A LOOK BEHIND THE NUMBERS

Home Lending in Franklin County Neighborhoods

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KEY FINDINGS

Loan application and origination activity peaked in 2003 but plummeted as the Great Recession set in. By 2008, application and origination activity dropped by 67 percent (nearly 76,000) and 72 percent (more than 58,000), respectively.

Prior to 2008, loan application rates were highest in low- and moderate-income (LMI) neighborhoods, but after that year, the order flipped. Middle- and high-income neighborhoods saw more erratic changes primarily driven by refinance activity, while application rates in LMI neighborhoods remained depressed, with a slight uptick until 2013.

Origination rates across all neighborhood income groups jumped an average 11 percentage points in 2009 and since then have seen further increases notwithstanding a decline in 2011. From 2014 to 2016, that increase ranged from 6 percentage points in low-income neighborhoods to 2 percentage points in high-income neighborhoods.

Homeowners living in high-income neighborhoods were increasingly able to take advantage of lower interest rates, and the share of refinance loans in high-income neighborhoods increased 34 percentage points from 2005 to 2011. In 2016, the share remained at 53 percent.

The rate of home purchase loans per 1,000 households declined for all race and income groups following the Great Recession (2005 versus 2010), but for black borrowers, the decline was steeper.

Looking at the purchasing differences by race in another way, we find that while black people accounted for 23 percent of Franklin County's population in 2016, they accounted for only 11 percent of the home purchases. Conversely, white people accounted for 69 percent of the county's population but 89 percent of all home purchases.

OVERVIEW

In this series of reports, we examine home lending activity in some of the largest counties of the Fourth Federal Reserve District[1] using Home Mortgage Disclosure Act (HMDA) data. Enacted in 1975, the HMDA requires most mortgage lending institutions to report annually on their home mortgage lending activity via specific data that can be useful in identifying whether the institutions are meeting the housing finance needs of communities in which they operate.[2] By law, lenders must provide information on the disposition of applications, including loan purpose and type, applicant income and race, and the geographic location of applications and originations. This rich dataset of application and loan-level data, which is distributed by the Federal Financial Institutions Examination Council (FFIEC), allows us to track application and origination trends across time and by neighborhood income group.

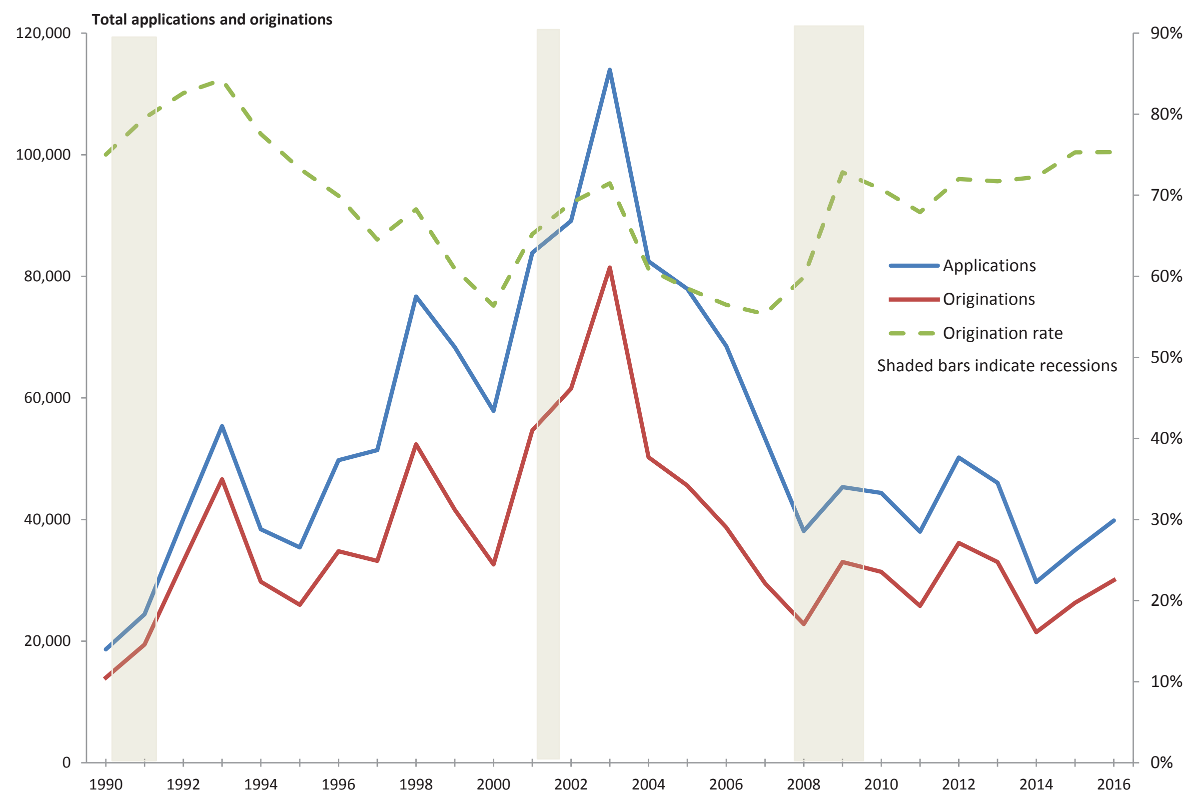
This report focuses on Franklin County, home to the city of Columbus, Ohio, and takes a broad look at application and origination activity during the past 27 years (1990 to 2016), and then delves into trends during the 13-year period from 2004 to 2016. Using maps and a series of figures and tables, we tell the story of mortgage lending during these periods from both the neighborhood and borrower perspectives.

THE PAST 27 YEARS

Since 1990, no single year in Franklin County had more application and origination activity than 2003, with more than 110,000 applications and nearly 82,000 originations during that year (*Figure 1*). From that peak in 2003 through the depths of the Great Recession in 2008, application and origination volumes dropped sharply by 67 percent and 72 percent, respectively.

Origination rate—the share of loan applications approved by the lender and accepted by the borrower—peaked at 84 percent in 1993 but declined to 71 percent in 2003 as application volume surged. With the start of the Great Recession, the origination rate saw a low of 55 percent in 2007. Following a 13 percentage point jump between 2008 and 2009, the origination rate has been moderately increasing through 2015 and was at 75 percent in 2016.

Figure 1: Franklin County Application and Origination Activity



Source: Home Mortgage Disclosure Act (HMDA) data; includes applications and originations for owner-occupied, 1- to 4-family structures.
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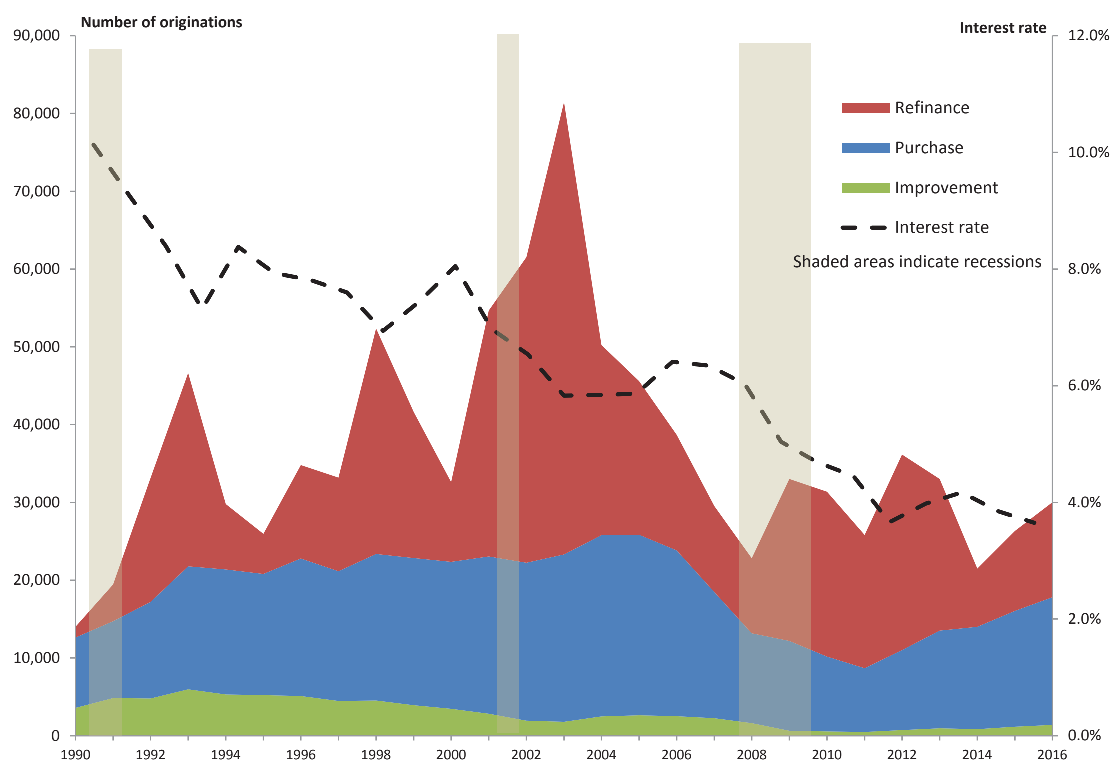
Figure 2 sheds light on what was driving the trends in origination volume by categorizing the loans by loan purpose: home purchase, home refinance, and home improvement. Peaks in origination volume were driven by high levels of refinance activity. For example, more than 58,000 refinances occurred in 2003, accounting for 71 percent of total originations. Another point made clear in *Figure 2* is that refinance activity is much more volatile than home purchase activity. Comparing the ratio of highest to lowest origination volume during the 27-year period can illustrate that. For home purchases, volume in 2004 was nearly three times higher than it was in 2011, while refinance volume was lowest in 1990 and increased to 43 times that figure at its peak in 2003.

When looking at home purchase originations by loan type, conventional loans make up the majority, averaging 65 percent of all home purchase originations during the 27-year period. However, Federal Housing Administration (FHA) loans make up a sizeable share that has changed quite a bit over time. From 1990 to the start of the Great Recession in 2007, FHA loans comprised a shrinking share of total home purchase originations, decreasing from 41 percent to 15 percent. In 2008, as conventional lending standards tightened, FHA loans nearly tripled to 43 percent; they have since declined to 28 percent in 2016.

Figure 2: Franklin County Originations by Loan Purpose



Sources: Home Mortgage Disclosure Act (HMDA) data and Freddie Mac Primary Mortgage Market Survey data (conventional, conforming 30-year, fixed-rate mortgages); originations for owner-occupied, 1- to 4-family structures.
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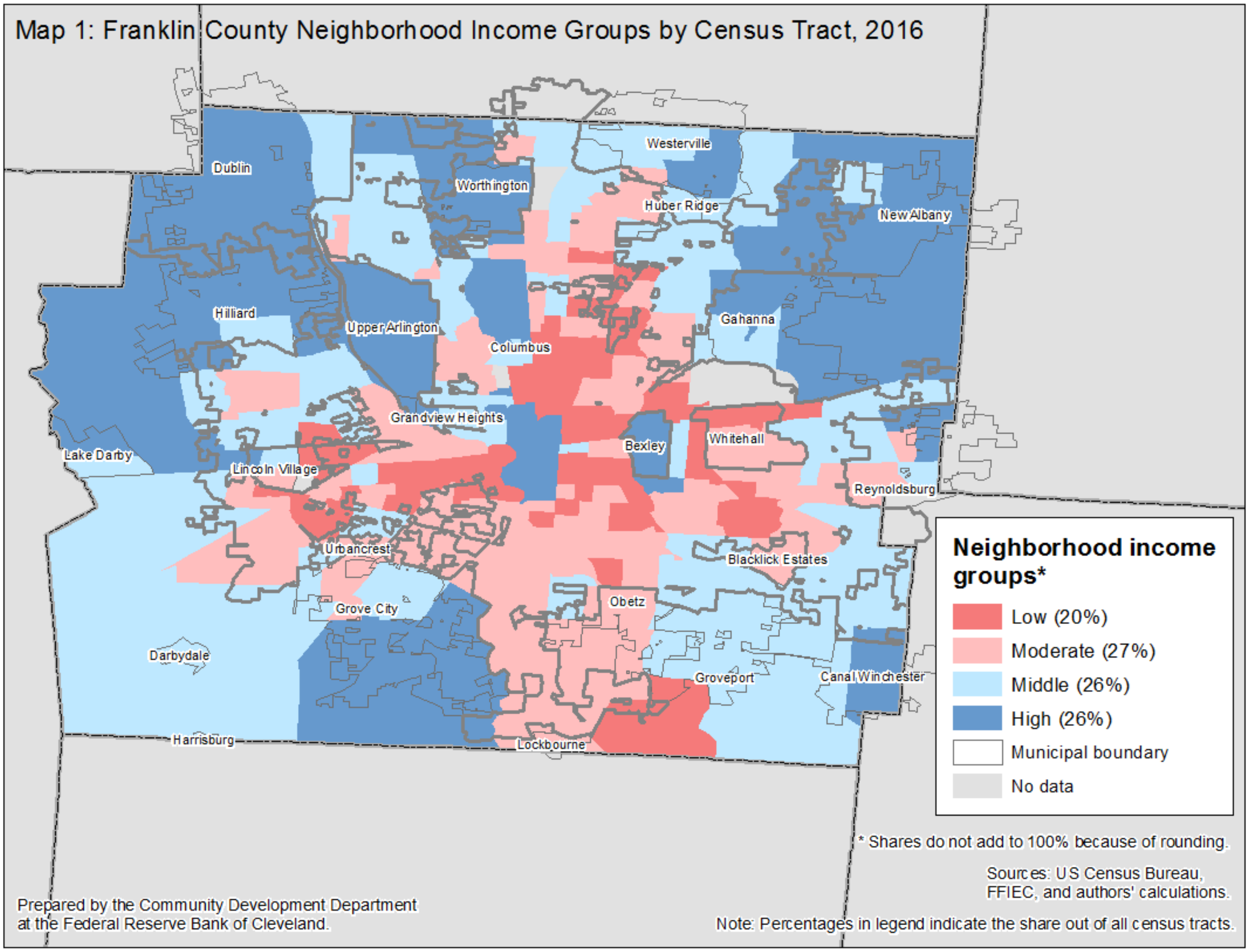
FRANKLIN COUNTY MAP OF INCOME GROUPS

Map 1 shows the geographic distribution of income groups across Franklin County in 2016 by census tract (a tract is also referred to as a "neighborhood"). These groups are calculated by dividing the census tract's median family income by the median family income of the MSA. A slight majority of census tracts in the county (52 percent) are considered middle- and high-income.



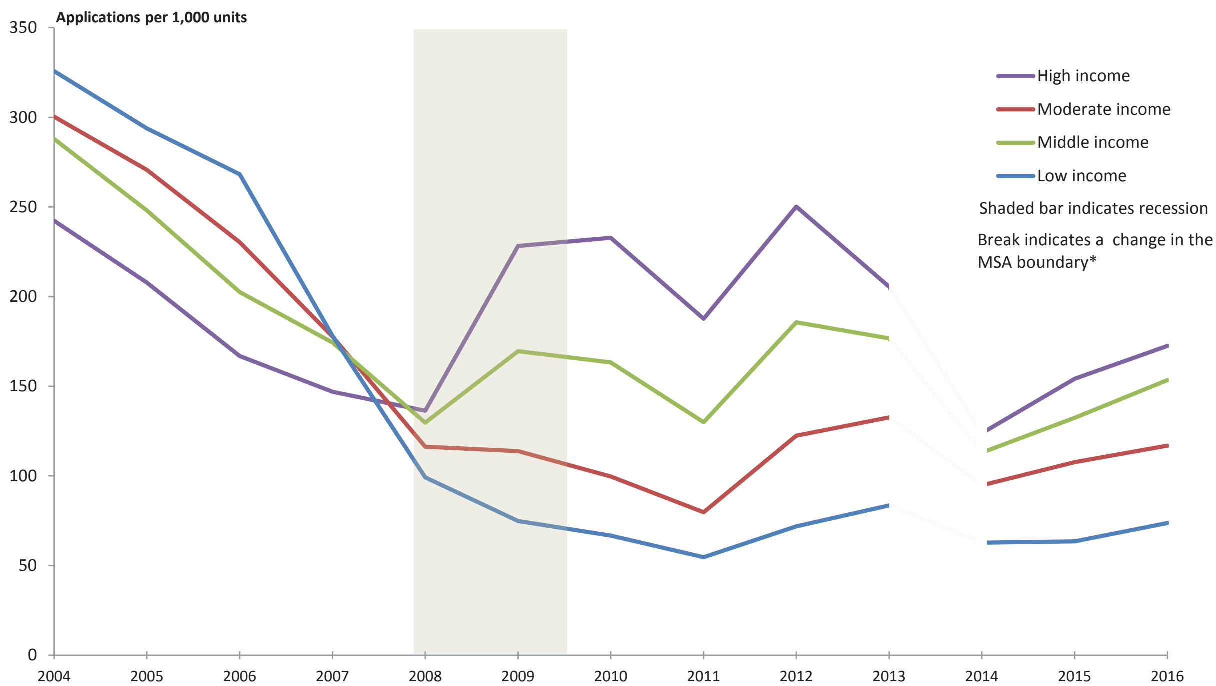
A CLOSER LOOK AT NEIGHBORHOOD INCOME GROUPS BY APPLICATIONS

In order to compare loan applications across time and income groups, we calculate *application rate*—the number of applications per 1,000 owner-occupied housing units. This allows us to control for neighborhood size.

Importantly, the Columbus MSA boundary changed in 2013—Hocking and Perry Counties were added to the MSA—and the new boundary was in effect beginning with the 2014 HMDA data. This change may impact the comparability of the neighborhood and borrower income groups before and after the boundary revision because the MSA income is used to calculate the neighborhood and borrower income groups. To better understand the potential impact of the boundary change, we estimated the MSA median family in consistent boundaries using interpolation methods and compared it to MSA median family income in the current boundaries. Between the MSA median family income in the new boundary (2013) and our estimated income, we found about a 2 percent difference; this suggests the boundary revision may have minimal impact on the neighborhood income groupings. Nonetheless, caution should be used when comparing pre-2014 data to the most recent data (2014 through 2016).

From 2004 to 2007, application rates for all neighborhood income groups followed similar downward trajectories, and in each of those years, low-income neighborhoods had the highest application rate in the county (*Figure 3*). These two trends were seen similarly in the nation. The year 2008 marked a more obvious divergence in loan application activity: Middle- and high-income neighborhoods saw more erratic changes primarily driven by refinance activity—changes that coincided with falling interest rates—while application rates in LMI neighborhoods remained more depressed. Since 2010, application rates in all Franklin County neighborhood income groups have been higher than national application rates except for those in low-income neighborhoods.

Figure 3: Franklin County Loan Applications per 1,000 Owner-Occupied Units by Neighborhood Income Group



Sources: Home Mortgage Disclosure Act (HMDA) data and US Census Bureau; applications for first-lien, owner-occupied, 1- to 4-family units.
*The Columbus MSA boundary change was in effect with the 2014 HMDA. Given the MSA median family income is used in calculating borrower and neighborhood income groups, caution should be used when comparing pre-2014 data to the most recent data (2014 through 2016).
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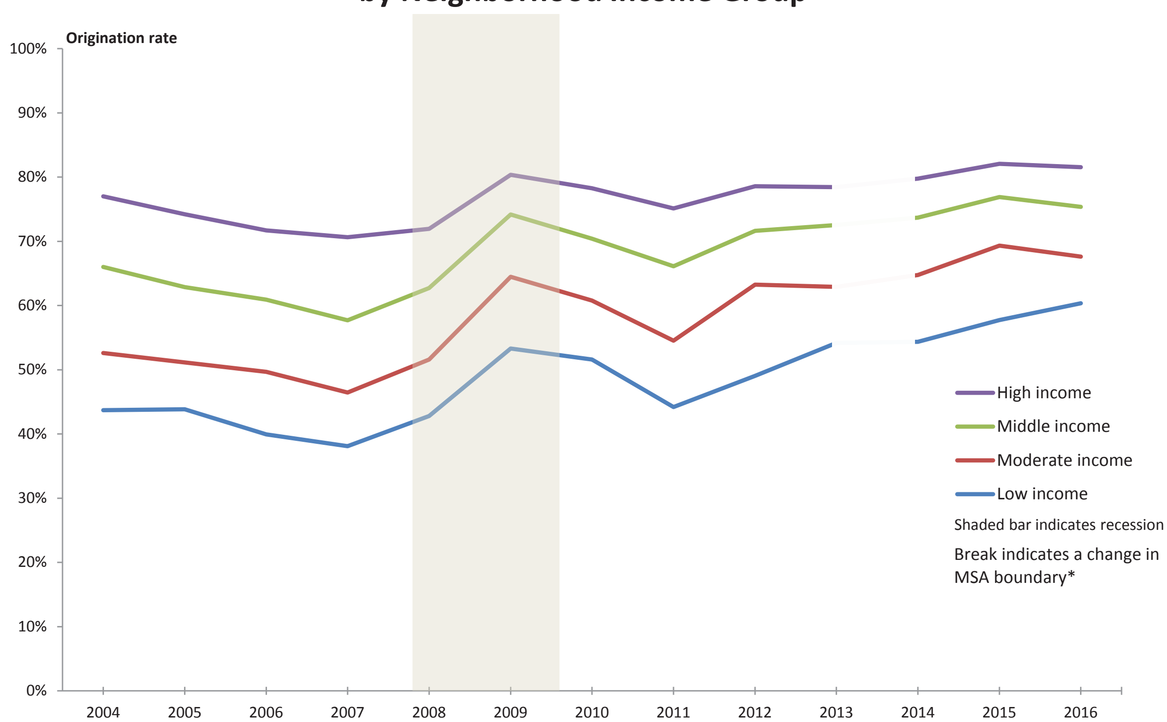
A CLOSER LOOK AT ORIGINATIONS BY NEIGHBORHOOD INCOME GROUPS

When looking at origination rates (*Figure 4*) in the years leading up to and during the early stages of the Great Recession (2004–2008), we see the rates decline in all neighborhood income groups by an average of 3 percentage points. Following a sharp increase in 2009 (11 percentage points on average), all neighborhood income groups through 2015 have seen rate increases ranging from 2 percentage points in high-income neighborhoods to 5 percentage points in moderate-income neighborhoods notwithstanding a decline in 2011. Of note, 2015 marked the highpoint in origination rates for all neighborhood income groups except low-income neighborhoods, which peaked in 2016.

Table 1 takes a closer look at origination rates and categorizes them by loan type and neighborhood income group for three years: 2005, or two years before the Great Recession; 2010, or the year immediately following the Great Recession; and 2016, the most recent year available. Note, there was a change in the MSA boundary, so 2016 cannot be directly compared to earlier years in the table.

The origination rate for home purchases tend to be significantly higher than those for refinances. This is particularly true in low-income neighborhoods, where, in 2016, the home purchase origination rate was 77 percent, while that for refinances was 44 percent (a difference of 33 percentage points). In high-income neighborhoods, the home purchase origination rate was 89 percent, while that for refinances was 74 percent (a difference of 15 percentage points).

Figure 4: Franklin County Origination Rates by Neighborhood Income Group



Sources: Home Mortgage Disclosure Act (HMDA) data and US Census Bureau; originations for first-lien, owner-occupied, 1- to 4- family structures.
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Table 1: Franklin County Origination Rates by Loan Purpose and Neighborhood Income Group, percent

	2005		2010		2016*	
	Home purchase	Refinance	Home purchase	Refinance	Home purchase	Refinance
Low income	57.5	37.6	67.4	45.8	76.6	43.9
Moderate income	68.9	41.7	73.9	54.3	79.8	54.7
Middle income	77.7	51.4	79.9	66.4	85.2	64.5
High income	82.7	65.2	82.2	77.0	89.3	73.7

Sources: Home Mortgage Disclosure Act (HMDA) data and US Census Bureau; includes purchase and refinance originations for first-lien, owner-occupied, 1- to 4-family units.

*The Columbus MSA boundary change was in effect beginning with the 2014 HMDA data. Given the MSA median family income is used in calculating borrower and neighborhood income groups, caution should be used when comparing the pre-2014 to the most recent data (2014–2016).

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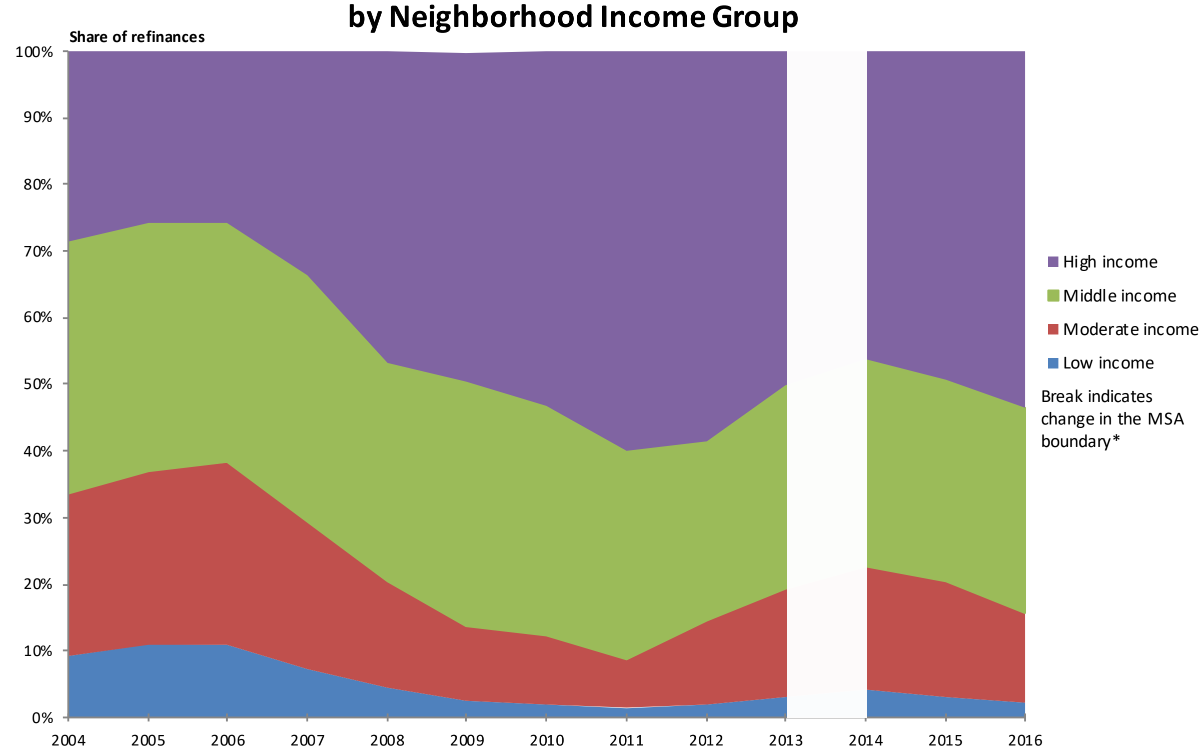
A CLOSER LOOK AT ORIGINATIONS BY INCOME GROUPS AND LOAN PURPOSE

Refinance activity in LMI neighborhoods peaked in 2006 at 38 percent, while the share in middle- and high-income neighborhoods peaked in 2011 at 91 percent (*Figure 5*). During the 13-year period (2004–2016), we see an interesting trend when comparing the share of refinances occurring in Franklin County's LMI to that share in the nation. Prior to the Great Recession (2004–2008), shares of refinances occurring in Franklin County LMI neighborhoods were more than double the national rate, but post-Great Recession (2010–2016), the average share was only 1.3 times the national share.

One dynamic to consider when trying to understand what may have influenced higher refinance rates in middle- and high-income neighborhoods is the county's home price index. When using 2000 as the base year, we see that nationally, home prices increased 51 percent from 2000 to 2007, declined 32 percent by 2012, and grew 25 percent during the following five years (2012–2016). During that same period of marked volatility in housing activity (2000–2016), Franklin County home prices saw a more modest decline of 14 percent (2006–2012), but home prices have since surpassed that decline by increasing 22 percent during the next five years (2012–2016).[3]

Figure 5: Share of Refinance Loans in Franklin County by Neighborhood Income Group



Sources: Home Mortgage Disclosure Act (HMDA) data and US Census Bureau; refinance originations for first-lien, owner-occupied, 1- to 4-family structures.
*The Columbus MSA boundary change was in effect beginning with the 2014 HMDA data. Given the MSA median family income is used in calculating borrower and neighborhood income groups, caution should be used when comparing the pre-2014 data to the most recent data (2014 through 2016).
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Map 2 shows the percent change in refinances before (2004–2006) and after (2009–2011) the Great Recession. As shown, refinancing activity decreased in neighborhoods to the north and west of the downtown core, as well as the southeast quadrant.

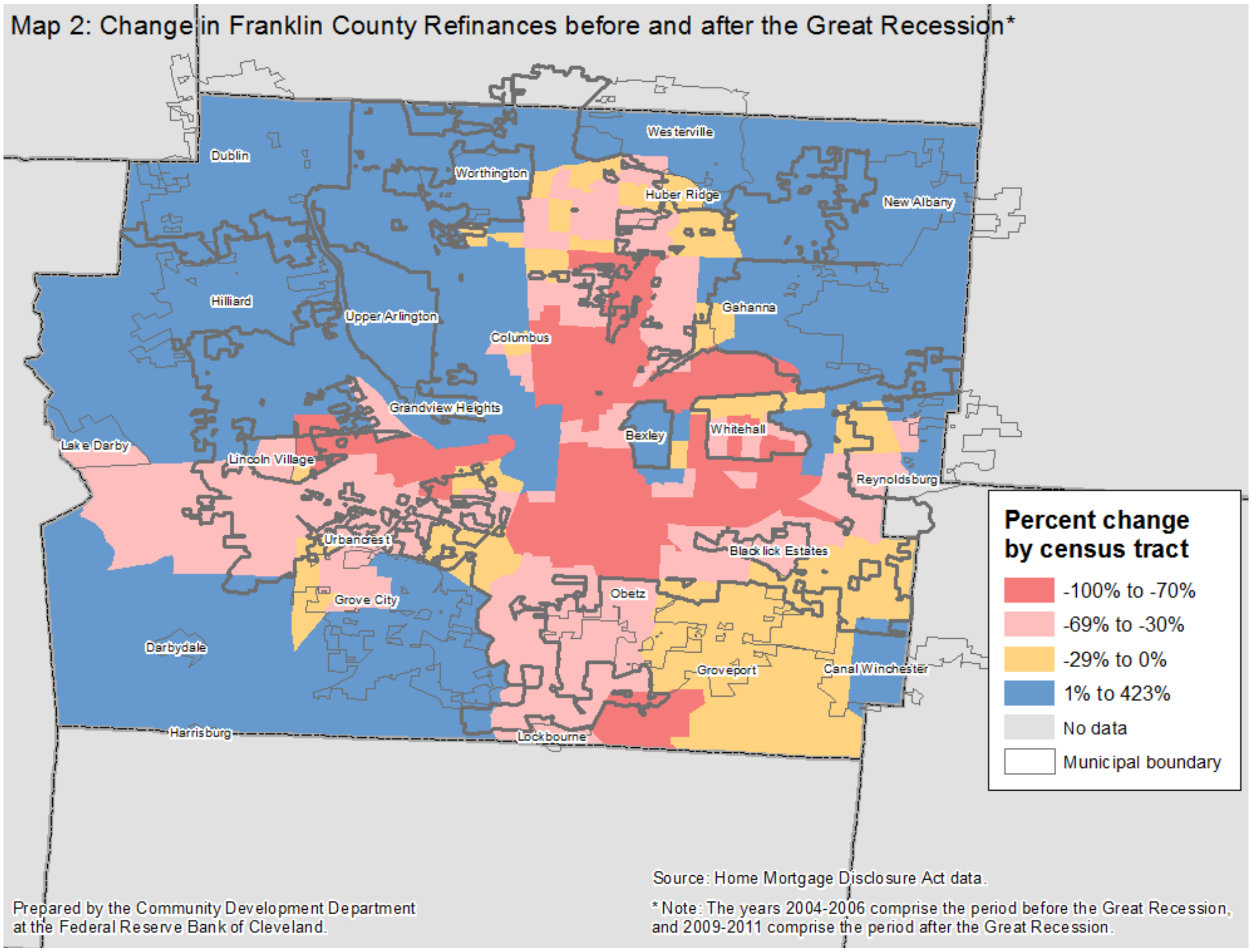
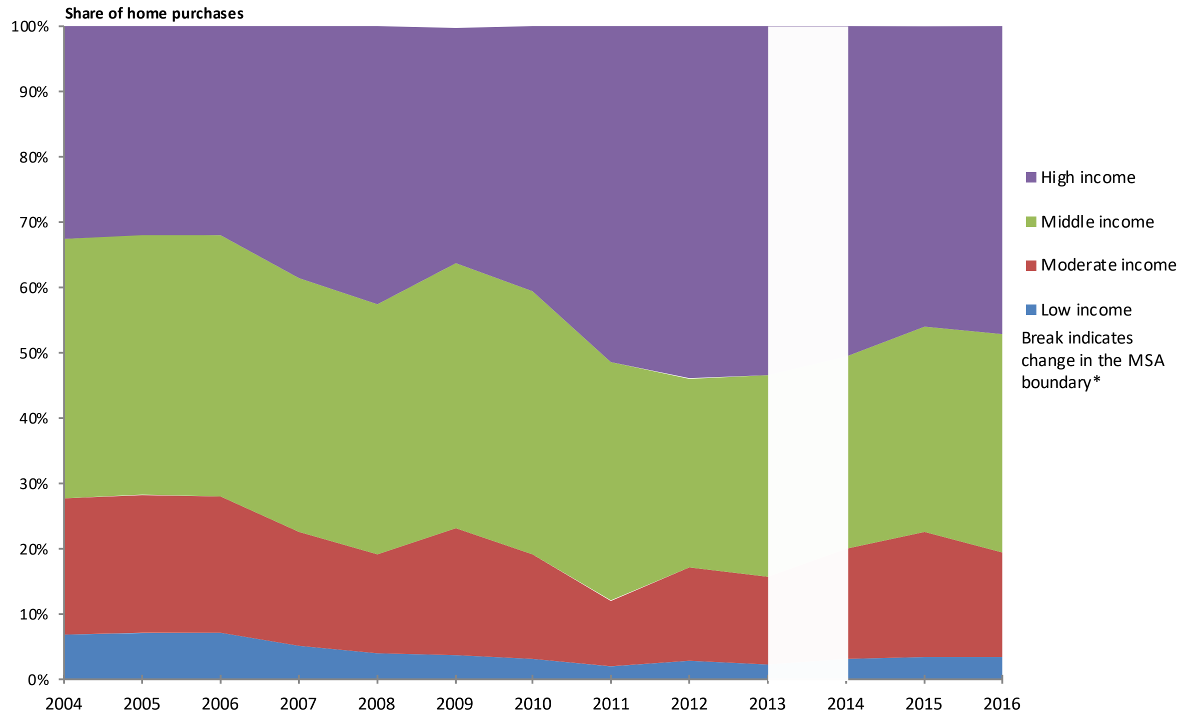


Figure 6 examines the share of home purchase loans by neighborhood income group. Home purchase activity peaked in LMI neighborhoods in 2005 at 28 percent, while the share in middle- and high-income neighborhoods peaked in 2011 at 91 percent. Shares of home purchases in Franklin County LMI neighborhoods have averaged 1.6 times greater than the national shares from 2004 to 2016 (on average the share is 21 percent in Franklin County versus 14 percent nationally).

Figure 6: Share of Home Purchase Loans in Franklin County by Neighborhood Income Group



Sources: Home Mortgage Disclosure Act (HMDA) data and US Census Bureau; purchase originations for first-lien, owner-occupied, 1- to 4-family structures.
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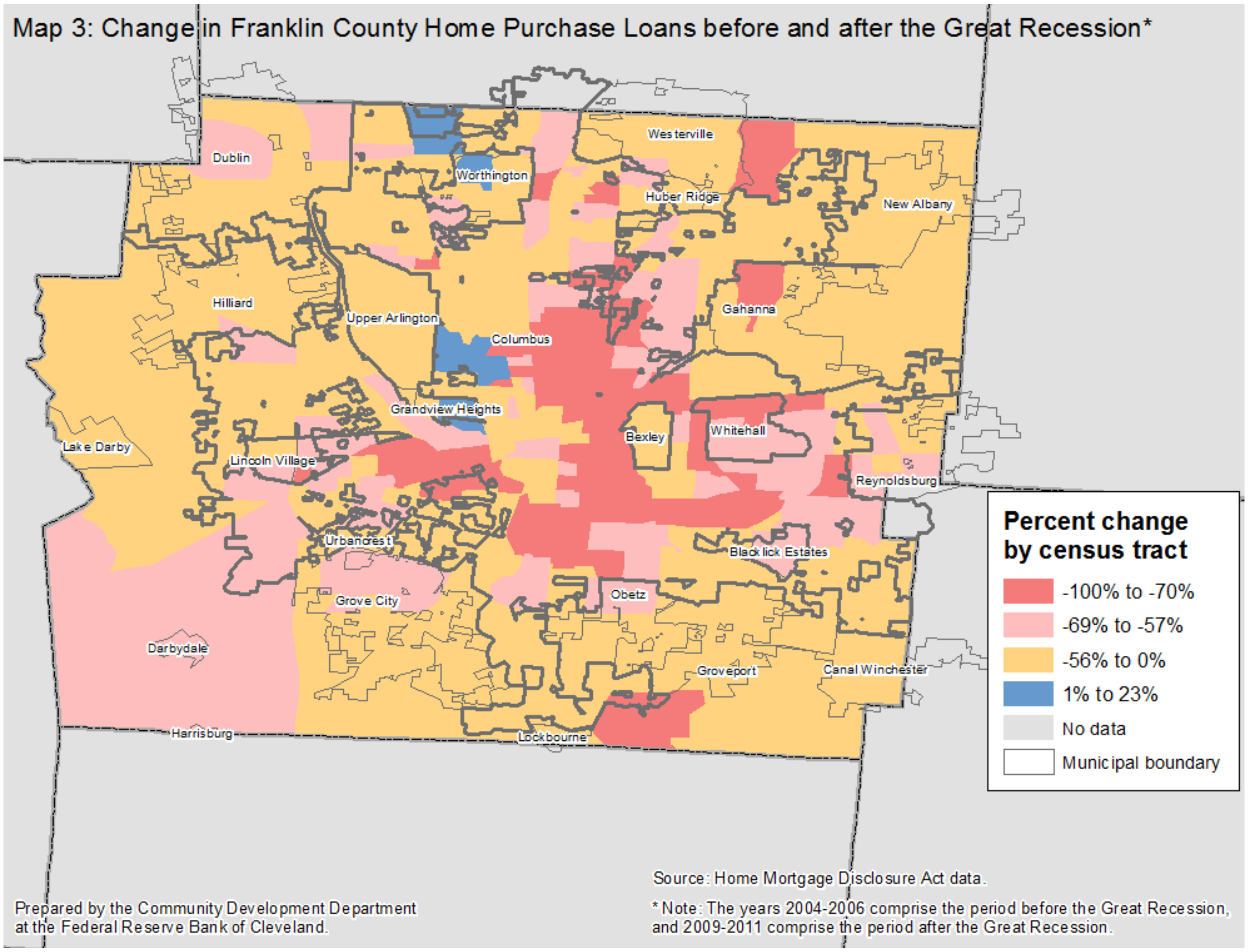
Map 3 shows the percent change in home purchases before (2004–2006) and after (2009–2011) the Great Recession. Home purchase activity declined all but four of the county's census tracts.



WHO'S PURCHASING AND WHERE

Next, we take a look at who is purchasing homes (with a loan) by borrower income and race and in what neighborhoods.[4] We look at three years for comparison: 2005, the peak year for home purchases two years prior to the Great Recession; 2010, the year immediately following the Great Recession; and 2016, the most current year of data in our analysis.

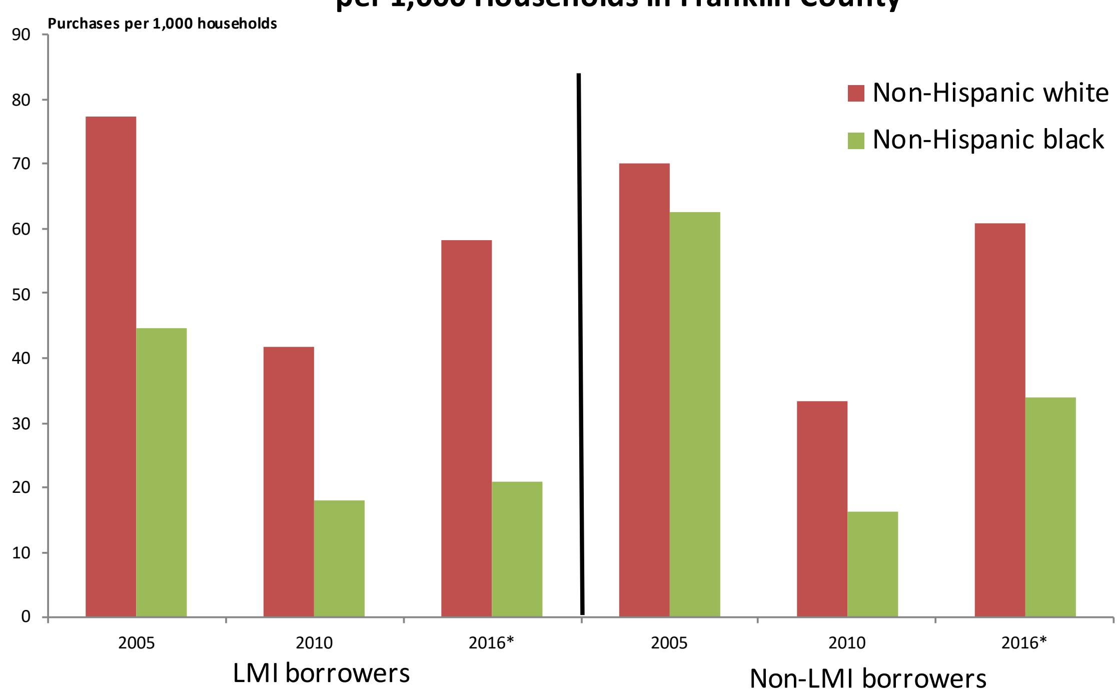
Home Purchase Loan Rates per 1,000 Households

Figure 7 shows the home purchase rate for non-Hispanic white borrowers and non-Hispanic black borrowers by income.[5] We calculate the home purchase loan rate by dividing the number of home purchase originations by race and income group by the number of households with that same race and in that same income group. This allows us to compare the differences across race and income categories while accounting for the size of the population in each of these groups. We focus on only non-Hispanic black borrowers and non-Hispanic white borrowers because these groups account for the majority of home purchase loans originated in Franklin County in every year in our analysis.

In each of the years examined and across all income groups, white borrowers purchase homes at a higher rate than black borrowers. For example, in 2016, white LMI borrowers purchased homes at a rate of 58 purchases per 1,000 households, a rate nearly triple that of black LMI borrowers (21 purchases per 1,000 households). When looking at non-LMI borrowers in that same year, we find that white borrowers purchased at a rate nearly double that of black borrowers. In 2005, the home purchase rates had been nearly even.

Looking at the purchasing differences by race in another way, we find that while black people account for 23 percent of Franklin County's population in 2016, they account for only 11 percent of the home purchases. Conversely, white people account for 69 percent of the county's population but 89 percent of all home purchases.

Figure 7: Home Purchase Loans by Race and Income of Borrowers per 1,000 Households in Franklin County



Sources: Home Mortgage Disclosure Act (HMDA) data and US Census Bureau; purchase originations for first-lien, owner-occupied, 1- to 4-family units.
*The Columbus MSA boundary change was in effect beginning with the 2014 HMDA data. Given the MSA median family income is used in calculating borrower and neighborhood income groups, caution should be used when comparing the pre-2014 data to the most recent data (2014 through 2016)
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Home purchase originations by race and borrower income and neighborhood income groups

Table 2 takes a closer look at origination rates and categorizes them by race, income, and location for three years: 2005, or two years before the Great Recession; 2010, or the year immediately following the Great Recession; and 2016, the most recent year for which we have data.

Origination rates for white borrowers of both income groups were higher than their black counterparts for all neighborhood income types and across all years examined.

In 2016, the highest origination rate for each race was for non-LMI borrowers in non-LMI neighborhoods (80 percent for black borrowers and 91 percent for white borrowers). The lowest rate for black borrowers was for non-LMI borrowers in LMI neighborhoods (68 percent), while origination rates for white borrowers never strayed below 82 percent (white LMI borrowers in LMI neighborhoods).

Table 2: Home Purchase Origination Rates by Race, Income, and Location of Purchases in Franklin County, percent

	2005	2010	2016*
LMI BORROWERS			
Home purchase origination rates in LMI neighborhoods			
Black LMI borrowers	56.1	71.5	71.2
White LMI borrowers	72.4	77.1	82.1
Home purchase origination rates in non-LMI neighborhoods			
Black LMI borrowers	62.5	72.3	74.7
White LMI borrowers	80.2	80.4	85.8
NON-LMI BORROWERS			
Home purchase origination rates in LMI neighborhoods			
Black non-LMI borrowers	58.2	66.0	67.7
White non-LMI borrowers	76.1	79.3	86.6
Home purchase origination rates in non-LMI neighborhoods			
Black non-LMI borrowers	69.7	76.3	80.4
White non-LMI borrowers	84.4	85.2	90.9

Sources: Home Mortgage Disclosure Act (HMDA) data and US Census Bureau; includes purchase and refinance originations for first-lien, owner-occupied, 1- to 4-family units.

Race categories include non-Hispanic white borrowers and non-Hispanic black borrowers.

*The Columbus MSA boundary change was in effect beginning with the 2014 HMDA data. Given the MSA median family income is used in calculating borrower and neighborhood income groups, caution should be used when comparing the pre-2014 to the most recent data (2014 through 2016).

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Where borrowers are purchasing homes

Table 3 takes a closer look at home purchase shares and categorizes them by borrowers' race, income, and location for three years: 2005, or two years before the Great Recession; 2010, or the year immediately following the Great Recession; and 2016, the most recent year for which we have data.

The share of purchases made in LMI neighborhoods by borrowers of both races has shown signs of declining, but the share of black borrowers purchasing in LMI neighborhoods has consistently been around 2.5 times greater than that of white borrowers. In 2016, 40 percent of home purchases by all black borrowers were in LMI neighborhoods, while the share was just 17 percent for all white borrowers. For non-LMI borrowers, we see that black non-LMI borrowers in 2016 made 20 percent of their home purchases in LMI neighborhoods, a share that is double their white non-LMI counterparts (10 percent).

Table 3: Home Purchases in Franklin County by Race and Income of Borrower and Location of Purchase

	2005	2010	2016*	% Change 2005–2010	% Change 2010–2016
Home purchases by all black borrowers	2,431	846	1,435	-65.2%	69.6%
Purchases in LMI neighborhoods	58.4%	43.4%	39.8%		
Purchases in non-LMI neighborhoods	41.6%	56.6%	60.2%		
Home purchases by black LMI borrowers	1,503	591	795	-60.7%	34.5%
Purchases in LMI neighborhoods	68.9%	50.6%	55.7%		
Purchases in non-LMI neighborhoods	31.1%	49.4%	44.3%		
Home purchases by black non-LMI borrowers	928	255	640	-72.5%	151.0%
Purchases in LMI neighborhoods	41.3%	26.7%	20.0%		
Purchases in non-LMI neighborhoods	58.7%	73.3%	80.0%		
Home purchases by all white borrowers	14,221	7,103	11,607	-50.1%	63.4%
Purchases in LMI neighborhoods	22.9%	16.3%	16.8%		
Purchases in non-LMI neighborhoods	77.1%	83.7%	83.2%		
Home purchases by white LMI borrowers	5,806	2,994	3,668	-48.4%	22.5%
Purchases in LMI neighborhoods	37.7%	28.2%	32.3%		
Purchases in non-LMI neighborhoods	62.3%	71.8%	67.7%		
Home purchases by white non-LMI borrowers	8,415	4,109	7,939	-51.2%	93.2%
Purchases in LMI neighborhoods	12.8%	7.7%	9.7%		
Purchases in non-LMI neighborhoods	87.2%	92.3%	90.3%		

Sources: Home Mortgage Disclosure Act (HMDA) data and US Census Bureau; includes purchase and refinance originations for first-lien, owner-occupied, 1- to 4-family units.

Race categories include non-Hispanic white borrowers and non-Hispanic black borrowers.

*The Columbus MSA boundary change was in effect beginning with the 2014 HMDA data. Given the MSA median family income is used in calculating borrower and neighborhood income groups, caution should be used when comparing the pre-2014 to the most recent data (2014 through 2016).

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SUMMARY OF ANALYSIS

Since 1990, application and origination activity in Franklin County has been heavily influenced by mortgage interest rates and the Great Recession. This activity peaked in 2003, led overwhelmingly by refinances, which accounted for 71 percent of originations that year. From there, applications and originations dropped by 67 percent and 72 percent, respectively, during a six-year period (2003–2008) that marked the start of the Great Recession. The decline in applications occurred in all neighborhood income types from 2004 to 2007, followed by a divergence in 2008. From that year, middle- and high-income neighborhoods saw more erratic changes primarily driven by refinance activity, while application rates in low- and moderate-income neighborhoods remained depressed, with a slight uptick in 2013.

Overall, origination rates have been moderately increasing for all neighborhood income groups since 2014, led by moderate-income neighborhoods and their increase of 5 percentage points through 2015. Comparing origination rates by loan type shows home purchase origination rates are higher than those for refinances; this is particularly true in low-income neighborhoods, where, in 2016, the home purchase origination rate was 33 percentage points greater than the refinance origination rate (77 percent origination rate for home purchases and 44 percent for refinances). When looking at home purchase origination rates by race, those for white borrowers in both income groups were higher than their black counterparts for all neighborhood income types and years. In 2016, that gap was widest for home purchases made in LMI neighborhoods by non-LMI borrowers (68 percent for black borrowers and 87 percent for white borrowers) and narrowest for non-LMI borrowers purchasing in non-LMI neighborhoods (80 percent for black borrowers and 91 percent for white borrowers).

When looking across all borrower types, purchasing volume shrank between 2005 and 2010 in the aftermath of the Great Recession, a decline that was steeper for black borrowers than white borrowers of all income types. In 2016, 40 percent of all black borrowers purchased homes in LMI neighborhoods, a share 2.4 times greater than that of white borrowers.

DATA DETAILS AND CAVEATS

The data we used in the charts showing the 1990 to 2016 trends include applications and originations for owner-occupied, 1- to 4-family properties, and both first and junior liens. First liens are those that are in the first or priority position to receive proceeds from the liquidation of the collateral (the home) that secures the loan. The Consumer Financial Protection Bureau (CFPB) defines a junior lien “as a loan you take out using your house as collateral while you still have another loan secured by your house.” Junior liens are subordinate to first liens in terms of receiving proceeds from liquidation. Charts focusing on the 2004 to 2016 time period also include owner-occupied units and 1- to 4-family structures; however, this subset includes only loans secured by a first lien. When we refer to *applications* we mean all of the following: loan applications that were approved by a financial institution and accepted by the applicant (i.e., originated), applications that were approved but not accepted by the applicant, and applications that were denied by a financial institution. When we refer to *originations*, we mean the loans that were approved by a lender and accepted by the applicant.

The data for 2004 to 2011 are based on a different set of census tracts than the data for 2012 to 2016 because of census tract boundary changes between decennial census years. While data from the earlier period are based on 2000 census tract boundaries, data from 2012 to 2016 are based on boundaries from the 2010 census. Therefore, caution should be used when comparing data from the earlier time period to current time period because differences may be attributable to changing tract definitions rather than to changing lending patterns. In addition, the Office of Management and Budget (OMB) released new metropolitan statistical area (MSA) definitions in 2013 for the Columbus, Ohio, MSA. Specifically, Hocking County and Perry County became part of the Columbus, Ohio, MSA. However, we estimated the MSA median family income in consistent boundaries using interpolation methods and compared it to MSA median family income in the current boundaries. Between the MSA median family income in the new boundary (2013) and our estimated income we found about a 2 percent difference, suggesting the boundary revision may have minimal impact on the neighborhood income groupings.

In *Figure 3*, owner-occupied housing units are used in the application rate calculation. The housing unit counts we used in generating rates for the 2004 through 2011 time period are based on the 2000 census and the 2010 census. We use linear interpolation to obtain annual housing unit estimates between 2004 and 2011. For the years 2012 to 2016, we use the owner-occupied housing unit estimates from the 2010 to 2014 American Community Survey (ACS).

The tract median family income used to categorize the neighborhood income groups for the 2004 to 2011 years is obtained from the 2005 to 2009 ACS and is adjusted annually for inflation using the Bureau of Labor Statistics' consumer price index research series (CPI-U-RS). For the 2012 to 2016 years, the tract median family income is from the 2010 to 2014 ACS and is adjusted annually for inflation using the CPI-U-RS. The annual MSA median family income used in the neighborhood income group calculations is obtained from the Federal Financial Institutions Examination Council (FFIEC).

The estimates of households by income and race of householder used in the calculation of the home purchase loan rates (*Figure 7*) come from the Public Use Microdata Sample (PUMS) data. The PUMS data provides individual and household-level data with weights from the various Census Bureau surveys. The ACS 2005 to 2009 and 2010 to 2014 microdata was extracted from the IPUMS-USA, University of Minnesota, found at www.ipums.org. We used family income by race of householder and adjusted it annually for inflation as we did with the tract income described above. We then compared the inflation-adjusted family income to the MSA median family income in each year and grouped the households into the four income groups as we did with the neighborhood income groups.

NEIGHBORHOOD AND BORROWER INCOME GROUPS[6]

- **Low-income**: Median family income for the census tract (or borrower income) is less than 50 percent of the MSA's median family income
- **Moderate-income**: Median family income for the census tract (or borrower income) is greater than or equal to 50 percent but less than 80 percent of the MSA's median family income
- **Middle-income**: Median family income for the census tract (or borrower income) is greater than or equal to 80 percent but less than 120 percent of the MSA's median family income
- **High-income**: Median family income for the census tract (or borrower income) is greater than or equal to 120 percent of the MSA's median family income

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1 The Cleveland Fed serves the Fourth Federal Reserve District, which comprises Ohio, western Pennsylvania, eastern Kentucky, and the northern panhandle of West Virginia.

2 For additional information about HMDA, see https://www.ffiec.gov/hmda/default.htm.

3 Home prices were gathered from the Federal Housing Finance Agency's annual county house price index (developmental index; not seasonally adjusted): https://www.fhfa.gov/DataTools/Downloads/pages/house-price-index-datasets.aspx

4 This report only includes those home purchases for which the borrower took out a mortgage loan. Homes purchased with cash are not reflected in our analysis.

5 It has been well documented that in the years prior to the Great Recession, some loan applications may have overstated income of the borrowers seeking to purchase or refinance a home. Therefore, it is possible that borrowers categorized as middle- and high-income borrowers in 2005 may have been misclassified.

6 In 2016, the median family income in the Columbus MSA was $69,100. Therefore a low-income neighborhood/borrower is one with a median family income of less than $34,550; a moderate-income neighborhood/borrower is one with a median family income of greater than or equal to $34,550 and less than $55,280; a middle-income neighborhood/borrower is one with a median family income of greater than or equal to $55,280 and less than $89,920; and a high-income neighborhood/borrower is one with a median income of greater than or equal to $89,920.