

Not For Publication

Online Appendix for “Household Finance after a Natural Disaster: The Case of Hurricane Katrina”

Justin Gallagher

Daniel Hartley*

*E-mail: *jpg75@case.edu*, *daniel.hartley@clev.frb.org*.

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A Data Description

A.1 Federal Reserve Bank of New York Consumer Credit Panel / Equifax (CCP)

The Federal Reserve Bank of New York Consumer Credit Panel / Equifax (CCP) is the main source of credit and debt information used in the paper. Equifax, a large consumer credit repository and credit scoring companies in the US, is the underlying source of the data. Researchers at the Federal Reserve Bank of New York first created the panel in conjunction with Equifax. Lee and van der Klaauw [2010] provide a good overview of the panel construction and variables.

Appendix Table 1 shows how the CCP data compare to information collected from the US Census. The five columns in the table correspond to the five flood depth groups. The first row in the table is the 2000 Census population estimate for each group. The second row is the CCP sample population. The CCP population is derived by multiplying the number of individuals in the sample by 20. The third row of the table is the coverage ratio. For example, the ratio of the CCP sample population to the census population is 71% for the first flooding quartile. The coverage ratio is 86% when the Census population is restricted to individuals 18+ years old.

There is some evidence that there is an over representation of the 75+ year old population (not shown) in the CCP panel. The coverage ratio is 84% after restricting the analysis to 18-74 year olds and 95% for the 18+ population that includes individuals in the CCP with missing age. These ratios bound the Fair Isaac Corporation (FICO) estimate for the ratio of adults in the US who have a credit history (Jacob and Schneider [2006]).¹

A.2 Home Mortgage Disclosure Act (HMDA)

We use HMDA data for two purposes. The first is to create a measure of the degree to which mortgages that existed at the time Hurricane Katrina hit were likely to have been held or serviced by a “local” or “non-local” lender. We use HMDA data from January 1, 1997 through August 28, 2005 to construct our measure. While HMDA data exist before 1997, the minimum reporting requirements began to be indexed to adjust for inflation in 1997. Thus, starting in 1997 there are consistent criteria for reporting (Pettit and Droesch [1998]). We drop any observations from 2005 with an action date (i.e. the date the loan originated) after August 28 (the day before Katrina made landfall in New Orleans).

¹Fair Isaac estimates that 22 million do not have a credit score in 2006 (Jacob and Schneider [2006], p2). There are approximately 225 million US adults in 2006 (US Census data, author calculation).

The second use of the HMDA data is to measure the quarterly number of mortgages originated by local and non-local lenders *by flood intensity*. We break the flooded tracts (rather than blocks) into quartiles of flood depth. Census tracts are the finest geography available in the HMDA data. We calculate the total number of mortgages originated by local and non-local lenders in each quarter for our entire sample period (2002Q3 - 2008Q3).

The HMDA data from 1997 through 2002 are reported using 1990 Census tract boundaries, while the later HMDA data use the 2000 Census tract boundaries. Most tract boundaries in New Orleans do not change from the 1990 Census to the 2000 Census. However, to be consistent, we construct our tract-level local lending measures by first converting tract-level measures based on the 1990 boundaries to 2000 boundaries using the Census' 1990 to 2000 tract relationship file.

Our primary tract-level measure of local versus non-local lending is created by calculating the share of loans that each lending institution made in the New Orleans CSA from 1997 through August 28, 2005. We then attach that share to each loan that we observe being made in a Census tract in the city of New Orleans over the same period. Next, we take the mean of these shares for each Census tract. Thus, the local-lending measure is a mean of the institution-specific local lending shares weighted by the number of loans that the institution made in the Census tract from 1997 through August 28, 2005.

We also construct variations of our primary measure in which we calculate local lending shares using dollar amounts of loans rather than counts, using only the more recent part of the HMDA data that overlaps with the period of our estimation sample (2002Q3 - August 28, 2005), and calculating an alternative measure based on branch locations using FDIC Summary of Deposits data (see next subsection). These alternative local lending measures are used as robustness checks in Appendix Table 4.

A.3 FDIC Summary of Deposits

We construct an alternative measure of a local lender using the Federal Deposit Insurance Corporation (FDIC) Summary of Deposit Data. For each year from 1997 through 2012, we define a lending institution as local to New Orleans if it has at least one branch in the New Orleans CSA. The FDIC Summary of deposits data do not cover HUD-regulated mortgage companies and National Credit Union Administration-regulated credit unions. When we construct our tract-level lending measure we count all loans originated by a HUD regulated lender as non-local and drop loans originated by credit unions. Approximately 1% of the loans in our HMDA sample are originated by credit unions. Appendix Table 4 Column (3) shows the coefficients from a regression model that uses the New Orleans branch measure of

a local lender.

A.4 Property Sales Data from Orleans Parish

The source of the residential property sales data is the Orleans Parish Assessor’s Office website (<http://nolaassessor.com/>). The sales data begin in the mid 1980s. We began with a list of all parcel numbers in Orleans Parish (which is coterminous with the City of New Orleans). We attempted to download records of all sales recorded in the system for each parcel. Our script successfully returned data on the parcel for 86% of the 150,050 parcels in the full list. The key to constructing the URL of the page containing the sales data consists of the street number, street name, and street suffix. We believe that the parcels for which no data was returned may have been due to discrepancies in the street name spelling and suffix between our parcel list and the Orleans Parish Assessor’s website.

We take two steps to clean the sales data. First, we drop commercial parcels and focus on only residential parcels. Second, we drop transactions with a dollar value of zero. Zero dollar transactions are typically transfers from one family member to another or into or out of a trust. About 30% of the transactions have a value of zero during our sample period. The share of transactions with a value of zero does not change much around the time of Katrina. For example, the mean share of transactions with a zero value in the 4 quarters prior to Katrina was 29% while that share was 26% in the 4 quarters after Katrina.

A.5 Flood Insurance Data

The flood insurance policy data were obtained from the National Flood Insurance Program (NFIP) as part of a Freedom of Information Act Request. The data used in this paper were first compiled as part of a panel used by Gallagher [2014]. We use only 2005 New Orleans flood insurance payout data. These data are available aggregated by zip code and flood zone.

Table 4 Panel A of the text provides a flood insurance payout measure for New Orleans homeowners by depth of flooding. We formed the 3 ratios in Panel A by first aggregating total home loan balances as of 2005Q3 and dividing the 2005 New Orleans claim payouts by this amount. We then merged this ratio into the CCP by zip code and flood zone. Section 5.2 of the text provides a more detailed discussion.

A.6 Flood Depth, Flood Risk, and Land Elevation Data

The source of the flood depth data is the National Oceanic and Atmospheric Administration (NOAA). We thank Commander Timothy Gallagher at NOAA and Christopher Locke, a

GIS analyst at Research Planning, Inc., for their assistance in providing and interpreting the flood depth data. We use GIS software to calculate the mean, minimum, and maximum flood depth for each census block. Figure 2 in the text shows mean census block depths on August 31, 2005 for New Orleans. Please refer to the notes to Figure 2 and Section 3 in the text for more details.

We extract block-level flood risk information from the Army Corps of Engineers (1999 FIRM) flood map. We use these data to control for one of the “engineering” determinants of a flood in our preferred empirical model. We accessed a digital copy of the flood map from *Atlas: The Louisiana Statewide GIS* website (<http://atlas.lsu.edu/>). The website is run by the Louisiana State University CADGIS Research Laboratory (Baton Rouge, LA). Appendix Figure 1 is a census block map of New Orleans that shows blocks as being completely in the 100-year flood plain (black), completely outside of the flood plain (light grey), or containing a portion of the block in the flood plain (dark grey). The majority of New Orleans is in the 100-year flood plain. Nevertheless, there is still a substantial portion of the city that is zoned as being outside the flood plain.

The second source of engineering data is mean land elevation above sea level. The elevation data are from the US Geological Survey (USGS) and accessed via the website <http://earthexplorer.usgs.gov/>. The USGS calculates the elevation using lidar (light detection and ranging) mapping technology. Lidar is a method to collect very accurate landscape elevation data using laser altimetry (Lid [2012]). We use GIS software to calculate the mean elevation for each census block. Appendix Figure 2 shows mean census block elevations in New Orleans. In the figure, the mean elevation is divided into deciles. Half of the city has an elevation of 1.5 feet or less above sea level.

B Robustness Checks

Figure 6 in the text shows a modest increase in credit card balances the quarter following Katrina. The only other debt category (other than home loans and credit cards) to increase in balance after Katrina is auto loans. Appendix Figure 4 shows a relatively small temporary increase in auto loan balances for the most flooded residents after Katrina, although none of the point estimates are statistically significant at the 5% level. We might expect an increase in auto loans due to the financing of replacement vehicles for those that were totaled in the flooding.

Appendix Table 2 presents two additional robustness specifications for the estimates of the impact of flood depth on total debt balance shown in Table 3 of the text. Column (1) of Appendix Table 2 repeats the specification shown in column (7) in Table 3 of the text.

All controls listed for column (7) of Table 3 are included in each of the three specifications in Appendix Table 2. In the main estimation sample, we drop individuals that were living in flood depth quartiles 2 and 3 at the time of Katrina. In the estimation samples for the specifications shown in columns (2) and (3) we include these people. The specification in column (2) retains the flood depth quartile indicators (interacted with the post-Katrina indicator) for the least and most flooded group and adds two more for the quartiles 2 and 3 groups. The coefficients increase monotonically, in magnitude, with flood depth, going from about -\$3,500 for the least flooded group to about -\$9,000 for the most flooded group. The coefficients on the most and least flooded groups do not change much by including the middle flood depth groups (moving from column (1) to column (2)). The specification shown in column (3) replaces the flood depth quartile indicators with an indicator for *any* flooding and a linear measure of flood depth. This specification shows a reduction of about \$3,500 in places that were slightly flooded and a further reduction of \$730 in debt for each foot of flooding relative to the non-flooded group. The debt reduction estimates reported in column (2) are very similar to those implied by the linear model in column (3) combined with the mean flood depths by quartile reported in Table 1 of the text. It appears that the impact of flooding on debt reduction jumps discontinuously going from no flooding to positive flooding, but then scales somewhat linearly with flood depth.

Appendix Table 3 shows values for the Census (top panel) and CCP (bottom panel) characteristics that we include as control variables in the regression specifications in Table 5 of the text. The top panel compares block group level characteristics from the 2000 Census among individuals living in Census tracts with above and below median local lending shares. The bottom panel compares sample means computed from Federal Reserve Bank of New York Consumer Credit Panel / Equifax (CCP) data using the quarter before Katrina (2005Q2). An above median local lending share is defined using our primary local share measure: whether the loan-weighted average of institutions' lending shares going to the New Orleans CSA in a particular tract is above 24%. This measure splits our estimation sample roughly in half. Please refer to Section 5.3 of the text for more details.

Appendix Table 4 considers robustness specifications for the non-local lender model run in Table 5 of the text. Column (1) of Appendix Table 4 repeats the preferred specification (column 5) from Table 5. Recall that this specification uses the loan share measure of a non-local lender, the 50th percentile as the cut-off threshold for a non-local lender tract, and all available HMDA pre-Katrina data in calculating the threshold. Column (2) considers how the estimates change if we only use HMDA data from our pre-Katrina panel period (2002Q3-2005Q2). Column (3) considers how the estimates change if we use the CSA branch definition as the measure of a non-local lender. Column (4) repeats the specification in Column (1)

except clusters the standard errors at the Census Tract level (rather than Census Block). Overall, the estimated coefficients from Columns (2) and (3) are very similar to those in Column (1). The statistical significance does not change when the standard errors are clustered at the Census Tract level. Please refer to the text and Appendix Section A for more details regarding the data, the model specification, and the non-local lender definitions.

C Imputing Excluded Account Information

The Federal Reserve Bank of New York Consumer Credit Panel Equifax (CCP) panel has an inclusion rule for whether account information in Equifax is included as part of an individual's reported credit content in the CCP. Only accounts that are updated by the creditor within the last three months at the time when the data are pulled are included in the panel (Lee and van der Klaauw [2010]). The goal is to avoid the inclusion of non-current accounts that have been closed, sold, etc.

The inclusion rule is responsible for a temporary missing data anomaly at the time of Hurricane Katrina. At the time of Hurricane Katrina, there is a large spike in non-reporting for home loan and auto loan accounts for residents of New Orleans. This spike in non-reporting occurs for all areas of New Orleans regardless of the level of flooding. Appendix Figure 5 shows a time series plot of the share of individuals with a non-reporting home loan from 2002Q3 to 2008Q3. The figure separately plots non-reporting for the five New Orleans flood groups (conditional on living in New Orleans in 2005Q3) as well as individuals in the CCP living in Memphis, and St. Louis at the time of the flood. The baseline non-reporting rate ranges from about two to five percent for the entire time period for all groups except for the year-long window immediately following Katrina. During the year after Katrina there is a large immediate spike in non-reporting for all individuals in the CCP living in New Orleans. There is no spike in non-reporting for individuals living in St. Louis and Memphis.

We are uncertain of the exact cause of the non-reporting. We suspect that it is a combination of two factors. First, the devastation in Louisiana after Katrina disrupted business as usual and this may also have been true for the creditor companies with accounts in Louisiana. Second, as described in Section 2 of the text, most mortgages had a moratorium on foreclosure for the 11 months following Katrina. This temporary moratorium may have affected how information on mortgages were reported and processed.

Fortunately, we are able to correct for temporary non-reporting of home loans using information contained in the CCP. Each home loan account has a unique id number. We use the id number to distinguish between accounts that temporarily disappear and those that permanently disappear. We define temporarily disappearing accounts as those that are

included in the CCP at the time of Katrina, disappear for at least one quarter following Katrina, and then reappear later. We impute balances and indicators for having a mortgage for people in the CCP that have temporarily non-reporting mortgages.

Appendix Figure 6 shows the share of residents with a home loan by quarter from 2002Q3 to 2008Q3 for the same groups as in the previous figure. In the uncorrected CCP, the share of residents with a home loan falls sharply at the time of Katrina for the five New Orleans groups. There is no drop for residents of Memphis and St. Louis. Appendix Figure 7 classifies homeowners who have a home loan that temporarily disappears due to non-reporting as continuously having a home loan. The share with a home loan in Memphis and St. Louis is shifted up by about a percentage point (relative to Appendix Figure 6) and the trends remain the same. There is no longer evidence of a sharp drop for New Orleans residents in non-flooded locations. There is a modest decline for New Orleans residents in the least flooded locations of about two percentage points (as compared to 10 percentage points before the correction). The three most flooded locations still have large and immediate reductions in the share of residents with a home loan, although these reductions are somewhat smaller than before the correction.

Appendix Figure 8 shows (uncorrected) home loan balances for the five flood groups in New Orleans. In light of Appendix Figure 6, it is not surprising that there is an immediate drop in balances at the time of Katrina for all five flood groups.

The estimates in the paper use a measure of home loan balances that corrects for the spike in non-reporting following Katrina. Again, we use the mortgage id number to identify mortgages with temporarily missing balances. We consider three approaches to impute the missing balances. First, we impute missing balances with the last reported balance level *before* the home loan temporarily disappears. Second, we impute missing balances with the first reported balance level *after* the home loan returns. Third, we linearly interpolate between the last reported value before the home loan disappears and the first reported value once the home loan returns.

Appendix Figures 9, 10, and 11 show debt balances using the last, next, and linear corrections. Overall, the three imputation approaches provide similar results. Imputed levels are largest when using the last reported balance and smallest when using the first reported balance after the home loan returns. Our preferred approach is to use linear interpolation. The empirical estimates reported in the text of the paper are from a sample corrected for missing values using the linear interpolation approach.

Appendix Figures 12 and 13 consider whether there is evidence of non-reporting at the time of Katrina for auto loans and credit cards. Figure 12 shows a roughly 2.5 percentage point drop in the share of people with auto loan accounts in the quarter after Katrina. The

fact that this dip occurs immediately after Katrina, occurs for New Orleans but not Memphis and St. Louis, and only lasts for one quarter suggests that it could be due to non-reporting of auto loans due to Katrina. Unfortunately, we are not able to correct for non-reporting auto loans because the CCP sample does not contain a unique identifier for auto loans. Appendix Figure 13 does not show any evidence of Katrina-related non-reporting of credit cards. However, there is a striking decline over time in the share of residents in all three cities with credit cards.

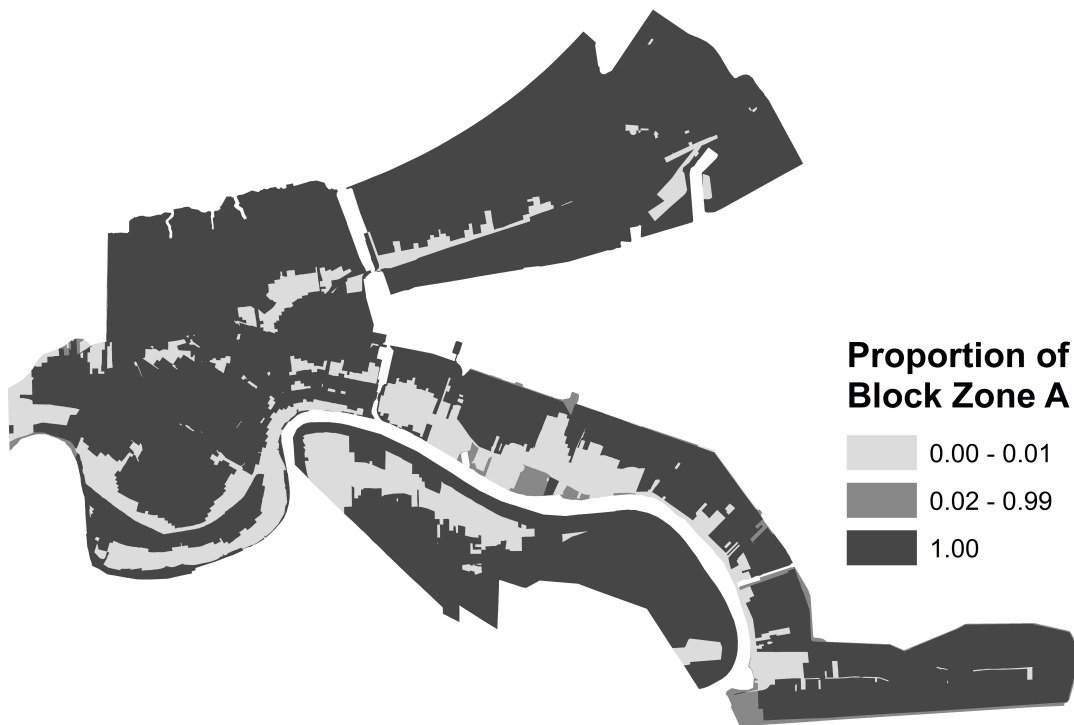
D References

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E Figures and Tables

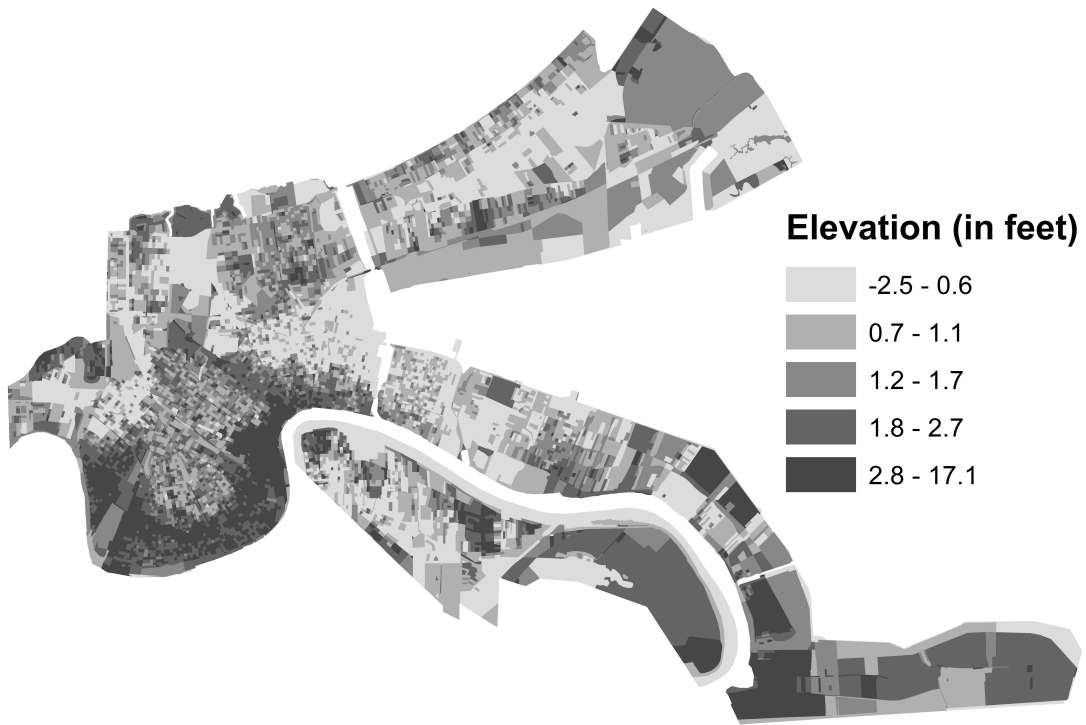
E.1 Figures

Figure 1: Proportion of Census Block in the 100-Year Flood Plain
(Risk Zone A)



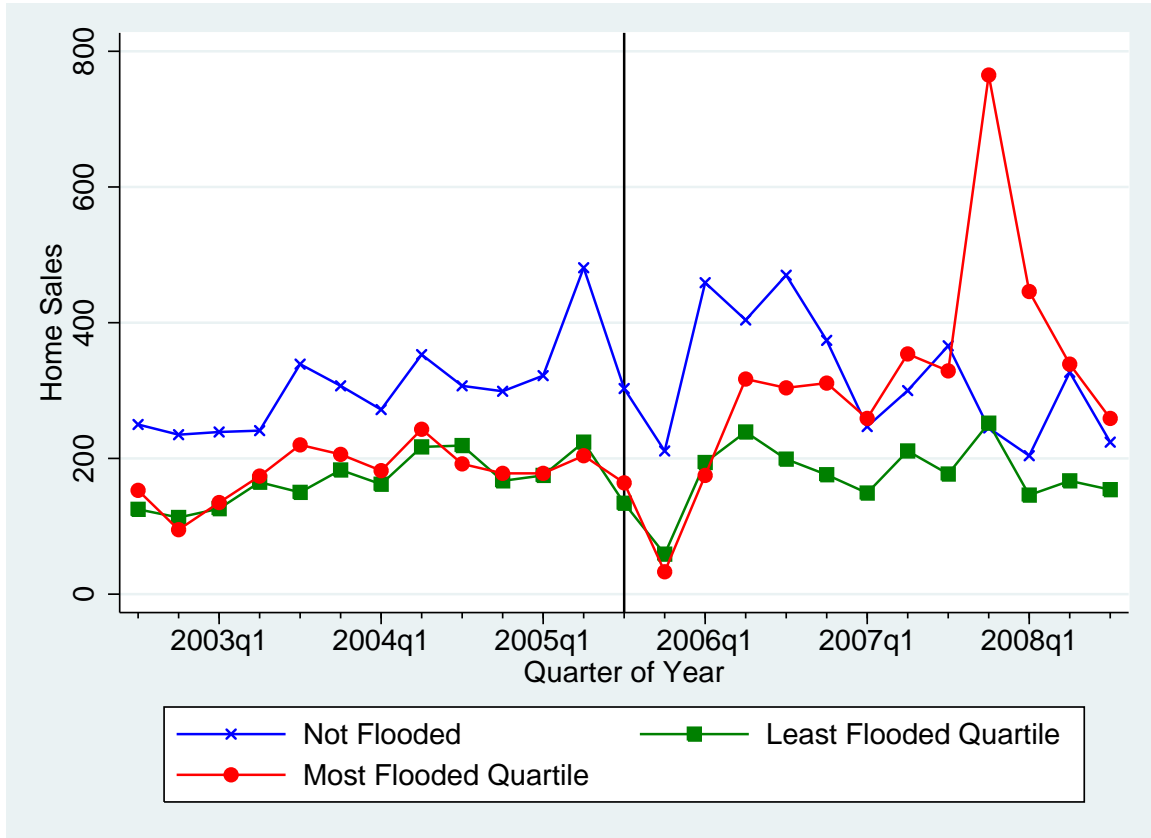
The figure classifies each census block in New Orleans as being either completely inside the 100-year flood plain, outside the flood plain (less than 1% of the land in the flood plain), and having a portion of the block in the flood plain. The figure was created in GIS using the spatial match between census blocks and the FEMA (pre-Katrina) flood map for New Orleans. Please refer to Section 2 of the text and Appendix Section A for details.

Figure 2: Mean Census Block Elevation



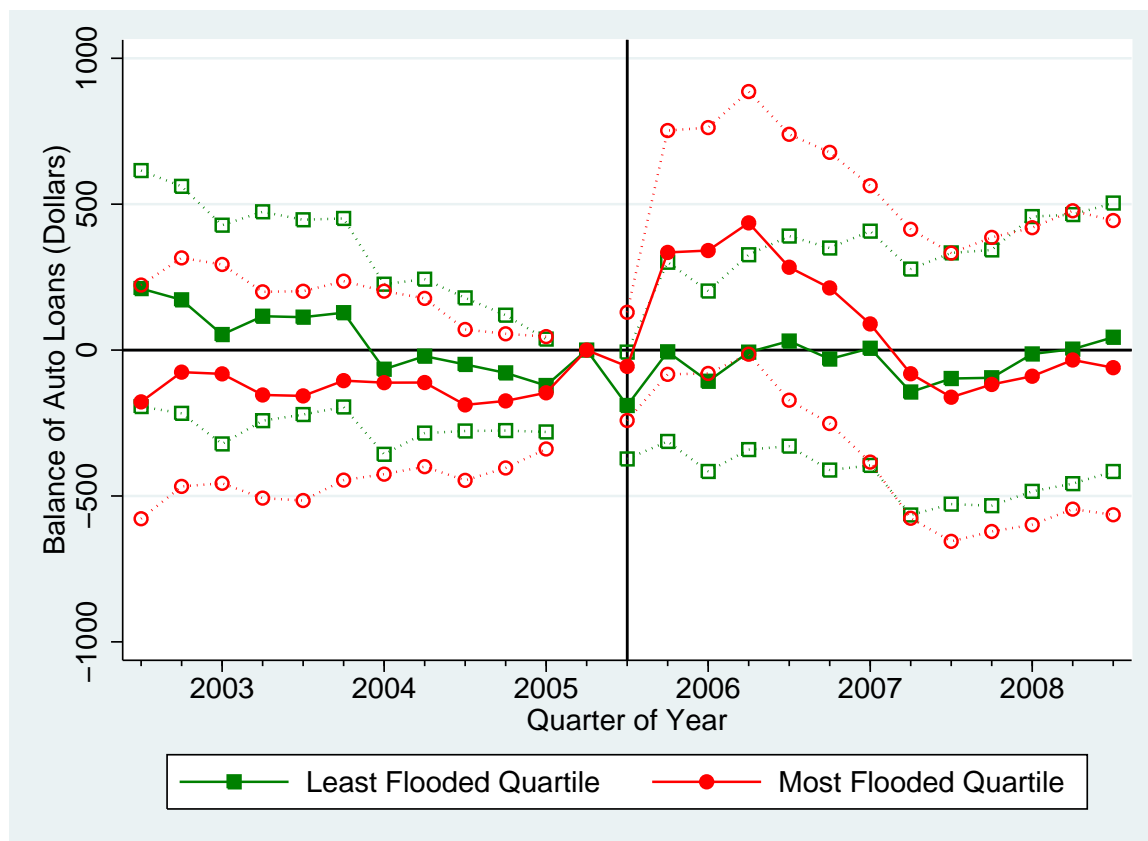
The figure shows the mean elevation above sea level for census blocks in New Orleans. Elevation data are from the US Geological Survey (USGS). Please refer to Section 2 of the text and Appendix Section A for details.

Figure 3: Quarterly Number of Home Sales in New Orleans by Flood Depth



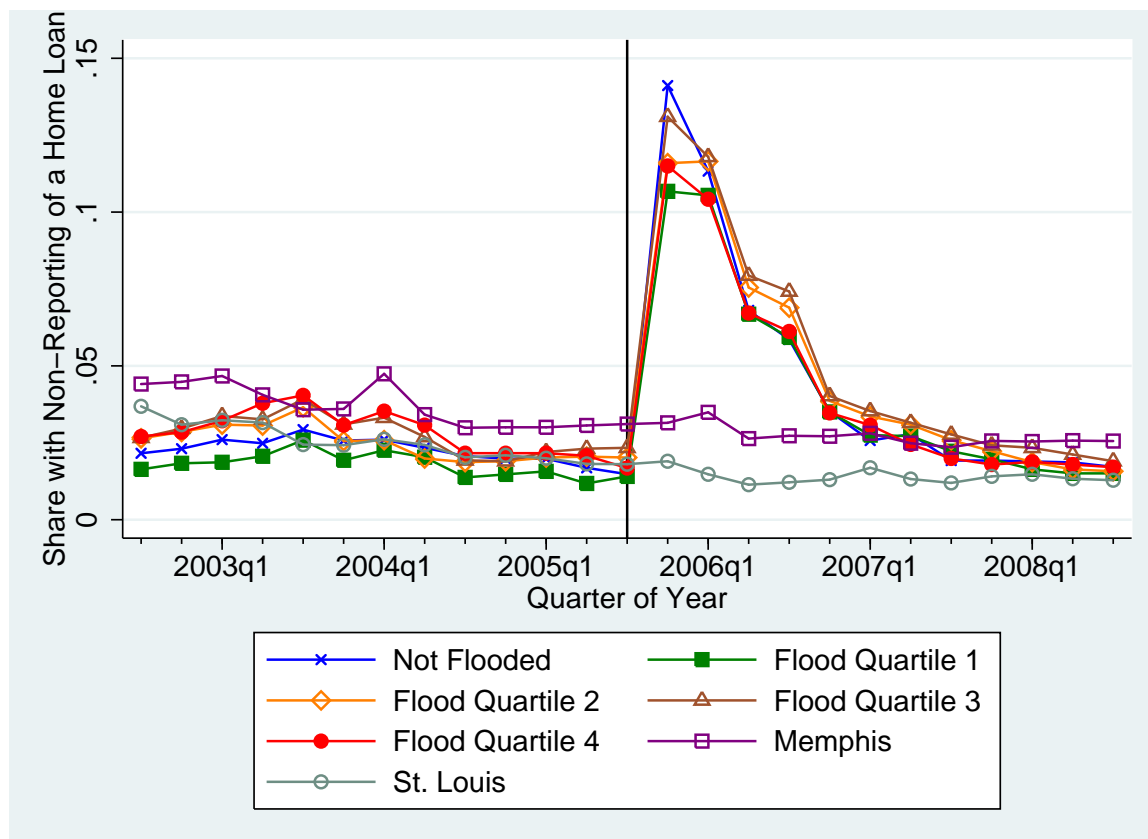
The figure plots the number of residential real estate sales per quarter in the non-flooded blocks, the least flooded blocks (those in the lowest quartile of flooding depth), and the most flooded blocks (those in the highest quartile of flooding depth). The data come from the records of the Orleans Parish Assessors Office. Please refer to Section 5.2 of the text for a discussion of this figure and Appendix Section A for sales data details.

Figure 4: Effect of Flooding on Auto Loan Balance



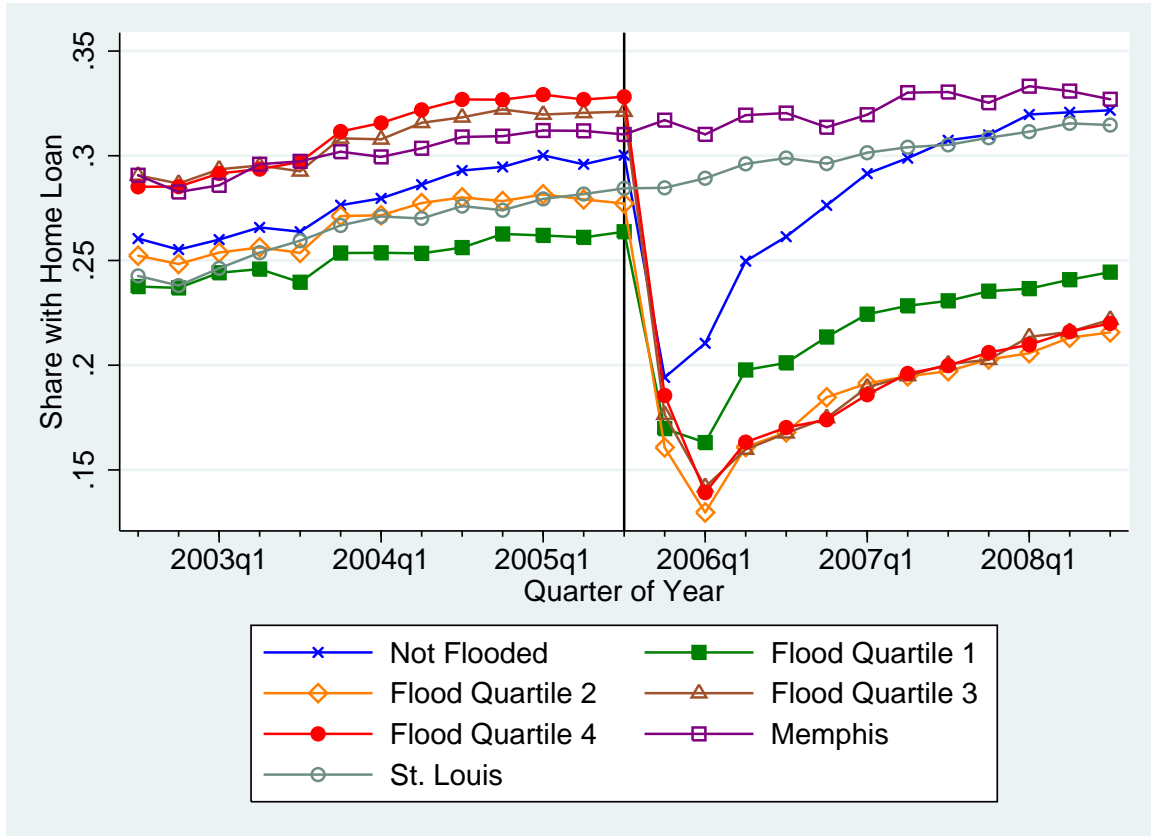
The figure plots difference-in-differences event time coefficients and 95% confidence intervals from the estimation of a version of Equation 2 in the text that replaces the pre/post Katrina indicator with quarterly indicators. The dependent variable in the model is total auto balance. All coefficients can be interpreted as the relative change in debt balances for New Orleans residents living in a flooded block, as compared to residents in non-flooded blocks, relative to the quarter before Hurricane Katrina. The squares are point estimates for residents living in the least flooded blocks where the mean maximum block flood depth was less than 1.3 feet. The circles are point estimates for residents living in the most flooded blocks where the mean maximum block flood depth was greater than 5.4 feet. Standard errors are clustered at the block level.

Figure 5: Share of Residents with a Non-Reported Home Loan



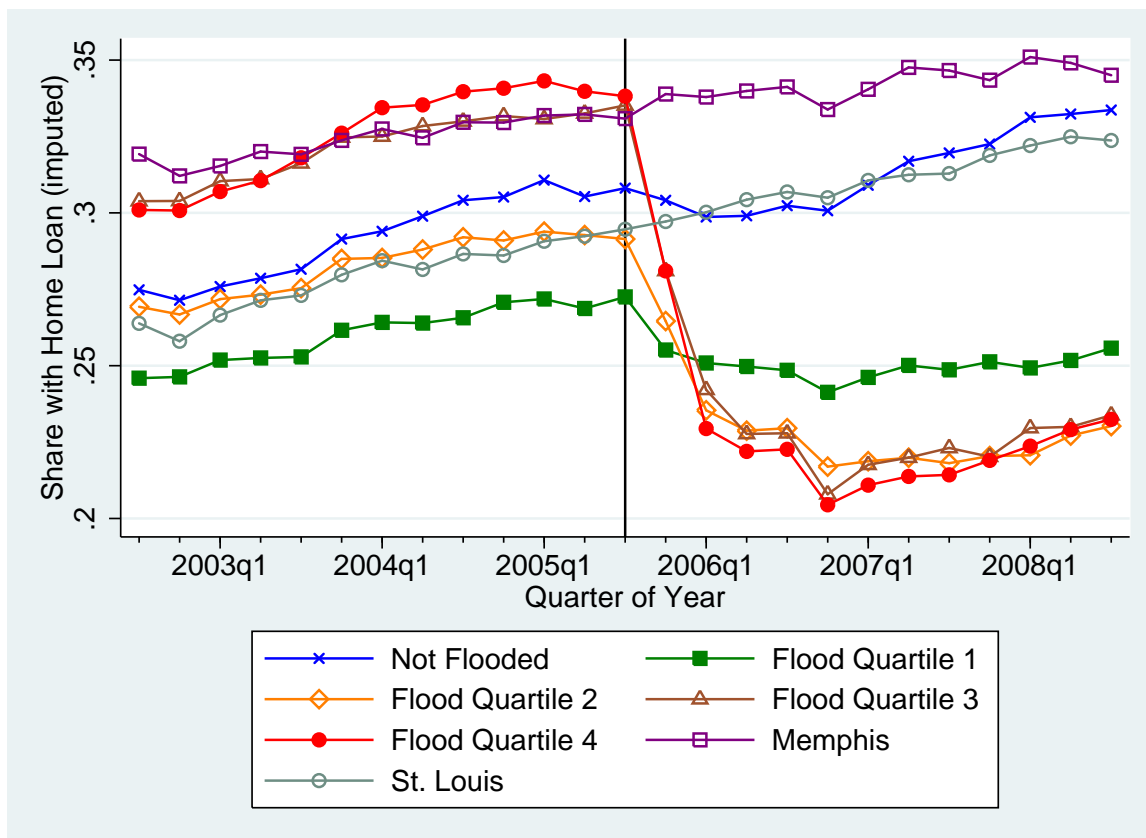
The figure plots the share of residents with a non-reported home loan for the five New Orleans flood groups as well as residents of Memphis, and St. Louis. Each quarter in the figure can be interpreted as the share of non-reporting home loans that quarter among all home loans for the particular flood group. We identify non-reporting home loans by tracking the unique home loan identification number in the CCP. A non-reporting loan is defined as one that disappears for a quarter, but reappears for any quarter later in our sample. Please refer to the Appendix Section C for more details.

Figure 6: Share of Residents with a Home Loan (Not Corrected)



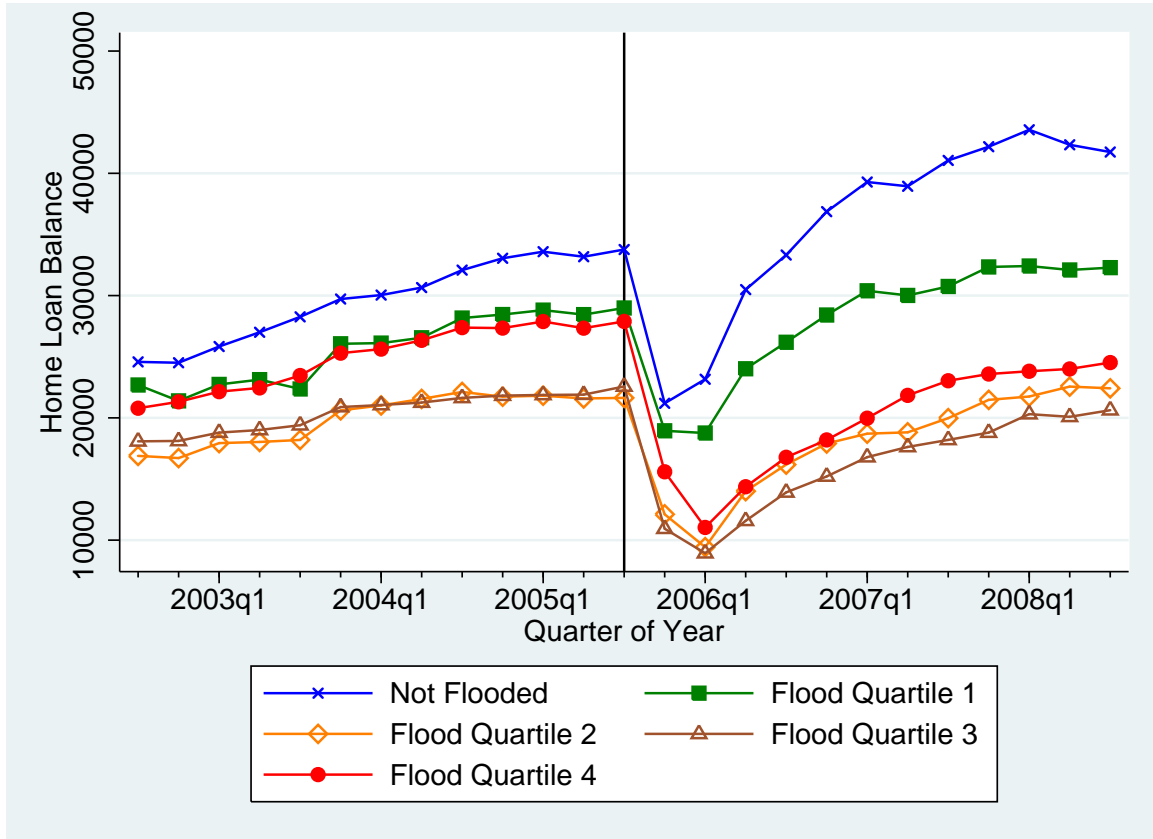
The figure plots the (uncorrected) share of residents with a home loan for the five New Orleans flood groups as well as residents of Memphis, and St. Louis. Please refer to the Appendix Section C for more details.

Figure 7: Share of Residence with a Home Loan (Imputed)



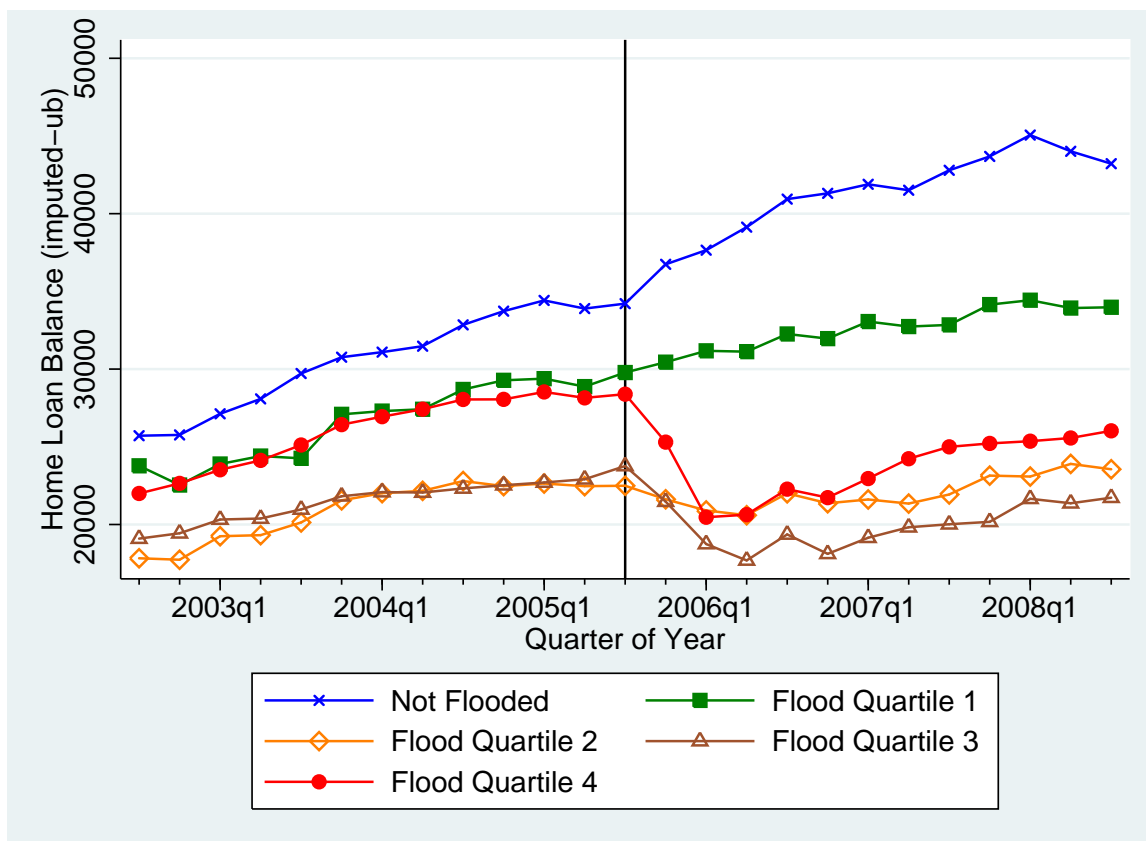
The figure plots the share of residents with a non-reported home loan for the five New Orleans flood groups as well as residents of Memphis, and St. Louis. The home loan share is corrected for non-reporting home loans. A non-reporting loan is defined as one that disappears for a quarter, but reappears for any quarter later in our sample. Please refer to the Appendix Section C for more details.

Figure 8: Home Loan Balances (Not Corrected)



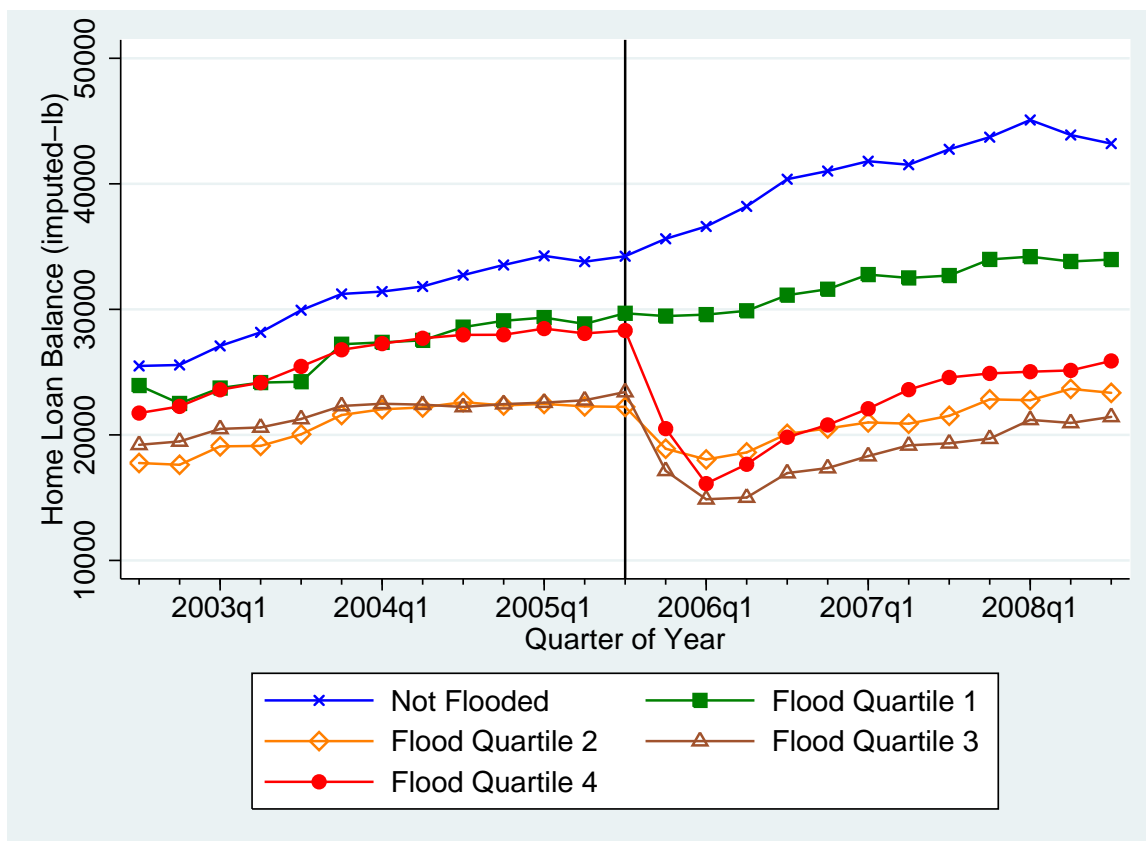
The figure plots home loan balances in dollars for the five New Orleans flood groups. Please refer to the Appendix Section C for more details.

Figure 9: Home Loan Balances, Corrected Using Last Reported Balance



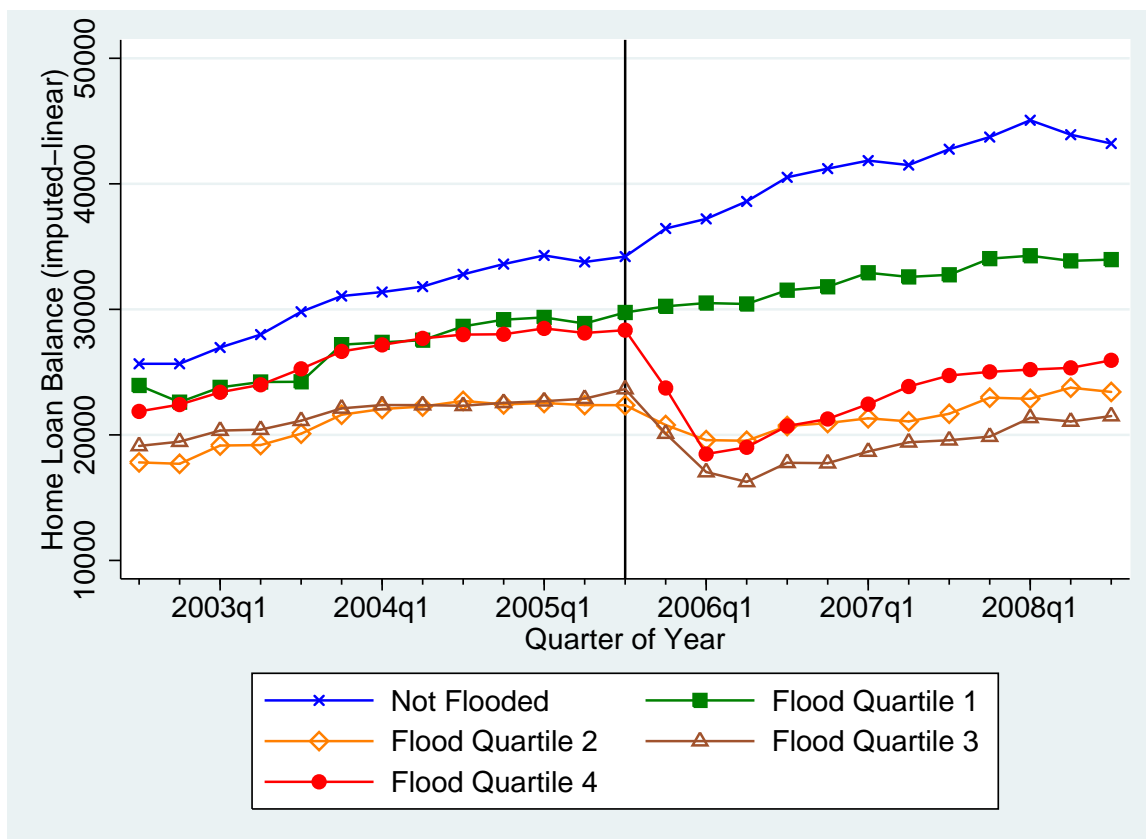
The figure plots corrected home loan balances in dollars for the five New Orleans flood groups. We correct loan balances by imputing the last reported loan balance for non-reporting home loans for the quarters that the home loan is non-reported. A non-reporting loan is defined as one that disappears for a quarter, but reappears for any quarter later in our sample. Please refer to the Appendix Section C for more details.

Figure 10: Home Loan Balances, Corrected Using Next Reported Balance



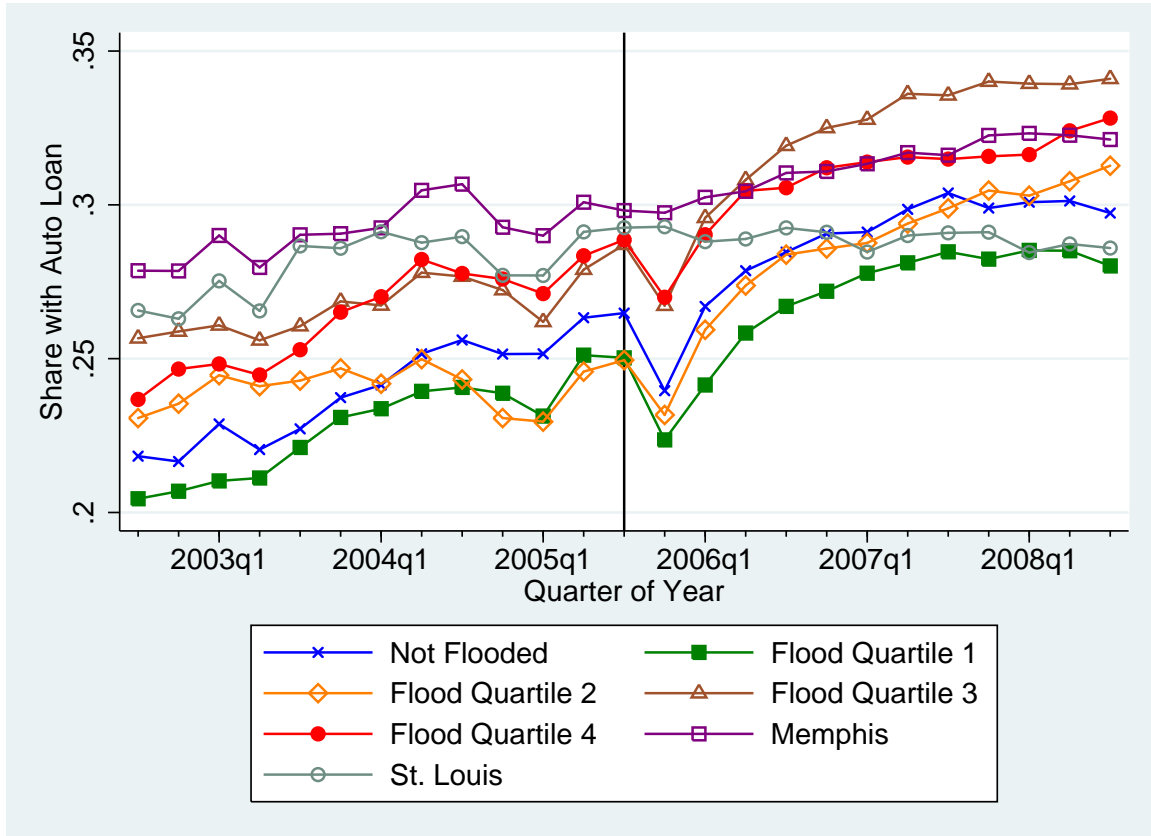
The figure plots corrected home loan balances in dollars for the five New Orleans flood groups. We correct loan balances by imputing the first reported loan balance once a home loan reappears for non-reporting home loans for the quarters that the home loan is non-reported. A non-reporting loan is defined as one that disappears for a quarter, but reappears for any quarter later in our sample. Please refer to the Appendix Section C for more details.

Figure 11: Home Loan Balances, Corrected Using a Linear Extrapolation



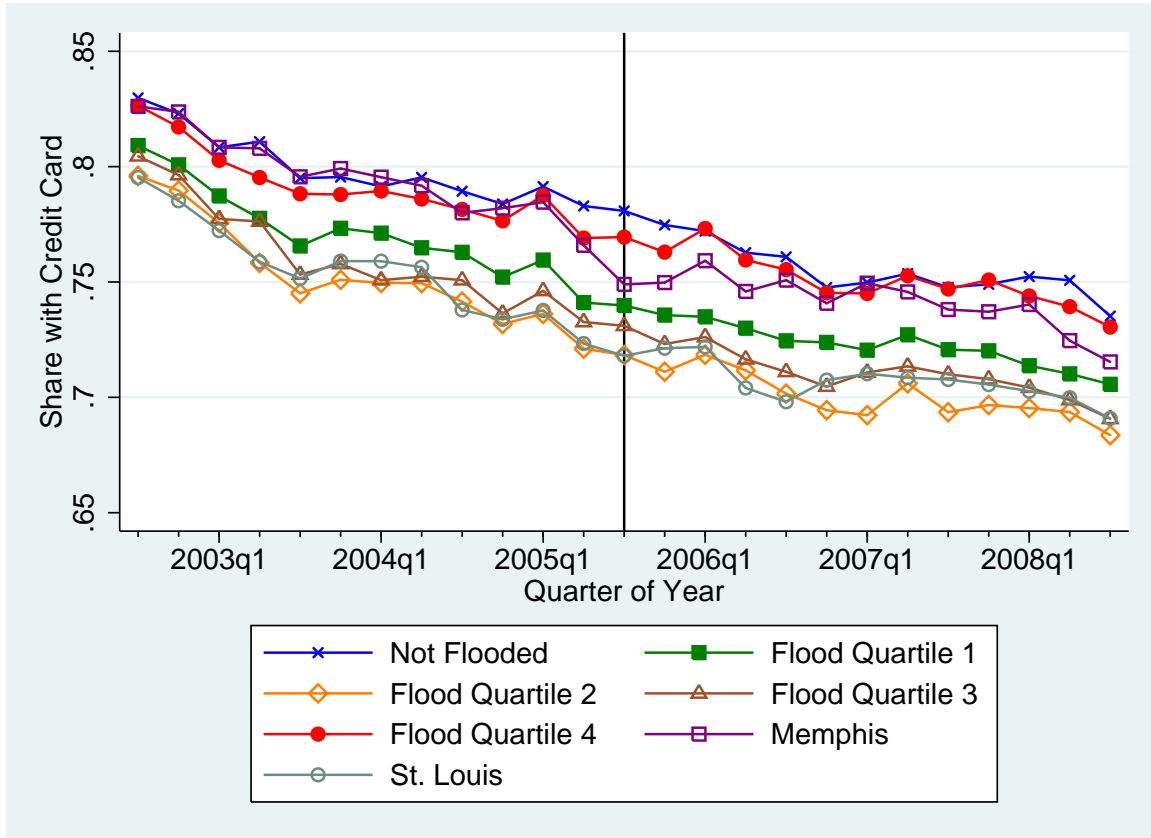
The figure plots corrected home loan balances in dollars for the five New Orleans flood groups. We correct loan balances by linearly extrapolating between the last reported loan balance before a non-reporting home loan disappears and the first reported loan balance once the non-reporting home loan reappears. A non-reporting loan is defined as one that disappears for a quarter, but reappears for any quarter later in our sample. Please refer to the Appendix Section C for more details.

Figure 12: Share with a Auto Loan (Not Corrected)



The figure plots the share with auto loans for the five New Orleans flood groups as well as residents of Memphis, and St. Louis. Please refer to the Appendix Section C for more details.

Figure 13: Share with a Credit Card



The figure plots the share of residents with a credit card for the five New Orleans flood groups as well as residents of Memphis, and St. Louis. Please refer to the Appendix Section C for more details.

E.2 Tables

Table 1: Comparison of CCP Population Coverage to US Census by Depth of Flooding

Flood Depth Quartile	No Flooding	1	2	3	4
Census Population	110,875	100,780	116,049	119,001	118,188
CCP Population	85,280	71,740	81,100	84,980	79,080
Coverage Ratio	77%	71%	70%	71%	67%
Missing Age in CCP	9%	10%	9%	9%	7%
18 + Coverage Ratio	92%	86%	89%	91%	83%
18 - 74 Coverage Ratio	92%	84%	88%	90%	79%
18 + Coverage Ratio with missing age	101%	95%	98%	100%	89%

The table compares block level 2000 Census and 2000Q2 Federal Reserve Bank of New York Consumer Credit Panel / Equifax (CCP) age distributions for five groupings of census blocks: those with no flooding and quartiles of blocks broken up by mean level of flooding by block on August 31, 2005. All proportions are frequency weighted by census block population. Please refer to Appendix Section A.1 for details.

Table 2: Impact of Flooding on Total Debt Balance

<i>Model Specification:</i>	Table 3 Column (7)	All Flood Quartiles	Linear Flood Depth
	(1)	(2)	(3)
1st Quartile * Post Flood	-3,249* (1,864)	-3,542** (1,788)	
2nd Quartile * Post Flood		-5,222*** (1,648)	
3rd Quartile * Post Flood		-7,720*** (1,655)	
4th Quartile * Post Flood	-8,904*** (2,063)	-8,882*** (1,834)	
Flooded * Post Flood			-3,647** (1,666)
Depth * Post Flood			-730*** (268)
Post	-93,508* (52,705)	-28,285 (39,093)	-27,307 (39,091)
<i>N</i>	245,375	419,150	419,150
<i>R</i> ²	0.745	0.732	0.732

This table presents robustness specifications for regressions of the total debt balance (from the CCP) on flood depth. Observations are at the individual level and contain all CCP primary individuals that were living in our flood depth coverage area in 2005Q3 and are continuously in the sample from 2002Q3 through 2008Q3 (9,947 individuals in column (1) and 16,991 individuals in columns (2) and (3)). Column (1) of this table repeats the preferred specification in the text (Table 3 column 7). All 3 specifications in the above table include the same control variables as in Table 3 column (7). Columns (2) and (3) expand the estimation sample to include all flooded areas (adding depth quartiles 2 and 3). Column (2) includes flood depth quartile indicator variables interacted with a post Katrina indicator. Column (3) replaces all flood depth indicator terms with a linear measure of flood depth interacted with a post Katrina indicator. Standard errors clustered by census block of residence in 2005Q3 are shown in parentheses. Please refer to Section 5.1 of the text and Appendix Section B for more details.

Table 3: Characteristics of Local and Nonlocal Lender Tracts

Variable	Local	Non-local
Median Household Income	\$37,117	\$34,080
Poverty Rate	21.2%	23.0%
Median Home Value	\$151,882	\$95,027
Proportion Owner Occupied	50.7%	58.1%
Proportion with College Degree or Higher	34.5%	21.8%
Proportion 65 or Older	15.8%	11.6%
Proportion African American	30.9%	67.8%
Proportion Hispanic	4.2%	3.1%
Equifax Risk Score (TM)	671	626
Total Debt Balance	46,285	34,935
Ratio of Flood Insurance Claims to Mortgage Balance	54.6%	66.9%
Have a Home Loan	29.6%	31.7%
Have a 90+ Day Delinquency	19.2%	30.1%
Individuals in Sample	4,969	4,978

The top panel of this table compares block group level characteristics from the 2000 Census among individuals living in Census tracts with above and below median local lending shares. Here, an above median local lending share is defined using our primary local share measure: whether the loan-weighted average of institutions' lending shares going to the New Orleans CSA in a particular tract is above 24%. This measure splits our estimation sample roughly in half. The bottom panel compares sample means computed from Federal Reserve Bank of New York Consumer Credit Panel / Equifax (CCP) data using the quarter before Katrina (2005Q2). Please refer to Appendix Section B for more details.

Table 4: Local Versus Nonlocal Lenders

<i>Model Specification:</i>	Column (5) from Table 5	Only Panel Period HMDA Data	Branch Present in New Orleans CSA	Standard Errors Clustered C.T.
	(1)	(2)	(3)	(4)
Q1 * Post	-0.018 (0.028)	-0.010 (0.027)	-0.014 (0.028)	-0.018 (0.030)
Q4 * Post	-0.141*** (0.040)	-0.124*** (0.040)	-0.128*** (0.039)	-0.141*** (0.047)
Q1 * Post * Non-Local	-0.000 (0.049)	-0.015 (0.047)	-0.001 (0.046)	-0.000 (0.056)
Q4 * Post * Non-Local	-0.155*** (0.047)	-0.168*** (0.046)	-0.176*** (0.047)	-0.155*** (0.052)
Cubic in Equifax Risk Score (TM)	X	X	X	X
Control African American Blocks	X	X	X	X
N	66,509	66,509	66,509	66,509
R^2	0.382	0.382	0.383	0.382

This table runs robustness specifications for the non-local lender results in Table 5 of the text. Column (1) of this table repeats the preferred specification from Table 5 (column 5). Recall that this specification uses the loan share measure of a non-local lender, the 50th percentile as the cut-off threshold for a non-local lender tract, and all available pre-Katrina HMDA data (1997 through August 28, 2005) in calculating the threshold. Column (2) considers how the estimates change if we only use HMDA data from our pre-Katrina panel period (2002Q3 through August 28, 2005). Column (3) considers how the estimates change if we use the CSA branch definition as the measure of a non-local lender. Column (4) repeats the specification in Column (1) except clusters the standard errors at the Census Tract level (rather than Census Block). Please refer to Section 5.3 in the text and Appendix Section B for more details.