 2018 by dividing the total number of denied applicants in the census tract for each race category by the total number of applicants[37] in each race category. The first three maps are denial rates for black, Hispanic and white applicants and the next two maps show the difference between white and black and white and Hispanic denial rates in each census tract. So

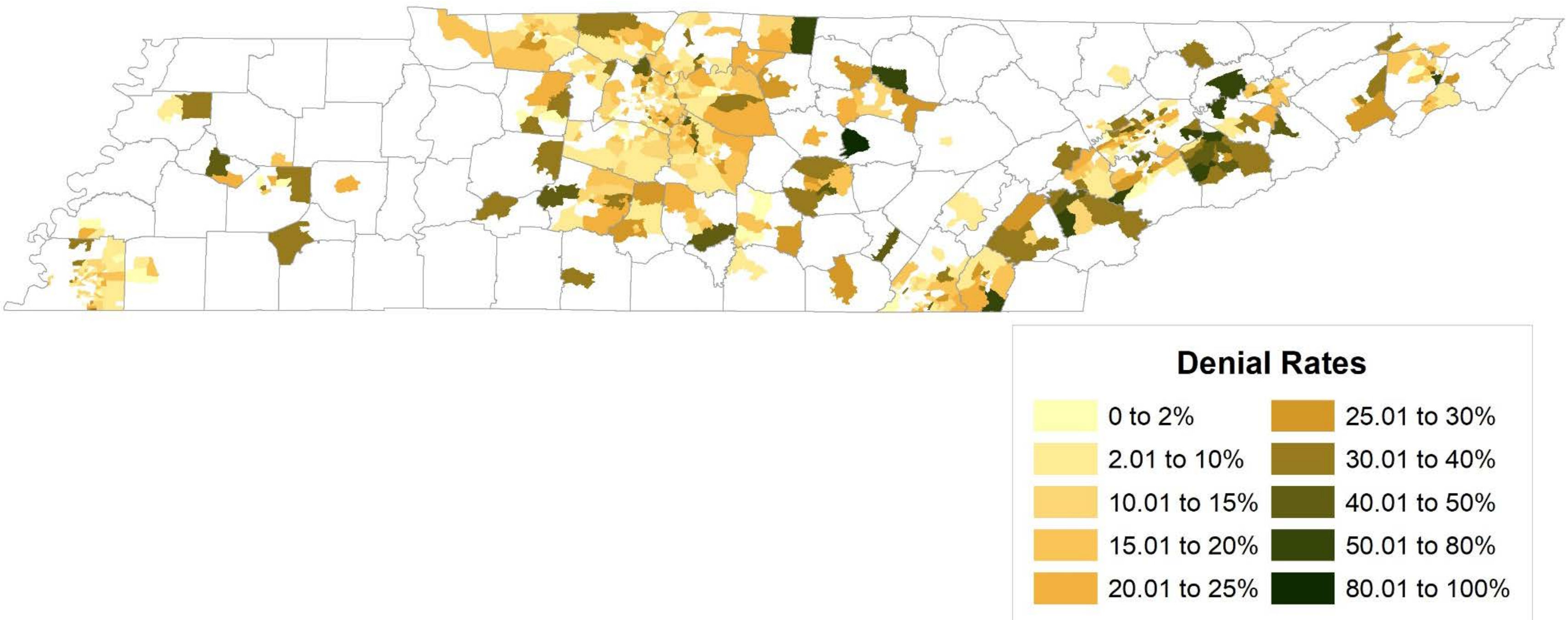
[36] Calculated as the number of denied loan applications divided by the total number of applications, excluding withdrawn applications and applications closed for incompleteness for first lien conventional and nonconventional *home purchase* loans for one- to four-family, site-built, owner-occupied homes.

[37] Excluding the applicants who withdrew their applications, applications closed because of incomplete documents and loans purchased by financial institution.

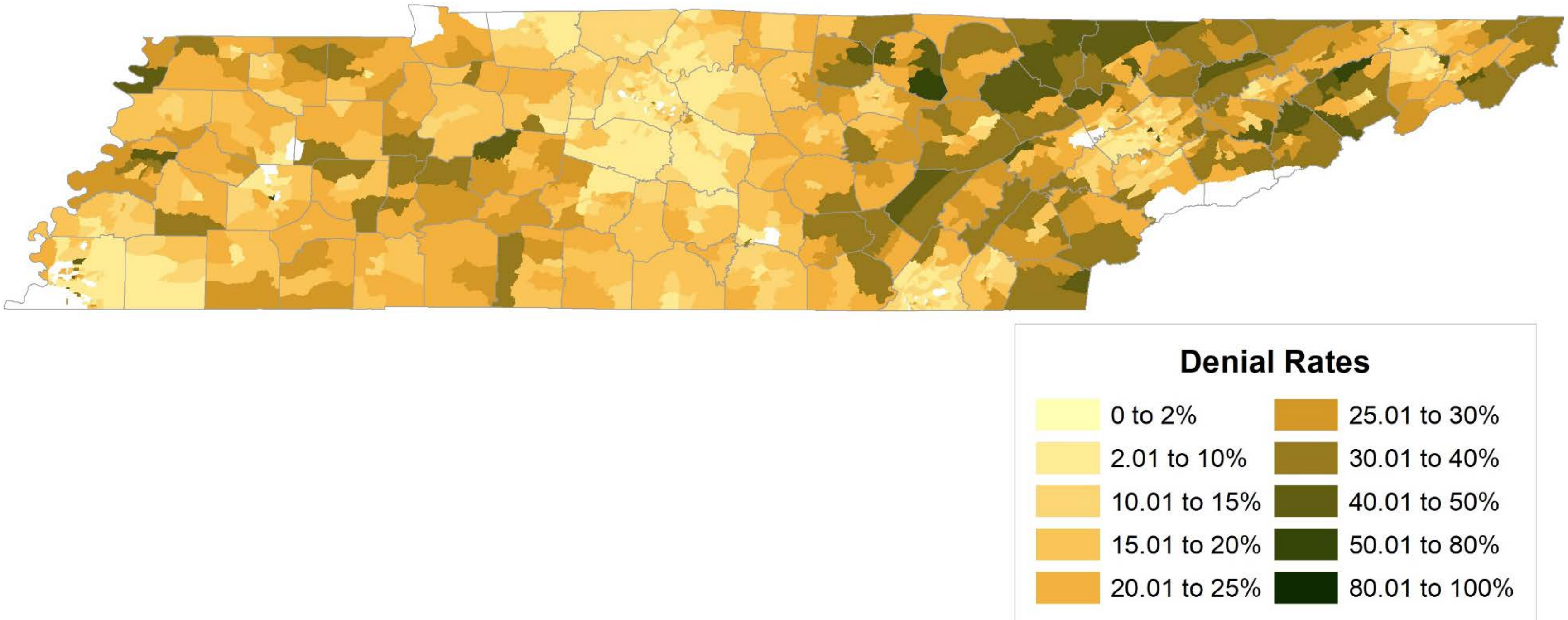
Map 8: Home Purchase Loan Denial Rates, Black Applicants, 2014-2018, Census Tracts with 10 or More Black Applicants



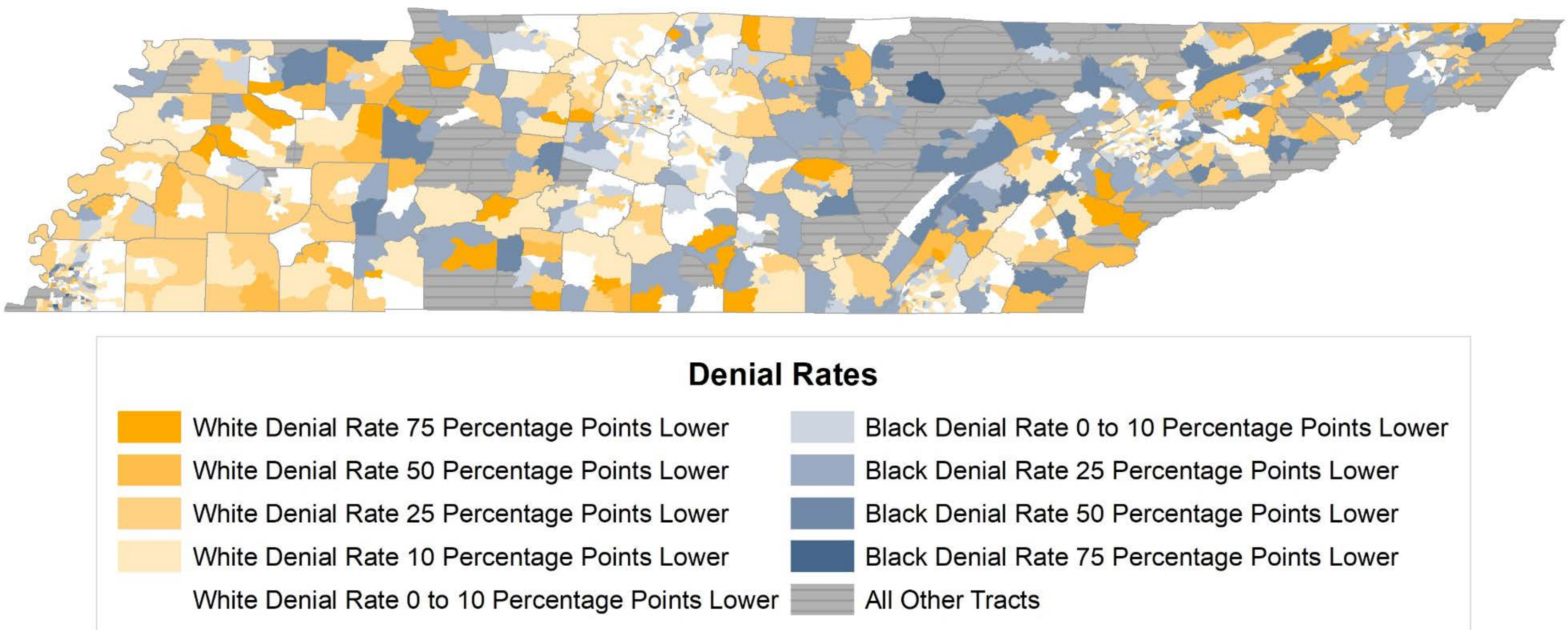
Map 9: Home Purchase Loan Denial Rates, Hispanic Applicants, 2014-2018, Census Tracts with 10 or More Hispanic Applicants



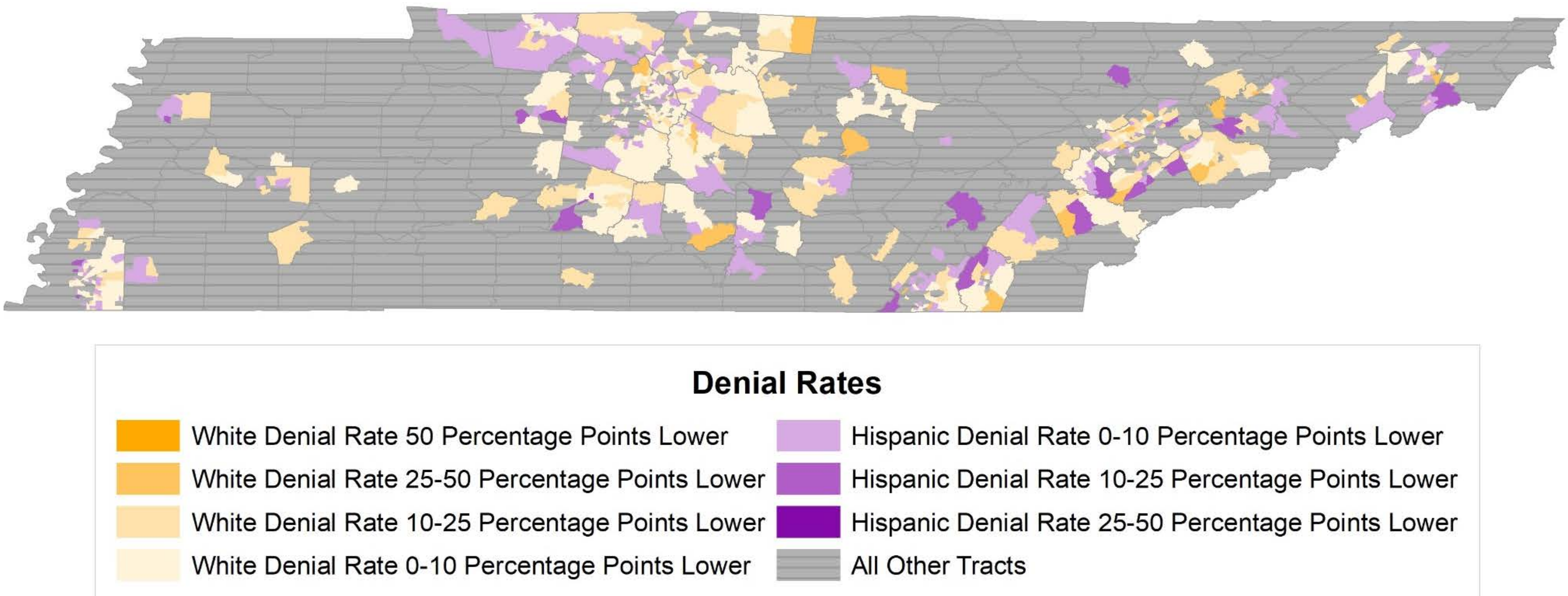
Map 10: Home Purchase Loan Denial Rates, White Applicants, 2014-2018, Census Tracts with 10 or More White Applicants



Map 11: Home Purchase Loan Denial Rate Disparity, White versus Black Applicants, 2014-2018, Census Tracts with at least 10 Applicants from Both Races



Map 12: Home Purchase Loan Denial Rate Disparity, White versus Hispanic Applicants, 2014-2018, Census Tracts with at least 10 Applicants from Both Groups



Denial rates for refinance loans, in general, were 14 to 29 percentage points higher than home purchase loans. While the denial rates for home purchase loans decreased in 2018 compared to 2017 for almost all race categories, denial rates for refinance loans in 2018 increased for all applicants, except for African-American applicants of conventional loans. The jump in refinance denial rates was particularly pronounced among Hispanic borrowers. White refinance loan applicants consistently experienced the lowest denial rate in each of the 10 years covered with this study. Regardless of race, 31 percent of all borrowers who applied for either conventional or nonconventional refinance loans were denied in 2018. This is compared to the 28 percent denial rate in 2017.

The following table displays the denial rates for refinance loans separated by loan type and applicant race.

Table 11. Denial Rates, Refinance Loans, Loan Type, 2009-2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
II. Refinance Loans										
Conventional and Nonconventional										
All Applicants	24.3%	26.4%	26.8%	22.6%	26.8%	34.2%	30.7%	33.6%	28.0%	31.0%
Race										
Asian	26.5%	26.8%	25.7%	27.0%	30.1%	39.2%	36.1%	35.3%	31.0%	37.1%
African-American	44.6%	45.7%	43.1%	34.7%	39.0%	48.6%	45.9%	47.5%	40.9%	45.5%
White	21.0%	23.1%	23.7%	20.3%	23.7%	30.4%	27.4%	30.6%	24.6%	27.5%
Joint	22.6%	26.1%	25.5%	20.9%	24.8%	29.1%	30.9%	34.5%	29.5%	33.5%
Other Minority	31.1%	37.8%	28.4%	32.6%	32.6%	43.2%	40.9%	51.6%	42.1%	50.3%
Race NA	35.3%	39.4%	41.4%	33.9%	40.0%	45.3%	38.5%	39.1%	34.5%	36.4%
Ethnicity										
Hispanic	29.5%	35.6%	31.6%	26.5%	25.9%	36.0%	34.7%	35.7%	32.0%	46.7%
Not Hispanic	27.7%	33.5%	30.8%	22.4%	26.7%	37.2%	31.0%	33.9%	31.3%	39.5%
Conventional Only										
All Applicants	21.8%	22.9%	24.7%	22.2%	26.4%	32.8%	30.2%	33.1%	25.5%	25.8%
Race										
Asian	24.4%	24.2%	24.4%	26.8%	30.7%	39.5%	35.9%	34.1%	29.0%	32.7%
African-American	51.7%	44.1%	44.9%	37.7%	43.1%	51.8%	51.9%	55.5%	44.1%	41.9%
White	19.3%	20.7%	22.2%	20.1%	23.4%	29.0%	26.8%	29.8%	22.4%	23.1%
Joint	22.1%	21.3%	22.3%	20.8%	24.9%	37.3%	29.7%	36.2%	24.6%	27.9%
Other Minority	29.3%	35.4%	27.6%	35.3%	32.3%	40.6%	38.8%	52.1%	41.6%	48.4%
Race NA	28.1%	32.3%	36.8%	32.7%	39.2%	44.1%	38.5%	39.0%	31.1%	31.1%
Ethnicity										
Hispanic	31.8%	30.2%	31.8%	30.1%	34.6%	43.1%	43.1%	42.1%	32.0%	38.6%
Not Hispanic	21.0%	21.9%	23.3%	21.1%	25.1%	31.5%	29.1%	32.2%	24.7%	24.7%

NOTE: First lien refinance loans for site-built one-to-four family owner-occupied homes.

Until 2018 HMDA data release, for the applicants they denied, the financial institutions could report up to three denial reasons[38], but this was not mandatory. The 2015 HMDA rule made the denial reason a mandatory field. Therefore, in 2018, except the applicants who were denied by those financial institutions, which were exempt[39] from reporting any of the mandated data points other than age and any of the discretionary data points, all denied applicants had at least one denial reason provided. While in 2017, of nearly 10,000 denied home purchase loan applicants, 32 percent were not provided any denial reason, in 2018, of nearly 10,000 denied home purchase loans, except for 300 applications reported by exempt institutions, *all* had at least one denial reason reported.

In 2018, debt-to-income ratio was the denial reason most reported reason for home purchase applicants followed by credit history and collateral. For refinance mortgage applicants, credit history was cited more often than other reasons for denial, followed by high debt-to-income ratio and incomplete credit application.

Table 12 shows the variation among racial categories by denial reason. Asian applicants were not denied for credit history as much as applicants in other racial categories, but they had a higher presence of denial for debt-to-income ratio compared to all borrowers. African-American applicants were also denied mostly for high debt-to-income ratios, but compared to borrowers in other race categories, they had credit history reported as a denial reason more often than other applicants.

Table 12. Denial Reason, Home Purchase Loans, 2018

ALL DENIAL REASONS COMBINED	Asian	African-American	White	Joint	Other Minority	Race NA	ALL APPLICANTS
Debt-to-Income Ratio	38%	34%	31%	33%	41%	30%	31%
Credit History	18%	30%	23%	25%	25%	19%	23%
Collateral	13%	12%	18%	13%	14%	20%	17%
Other	13%	12%	0%	13%	18%	9%	12%
Insufficient Cash (downpayment, closing costs)	13%	13%	10%	15%	12%	11%	11%
Credit Application Incomplete	9%	8%	10%	9%	6%	16%	11%
Unverifiable Information	9%	7%	7%	3%	12%	7%	7%
Employment History	6%	5%	6%	5%	10%	5%	6%
Mortgage Insurance Denied	0%	0%	0%	0%	0%	0%	0%

NOTE: Denied, first-lien home purchase mortgage applications for one-to-four-family, owner-occupied, site-built homes. Rows sum to more than 100 because lenders may report up to four denial reasons. Other Minority includes American Indian and Native Hawaiian applicants.

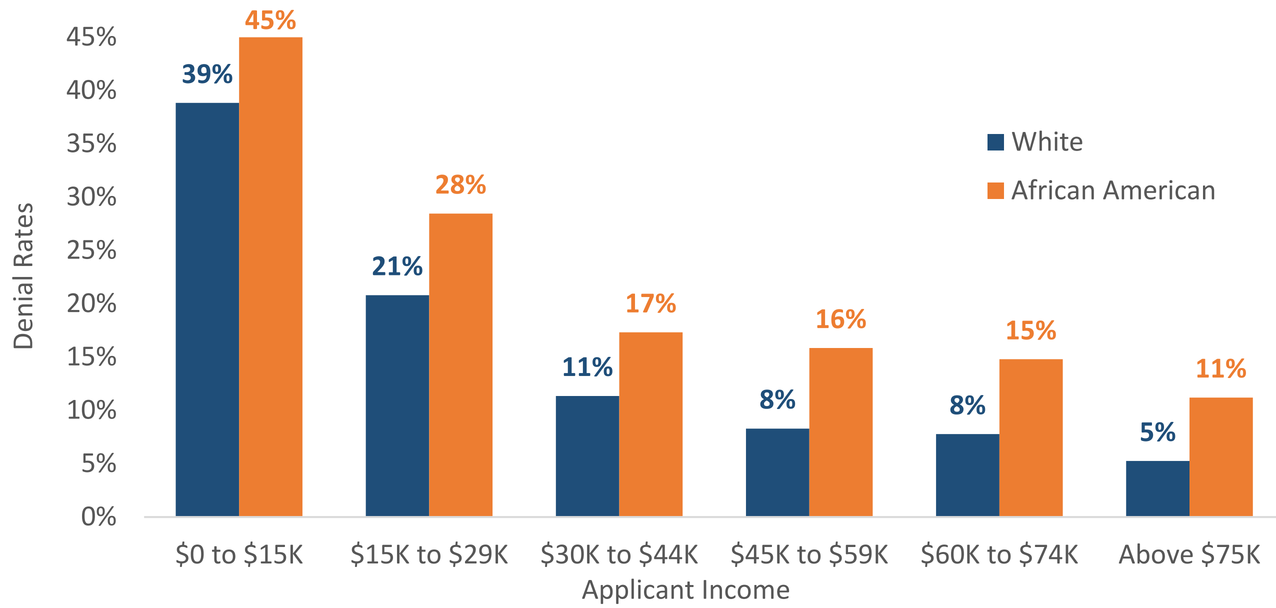
Of all denied *home purchase* loan applicants, 43 percent had debt-to-income ratio less than 43 percent, which is the highest ratio a borrower can have and still get a qualified mortgage. Thirty-seven percent of denied African-American applicants had debt-to-income ratios less than 43 percent, while 45 percent of denied white applicants had debt-to-income ratios less than 43 percent.

[38] Selecting from nine potential denial reasons including Debt-to-Income Ratio, Employment History, Credit History, Collateral, Insufficient Cash (for downpayment and/or closing costs), Unverifiable Information, Credit Application Incomplete, Mortgage Insurance Denied and Other.

[39] HMDA reporters that are insured depository institutions or insured credit unions and that originated fewer than 500 closed-end mortgages in each of the two preceding years qualify for this partial exemption with respect to reporting their closed-end transactions. HMDA reporters that are insured depository institutions or insured credit unions that originated fewer than 500 open-end lines of credit in each of the two preceding years also qualify for this partial exemption with respect to reporting their open-end transactions.

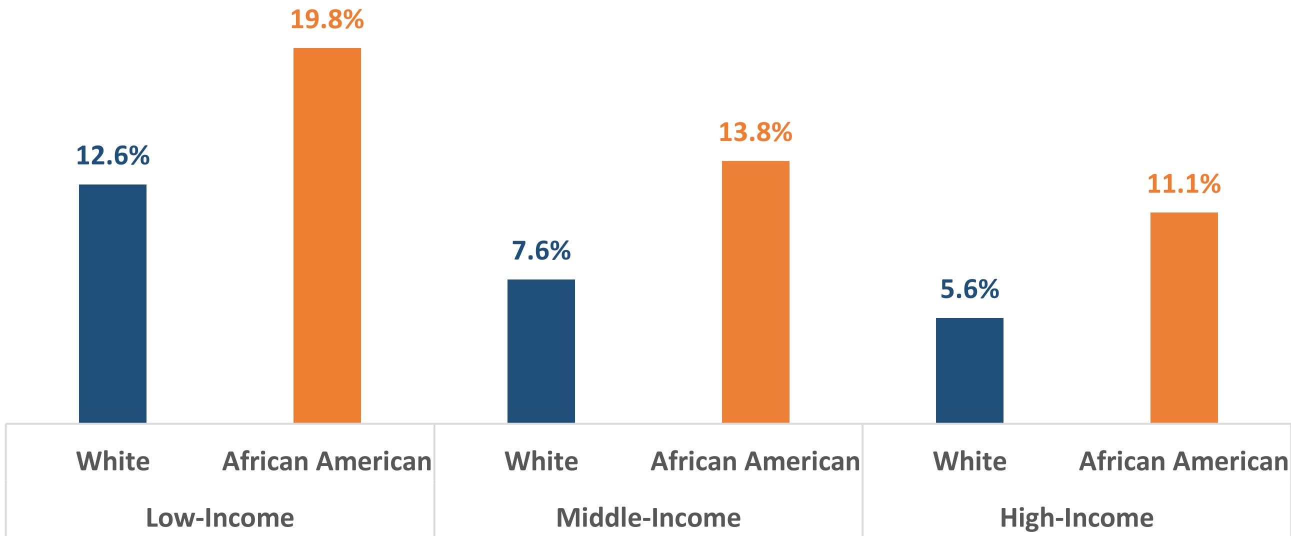
Even after controlling for income levels and debt-to-income ratios, denial rates between white and African-American applicants varied significantly. Every income range and debt-to-income ratio, African-American applicants were denied at higher rates than white applicants. There was at least six percentage points difference between denial rates of African-American and white applicants at each income range. The following figure shows the denial rates of white and African-American home purchase loan applicants by income ranges.

Figure 13: Denial Rates by Applicant Income and Race, Home Purchase Loans, Tennessee, 2018



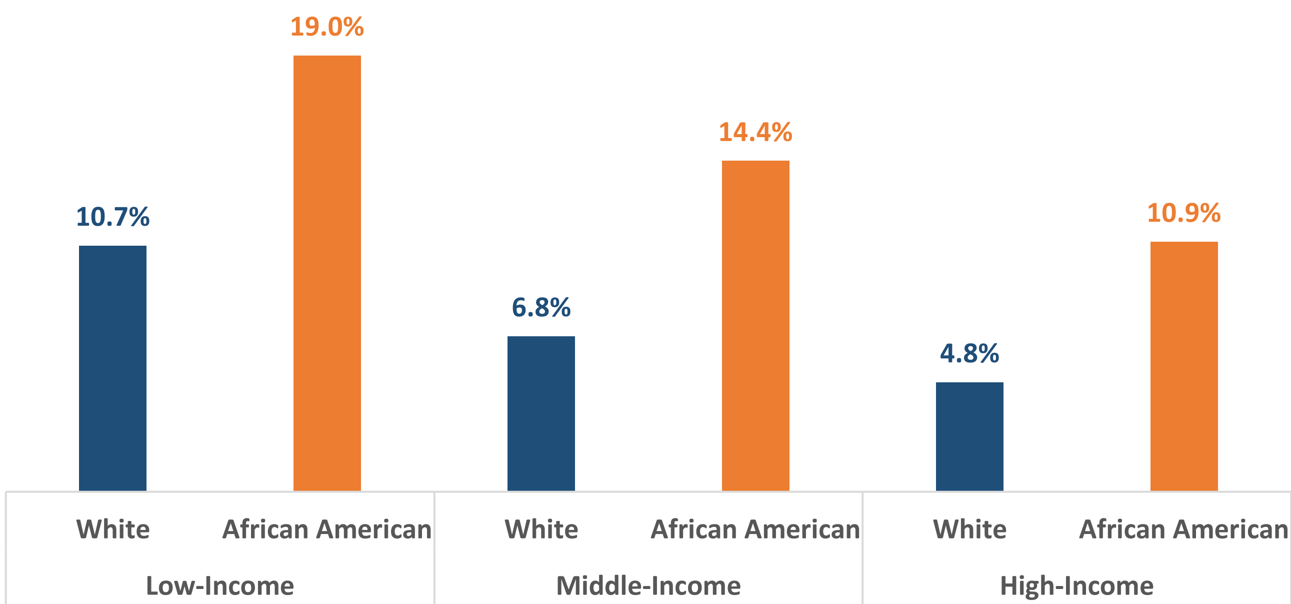
Especially when the applicant income is considered in the context of the median family income of the metro area they are applying, the differences in denial rates of white and African-American applicants become more pronounced. In 2018, less than six percent of high-income white applicants were denied for a home purchase loan, while more than 11 percent of high-income African-American applicants were denied. The difference between the denial rates of white and African-American applicants continues for low- and middle income borrowers. Low-income African-American borrowers had ten percentage point higher denial rates than low-income white applicants. The following figure shows the denial rates of white and African-American applicants separated by their income level.

Figure 14. Denial Rates by Race and Income of Applicant, Home Purchase Loans, 2018



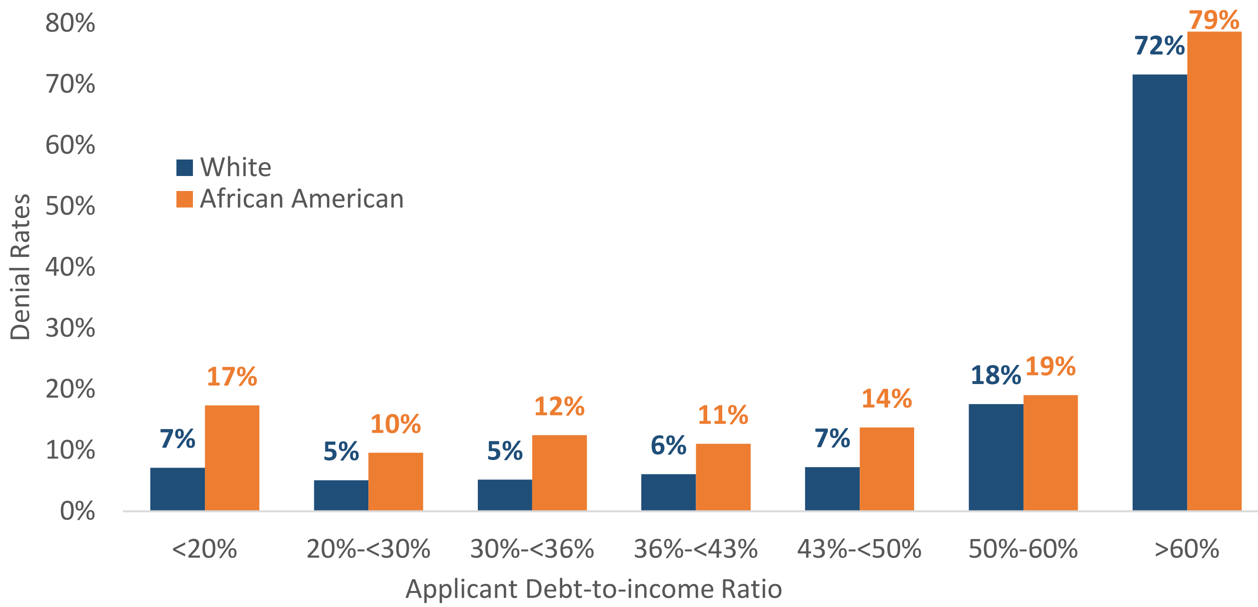
The difference between the denial rates of African-American and white applicants separated by race is more pronounced when only conventional home purchase loan applications are included. In 2018, less than 11 percent of low-income white applicants were denied for a conventional home purchase loan while nearly 20 percent of low-income African-American borrowers were denied. This is consistent with the trend of relatively higher portion of nonwhite applicants receiving nonconventional loans.

Figure 15. Denial Rates by Race and Income of Applicant, *Conventional* Home Purchase Loans, 2018



Differences in denial rates between white and African-American applicants persisted when their debt-to-income ratios were compared. Although this information should be taken cautiously without knowing credit scores and other variables that determine the loan approval and denial decisions, even for the applicants with less than 20 percent debt-to-income ratio, there was a 10 percentage point difference between the denial rates of white and African-American applicants.

Figure 16: Denial Rates by Applicant DTI Ratio and Race, Home Purchase Loans, Tennessee, 2018



The denial rates for home purchase loans and refinance loans in 2018 separated by county and race are provided in Appendices H and I.

8. HIGHER-PRICED LOANS

Before 2018, Regulation C required financial institutions to report rate spread data only on higher-priced mortgage loans.[40] The 2015 HMDA rule concerning the collection of data, which first applied to data collected in 2018, made the rate spread reporting required for most originations, regardless of rate. Rate spread reporting is not required for purchased loans, reverse mortgages, assumptions, and loans that are not subject to Regulation Z.[41] Since the rate spread has to be reported regardless of loan price, Regulation C no longer specifies a threshold for defining higher-priced loans. To compare 2018 data to data from earlier years, following the Consumer Financial Protection Bureau researchers, we are using the post-2009 classification, which defines the higher-priced loans as first-lien loans with an APR[42] of at least 1.5 percentage points above the average prime offer rate (APOR) for a similar type loan. For a

[40] Until October 2009, loans were classified as higher-priced if the spread between the Annual Percentage Rate (APR) and the rate on a Treasury bond of comparable term exceeded three percentage points for first-lien loans or five percentage points for junior-lien loans. After a change in regulations in October 2009, loans were classified as higher-priced if the APR exceeded the average prime offer rate (APOR) for loans of a similar type by at least 1.5 percentage points for first-lien loans or 3.5 percentage points for junior-lien loans.
[41] 12 CFR Part 1026 - Truth in Lending (Regulation Z)
[42] The APR for a mortgage loan is different than the interest rate on the loan, and it is a function of the costs of the mortgage loan added to the interest rate and re-amortized based on the size of the loan borrower is requesting.

junior-lien loan to be considered as higher priced, the spread between APR on the loan and APOR for a similar type loan must be at least 3.5 percentage points.

The following table compares the occurrence of higher-priced loans for the first-lien home purchase loans for site-built one- to four-family owner-occupied homes by race and ethnicity of the applicants.

Table 13. Higher-Priced Loans, *Home Purchase* Loans, 2009-2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
I. Home Purchase Loans										
Conventional and Nonconventional										
All Borrowers	6.0%	3.8%	5.2%	6.8%	8.9%	9.7%	6.4%	6.7%	8.4%	7.3%
Race										
American Indian	4.0%	2.9%	5.5%	5.4%	10.4%	15.8%	8.6%	5.2%	9.2%	8.8%
Asian	3.6%	2.3%	3.6%	4.2%	5.8%	7.6%	3.2%	3.0%	2.8%	3.3%
Black or African-American	5.8%	3.6%	9.0%	11.5%	17.6%	22.3%	10.8%	12.6%	18.2%	13.7%
Native Hawaiian	4.2%	3.2%	3.6%	5.3%	10.3%	8.4%	2.4%	6.1%	10.8%	10.3%
White	6.3%	4.0%	5.0%	6.6%	8.5%	9.0%	6.3%	6.5%	7.8%	6.8%
Joint	4.9%	3.6%	4.6%	5.5%	9.5%	10.1%	7.1%	6.1%	7.7%	5.1%
Race Not Available	3.2%	1.5%	3.3%	5.3%	6.3%	6.0%	3.7%	4.1%	5.9%	6.8%
Ethnicity										
Hispanic or Latino	6.1%	3.4%	6.3%	7.8%	11.4%	12.6%	8.3%	8.6%	12.0%	11.1%
Not Hispanic or Latino	6.2%	3.9%	5.3%	6.9%	8.9%	9.8%	6.4%	6.8%	8.4%	7.1%
Conventional Only										
All Borrowers	10.1%	8.0%	7.3%	7.6%	7.1%	5.7%	5.8%	5.2%	4.9%	3.7%
Race										
American Indian	3.4%	3.7%	5.7%	5.4%	10.4%	13.0%	8.9%	5.8%	8.0%	6.0%
Asian	4.2%	3.0%	3.3%	3.6%	3.6%	3.6%	2.3%	2.3%	1.1%	1.4%
Black or African-American	12.1%	16.2%	14.7%	8.0%	10.6%	8.8%	7.9%	7.4%	8.9%	8.5%
Native Hawaiian	6.7%	10.5%	0.0%	9.1%	11.1%	8.7%	0.0%	6.1%	4.0%	7.8%
White	11.0%	8.4%	7.7%	8.1%	7.5%	5.8%	6.1%	5.5%	5.0%	3.7%
Joint	6.2%	8.0%	4.6%	6.9%	6.3%	5.4%	3.8%	5.0%	3.4%	2.9%
Race Not Available	3.1%	1.9%	1.5%	2.9%	2.1%	2.0%	2.3%	2.1%	2.4%	2.9%
Ethnicity										
Hispanic or Latino	17.7%	12.4%	9.8%	11.5%	11.2%	8.9%	9.3%	9.4%	7.6%	8.8%
Not Hispanic or Latino	10.6%	8.4%	7.6%	7.9%	7.3%	5.8%	5.9%	5.2%	4.9%	3.6%
Nonconventional Only										
All Borrowers	3.1%	0.8%	3.5%	6.0%	11.1%	15.0%	7.1%	8.5%	12.9%	12.4%
Race										
American Indian	5.7%	0.0%	4.9%	5.3%	10.5%	23.2%	7.8%	3.8%	10.3%	11.2%
Asian	2.4%	0.9%	4.0%	5.4%	13.1%	19.8%	6.3%	5.8%	10.4%	12.1%
Black or African-American	4.9%	1.8%	7.8%	12.3%	19.7%	27.2%	11.6%	14.4%	21.8%	16.2%
Native Hawaiian	3.0%	0.0%	5.0%	3.8%	9.5%	8.2%	3.9%	6.2%	15.8%	12.5%
White	2.9%	0.6%	2.8%	5.0%	9.8%	13.4%	6.6%	7.9%	11.7%	11.8%
Joint	4.0%	0.5%	4.6%	4.5%	12.5%	14.1%	9.9%	7.1%	11.6%	7.5%
Race Not Available	3.2%	1.2%	5.0%	8.5%	13.2%	12.5%	5.5%	7.0%	11.5%	13.6%
Ethnicity										
Hispanic or Latino	2.2%	0.5%	5.0%	5.8%	11.5%	15.0%	7.6%	8.1%	15.4%	13.5%
Not Hispanic or Latino	3.2%	0.8%	3.4%	6.0%	11.0%	15.1%	7.1%	8.6%	12.9%	12.3%

According to the table, in 2018, the proportion of all higher-priced home purchase loans (conventional and nonconventional with interest rates above the threshold) decreased from the previous year for almost all race groups, except for Asian borrowers and the borrowers whose race were not reported. In 2018, more than seven percent of all borrowers received higher-priced loans compared to 8.4 percent in 2017. The largest decrease in higher-priced loans percentage was among African-American borrowers. Since 2011, African-American borrowers received the highest percentage of higher-priced loans, across all race categories. Even with a nearly five percentage points decline from the previous year, African-American borrowers who received higher-priced loans at a higher rate than any other racial category. Less than four percent of home purchase loans originated for Asian borrowers in 2018 were considered higher priced, which was the lowest among all race categories.

Starting 2014, for almost all race categories, the borrowers who used conventional home purchase loans had a lower proportion of loans with interest rates higher than the spread threshold compared to the borrowers who used non-conventional loans (including FHA, VA and FSA/RHS insured loans). The trend continued in 2018. For example, in 2018, 16.2 percent of African-American borrowers who received nonconventional mortgage loans (FHA-, VA- or RD-insured) had higher-priced loans while 8.5 percent of African-American borrowers with conventional mortgage loans received higher-priced loans.

These patterns also differed by the type of nonconventional loan. Among nonconventional loans, borrowers who used VA or FSA/RHS insured loans received fewer higher-priced loans than borrowers with FHA-insured loans. The proportion of FHA-insured higher-priced loans and the relative proportion across loan types increased substantially in recent years. For example, in 2009, four percent of borrowers with FHA-insured loans had higher-priced loans while in the same year one percent of borrowers with VA -insured loans had higher-priced loans. The FHA percentage leapt to 20 percent in 2013 and again to 31 percent in 2014. All the while, the other nonconventional loan types saw negligible proportions of higher-priced loans.

Increasing mortgage insurance premiums (MIP) on FHA insurance is one reason for the increase in higher-priced loans in recent years, because the monthly MIP on FHA-insured loans increases the APR for those loans. FHA decreased the MIP in January 2015, and it is likely an important factor in the reduction of higher-priced loans among borrowers with FHA-insured loans from its high[43] in 2014; however, the insurance is still required for the life of the loan. In 2018, of all FHA-insured loans, 22 percent were considered higher priced. RHS (RD)-insured loan borrowers experienced a slight increase in the percentage of higher-priced loans, from 1.1 percent to 1.7 percent.

Table 14. Higher-Priced Nonconventional Home Purchase Loans, by Insurer, 2009-2018

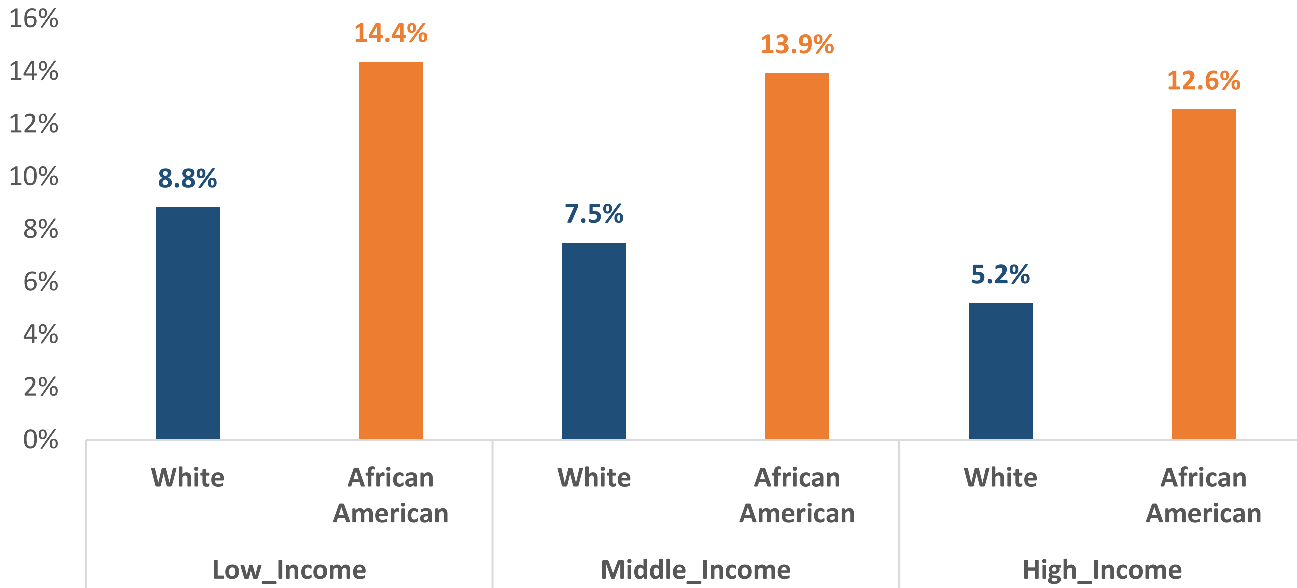
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
FHA-Insured	4.1%	1.0%	5.6%	10.2%	20.1%	30.8%	11.6%	14.0%	23.0%	22.1%
VA-Insured	0.8%	0.1%	0.1%	0.1%	0.1%	0.2%	0.6%	0.3%	0.4%	0.4%
RHS and RD-Insured	0.8%	0.2%	0.1%	0.1%	1.5%	1.2%	3.1%	3.5%	1.1%	1.7%

First lien, 1-4 family, owner occupied, home purchase loans originated

[43] Since 2004 when we have loan level detailed HMDA data in Tennessee.

The proportion of African-American borrowers who received higher-priced home purchase loans was higher than white borrowers, even among borrowers within the same income group. The difference between white and African-American borrowers with higher-priced loans was greatest among the low-income borrowers. More than 14 percent of low-income African-American borrowers paid interest rates higher than the threshold level in 2018, while less than nine percent of low-income white borrowers' home purchase loans were considered higher priced. The occurrence of higher-priced loans declined with the income for both white and African-American borrowers.

Figure 17. Percent of Borrowers with Higher-Priced Loans by Race and Income Level, 2018



9. CASH-OUT REFINANCE LOANS

New for 2018, refinance loans were separated to "refinance[44]" and "cash-out refinance[45]," which were not available in previous years. More than half of all refinance loan originations for one- to four-family site-built homes were cash-out refinances. Since the data was not reported this way in the previous years, we cannot compare, but, the fact that 56 percent of all refinance loans were cash-out refinances is an important trend to follow in the coming years. Borrowers were using the equity in their homes for other purposes, while less than half of the applications for refinance purpose was for possibly taking advantage of lower rates.

[44] A refinancing is a closed-end mortgage loan or open-end line of credit in which a new dwelling-secured debt obligation satisfies and replaces an existing dwelling-secured debt obligation by the same borrower. See 2018 Guide to HMDA Reporting (page 58) for more detail.

[45] A financial institution reports a covered loan or an application as a cash-out refinancing if it is a refinancing and the financial institution considered it to be a cash-out refinancing when processing the application or setting the terms under its or an investor's guidelines. One of the reasons could be the amount of cash received by the borrower at closing or account opening. If a financial institution does not distinguish between a cash-out refinancing and a refinancing under its own guidelines, sets the terms of all refinancing without regard to the amount of cash received by the borrower at loan closing or account opening, and does not offer loan products under investor guidelines, it reports all refinancing as refinancing, not cash-out refinancing. See 2018 Guide to HMDA Reporting (page 59) for more detail.

In 2018, an average cash-out refinance borrower had lower income than non-cash-out refinance borrower and borrowed less. Cash-out refinance borrowers also paid higher interest rate compared to non-cash-out refinance borrowers.

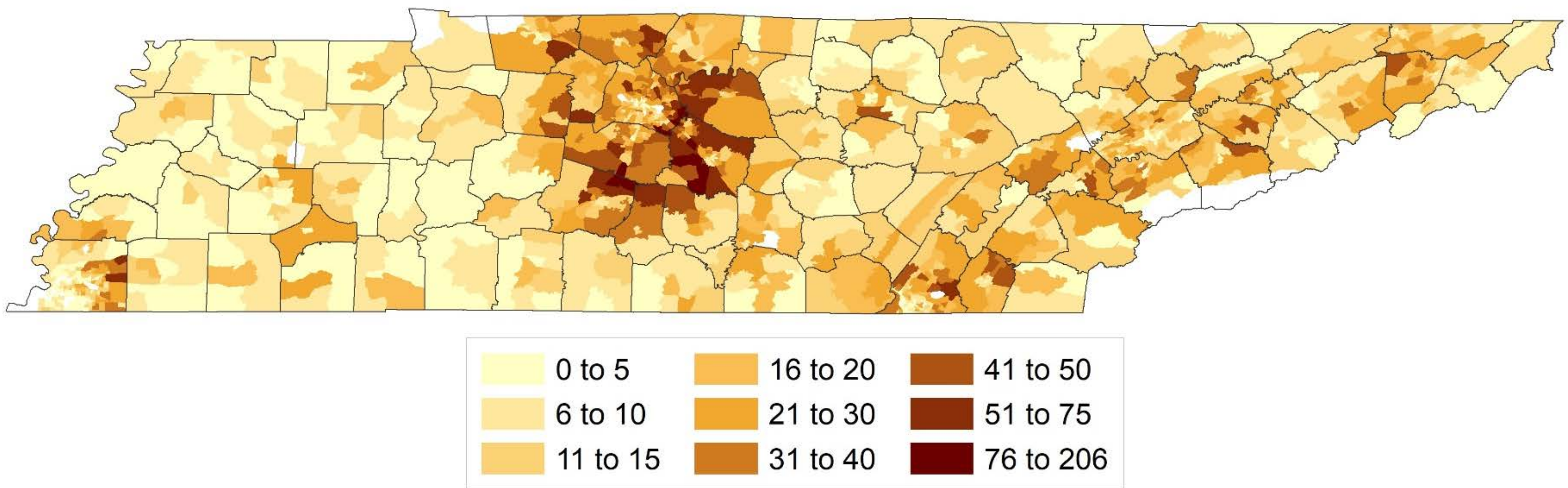
Table 15: Cash-out and Non Cash-out Refinance Loans Originated, 2018

	Non-Cash-out	Cash-out	ALL Refinance
#	18,253	23,608	41,861
Average Values			
Loan Amount	$185,791	$180,090	$182,576
Borrower Income	$114,083	$82,126	$95,146
DTI	41.81	42.59	42.35
LTV	67.81	72.81	70.85
Interest Rate	4.67	4.77	4.73
Property Value	$313,347	$262,777	$283,072

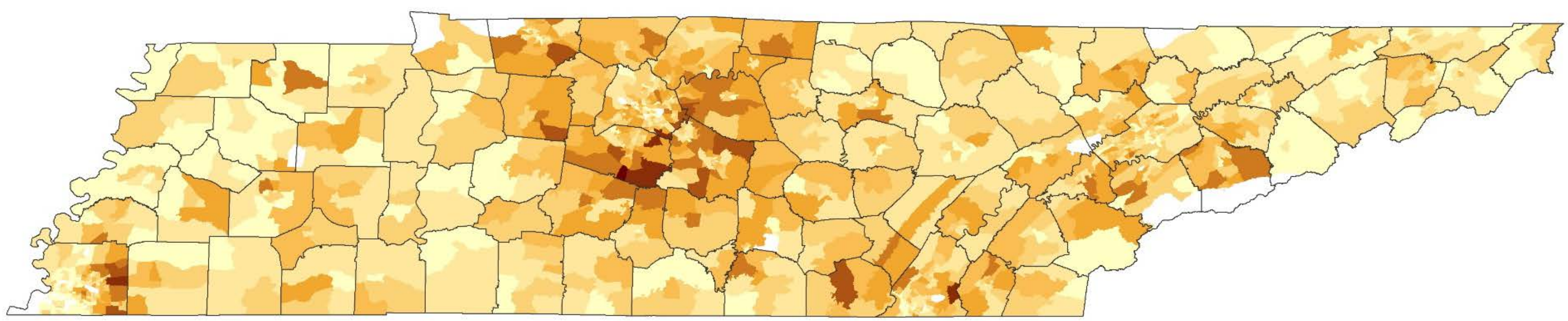
Cash-out refinance applicants were denied more often compared to non-cash-out refinance applicants. Thirty-two percent of cash-out refinance loan applicants were denied compared to 27 percent of non-cash-out refinance loan applicants. Credit history was the most reported denial reason for both type of refinance loan applicants, while debt-to-income ratio (DTI) was the major denial reason for home purchase loans.

Davidson, Rutherford, Shelby, Knox and Hamilton Counties had the highest number of cash-out refinance loan originations in 2018. These counties also had the highest number of non-cash-out refinance loan originations. Following maps show the cash-out refinances and non-cash-out refinances in the state.

Map 13: Cash-Out Refinance Loans Originated, 2018



Map 14: Non-Cash-Out Refinance Loans Originated, 2018



10. MANUFACTURED HOME LOANS

In previous years, mortgage loans were separated based on the property type as one- to four-family, manufactured and multifamily. The 2015 HMDA rule changed this reporting by replacing the property type with construction type as "Site-built" or "Manufactured" and adding total number of units to determine whether it was for a single family (up to four units) or multifamily housing. Furthermore, two new variables related to manufactured home loans were added: "Manufactured Home Secured Property Type" and "Manufactured Home Land Property Interest." If the loan is secured only by manufactured home, but not the land, then these are known as "chattel loans," which are personal property loans. Unfortunately, since we do not have prior data to compare, we cannot discuss trends. In time, as this kind of data reported in coming years, these details will help us better understand the manufactured home financing trends. At this point, we can compare manufactured home lending to site-built home purchase loans and also we can compare the lending practices and borrowers using chattel loans to real property (loans secured by both manufactured home and land).

In 2018, there were nearly 20,000[46] manufactured home loans reported, of which less than 6,000 were originated. Seventy-two percent of the originated manufactured home loans were for home purchase purpose, 26 percent for refinancing and the remaining were for home improvement and other purposes. More than half of the originated manufactured home purchase loans and two thirds of the refinance loans were for both the home and the land.

Table 16: Manufactured Home Loan Applications by Action and Loan Purpose

	Home Purchase	Refinance	Home Improvement	Total
Loan originated	4,027	1,436	104	5,567
Application approved but not accepted	993	137	4	1,134
Application denied by financial institution	7,203	854	61	8,118
Application withdrawn by applicant	902	427	20	1,349
File closed for incompleteness	3,104	157	4	3,265
Loan purchased by the institution	379	78	1	458
Preapproval request denied by financial institution	57	0	0	57
Preapproval request approved but not accepted	10	0	0	10
Total Manufactured Home Loan Applications	***16,675***	***3,089***	***194***	***19,958***
Denial Rate	59%	35%	36%	55%
Distribution of Originated Loans by Purpose	72%	26%	2%	

On average, the manufactured home loan borrowers had lower income and borrowed less than borrowers purchasing site-built home purchase loans. in 2018, average loan amount for a site-built home was over $230,000, while an average loan amount for manufactured home was less than $100,000. An average manufactured home borrower's income was nearly half of the average site-built

[46] This number is regardless of lien status, occupancy type, loan purpose or one- to four-family versus multifamily housing. However, to make it comparable to previous years, open-end line-of-credits and the loans for purposes other than home purchase, refinance or home improvement are excluded.

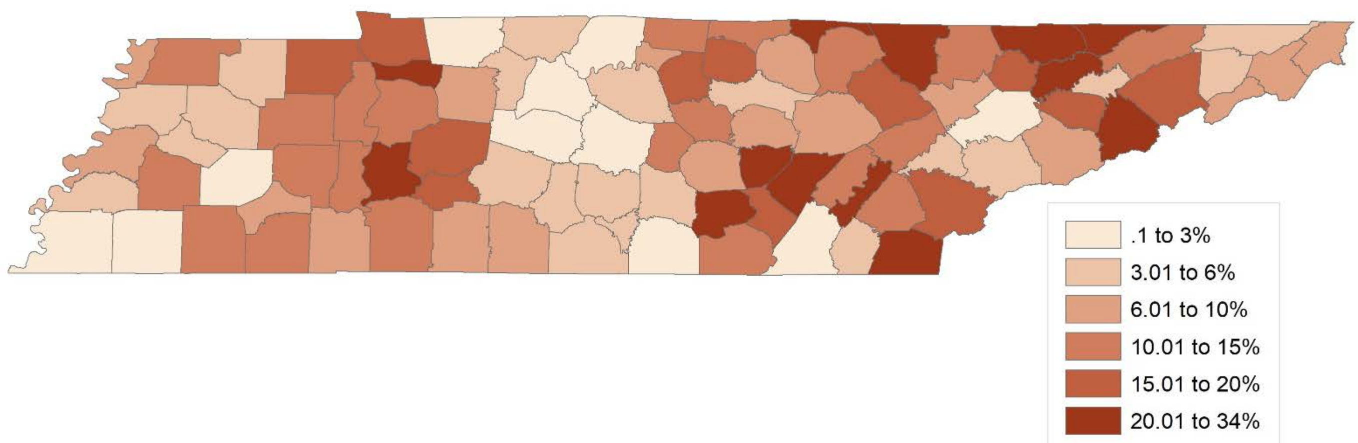
home purchase loan borrower's income. The average income of borrowers purchasing manufactured homes in 2018 was $50,521, compared with $93,127 for those borrowing to buy a site-built home.

Table 17: Loan Amount and Income, Site-Built and Manufactured Home Purchase Loans Originated, 2018

	Loan Amount		Borrower Income	
	Site-Built	Manufactured	Site-Built	Manufactured
Mean	$230,358	$91,162	$93,127	$50,521
Median	$195,000	$85,000	$70,000	$45,000

East Tennessee counties such as Knox, Jefferson, Greene and Sevier had the highest number of first-lien, owner-occupied, one- to four-family manufactured home purchase loans originated in 2018. Nearly 140 manufactured home purchase loans originated in Knox County was the highest in the state, but it represented only two percent of total home purchase loan originations in the county. Following map shows the manufactured home purchase loans originated in 2018 as percent of all home purchase loans.

Map 15: Manufactured Home Purchase Loans, Percent of Total Home Purchase Loans, 2018



Majority of manufactured home purchase loans were for both land and home (non-chattel). Only 27 percent of manufactured home purchase loan originations were "chattel loans," not secured by land. Median interest rates on originated *chattel* loans was nearly eight percent compared to 5.5 percent interest rate paid by *non-chattel* loan borrowers.

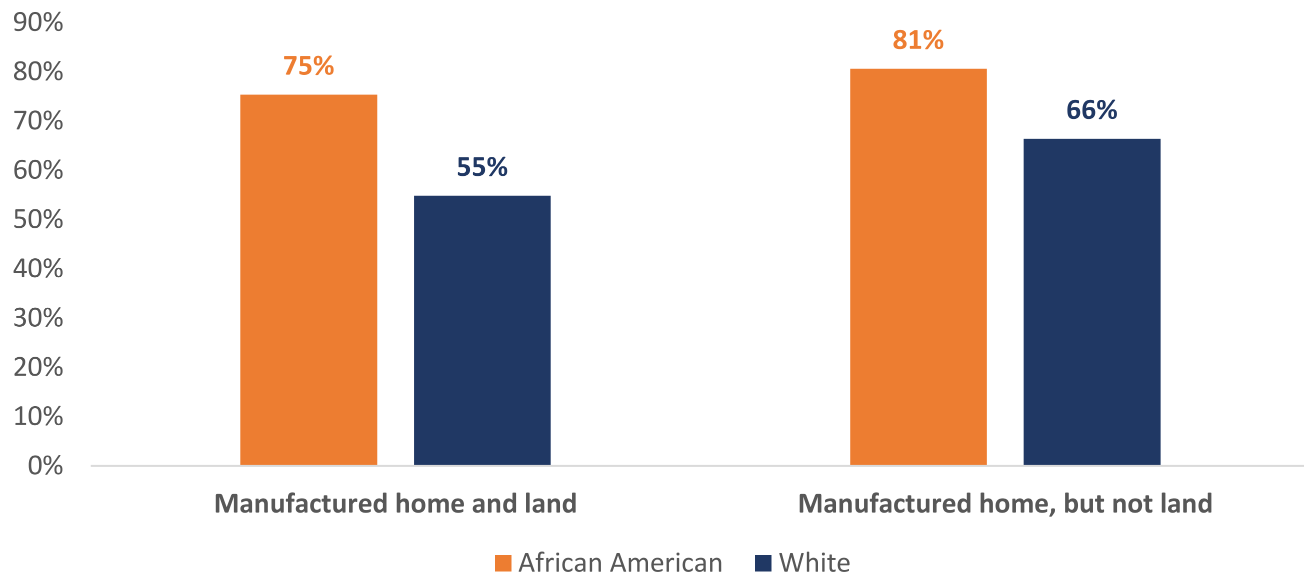
The denial rate among manufactured home loans was higher for home purchase loans compared to refinance loans, 59 percent and 35 percent, respectively. Denial rates also varied depending on whether the loan was both home and the land or land only. The manufactured home purchase loan applicants who were purchasing only the home, not the land (chattel loans), were more likely denied than the applicants who requested the loan for purchasing both the home and the land (67 percent versus 56 percent).

Table 18: Home Purchase Loans Originated for Manufactured Homes, 2018

	#	Denial Rate	Median Interest Rate
Manufactured Home and Land	2,546	56%	7.90
Manufactured Home, but not Land (*Chattel*)	1,088	67%	6.13
Not Applicable	20	16%	5.38
Exempt	373	16%	NA
Total Home Purchase Loan Originated	*4,027*	*59%*	*5.50*

African-American manufactured home loan applicants were denied more often than white applicants. The difference between the denial rates of African-American and white applicants continued, but was less pronounced for the applicants of loans for manufactured homes only, not secured by land (chattel).

Figure 18: Denial Rates, Chattel and Non-Chattel Loans, African-American and White Applicants, 2018



Almost all of the chattel loans were conventional, while government-insured loans comprised nearly half of the originations for both the manufactured home and the land.

In the state, manufactured home purchase loans originations were only four percent of the total first-lien, owner-occupied home purchase loan originations for single family homes. In rural counties like Meigs, Perry, Scott, Van Buren and Grainger, manufactured home purchase loans originations made up 25 percent or more of the total home purchase loan originations. In Davidson, Williamson and Shelby Counties, the manufactured home purchase loans were even less than one percent of all home purchase loan originations in the county. Site-built and manufactured home purchase originations by county are provided in Appendix J.

THDA SHARE OF HOME PURCHASE LOAN MARKET

1. FHA-Insured Home Loan Purchase Market Share of THDA

Key Findings

- **THDA's share in FHA-insured loans market was 29.27 percent in 2018, increased from 25.84 percent the previous year.**
- **Market share increased from the previous year in all race categories.**
- **Higher share of African-American borrowers shows that THDA offers a distinct product to help underserved demographic groups access to homeownership.**
- **Of the largest counties (counties with 100 or more THDA loans), THDA's highest market share was in Madison County followed by Bradley County.**
- **THDA's biggest market share increase (among the counties with 100 or more THDA loans) was in Madison County, followed by Sumner County.**

In this report, we measured THDA's share in the home purchase loan market. Market share refers to the proportion of loans funded by THDA to all home purchase loans originated by financial institutions and reported in Tennessee. Knowing THDA's share in the home loan market is important in determining how competitive THDA loan products are compared to similar loan products available in the market. Knowledge of where THDA's business is relative to the market is also useful when making decisions around marketing and planning to fill unmet need. Methodology for calculating THDA's market share is explained in Appendix K.

Using HMDA data to measure THDA's share in the home loan market presents some limitations because of the nature of the HMDA data and THDA's loan program eligibility requirements. Keeping these limitations in mind, we estimated the market share based on THDA's income limits and on the maximum purchase price a THDA borrower paid in 2018 for the county. For counties without a THDA loan in the year, we used the county median sales price.[47] Because the majority of THDA loans are FHA-insured, we compared THDA FHA-insured mortgage loans to FHA-insured loans in the market. First-time homebuyer data is not readily available through HMDA so we used FHA estimates of first time homebuyers to help us estimate the market share. While there are some estimation issues to be found in these assumptions, the estimates serve as a good overall barometer.

In 2018, THDA funded 3,878 FHA-insured loans for first-time homebuyers, which represented 29.3 percent of 16,025 FHA-insured first lien home purchase loans originated for first-time homebuyers who met THDA's income limit requirements and purchased homes that were priced less than or equal to the maximum price THDA borrowers paid in each county. This share was up from the 25.8 percent in 2017, due to the increasing number of THDA borrowers in 2018 even with increasing number of THDA-eligible FHA-insured loans in the market. THDA funded FHA-insured loans for first-time homebuyers increased by 47 percent in 2018 compared to 2017, while in the market, all lenders reporting to HMDA originated 29 percent more FHA-insured loans compared to the previous year for borrowers estimated to be THDA-eligible.

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[47] Residential, single-family all home sales in by county for calendar year 2018 based on a comprehensive database maintained by the Division of Property Assessment (Comptroller's Office, State of Tennessee).

Among the counties with 100 or more THDA funded FHA-insured loans, Madison County's 51.4 percent market share was the highest. THDA was able to attract 25 percent or more of the potential FHA borrowers in each of Davidson, Hamilton, Knox, Madison, Rutherford and Shelby Counties, while THDA's market share was relatively low in Williamson County. THDA funded FHA-insured loans were 25.5 percent of comparable FHA-insured loans reported in Rutherford County and 28.5 percent in Davidson County, an increase in both counties from 2017. In Davidson County, the number of FHA-insured THDA loans funded increased while the comparable FHA-insured loans originated in the market declined compared to the previous year, so THDA's market share in the county increased by seven percent points. In Rutherford County, the number of FHA-insured THDA loans increased by 21 percent while the comparable FHA-insured loans originated in the market increased by 14 percent from 2017, leading to nearly two percentage points increase in market share in the county. It is a smaller increase compared to counties like Davidson, Madison and Sumner, but considering that THDA's market share in the FHA-insured loans market declined in 36 counties, it is still a modest increase. THDA's largest annual market share gains were primarily in small rural counties with relatively small mortgage loan markets.

In a majority of the Nashville MSA counties, THDA's reach to the potential FHA-insured mortgage loan borrowers increased. Cannon and Williamson Counties were the only Nashville MSA counties with declining THDA market share in 2018. In Cannon County, THDA originated less FHA-insured loans while the number of comparable FHA-insured loans in the market stayed same (FHA lending market in Cannon County is small). In Williamson County, FHA-insured loans originated by THDA lenders did not change, while the number of comparable FHA-insured loans in the market increased, leading to six percentage points decline in 2018.

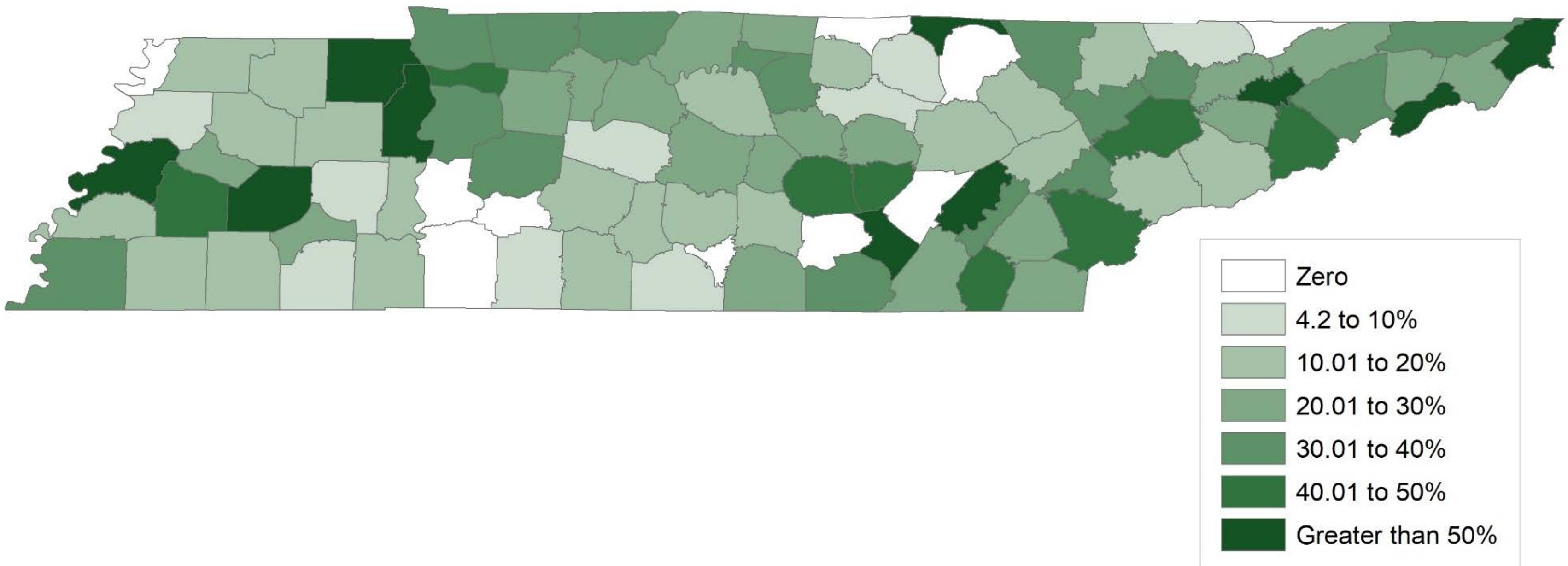
THDA's share in FHA-insured loans market also varied by race. In 2018, THDA served nearly 43 percent of African-American first time homebuyers who were income and purchase price eligible for THDA programs, while this same market share among white borrowers was 29 percent. In all race categories, THDA's market share in 2018 increased from 2017.

Table 19. THDA's Market Share by Race, FHA-Insured Loans, 2014-2018

RACE	2018	2017	2016	2015	2014
Asian	24.9%	14.9%	6.2%	12.3%	18.5%
Black or African-American	42.9%	37.7%	25.7%	31.3%	30.1%
White	28.6%	25.1%	18.0%	22.1%	22.7%
Other Minority	36.8%	26.3%	12.7%	19.3%	5.9%
Multi-Racial	0.0%	0.0%	0.0%	0.0%	0.0%
Missing	9.5%	7.9%	0.7%	3.2%	4.8%
ALL BORROWERS	***29.3%***	***25.8%***	***17.9%***	***22.3%***	***22.8%***

THDA's shares in FHA-insured mortgage loans market in 2017 and 2018 by county can be found in Appendix L. The following map displays THDA's share in the FHA-insured loans market in 2018.

Map 16: THDA's Share in FHA-Insured Home Loans Market, 2018[48]



[48] The FHA-insured home loan market refers to the first-lien home purchase loans for owner-occupied 1-4 family dwellings that are originated in 2018 by financial institutions and reported in HMDA data. Only the FHA-insured loans to the borrowers who would be eligible to receive FHA-insured THDA loans based on their income, which was less than or equal to the small family (households with 1 to 2 people) income limit of the county they purchased their homes, and purchased homes that are less than or equal to the maximum price THDA borrowers paid (estimated by adding a four percent downpayment amount to the loan amount) are included. THDA changed the income limits in mid-2018. Publicly available HMDA data do not have full loan origination dates other than the year of origination. Therefore, for all loans in 2018, we used the income limits started in mid-2018. We also assumed 82.69 percent of borrowers who used FHA-insured loans were first time homebuyers

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APPENDIX

APPENDIX A

What is Home Mortgage Disclosure Act or HMDA Data? And Changes to HMDA Reporting Requirements in the data Collected in 2018[49]

The HMDA data are the most comprehensive source of publicly available information on the mortgage market. The HMDA data are useful in determining whether financial institutions are serving the housing needs in their communities and in identifying possible discriminatory lending patterns. HMDA data can be used in identifying overall market trends in residential financing. However, it does not include all residential loan applications because some institutions are exempt from HMDA reporting requirements.[50]

The HMDA requires many depository and non-depository lenders to collect and disclose information about housing-related loans (including home purchase, home improvement, refinancing and other) and applications for those loans in addition to applicants' and borrowers' income, race, ethnicity and gender. The law governing HMDA was enacted in 1975, initially falling within the regulatory authority of the Federal Reserve Board. In 2011, regulatory authority was transferred to the Consumer Financial Protection Bureau.[51] Whether an institution is required to report depends on its asset size, its location, and whether it is in the business of residential mortgage lending.[52]

The HMDA data reported by financial institutions in 2018 are different than data reported in previous years. As part of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (DFA), Congress amended HMDA. One of those changes was to expand the number of data points required to be collected and reported, and give the Bureau authority to require additional data points to be collected and reported. In October 2015, the Bureau issued a final rule implementing these and other changes, which affected data to be collected starting in 2018.

While majority of the changes resulting from the Congress's amendment after Dodd-Frank Act in 2010 took effect with the data collected in 2018 and after, two changes were effective in 2017 and they have impacted 2017 HMDA data. The first one reduced the number of depository institutions, which were required to report HMDA data. While before this change any depository institution that originated at least one home purchase loan in the preceding year was required to report, in 2017, depository

[49] Some parts of this Appendix related to new and revised data in 2018 is directly from CFPB article: Introducing New and Revised Data Points in HMDA – Initial Observations from New and Revised Data Points in 2018 HMDA (https://files.consumerfinance.gov/f/documents/cfpb_new-revised-data-points-in-hmda_report.pdf).

[50] Dietrich, Liu, and et al, (2019) estimated the universe of mortgage lenders and the number of loans originated regardless of whether they were required to report to HMDA. Their analysis revealed that, in 2018, approximately 12,000 institutions originated at least one mortgage loan, with a total origination volume of approximately 7.3 million loans. In 2018, 6.4 million loans originated by HMDA reporting insitutions represent approximately 90 percent of the estimated total number of closed-end originations in the United States. For more detail about their methodology of estimating "universe," see Dietrich, J., Liu, F., Skhirtladze, A., Davies, M., Jo, Y., and Candilis C. (2019), "Data Point: 2018 Mortgage Market Activity and Trends. A First Look at the 2018 HMDA Data," https://s3.amazonaws.com/files.consumerfinance.gov/f/documents/bcfp_hmda_2017-mortgage-market-activity-trends_report.pdf

[51] History of HMDA, http://www.ffiec.gov/hmda/history2.htm

[52] Reporting institutions are those banks, credit unions or saving associations (institutions) with a home or branch office in a Metropolitan Statistical Area (MSA); whose total assets exceeded the coverage threshold on the preceding December 31; and that originated at least 25 home purchase loan or refinancing of a home purchase loan secured by a first lien on a one- to four-family dwelling, in each of two preceding calendar years (for 2017 reporting, they need to originate at least 25 home purchase loans in 2015 and 2016). The asset exemption threshold for depository and non-depository institutions did not change from the previous year, $44 million and $10 million, respectively. The institutions that are not federally insured or regulated are exempt from reporting. Also, the originated loans that are not insured, guaranteed or supplemented by a federal agency are not reported. For more information who reports HMDA data, see: https://www.ffiec.gov/hmda/pdf/2017letter.pdf

institutions that originated fewer than 25 covered closed-end mortgages in either of the preceding two years were exempt from HMDA reporting.

The 2015 HMDA Rule included 14 additional data points (Discretionary Data Points)[53] in addition to 13 new Mandated Data Points[54]. The 2015 HMDA Rule also made revisions to several preexisting data points. The ***Property Type*** was replaced with "Construction Type" and "Total Units,"[55] ***Loan Purpose*** was expanded with the addition of "cash-out refinance" and "other purpose," and under ***Occupancy Type*** category "non-owner occupied" category was split into "second residence" and "investment property." In addition, under the 2015 HMDA Rule, applicants have the option to self-identify their race/ethnicity in disaggregated sub-categories (for example, Indian or Chinese are sub-categories under Asian) and financial institutions must report such detail, where applicable. Financial institutions must also report, where applicable, whether the race, ethnicity, and sex of applicants were collected based on visual observation or surname. Finally, the 2015 HMDA Rule made changes in Regulation C's coverage requirements. First, reporting of open-end lines of credit became mandatory for reporters that meet certain loan volume thresholds. Second, the transactional-coverage definition eliminated the previous requirement to report unsecured loans made for home improvement purposes and now requires reporting of consumer purpose-loans secured by a dwelling even if not made for one of the previously-enumerated purposes.

In May 2017, Congress passed the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA) that granted certain HMDA reporters partial exemptions from HMDA reporting. Under the partial exemptions, these institutions are not required to report any of the Mandated Data Points other than age and are not required to report any of the Discretionary Data Points for eligible transactions. Specifically, HMDA reporters that are insured depository institutions or insured credit unions and that originated fewer than 500 closed-end mortgages in each of the two preceding years qualify for this partial exemption with respect to reporting their closed-end transactions. HMDA reporters that are insured depository institutions or insured credit unions that originated fewer than 500 open-end lines of credit in each of the two preceding years also qualify for this partial exemption with respect to reporting their open-end transactions. The insured depository institutions must also not have received certain less than satisfactory examination ratings under the Community Reinvestment Act of 1977 (CRA) ratings to qualify for the partial exemptions. The Bureau issued an interpretive rule in 2018 to clarify which institutions and which data points are covered by the partial exemption.

[53] 13 new Mandated Data Points: Age; Total Points and Fees; Rate Spread for all loans; Prepayment Penalty Term; Property Value; Introductory Rate Period; Non-Amortizing Features; Loan Term; Application Channel; Credit Score; Mortgage Loan Originator Identifier; Universal Loan Identifier; and Property Address.

[54] Discount Points; Lender Credits; Mandatorily Reported Reasons for Denial; Interest Rate; Debt-to-Income Ratio; Combined Loan-to-Value Ratio; Manufactured Home Secured Property Type; Manufactured Home Land Property Interest; Multifamily Affordable Units; Automated Underwriting System; Reverse Mortgage Flag; Open-End Line of Credit Flag; and Business or Commercial Purpose Flag.

[55] Before 2018 data collection under this category, financial institutions reported whether the property was one-to-four-family, manufactured home, or multi-family.

APPENDIX B

First-Lien, Owner-Occupied, 1-4 Family, Site-Built Loans Originated, by Purpose, 2015-2018

HOME PURCHASE LOANS ORIGINATED

County	2018	2017	2016	2015	% of State Total (2018)	% Change from 2017	Rank in 2018
Anderson	895	832	784	664	1%	8%	18
Bedford	628	607	555	465	1%	3%	26
Benton	116	104	70	65	0%	12%	75
Bledsoe	71	60	61	55	0%	18%	86
Blount	1,943	1,909	1,701	1,502	2%	2%	10
Bradley	1,269	1,165	1,192	1,020	1%	9%	14
Campbell	348	318	290	222	0%	9%	41
Cannon	144	161	114	115	0%	-11%	66
Carroll	194	166	158	147	0%	17%	56
Carter	447	459	413	367	1%	-3%	36
Cheatham	590	609	595	517	1%	-3%	29
Chester	155	158	162	146	0%	-2%	64
Claiborne	221	206	192	196	0%	7%	51
Clay	39	30	34	27	0%	30%	91
Cocke	176	168	134	138	0%	5%	63
Coffee	637	572	560	471	1%	11%	25
Crockett	112	102	84	101	0%	10%	76
Cumberland	624	639	515	440	1%	-2%	27
Davidson	9,784	10,622	10,398	10,052	13%	-8%	1
Decatur	74	73	75	64	0%	1%	85
DeKalb	227	209	186	138	0%	9%	50
Dickson	716	706	698	617	1%	1%	21
Dyer	295	309	295	280	0%	-5%	44
Fayette	700	661	622	526	1%	6%	22
Fentress	120	112	95	87	0%	7%	73
Franklin	388	358	328	297	0%	8%	39
Gibson	451	445	431	366	1%	1%	35
Giles	306	238	204	215	0%	29%	42
Grainger	154	151	126	122	0%	2%	65
Greene	502	463	481	426	1%	8%	32
Grundy	83	88	71	70	0%	-6%	83
Hamblen	696	608	600	512	1%	14%	23
Hamilton	4,674	4,951	4,839	4,262	6%	-6%	7
Hancock	28	30	21	27	0%	-7%	93
Hardeman	110	122	131	83	0%	-10%	77
Hardin	198	217	159	174	0%	-9%	53
Hawkins	459	486	411	386	1%	-6%	34
Haywood	106	84	91	80	0%	26%	79
Henderson	195	201	188	164	0%	-3%	55
Henry	187	220	198	205	0%	-15%	60
Hickman	210	192	192	185	0%	9%	52
Houston	53	75	66	47	0%	-29%	90
Humphreys	194	141	152	121	0%	38%	56
Jackson	84	82	63	52	0%	2%	82

HOME PURCHASE LOANS ORIGINATED

County	2018	2017	2016	2015	% of State Total (2018)	% Change from 2017	Rank in 2018
Jefferson	551	519	443	462	1%	6%	31
Johnson	90	48	66	51	0%	88%	81
Knox	7,063	7,160	6,870	6,003	8%	-1%	3
Lake	11	19	17	11	0%	-42%	96
Lauderdale	144	133	111	112	0%	8%	66
Lawrence	356	343	337	270	0%	4%	40
Lewis	96	89	62	51	0%	8%	80
Lincoln	410	311	313	248	0%	32%	37
Loudon	789	774	742	622	1%	2%	19
Macon	250	258	226	183	0%	-3%	45
Madison	1,093	1,068	965	829	1%	2%	15
Marion	236	229	175	166	0%	3%	47
Marshall	574	522	441	393	1%	10%	30
Maury	1,868	1,838	1,717	1,430	2%	2%	11
McMinn	460	463	459	381	1%	-1%	33
McNairy	185	180	169	152	0%	3%	61
Meigs	65	87	63	77	0%	-25%	88
Monroe	394	384	344	278	0%	3%	38
Montgomery	4,886	4,444	3,877	3,237	5%	10%	6
Moore	66	62	53	37	0%	6%	87
Morgan	126	105	90	110	0%	20%	71
Obion	178	178	163	156	0%	0%	62
Overton	132	121	91	90	0%	9%	69
Perry	28	31	17	12	0%	-10%	93
Pickett	20	17	7	12	0%	18%	95
Polk	109	103	96	82	0%	6%	78
Putnam	646	688	625	623	1%	-6%	24
Rhea	246	248	237	208	0%	-1%	46
Roane	594	525	495	407	1%	13%	28
Robertson	1,077	1,147	1,092	954	1%	-6%	16
Rutherford	5,871	5,969	6,054	5,199	7%	-2%	4
Scott	76	97	133	97	0%	-22%	84
Sequatchie	130	125	124	108	0%	4%	70
Sevier	922	1,024	984	846	1%	-10%	17
Shelby	8,393	8,158	7,817	6,901	10%	3%	2
Smith	234	229	186	168	0%	2%	49
Stewart	125	126	85	89	0%	-1%	72
Sullivan	1,729	1,744	1,592	1,530	2%	-1%	12
Sumner	3,226	3,597	3,409	3,077	4%	-10%	8
Tipton	748	659	590	485	1%	14%	20
Trousdale	119	118	87	84	0%	1%	74
Unicoi	133	142	137	99	0%	-6%	68
Union	197	196	149	134	0%	1%	54
Van Buren	32	33	35	23	0%	-3%	92

HOME PURCHASE LOANS ORIGINATED

County	2018	2017	2016	2015	% of State Total (2018)	% Change from 2017	Rank in 2018
Warren	301	272	250	215	0%	11%	43
Washington	1,508	1,624	1,499	1,408	2%	-7%	13
Wayne	62	53	55	42	0%	17%	89
Weakley	192	205	166	178	0%	-6%	58
White	236	222	204	200	0%	6%	47
Williamson	4,918	4,990	5,123	5,010	6%	-1%	5
Wilson	2,585	2,710	2,464	2,391	3%	-5%	9
NA	192	19	41	25	0%	911%	58
TENNESSEE	84,275	84,515	80,282	72,172	100%	0%	

REFINANCE LOANS ORIGINATED

	2018	2017	2016	2015	% of State Total (2018)	% Change from 2017	Rank in 2018
Anderson	398	449	606	548	1%	-11%	18
Bedford	314	321	349	275	1%	-2%	24
Benton	56	75	82	88	0%	-25%	79
Bledsoe	71	69	94	57	0%	3%	74
Blount	790	946	1,333	1,138	2%	-16%	10
Bradley	494	586	830	747	1%	-16%	16
Campbell	211	210	239	223	0%	0%	37
Cannon	95	106	116	99	0%	-10%	61
Carroll	94	124	151	129	0%	-24%	63
Carter	231	209	313	312	0%	11%	33
Cheatham	344	412	473	391	1%	-17%	20
Chester	77	76	117	99	0%	1%	73
Claiborne	115	117	124	115	0%	-2%	50
Clay	23	23	21	21	0%	0%	92
Cocke	85	131	151	134	0%	-35%	67
Coffee	304	332	350	326	1%	-8%	26
Crockett	38	59	80	72	0%	-36%	88
Cumberland	276	335	468	414	1%	-18%	30
Davidson	4,707	5,889	8,019	6,615	13%	-20%	1
Decatur	41	66	75	65	0%	-38%	86
DeKalb	81	99	103	106	0%	-18%	69
Dickson	412	437	474	432	1%	-6%	17
Dyer	112	151	209	193	0%	-26%	51
Fayette	222	327	459	378	1%	-32%	35
Fentress	69	57	91	77	0%	21%	75
Franklin	228	314	323	300	1%	-27%	34
Gibson	159	209	259	266	0%	-24%	44
Giles	134	127	188	139	0%	6%	46
Grainger	103	107	147	129	0%	-4%	57
Greene	317	381	444	373	1%	-17%	23
Grundy	100	106	79	75	0%	-6%	58
Hamblen	283	410	482	423	1%	-31%	29
Hamilton	1,914	2,154	3,129	2,773	5%	-11%	5
Hancock	12	27	16	21	0%	-56%	94
Hardeman	84	87	98	92	0%	-3%	68
Hardin	91	117	150	129	0%	-22%	64
Hawkins	264	308	354	361	1%	-14%	31
Haywood	90	103	91	82	0%	-13%	65
Henderson	106	161	183	145	0%	-34%	55
Henry	111	137	171	159	0%	-19%	52
Hickman	111	117	129	119	0%	-5%	52
Houston	38	36	55	46	0%	6%	88
Humphreys	96	100	105	115	0%	-4%	60
Jackson	38	43	56	55	0%	-12%	88

REFINANCE LOANS ORIGINATED

	2018	2017	2016	2015	% of State Total (2018)	% Change from 2017	Rank in 2018
Jefferson	285	269	396	376	1%	6%	28
Johnson	52	54	83	62	0%	-4%	81
Knox	2,422	3,090	4,517	4,045	7%	-22%	4
Lake	12	25	20	26	0%	-52%	94
Lauderdale	66	77	129	113	0%	-14%	76
Lawrence	191	179	238	201	0%	7%	39
Lewis	58	53	72	74	0%	9%	78
Lincoln	166	167	260	218	0%	-1%	42
Loudon	326	400	579	464	1%	-19%	21
Macon	117	135	132	105	0%	-13%	49
Madison	350	521	671	585	1%	-33%	19
Marion	186	233	210	191	1%	-20%	40
Marshall	232	259	267	200	1%	-10%	32
Maury	773	852	998	803	2%	-9%	11
McMinn	219	256	343	294	1%	-14%	36
McNairy	95	129	161	157	0%	-26%	61
Meigs	51	62	73	66	0%	-18%	83
Monroe	199	228	288	261	1%	-13%	38
Montgomery	1,027	1,404	2,157	1,820	3%	-27%	9
Moore	41	56	43	45	0%	-27%	86
Morgan	78	97	131	106	0%	-20%	72
Obion	111	141	143	153	0%	-21%	52
Overton	43	61	71	59	0%	-30%	85
Perry	18	25	26	28	0%	-28%	93
Pickett	12	17	20	26	0%	-29%	94
Polk	81	72	100	109	0%	13%	69
Putnam	323	350	471	429	1%	-8%	22
Rhea	145	172	218	196	0%	-16%	45
Roane	314	348	461	395	1%	-10%	24
Robertson	587	746	800	684	2%	-21%	13
Rutherford	2,702	3,299	3,995	3,338	7%	-18%	3
Scott	52	91	92	105	0%	-43%	81
Sequatchie	98	124	159	103	0%	-21%	59
Sevier	496	583	807	710	1%	-15%	15
Shelby	3,198	4,260	6,107	5,204	10%	-25%	2
Smith	104	118	116	117	0%	-12%	56
Stewart	60	82	99	91	0%	-27%	77
Sullivan	724	818	1,044	1,023	2%	-11%	12
Sumner	1,649	1,867	2,585	2,107	4%	-12%	7
Tipton	298	419	584	520	1%	-29%	27
Trousdale	55	62	58	44	0%	-11%	80
Unicoi	80	90	102	93	0%	-11%	71
Union	89	99	98	115	0%	-10%	66
Van Buren	32	47	34	37	0%	-32%	91

REFINANCE LOANS ORIGINATED

	2018	2017	2016	2015	% of State Total (2018)	% Change from 2017	Rank in 2018
Warren	164	181	216	210	0%	-9%	43
Washington	555	725	1,006	878	2%	-23%	14
Wayne	48	55	77	48	0%	-13%	84
Weakley	128	150	181	169	0%	-15%	47
White	118	161	145	130	0%	-27%	48
Williamson	1,896	2,696	4,604	3,668	6%	-30%	6
Wilson	1,193	1,497	2,084	1,729	3%	-20%	8
NA	172	12	39	17	0%	1333%	41
TENNESSEE	36,430	44,564	60,096	51,603	100%	-18%	

APPENDIX C

First Lien, Owner-Occupied, Home Purchase Loans Originated for 1-4 Family, Site-Built Dwellings by Loan Type, 2018

Owner-Occupied, Home Purchase Loans Originated, by County, 2018

County	Conventional	FHA	VA	FSA/RHS	ALL
Anderson	476	229	105	85	895
Bedford	249	172	51	156	628
Benton	55	21	14	26	116
Bledsoe	38	16	11	6	71
Blount	1,099	354	270	220	1,943
Bradley	672	387	140	70	1,269
Campbell	173	77	32	66	348
Cannon	71	34	15	24	144
Carroll	83	44	21	46	194
Carter	229	80	62	76	447
Cheatham	318	142	66	64	590
Chester	62	39	22	32	155
Claiborne	123	34	31	33	221
Clay	18	6	7	8	39
Cocke	76	49	31	20	176
Coffee	267	155	81	134	637
Crockett	45	35	9	23	112
Cumberland	322	96	130	76	624
Davidson	7,734	1,635	410	5	9,784
Decatur	34	17	9	14	74
DeKalb	104	60	21	42	227
Dickson	372	161	78	105	716
Dyer	114	57	30	94	295
Fayette	400	142	88	70	700
Fentress	48	16	26	30	120
Franklin	176	73	63	76	388
Gibson	174	127	56	94	451
Giles	121	85	40	60	306
Grainger	93	25	18	18	154
Greene	278	94	54	76	502
Grundy	44	22	8	9	83
Hamblen	327	201	81	87	696
Hamilton	3,170	990	396	118	4,674
Hancock	20	2	4	2	28
Hardeman	42	39	7	22	110
Hardin	69	44	19	66	198
Hawkins	252	80	51	76	459
Haywood	24	49	12	21	106
Henderson	75	42	21	57	195
Henry	101	22	35	29	187
Hickman	102	44	16	48	210
Houston	18	12	13	10	53

Owner-Occupied, Home Purchase Loans Originated, by County, 2018

County	Conventional	FHA	VA	FSA/RHS	ALL
Humphreys	74	47	30	43	194
Jackson	38	15	10	21	84
Jefferson	282	132	65	72	551
Johnson	53	13	16	8	90
Knox	4,713	1,505	633	212	7,063
Lake	1	2	3	5	11
Lauderdale	34	67	9	34	144
Lawrence	167	96	35	58	356
Lewis	41	15	20	20	96
Lincoln	182	94	50	84	410
Loudon	517	115	98	59	789
Macon	90	74	14	72	250
Madison	534	404	111	44	1,093
Marion	106	63	24	43	236
Marshall	279	145	52	98	574
Maury	1,150	497	159	62	1,868
McMinn	239	94	39	88	460
McNairy	77	42	20	46	185
Meigs	34	10	10	11	65
Monroe	194	84	47	69	394
Montgomery	1,054	1,112	2,680	40	4,886
Moore	35	13	10	8	66
Morgan	60	23	17	26	126
Obion	87	31	16	44	178
Overton	58	29	13	32	132
Perry	14	6	4	4	28
Pickett	10	2	5	3	20
Polk	54	24	11	20	109
Putnam	381	115	79	71	646
Rhea	113	51	39	43	246
Roane	319	117	84	74	594
Robertson	529	327	124	97	1,077
Rutherford	3,373	1,769	645	84	5,871
Scott	35	20	6	15	76
Sequatchie	69	26	19	16	130
Sevier	515	180	120	107	922
Shelby	5,014	2,485	833	61	8,393
Smith	133	54	19	28	234
Stewart	35	28	53	9	125
Sullivan	1,170	353	157	49	1,729
Sumner	1,902	825	331	168	3,226
Tipton	210	218	185	135	748

Owner-Occupied, Home Purchase Loans Originated, by County, 2018

County	Conventional	FHA	VA	FSA/RHS	ALL
Trousdale	57	37	7	18	119
Unicoi	65	30	15	23	133
Union	96	34	20	47	197
Van Buren	16	9	5	2	32
Warren	110	86	36	69	301
Washington	1,085	179	178	66	1,508
Wayne	27	14	7	14	62
Weakley	78	34	20	60	192
White	107	47	35	47	236
Williamson	4,248	399	249	22	4,918
Wilson	1,797	482	230	76	2,585
NA	125	37	22	8	192
TENNESSEE	50,054	18,719	10,373	5,129	84,275

APPENDIX D

Methodology for Determining Combined Race Categories

The 2015 HMDA Rule gave applicants the option to self-identify their race/ethnicity in disaggregated sub-categories and required financial institutions report this detail, where applicable. Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese and Other Asian are sub-categories under "Asian" race category. "Native Hawaiian and Pacific Islander" race category is disaggregated as Native Hawaiian, Guamanian or Chamorro, Samoan and Other Pacific Islander. "Hispanic or Latino" applicants can identify their ethnicity as Mexican, Puerto Rican, Cuban or Other Hispanic or Latino origin.

In this report, we identified and defined the racial groups in the following way using the syntax[56] provided for "derived race category" in reported data (these are combined race categories considering both applicant and co-applicant, if any, and all the racial groups, up to five, reported):

- White – Both applicant and co-applicant are white and no other race is reported, or the applicant is white and there is no co-applicant
- Minority Races (including American Indian, African-American, Asian and Native Hawaiian and Pacific Islander) – An applicant reports one of the minority races and the co-applicant is not White; or an applicant reports two races and one of them is one of the minority races and the other is White, that applicant is categorized under the minority race
- Two or more minorities (or multi-racial) – If applicant has more than one minority race in more than one of five data fields, and none of the co-applicant reported races is white
- Joint – If applicant has one or more minority race and co-applicant is White or if co-applicant has one or more minority race and applicant is White
- Race Not Available (Missing) – Race information for both applicant and co-applicant, if any, is reported as either "information not provided" or "not applicable."

We treated the borrower's ethnicity separately rather than combining as "race and ethnicity." According to our classification, a borrower is Hispanic or Latino if the applicant or co applicant is identified as Hispanic or Latino. If neither the applicant nor the co-applicant is Hispanic or Latino, then the borrower is categorized as not Hispanic or Latino. The information is missing if ethnicity is not provided or not applicable for both applicant and co-applicant, if there is any.

[56] https://github.com/cfpb/hmda-platform/wiki/Derived-Fields-Categorization

APPENDIX E

First-Lien, Owner-Occupied, 1-4 Family, Site-Built, *Home Purchase* Loans Originated by Race and County, 2018

County	White	Black	Asian	American Indian	Native Hawaiian	Joint	Race NA	TOTAL
Anderson	814	14	9	1	1	10	46	895
Bedford	550	32	5	2	1	8	29	627
Benton	106	0	2	1	0	2	5	116
Bledsoe	67	0	0	0	0	0	3	70
Blount	1,767	18	11	2	1	20	124	1,943
Bradley	1,140	33	15	3	2	11	65	1,269
Campbell	331	4	2	0	0	1	10	348
Cannon	130	1	0	0	0	1	12	144
Carroll	182	4	1	2	0	1	4	194
Carter	423	4	5	0	0	4	11	447
Cheatham	497	24	3	1	0	9	56	590
Chester	136	9	0	1	0	2	7	155
Claiborne	205	1	2	2	0	0	11	221
Clay	38	0	0	0	0	0	1	39
Cocke	160	2	0	1	0	0	13	176
Coffee	558	24	6	3	1	12	33	637
Crockett	96	7	1	0	0	0	8	112
Cumberland	583	3	2	0	2	2	32	624
Davidson	7,202	896	372	16	9	166	1,114	9,775
Decatur	70	1	2	1	0	0	0	74
DeKalb	202	2	1	0	0	2	20	227
Dickson	645	16	7	0	1	10	37	716
Dyer	262	20	5	1	0	3	4	295
Fayette	558	89	3	0	0	5	44	699
Fentress	109	0	0	0	0	2	8	119
Franklin	353	5	3	1	2	2	22	388
Gibson	386	32	5	1	0	6	21	451
Giles	270	15	4	1	0	0	16	306
Grainger	146	2	0	0	0	2	4	154
Greene	472	2	4	2	1	2	19	502
Grundy	77	0	1	0	0	0	5	83
Hamblen	630	14	9	1	1	6	35	696
Hamilton	3,884	277	94	13	5	73	326	4,672
Hancock	24	0	0	0	0	0	4	28
Hardeman	76	26	0	0	0	2	6	110
Hardin	185	0	1	0	0	1	11	198
Hawkins	432	5	2	0	0	1	19	459
Haywood	67	32	0	0	0	0	6	105
Henderson	179	7	0	1	0	1	7	195
Henry	177	5	0	0	0	0	5	187
Hickman	200	0	0	3	0	0	7	210
Houston	46	1	1	0	0	2	2	52
Humphreys	177	5	0	0	0	1	11	194
Jackson	80	1	0	0	0	0	3	84
Jefferson	518	1	3	0	0	3	26	551

County	White	Black	Asian	American Indian	Native Hawaiian	Joint	Race NA	TOTAL
Johnson	86	0	0	0	0	0	4	90
Knox	6,141	241	147	12	3	90	422	7,056
Lake	10	1	0	0	0	0	0	11
Lauderdale	109	27	2	1	0	0	5	144
Lawrence	326	6	4	0	0	1	19	356
Lewis	87	0	1	1	1	0	6	96
Lincoln	371	8	2	1	2	4	22	410
Loudon	719	5	2	4	1	9	49	789
Macon	241	3	0	0	0	2	4	250
Madison	796	206	12	2	2	18	54	1,090
Marion	209	9	0	0	0	3	15	236
Marshall	508	22	6	0	0	6	32	574
Maury	1,577	81	25	7	2	23	152	1,867
McMinn	410	13	1	1	0	3	32	460
McNairy	164	8	1	0	1	1	10	185
Meigs	61	0	0	0	0	0	4	65
Monroe	365	6	0	1	0	1	21	394
Montgomery	3,401	736	96	24	20	107	485	4,869
Moore	56	0	2	0	0	2	6	66
Morgan	118	0	0	0	0	1	7	126
Obion	170	4	0	0	1	0	3	178
Overton	121	1	0	1	0	2	6	131
Perry	23	0	0	1	0	0	4	28
Pickett	19	0	0	1	0	0	0	20
Polk	100	0	0	1	0	1	7	109
Putnam	569	12	8	0	0	10	46	645
Rhea	221	2	0	0	1	5	17	246
Roane	538	7	2	2	1	10	34	594
Robertson	916	55	8	0	1	11	86	1,077
Rutherford	4,360	671	202	6	7	118	499	5,863
Scott	70	1	0	1	0	2	2	76
Sequatchie	117	2	0	0	1	1	9	130
Sevier	831	5	7	4	1	11	61	920
Shelby	5,161	2,099	366	23	16	119	595	8,379
Smith	217	2	1	1	0	1	12	234
Stewart	119	0	0	1	0	0	5	125
Sullivan	1,593	22	12	5	0	18	79	1,729
Sumner	2,733	143	46	6	7	41	247	3,223
Tipton	632	57	6	0	0	9	44	748
Trousdale	106	5	0	0	0	1	7	119
Unicoi	127	0	0	0	1	1	4	133
Union	189	0	0	0	0	1	7	197
Van Buren	31	0	0	0	0	0	1	32
Warren	271	8	1	0	0	4	17	301
Washington	1,353	20	16	3	3	22	89	1,506

County	White	Black	Asian	American Indian	Native Hawaiian	Joint	Race NA	TOTAL
Wayne	56	0	0	1	0	1	4	62
Weakley	174	5	2	0	0	0	11	192
White	216	1	2	1	0	1	15	236
Williamson	3,898	95	264	4	4	74	577	4,916
Wilson	2,115	113	100	6	4	36	210	2,584
NA	157	14	10	0	0	1	10	192
Total	68,168	6,350	1,935	182	107	1,145	6,309	84,196

APPENDIX F

First-Lien, Owner-Occupied, 1-4 Family, Site-Built, *Refinance* Loans Originated by Race and County, 2018

County	White	Black	Asian	American Indian	Native Hawaiian	Joint	Race NA	TOTAL
Anderson	342	13	3	1	0	2	37	398
Bedford	265	12	0	1	0	3	33	314
Benton	50	0	0	0	0	1	5	56
Bledsoe	59	1	0	0	0	0	11	71
Blount	689	19	3	0	1	11	67	790
Bradley	427	17	2	1	0	4	43	494
Campbell	195	1	1	0	0	3	11	211
Cannon	83	1	0	0	0	0	11	95
Carroll	84	4	0	0	0	0	6	94
Carter	199	2	0	2	0	0	28	231
Cheatham	293	1	0	1	0	4	45	344
Chester	70	3	0	0	0	1	3	77
Claiborne	99	1	0	0	0	0	15	115
Clay	18	0	0	0	0	0	5	23
Cocke	76	0	0	0	0	0	9	85
Coffee	265	2	1	4	1	4	27	304
Crockett	30	2	0	0	0	0	6	38
Cumberland	232	1	2	0	0	3	37	275
Davidson	2,892	966	67	12	12	39	714	4,702
Decatur	39	0	0	0	0	0	2	41
DeKalb	67	1	0	0	0	0	13	81
Dickson	363	7	2	1	1	5	33	412
Dyer	99	6	0	0	0	1	6	112
Fayette	169	27	1	0	0	0	25	222
Fentress	62	0	0	1	0	0	6	69
Franklin	192	3	0	1	0	7	25	228
Gibson	137	14	0	1	0	0	7	159
Giles	109	7	0	2	0	3	13	134
Grainger	94	0	0	0	0	1	8	103
Greene	281	2	2	0	0	2	30	317
Grundy	95	0	0	0	0	0	5	100
Hamblen	257	4	1	0	0	0	21	283
Hamilton	1,485	174	20	4	3	14	214	1,914
Hancock	12	0	0	0	0	0	0	12
Hardeman	55	17	0	1	0	0	11	84
Hardin	78	1	1	1	0	0	10	91
Hawkins	245	0	0	0	0	1	18	264
Haywood	56	30	0	0	0	0	4	90
Henderson	91	4	0	0	0	2	9	106
Henry	96	2	0	1	0	0	12	111
Hickman	99	1	0	1	0	0	10	111
Houston	33	0	0	0	0	2	3	38
Humphreys	84	1	1	1	0	0	9	96
Jackson	31	0	0	0	0	1	6	38
Jefferson	256	3	2	0	0	2	22	285

County	White	Black	Asian	American Indian	Native Hawaiian	Joint	Race NA	TOTAL
Johnson	48	0	0	0	0	0	4	52
Knox	2,024	110	9	4	1	26	248	2,422
Lake	9	0	0	1	0	0	2	12
Lauderdale	50	13	0	0	0	0	3	66
Lawrence	165	0	1	2	0	2	21	191
Lewis	52	0	0	0	0	0	6	58
Lincoln	148	5	0	0	1	0	12	166
Loudon	279	4	3	0	0	3	37	326
Macon	109	1	0	0	0	1	6	117
Madison	239	74	0	0	2	3	32	350
Marion	171	2	0	0	0	1	12	186
Marshall	192	10	2	0	0	0	28	232
Maury	586	55	4	1	0	5	121	772
McMinn	192	6	0	0	0	1	20	219
McNairy	84	1	0	0	0	1	9	95
Meigs	46	0	0	0	0	0	5	51
Monroe	179	1	0	0	0	4	15	199
Montgomery	678	154	17	6	12	22	134	1,023
Moore	35	1	0	0	0	1	4	41
Morgan	73	0	0	0	0	0	5	78
Obion	102	2	0	0	0	1	6	111
Overton	36	0	0	0	0	0	7	43
Perry	17	0	0	0	0	0	1	18
Pickett	10	0	0	0	0	1	1	12
Polk	73	0	0	0	0	1	7	81
Putnam	284	1	2	0	0	3	33	323
Rhea	128	0	0	0	0	0	17	145
Roane	273	10	1	0	1	1	28	314
Robertson	485	17	1	1	1	7	74	586
Rutherford	2,005	265	51	13	1	39	323	2,697
Scott	49	0	0	0	0	0	3	52
Sequatchie	92	0	0	1	0	0	5	98
Sevier	423	2	5	2	1	3	59	495
Shelby	1,768	853	46	8	6	29	486	3,196
Smith	95	1	0	0	0	1	7	104
Stewart	56	1	0	0	0	0	3	60
Sullivan	628	14	2	0	1	4	75	724
Sumner	1,374	59	6	5	2	11	191	1,648
Tipton	228	28	0	1	0	3	37	297
Trousdale	53	1	0	0	0	0	1	55
Unicoi	69	0	0	1	0	2	8	80
Union	87	0	0	0	0	0	2	89
Van Buren	29	0	0	0	0	0	3	32
Warren	144	3	0	2	0	1	14	164
Washington	483	7	4	2	1	5	53	555

County	White	Black	Asian	American Indian	Native Hawaiian	Joint	Race NA	TOTAL
Wayne	40	1	0	0	0	0	7	48
Weakley	116	3	0	0	0	1	8	128
White	103	1	0	0	0	0	14	118
Williamson	1,514	59	40	3	1	16	263	1,896
Wilson	993	58	2	5	0	8	126	1,192
NA	123	11	1	0	0	2	34	171
TENNESSEE	28,192	3,184	306	95	49	325	4,255	36,406

APPENDIX G

Ratio of Non-Conventional Purchase Loan Borrowers in Total Borrowers by Race, 2018

County	White	Black	Asian	Joint	Race NA	Other Minority	ALL
Anderson	46.8%	64.3%	22.2%	40.0%	47.8%	50.0%	46.8%
Bedford	59.5%	71.9%	80.0%	87.5%	48.3%	100.0%	60.3%
Benton	52.8%	--	0.0%	50.0%	60.0%	100.0%	52.6%
Bledsoe	46.3%	--	--	--	33.3%	--	45.7%
Blount	43.4%	61.1%	27.3%	60.0%	40.3%	33.3%	43.4%
Bradley	47.3%	57.6%	20.0%	45.5%	43.1%	60.0%	47.0%
Campbell	50.5%	50.0%	0.0%	0.0%	60.0%	--	50.3%
Cannon	53.1%	100.0%	--	100.0%	16.7%	--	50.7%
Carroll	57.7%	50.0%	0.0%	100.0%	50.0%	50.0%	57.2%
Carter	48.5%	25.0%	40.0%	50.0%	72.7%	--	48.8%
Cheatham	44.9%	79.2%	33.3%	66.7%	41.1%	0.0%	46.1%
Chester	58.8%	77.8%	--	0.0%	85.7%	0.0%	60.0%
Claiborne	42.4%	100.0%	50.0%	--	63.6%	100.0%	44.3%
Clay	52.6%	--	--	--	100.0%	--	53.8%
Cocke	56.3%	100.0%	--	--	53.8%	100.0%	56.8%
Coffee	57.9%	87.5%	33.3%	50.0%	48.5%	50.0%	58.1%
Crockett	58.3%	100.0%	0.0%	--	50.0%	--	59.8%
Cumberland	48.7%	100.0%	50.0%	100.0%	34.4%	50.0%	48.4%
Davidson	17.9%	51.7%	13.4%	22.9%	18.2%	20.0%	20.9%
Decatur	55.7%	0.0%	0.0%	--	--	100.0%	54.1%
DeKalb	54.0%	100.0%	0.0%	50.0%	55.0%	--	54.2%
Dickson	49.1%	37.5%	14.3%	60.0%	35.1%	100.0%	48.0%
Dyer	60.3%	80.0%	40.0%	66.7%	50.0%	100.0%	61.4%
Fayette	39.6%	66.3%	0.0%	60.0%	36.4%	--	42.8%
Fentress	62.4%	--	--	50.0%	37.5%	--	60.5%
Franklin	56.1%	80.0%	33.3%	50.0%	36.4%	0.0%	54.6%
Gibson	61.7%	84.4%	0.0%	16.7%	52.4%	0.0%	61.4%
Giles	59.6%	86.7%	50.0%	--	50.0%	100.0%	60.5%
Grainger	39.0%	100.0%	--	100.0%	0.0%	--	39.6%
Greene	44.7%	50.0%	0.0%	50.0%	47.4%	66.7%	44.6%
Grundy	45.5%	--	0.0%	--	80.0%	--	47.0%
Hamblen	53.3%	78.6%	0.0%	50.0%	51.4%	50.0%	53.0%
Hamilton	29.6%	69.0%	13.8%	35.6%	35.9%	33.3%	32.2%
Hancock	33.3%	--	--	--	0.0%	--	28.6%
Hardeman	61.8%	73.1%	--	50.0%	16.7%	--	61.8%
Hardin	65.4%	--	0.0%	100.0%	63.6%	--	65.2%
Hawkins	44.9%	80.0%	0.0%	0.0%	47.4%	--	45.1%
Haywood	73.1%	93.8%	--	--	50.0%	--	78.1%
Henderson	60.3%	85.7%	--	100.0%	57.1%	100.0%	61.5%
Henry	45.2%	80.0%	--	--	40.0%	--	46.0%
Hickman	51.5%	--	--	--	42.9%	66.7%	51.4%
Houston	60.9%	100.0%	100.0%	100.0%	100.0%	--	65.4%
Humphreys	61.6%	80.0%	--	0.0%	63.6%	--	61.9%
Jackson	55.0%	100.0%	--	--	33.3%	--	54.8%
Jefferson	48.5%	100.0%	33.3%	100.0%	50.0%	--	48.8%

County	White	Black	Asian	Joint	Race NA	Other Minority	ALL
Johnson	39.5%	--	--	--	75.0%	--	41.1%
Knox	33.0%	53.9%	14.3%	43.3%	28.4%	53.3%	33.3%
Lake	90.0%	100.0%	--	--	--	--	90.9%
Lauderdale	73.4%	92.6%	50.0%	--	60.0%	100.0%	76.4%
Lawrence	54.0%	66.7%	0.0%	100.0%	42.1%	--	53.1%
Lewis	57.5%	--	100.0%	--	33.3%	100.0%	57.3%
Lincoln	55.3%	62.5%	50.0%	100.0%	50.0%	66.7%	55.6%
Loudon	34.9%	40.0%	50.0%	44.4%	22.4%	60.0%	34.5%
Macon	64.7%	66.7%	--	0.0%	50.0%	--	64.0%
Madison	45.2%	76.7%	8.3%	55.6%	46.3%	50.0%	51.0%
Marion	56.9%	55.6%	--	33.3%	33.3%	--	55.1%
Marshall	51.6%	77.3%	0.0%	33.3%	43.8%	--	51.4%
Maury	37.2%	61.7%	24.0%	43.5%	40.8%	22.2%	38.4%
McMinn	48.3%	61.5%	0.0%	33.3%	43.8%	0.0%	48.0%
McNairy	59.1%	62.5%	100.0%	0.0%	50.0%	0.0%	58.4%
Meigs	50.8%	--	--	--	0.0%	--	47.7%
Monroe	49.9%	83.3%	--	0.0%	61.9%	0.0%	50.8%
Montgomery	76.2%	89.0%	54.2%	86.0%	81.0%	86.4%	78.5%
Moore	51.8%	--	0.0%	0.0%	33.3%	--	47.0%
Morgan	50.8%	--	--	0.0%	85.7%	--	52.4%
Obion	50.6%	75.0%	--	--	33.3%	100.0%	51.1%
Overton	57.0%	0.0%	--	100.0%	16.7%	100.0%	55.7%
Perry	47.8%	--	--	--	50.0%	100.0%	50.0%
Pickett	52.6%	--	--	--	--	0.0%	50.0%
Polk	51.0%	--	--	0.0%	42.9%	100.0%	50.5%
Putnam	40.9%	66.7%	50.0%	60.0%	28.3%	--	40.9%
Rhea	52.9%	100.0%	--	100.0%	52.9%	0.0%	54.1%
Roane	46.1%	71.4%	0.0%	30.0%	47.1%	100.0%	46.3%
Robertson	48.8%	83.6%	50.0%	90.9%	47.7%	0.0%	50.9%
Rutherford	38.6%	66.0%	31.7%	55.1%	45.9%	61.5%	42.5%
Scott	51.4%	100.0%	--	100.0%	50.0%	100.0%	53.9%
Sequatchie	43.6%	100.0%	--	100.0%	66.7%	100.0%	46.9%
Sevier	44.4%	60.0%	14.3%	90.9%	36.1%	40.0%	44.2%
Shelby	30.5%	70.0%	12.0%	39.5%	37.1%	41.0%	40.2%
Smith	42.9%	100.0%	0.0%	100.0%	41.7%	0.0%	43.2%
Stewart	71.4%	--	--	--	80.0%	100.0%	72.0%
Sullivan	32.4%	50.0%	8.3%	44.4%	26.6%	40.0%	32.3%
Sumner	40.0%	64.3%	23.9%	53.7%	40.5%	38.5%	41.0%
Tipton	71.4%	75.4%	50.0%	88.9%	75.0%	--	71.9%
Trousdale	50.9%	100.0%	--	100.0%	28.6%	--	52.1%
Unicoi	51.2%	--	--	0.0%	50.0%	100.0%	51.1%
Union	51.3%	--	--	0.0%	57.1%	--	51.3%
Van Buren	51.6%	--	--	--	0.0%	--	50.0%
Warren	63.1%	87.5%	0.0%	50.0%	64.7%	--	63.5%
Washington	28.2%	30.0%	12.5%	31.8%	25.8%	66.7%	28.1%

County	White	Black	Asian	Joint	Race NA	Other Minority	ALL
Wayne	53.6%	--	--	100.0%	75.0%	100.0%	56.5%
Weakley	59.2%	80.0%	0.0%	--	63.6%	--	59.4%
White	53.2%	100.0%	0.0%	0.0%	80.0%	100.0%	54.7%
Williamson	13.7%	24.2%	3.8%	20.3%	14.6%	50.0%	13.6%
Wilson	31.0%	52.2%	10.0%	27.8%	23.3%	50.0%	30.5%
NA	32.5%	85.7%	10.0%	0.0%	30.0%	--	34.9%
TENNESSEE	38.9%	67.9%	17.1%	46.3%	36.7%	53.3%	40.6%

APPENDIX H

Home Purchase Loan Denial Rates, By County and Race, 2018

County	Asian	Black	White	Other Minority	Multi-Racial	Missing	ALL APPLICANTS
Anderson	18.2%	17.6%	9.0%	33.3%	7.7%	25.0%	10.3%
Bedford	44.4%	19.0%	8.5%	40.0%	0.0%	23.1%	10.4%
Benton	0.0%	--	11.5%	0.0%	33.3%	16.7%	11.9%
Bledsoe	--	100.0%	19.5%	50.0%	--	57.1%	23.7%
Blount	15.4%	20.8%	6.6%	33.3%	4.5%	13.8%	7.4%
Bradley	20.0%	12.8%	8.8%	16.7%	8.3%	17.5%	9.6%
Campbell	0.0%	42.9%	15.5%	--	0.0%	47.4%	17.2%
Cannon	--	0.0%	9.9%	--	0.0%	20.0%	10.7%
Carroll	0.0%	33.3%	13.3%	0.0%	0.0%	50.0%	14.8%
Carter	0.0%	0.0%	11.7%	100.0%	20.0%	42.1%	12.8%
Cheatham	20.0%	3.8%	10.1%	0.0%	10.0%	9.4%	9.9%
Chester	--	25.0%	5.9%	0.0%	0.0%	20.0%	7.9%
Claiborne	0.0%	0.0%	16.8%	0.0%	--	31.3%	17.3%
Clay	--	--	19.6%	--	--	0.0%	19.2%
Cocke	--	33.3%	11.1%	0.0%	100.0%	7.1%	11.5%
Coffee	14.3%	7.4%	9.7%	20.0%	7.7%	10.5%	9.8%
Crockett	0.0%	0.0%	11.5%	--	100.0%	20.0%	12.0%
Cumberland	33.3%	0.0%	12.1%	33.3%	0.0%	17.5%	12.4%
Davidson	11.8%	17.1%	6.8%	10.7%	8.2%	8.0%	8.3%
Decatur	0.0%	0.0%	12.0%	50.0%	--	100.0%	13.5%
DeKalb	50.0%	0.0%	9.7%	--	50.0%	0.0%	9.7%
Dickson	27.3%	5.9%	8.7%	0.0%	9.1%	18.4%	9.5%
Dyer	0.0%	16.7%	8.1%	0.0%	0.0%	28.6%	8.9%
Fayette	25.0%	8.9%	4.2%	--	0.0%	18.2%	5.9%
Fentress	--	--	12.1%	--	0.0%	0.0%	11.3%
Franklin	0.0%	37.5%	10.5%	0.0%	60.0%	21.4%	12.1%
Gibson	0.0%	20.0%	11.3%	0.0%	14.3%	30.0%	12.9%
Giles	16.7%	25.0%	11.3%	50.0%	100.0%	5.3%	12.5%
Grainger	--	0.0%	14.4%	--	0.0%	42.9%	15.1%
Greene	20.0%	0.0%	12.3%	0.0%	0.0%	20.0%	12.5%
Grundy	0.0%	--	18.1%	--	--	16.7%	17.9%
Hamblen	10.0%	12.5%	10.1%	0.0%	33.3%	10.3%	10.4%
Hamilton	8.3%	18.9%	8.6%	9.5%	2.7%	16.9%	9.9%
Hancock	--	--	21.2%	--	--	0.0%	18.4%
Hardeman	100.0%	20.0%	16.2%	--	0.0%	12.5%	17.2%
Hardin	0.0%	--	12.8%	100.0%	0.0%	15.4%	13.2%
Hawkins	33.3%	0.0%	14.7%	100.0%	0.0%	16.0%	14.8%
Haywood	--	23.3%	11.7%	--	--	14.3%	15.7%
Henderson	--	0.0%	9.0%	0.0%	0.0%	22.2%	9.1%
Henry	--	16.7%	15.8%	100.0%	--	50.0%	17.6%
Hickman	--	--	12.8%	0.0%	--	25.0%	13.2%
Houston	0.0%	0.0%	15.5%	--	0.0%	0.0%	14.1%
Humphreys	--	0.0%	9.0%	--	0.0%	14.3%	9.1%
Jackson	--	0.0%	17.0%	--	--	40.0%	17.9%
Jefferson	0.0%	66.7%	13.1%	--	0.0%	17.1%	13.4%

County	Asian	Black	White	Other Minority	Multi-Racial	Missing	ALL APPLICANTS
Johnson	--	--	18.8%	--	--	33.3%	19.5%
Knox	8.7%	14.1%	6.9%	16.7%	11.3%	8.9%	7.4%
Lake	--	0.0%	21.4%	--	--	--	20.0%
Lauderdale	0.0%	15.2%	8.7%	0.0%	--	14.3%	10.0%
Lawrence	42.9%	12.5%	13.0%	--	0.0%	4.8%	13.1%
Lewis	50.0%	--	9.0%	33.3%	--	14.3%	10.7%
Lincoln	0.0%	0.0%	9.0%	0.0%	0.0%	7.7%	8.6%
Loudon	0.0%	0.0%	9.6%	16.7%	10.0%	15.9%	10.0%
Macon	--	50.0%	9.9%	--	0.0%	33.3%	11.1%
Madison	25.0%	14.2%	5.7%	0.0%	9.5%	14.3%	8.2%
Marion	--	25.0%	16.5%	100.0%	0.0%	16.7%	17.0%
Marshall	0.0%	15.4%	7.9%	--	11.1%	16.3%	8.7%
Maury	16.7%	13.3%	8.0%	0.0%	13.8%	12.2%	8.8%
McMinn	50.0%	22.2%	13.2%	50.0%	42.9%	11.9%	14.0%
McNairy	0.0%	16.7%	11.9%	0.0%	0.0%	0.0%	11.4%
Meigs	--	--	18.8%	--	--	0.0%	17.9%
Monroe	--	0.0%	13.0%	0.0%	50.0%	28.1%	14.0%
Montgomery	10.7%	14.1%	8.3%	12.0%	7.7%	12.2%	9.7%
Moore	0.0%	--	11.9%	--	0.0%	12.5%	11.4%
Morgan	--	100.0%	15.4%	--	0.0%	11.1%	15.6%
Obion	100.0%	0.0%	14.4%	0.0%	--	50.0%	15.4%
Overton	--	0.0%	8.1%	0.0%	0.0%	0.0%	7.5%
Perry	--	--	22.2%	0.0%	--	0.0%	19.5%
Pickett	--	--	0.0%	0.0%	--	--	0.0%
Polk	--	--	13.9%	0.0%	0.0%	25.0%	14.7%
Putnam	11.1%	7.1%	7.2%	100.0%	0.0%	13.0%	7.7%
Rhea	--	33.3%	14.3%	0.0%	0.0%	0.0%	13.3%
Roane	0.0%	10.0%	9.5%	0.0%	15.4%	21.7%	10.3%
Robertson	0.0%	14.9%	7.5%	0.0%	15.4%	6.3%	7.8%
Rutherford	11.3%	12.6%	6.9%	17.6%	9.7%	11.0%	8.2%
Scott	--	0.0%	14.4%	0.0%	0.0%	50.0%	15.2%
Sequatchie	--	33.3%	15.4%	0.0%	0.0%	18.2%	15.7%
Sevier	50.0%	37.5%	12.8%	28.6%	15.4%	22.2%	14.2%
Shelby	5.3%	16.0%	4.7%	11.4%	3.2%	15.9%	8.7%
Smith	0.0%	0.0%	10.7%	0.0%	0.0%	0.0%	10.0%
Stewart	--	--	16.1%	0.0%	--	37.5%	17.0%
Sullivan	25.0%	17.2%	10.5%	16.7%	10.0%	22.6%	11.4%
Sumner	9.4%	12.9%	6.9%	0.0%	14.3%	10.4%	7.5%
Tipton	0.0%	17.6%	6.2%	0.0%	9.1%	9.8%	7.4%
Trousdale	--	0.0%	9.9%	--	0.0%	0.0%	8.9%
Unicoi	--	--	14.1%	0.0%	0.0%	0.0%	13.6%
Union	--	--	12.0%	--	0.0%	20.0%	12.3%
Van Buren	--	--	17.9%	--	--	66.7%	21.4%
Warren	50.0%	27.3%	11.6%	--	0.0%	29.2%	13.5%
Washington	32.0%	16.0%	7.3%	0.0%	8.0%	8.7%	7.8%

County	Asian	Black	White	Other Minority	Multi-Racial	Missing	ALL APPLICANTS
Wayne	--	100.0%	16.2%	0.0%	0.0%	0.0%	17.1%
Weakley	0.0%	14.3%	10.2%	--	--	15.4%	10.5%
White	0.0%	0.0%	8.6%	0.0%	0.0%	16.7%	9.0%
Williamson	9.4%	16.7%	5.7%	33.3%	8.3%	7.4%	6.5%
Wilson	11.0%	17.2%	6.1%	8.3%	7.5%	13.1%	7.5%
NA	12.5%	41.2%	19.9%	50.0%	42.9%	39.7%	24.8%
TENNESSEE	10.9%	15.8%	8.3%	14.6%	9.2%	12.9%	9.4%

APPENDIX I

Refinance Loan Denial Rates, By County and Race, 2018

County	Asian	Black	White	Other Minority	Multi-Racial	Missing	ALL APPLICANTS
Anderson	0.0%	50.0%	30.4%	50.0%	50.0%	30.9%	31.3%
Bedford	100.0%	44.4%	25.7%	66.7%	0.0%	26.7%	27.2%
Benton	--	--	35.0%	--	50.0%	37.5%	35.6%
Bledsoe	--	0.0%	30.7%	100.0%	100.0%	38.9%	34.2%
Blount	0.0%	38.2%	25.8%	80.0%	15.4%	34.6%	27.1%
Bradley	40.0%	43.8%	33.1%	50.0%	20.0%	52.1%	35.7%
Campbell	0.0%	0.0%	26.8%	100.0%	0.0%	50.0%	28.3%
Cannon	--	0.0%	31.1%	--	0.0%	21.4%	29.7%
Carroll	--	28.6%	32.5%	100.0%	--	33.3%	33.3%
Carter	--	40.0%	32.4%	33.3%	100.0%	28.2%	32.4%
Cheatham	100.0%	66.7%	26.2%	66.7%	33.3%	27.4%	27.3%
Chester	--	66.7%	29.5%	--	50.0%	62.5%	34.7%
Claiborne	100.0%	33.3%	35.2%	100.0%	--	34.8%	35.8%
Clay	--	--	35.7%	--	--	37.5%	36.1%
Cocke	--	100.0%	42.4%	--	--	60.9%	45.7%
Coffee	0.0%	66.7%	27.8%	16.7%	0.0%	18.2%	27.1%
Crockett	--	50.0%	40.7%	--	--	45.5%	42.3%
Cumberland	0.0%	50.0%	33.1%	--	33.3%	32.1%	32.9%
Davidson	40.2%	35.8%	24.7%	40.9%	28.1%	31.2%	28.7%
Decatur	--	--	37.5%	--	--	71.4%	40.8%
DeKalb	--	0.0%	34.3%	--	--	31.6%	33.6%
Dickson	0.0%	57.9%	24.1%	0.0%	0.0%	31.3%	25.3%
Dyer	--	45.5%	36.3%	--	50.0%	57.1%	38.5%
Fayette	50.0%	51.7%	27.6%	100.0%	100.0%	39.0%	33.7%
Fentress	--	--	38.8%	0.0%	--	33.3%	38.1%
Franklin	100.0%	33.3%	27.0%	0.0%	30.0%	28.6%	27.6%
Gibson	--	53.1%	27.0%	0.0%	--	65.0%	33.3%
Giles	--	50.0%	24.2%	33.3%	40.0%	43.5%	29.0%
Grainger	--	--	29.5%	--	0.0%	30.8%	29.4%
Greene	0.0%	50.0%	33.7%	100.0%	0.0%	37.5%	34.7%
Grundy	--	--	17.9%	--	--	44.4%	19.8%
Hamblen	0.0%	73.3%	34.3%	0.0%	100.0%	53.2%	37.3%
Hamilton	45.2%	51.3%	29.2%	61.1%	44.4%	39.6%	33.8%
Hancock	--	--	45.8%	--	--	--	45.8%
Hardeman	--	50.0%	20.8%	0.0%	100.0%	35.3%	31.7%
Hardin	0.0%	0.0%	33.6%	50.0%	--	47.4%	35.2%
Hawkins	--	100.0%	36.3%	--	50.0%	43.8%	37.2%
Haywood	--	36.0%	21.9%	--	--	37.5%	28.2%
Henderson	100.0%	42.9%	23.6%	--	66.7%	43.8%	28.7%
Henry	--	77.8%	35.7%	50.0%	--	40.9%	38.4%
Hickman	100.0%	0.0%	36.0%	50.0%	--	41.2%	36.8%
Houston	--	100.0%	40.0%	100.0%	0.0%	50.0%	42.4%
Humphreys	0.0%	50.0%	25.2%	66.7%	100.0%	18.2%	26.3%
Jackson	--	--	37.7%	100.0%	50.0%	33.3%	38.5%
Jefferson	0.0%	55.6%	31.9%	100.0%	0.0%	45.7%	33.9%

County	Asian	Black	White	Other Minority	Multi-Racial	Missing	ALL APPLICANTS
Johnson	--	--	29.0%	--	--	33.3%	29.3%
Knox	54.5%	44.0%	26.1%	58.3%	31.0%	34.0%	28.4%
Lake	--	100.0%	37.5%	0.0%	--	50.0%	40.9%
Lauderdale	--	39.1%	37.2%	100.0%	--	62.5%	39.8%
Lawrence	0.0%	--	26.0%	0.0%	0.0%	27.6%	25.7%
Lewis	--	100.0%	26.0%	100.0%	--	14.3%	27.7%
Lincoln	100.0%	37.5%	30.1%	0.0%	100.0%	40.0%	31.9%
Loudon	25.0%	0.0%	28.0%	--	0.0%	41.8%	29.5%
Macon	--	0.0%	26.8%	100.0%	0.0%	33.3%	27.3%
Madison	--	47.7%	27.3%	60.0%	50.0%	44.1%	35.2%
Marion	--	66.7%	28.5%	100.0%	0.0%	36.8%	30.1%
Marshall	0.0%	35.3%	18.6%	--	--	36.4%	21.8%
Maury	33.3%	46.7%	24.3%	75.0%	37.5%	27.6%	27.3%
McMinn	--	45.5%	33.3%	100.0%	66.7%	40.0%	34.8%
McNairy	--	75.0%	32.3%	50.0%	0.0%	57.1%	36.6%
Meigs	--	--	36.6%	100.0%	--	16.7%	36.0%
Monroe	--	66.7%	28.9%	--	16.7%	40.7%	30.1%
Montgomery	46.9%	50.2%	34.4%	50.0%	40.5%	43.5%	39.3%
Moore	100.0%	0.0%	32.1%	--	0.0%	42.9%	33.3%
Morgan	--	--	35.8%	--	--	37.5%	35.9%
Obion	--	66.7%	28.3%	--	0.0%	57.1%	31.8%
Overton	--	--	42.0%	100.0%	--	50.0%	44.0%
Perry	--	100.0%	32.1%	--	--	66.7%	37.5%
Pickett	--	--	23.1%	--	0.0%	50.0%	25.0%
Polk	--	--	38.3%	100.0%	0.0%	50.0%	39.7%
Putnam	60.0%	60.0%	30.2%	--	40.0%	38.6%	31.9%
Rhea	100.0%	--	32.1%	100.0%	--	45.2%	34.5%
Roane	0.0%	33.3%	25.8%	50.0%	33.3%	36.2%	27.2%
Robertson	0.0%	43.3%	25.3%	66.7%	36.4%	26.4%	26.5%
Rutherford	27.8%	38.0%	23.6%	42.3%	35.5%	31.2%	26.7%
Scott	--	--	37.2%	--	--	62.5%	39.4%
Sequatchie	--	--	23.4%	0.0%	--	44.4%	24.6%
Sevier	44.4%	66.7%	38.5%	40.0%	50.0%	41.7%	39.3%
Shelby	33.3%	53.2%	25.3%	46.2%	41.2%	44.7%	38.8%
Smith	--	0.0%	22.9%	--	0.0%	46.2%	24.7%
Stewart	--	0.0%	28.7%	0.0%	--	25.0%	28.0%
Sullivan	66.7%	41.7%	32.0%	80.0%	20.0%	42.0%	33.7%
Sumner	50.0%	37.9%	23.8%	22.2%	15.4%	27.5%	24.9%
Tipton	100.0%	51.6%	29.6%	50.0%	33.3%	36.7%	33.7%
Trousdale	--	50.0%	19.4%	100.0%	--	75.0%	24.1%
Unicoi	--	100.0%	22.3%	50.0%	0.0%	38.5%	25.0%
Union	--	--	21.1%	--	--	33.3%	21.4%
Van Buren	--	--	31.1%	--	--	0.0%	29.2%
Warren	--	25.0%	29.2%	0.0%	50.0%	36.4%	29.7%
Washington	0.0%	61.9%	30.9%	50.0%	44.4%	43.8%	33.2%

County	Asian	Black	White	Other Minority	Multi-Racial	Missing	ALL APPLICANTS
Wayne	--	50.0%	33.8%	--	--	30.0%	33.8%
Weakley	--	50.0%	28.2%	--	0.0%	37.5%	29.4%
White	100.0%	0.0%	31.6%	100.0%	--	40.0%	33.7%
Williamson	25.5%	30.0%	20.2%	0.0%	10.0%	29.5%	22.0%
Wilson	42.9%	44.6%	22.6%	16.7%	33.3%	32.8%	25.4%
NA	0.0%	67.5%	37.9%	100.0%	33.3%	34.4%	41.0%
TENNESSEE	37.1%	45.5%	27.5%	50.3%	33.5%	36.4%	31.0%

Appendix J

Construction Type: First-Lien, Owner-Occupied, Home Purchase Loans Originations for 1-4 Family Homes, 2018

County	Site-built	Manufactured	Total Home Purchase	Manufactured % of All Purchase	Denial Rate (Site-built)	Denial Rate (Manufactured)
Anderson	895	65	960	6.8%	10.3%	59.1%
Bedford	628	27	655	4.1%	10.4%	45.3%
Benton	116	17	133	12.8%	11.9%	53.7%
Bledsoe	71	21	92	22.8%	23.5%	46.7%
Blount	1,943	97	2,040	4.8%	7.4%	55.9%
Bradley	1,269	61	1,330	4.6%	9.6%	53.2%
Campbell	348	48	396	12.1%	17.2%	60.1%
Cannon	144	25	169	14.8%	10.7%	37.7%
Carroll	194	24	218	11.0%	14.8%	50.0%
Carter	447	48	495	9.7%	12.8%	59.0%
Cheatham	590	32	622	5.1%	9.9%	41.4%
Chester	155	14	169	8.3%	7.9%	56.4%
Claiborne	221	62	283	21.9%	17.3%	57.0%
Clay	39	5	44	11.4%	19.2%	46.2%
Cocke	176	51	227	22.5%	11.5%	59.1%
Coffee	637	31	668	4.6%	9.8%	54.5%
Crockett	112	5	117	4.3%	12.0%	66.7%
Cumberland	624	52	676	7.7%	12.4%	60.1%
Davidson	9,784	49	9,833	0.5%	8.3%	31.6%
Decatur	74	9	83	10.8%	13.5%	33.3%
DeKalb	227	27	254	10.6%	9.7%	44.6%
Dickson	716	67	783	8.6%	9.5%	33.3%
Dyer	295	10	305	3.3%	8.9%	55.9%
Fayette	700	19	719	2.6%	5.9%	61.8%
Fentress	120	18	138	13.0%	11.2%	51.1%
Franklin	388	11	399	2.8%	12.1%	54.8%
Gibson	451	23	474	4.9%	12.9%	56.2%
Giles	306	23	329	7.0%	12.5%	63.2%
Grainger	154	52	206	25.2%	15.1%	55.5%
Greene	502	116	618	18.8%	12.5%	46.7%
Grundy	83	24	107	22.4%	17.9%	48.4%
Hamblen	696	33	729	4.5%	10.4%	44.3%
Hamilton	4,674	71	4,745	1.5%	9.9%	61.3%
Hancock	28	9	37	24.3%	18.4%	53.6%
Hardeman	110	19	129	14.7%	17.2%	56.7%
Hardin	198	18	216	8.3%	13.2%	47.2%
Hawkins	459	76	535	14.2%	14.8%	48.1%
Haywood	106	16	122	13.1%	15.6%	61.0%
Henderson	195	25	220	11.4%	9.1%	45.1%
Henry	187	35	222	15.8%	17.6%	45.6%
Hickman	210	41	251	16.3%	13.2%	42.2%

County	Site-built	Manufactured	Total Home Purchase	Manufactured % of All Purchase	Denial Rate (Site-built)	Denial Rate (Manufactured)
Houston	53	15	68	22.1%	13.8%	37.5%
Humphreys	194	24	218	11.0%	9.1%	34.9%
Jackson	84	18	102	17.6%	17.9%	58.8%
Jefferson	551	118	669	17.6%	13.4%	43.7%
Johnson	90	9	99	9.1%	19.5%	67.7%
Knox	7,063	133	7,196	1.8%	7.4%	62.0%
Lake	11	1	12	8.3%	20.0%	77.8%
Lauderdale	144	15	159	9.4%	10.0%	63.4%
Lawrence	356	34	390	8.7%	13.1%	53.6%
Lewis	96	18	114	15.8%	10.7%	42.1%
Lincoln	410	21	431	4.9%	8.6%	37.5%
Loudon	789	43	832	5.2%	10.0%	52.2%
Macon	250	31	281	11.0%	11.1%	43.8%
Madison	1,093	28	1,121	2.5%	8.2%	46.2%
Marion	236	31	267	11.6%	17.0%	56.4%
Marshall	574	32	606	5.3%	8.7%	30.8%
Maury	1,868	79	1,947	4.1%	8.8%	39.7%
McMinn	460	78	538	14.5%	14.0%	59.0%
McNairy	185	23	208	11.1%	11.4%	54.8%
Meigs	65	33	98	33.7%	17.9%	64.0%
Monroe	394	83	477	17.4%	14.0%	56.2%
Montgomery	4,886	38	4,924	0.8%	9.7%	58.2%
Moore	66	4	70	5.7%	11.4%	40.0%
Morgan	126	31	157	19.7%	15.6%	64.7%
Obion	178	20	198	10.1%	15.4%	42.1%
Overton	132	14	146	9.6%	7.4%	63.3%
Perry	28	12	40	30.0%	19.5%	57.1%
Pickett	20	6	26	23.1%	0.0%	36.4%
Polk	109	32	141	22.7%	14.7%	55.4%
Putnam	646	20	666	3.0%	7.7%	58.2%
Rhea	246	28	274	10.2%	13.3%	59.3%
Roane	594	75	669	11.2%	10.3%	52.6%
Robertson	1,077	48	1,125	4.3%	7.8%	36.8%
Rutherford	5,871	91	5,962	1.5%	8.2%	56.9%
Scott	76	29	105	27.6%	15.2%	66.7%
Sequatchie	130	25	155	16.1%	15.7%	44.0%
Sevier	922	102	1,024	10.0%	14.2%	56.4%
Shelby	8,393	8	8,401	0.1%	8.8%	69.4%
Smith	234	53	287	18.5%	10.0%	30.0%
Stewart	125	29	154	18.8%	17.0%	38.2%
Sullivan	1,729	89	1,818	4.9%	11.4%	46.0%

County	Site-built	Manufactured	Total Home Purchase	Manufactured % of All Purchase	Denial Rate (Site-built)	Denial Rate (Manufactured)
Sumner	3,226	86	3,312	2.6%	7.5%	41.4%
Tipton	748	31	779	4.0%	7.4%	44.0%
Trousdale	119	13	132	9.8%	8.9%	50.0%
Unicoi	133	12	145	8.3%	13.6%	50.0%
Union	197	42	239	17.6%	12.3%	57.3%
Van Buren	32	12	44	27.3%	21.4%	45.5%
Warren	301	26	327	8.0%	13.5%	51.6%
Washington	1,508	79	1,587	5.0%	7.9%	44.9%
Wayne	62	10	72	13.9%	17.1%	50.0%
Weakley	192	11	203	5.4%	10.5%	60.0%
White	236	24	260	9.2%	9.0%	70.0%
Williamson	4,918	9	4,927	0.2%	6.5%	51.6%
Wilson	2,585	99	2,684	3.7%	7.5%	41.6%
NA	192	58	250	23.2%	24.9%	84.3%
TENNESSEE	84,275	3,609	87,884	4.1%	9.4%	60.2%

APPENDIX K

Methodology for Estimating THDA Eligible Borrowers to calculate THDA's Market Share

To compare similar loan products between THDA and those within the HMDA data set, we limited the HMDA loans to those with borrowers meeting the income limits and the maximum purchase price THDA borrowers paid. HMDA does not require all lenders to report mortgage information, so the data may not represent a complete inventory of loans made, especially in small rural counties. Additionally, THDA loan eligibility is subject to income and purchase price limits, and in more than half of the state's counties, loan eligibility is limited to first time homebuyers.[57] Therefore, some assumptions are made.

THDA eligible borrowers are defined as first time homebuyers with income less than or equal to THDA's income limit for the county they are purchasing their homes with a price less than or equal to the maximum price THDA borrowers paid in the county. Since majority of THDA loans funded in the recent years are FHA-insured, only FHA-insured THDA loans are compared to FHA-insured loans originated in the market.

In the HMDA data, institutions report the loan amounts rather than the purchase prices. This complicates determining the mortgage borrowers who could be eligible for THDA loans. Therefore, in this version, the purchase price of the homes was estimated by assuming that borrowers paid four percent of the reported loan amount as downpayment. A four percent downpayment may be considered low, especially for conventional loans, but considering there are zero or low downpayment loan products such as FSA/RHS and FHA insured loans and borrowers may use private mortgage insurance (PMI) and pay less than 20 percent downpayment, four percent is a good average for an estimated downpayment. We compared this estimated purchase price to the maximum price THDA borrowers paid during the year in each county. In the counties where THDA did not fund any loan, we used the median sales price in the county for all sales during year from Comptroller's.

To determine the eligibility based on the income limits, THDA's income limits for a small family (households with one to two people) were used. HMDA data do not include the number of people in the household. This might underestimate number of THDA eligible borrowers.

HMDA data do not indicate whether or not a borrower was a first-time homebuyer. Since majority of THDA borrowers are first-time homebuyers, we used the estimates provided in the US Department of Housing and Urban Development's Annual reports to Congress on financial status of FHA mortgage insurance fund[58]. For example, in 2018, the report estimates 82.69 percent of borrowers who used FHA-insured loans were first-time homebuyers.

Although there is not a first time homebuyer indicator in HMDA, the percent of FHA-insured loan borrowers who are first-time homebuyer is estimated in the US Department of Housing and Urban Development (HUD) Annual Reports to Congress about financial status of FHA Mortgage Insurance

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[57] First-time homeownership requirement is waived in the fully targeted economically distressed counties and qualified census tracts in addition to the Veterans who are using THDA loan products.
[58] Annual reports for various fiscal years can be found at https://www.hud.gov/fhammifrpt

Funds.[59] All told, this means that the loan counts used are likely to under/overestimate THDA's participation in the market. Despite these limitations, this is a useful comparison to examine our loan market participation.

In the previous years, we excluded the manufactured home loans originated from the pool of eligible loans. However, the borrowers who purchased a manufactured home are part of THDA's portfolio of originated loans. To make our comparison more realistic, we changed our calculations to include the manufactured home purchase loans in the eligible loan portfolio. THDA only finances manufactured homes that are considered real property, which are loans secured by both home and land. Manufactured home loans secured by *only* manufactured homes and *not* secured by land are known as "chattel" loans, which were not possible to identify until the 2018 HMDA data. The 2015 HMDA Rule made it possible to differentiate them. Therefore, in 2018, our THDA eligible loans include manufactured homes, but excludes the chattel loans.

[59] Annual reports for various fiscal years can be found at https://www.hud.gov/fhammifrpt

Appendix L

THDA's Market Share in Single Family FHA-Insured Loan Originations, 2018

County	THDA Eligible FHA-Insured Loans 2018	THDA Eligible FHA-Insured Loans 2017	FHA-Insured First Time THDA Borrowers 2018	FHA-Insured First Time THDA Borrowers 2017	THDA's Market Share in FHA-Insured Loans Market 2018	THDA's Market Share in FHA-Insured Loans Market 2017
Anderson	229	180	69	61	36.44%	41.23%
Bedford	130	59	17	8	15.81%	16.50%
Benton	1	6	1	0	100.00%	0.00%
Bledsoe	16	4	0	0	0.00%	0.00%
Blount	325	216	52	24	19.35%	13.52%
Bradley	327	251	134	97	49.56%	47.01%
Campbell	86	28	12	5	16.87%	21.72%
Cannon	28	28	5	8	21.60%	34.76%
Carroll	37	10	6	2	19.61%	24.33%
Carter	79	38	15	4	22.96%	12.81%
Cheatham	96	136	19	12	23.93%	10.73%
Chester	36	9	6	1	20.16%	13.52%
Claiborne	41	24	2	2	5.90%	10.14%
Clay	1	0	0	0	0.00%	NA
Cocke	54	40	19	16	42.55%	48.66%
Coffee	117	80	16	11	16.54%	16.73%
Crockett	30	20	6	8	24.19%	48.66%
Cumberland	74	51	10	7	16.34%	16.70%
Davidson	1,494	1,657	352	293	28.49%	21.51%
Decatur	16	1	2	0	15.12%	0.00%
DeKalb	60	33	14	4	28.22%	14.75%
Dickson	127	125	23	11	21.90%	10.71%
Dyer	29	8	1	3	4.17%	45.62%
Fayette	96	61	10	10	12.60%	19.94%
Fentress	7	3	0	1	0.00%	40.55%
Franklin	40	44	8	7	24.19%	19.35%
Gibson	120	47	11	7	11.09%	18.12%
Giles	19	45	2	4	12.73%	10.81%
Grainger	25	26	6	8	29.02%	37.43%
Greene	97	84	25	19	31.17%	27.52%
Grundy	2	7	0	1	0.00%	17.38%
Hamblen	168	86	72	24	51.83%	33.95%
Hamilton	787	652	192	164	29.50%	30.60%
Hancock	1	1	0	0	0.00%	0.00%
Hardeman	10	16	1	2	12.09%	15.21%
Hardin	8	13	1	1	15.12%	9.36%
Hawkins	68	53	13	6	23.12%	13.77%
Haywood	50	23	19	11	45.95%	58.18%
Henderson	27	10	2	1	8.96%	12.17%

County	THDA Eligible FHA-Insured Loans		FHA-Insured First Time THDA Borrowers		THDA's Market Share in FHA-Insured Loans Market	
	2018	2017	2018	2017	2018	2017
Henry	13	6	6	1	55.82%	20.28%
Hickman	27	50	8	4	35.83%	9.73%
Houston	3	12	1	4	40.31%	40.55%
Humphreys	32	10	9	2	34.01%	24.33%
Jackson	21	6	2	0	11.52%	0.00%
Jefferson	155	94	33	16	25.75%	20.71%
Johnson	2	8	1	1	60.47%	15.21%
Knox	1,367	1,115	472	319	41.76%	34.81%
Lake	0	1	0	0	NA	0.00%
Lauderdale	66	49	35	17	64.13%	42.21%
Lawrence	82	4	3	1	4.42%	30.41%
Lewis	8	2	0	1	0.00%	60.83%
Lincoln	41	23	3	1	8.85%	5.29%
Loudon	87	65	22	7	30.58%	13.10%
Macon	75	28	14	4	22.57%	17.38%
Madison	379	311	161	108	51.37%	42.25%
Marion	40	12	10	2	30.23%	20.28%
Marshall	88	74	12	12	16.49%	19.73%
Maury	448	383	71	51	19.17%	16.20%
McMinn	93	72	16	17	20.81%	28.72%
McNairy	27	18	2	2	8.96%	13.52%
Meigs	11	8	3	4	32.98%	60.83%
Monroe	70	75	24	6	41.46%	9.73%
Montgomery	1,034	595	329	226	38.48%	46.21%
Moore	6	2	0	0	0.00%	0.00%
Morgan	19	15	3	2	19.09%	16.22%
Obion	21	5	3	0	17.28%	0.00%
Overton	18	10	1	1	6.72%	12.17%
Perry	2	6	0	2	0.00%	40.55%
Pickett	2	1	1	0	60.47%	0.00%
Polk	22	12	5	2	27.48%	20.28%
Putnam	55	51	2	4	4.40%	9.54%
Rhea	36	52	18	9	60.47%	21.06%
Roane	127	65	15	8	14.28%	14.97%
Robertson	301	251	80	44	32.14%	21.33%
Rutherford	1,676	1,476	354	293	25.54%	24.15%
Scott	4	5	1	2	30.23%	48.66%
Sequatchie	2	22	2	4	100.00%	22.12%
Sevier	174	78	25	6	17.38%	9.36%
Shelby	2,095	1,430	526	340	30.36%	28.92%

County	THDA Eligible FHA-Insured Loans		FHA-Insured First Time THDA Borrowers		THDA's Market Share in FHA-Insured Loans Market	
	2018	2017	2018	2017	2018	2017
Smith	54	26	16	5	35.83%	23.40%
Stewart	14	16	4	3	34.55%	22.81%
Sullivan	327	251	94	63	34.76%	30.53%
Sumner	743	634	159	95	25.88%	18.23%
Tipton	200	108	19	7	11.49%	7.89%
Trousdale	22	10	7	1	38.48%	12.17%
Unicoi	29	15	15	4	62.55%	32.44%
Union	12	19	3	4	30.23%	25.61%
Van Buren	5	4	2	2	48.37%	60.83%
Warren	77	29	29	21	45.55%	88.09%
Washington	147	132	31	25	25.50%	23.04%
Wayne	1	0	0	0	0.00%	NA
Weakley	28	21	3	2	12.96%	11.59%
White	39	33	7	1	21.71%	3.69%
Williamson	225	134	15	15	8.06%	13.62%
Wilson	415	329	58	28	16.90%	10.35%
TENNNESSEE	16,025	12,438	3,878	2,642	29.27%	25.84%