

Property Taxes and Homeowner Distress

Roxana Gonzalez

University of South Carolina

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Property Taxes

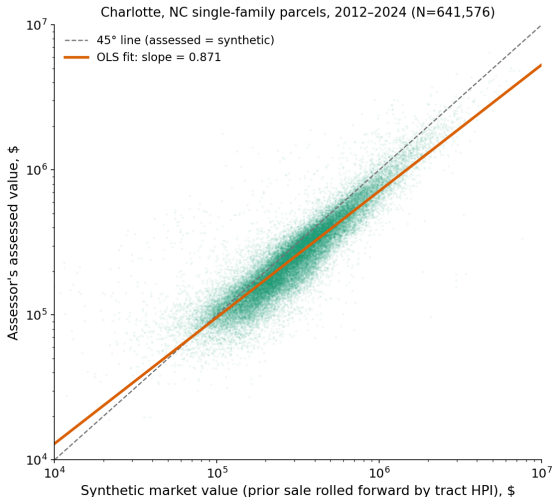
- Comprise 12% of housing cost for US homeowners
- Property tax = statutory tax rate $\times$ assessment value
 - Statutory tax rates uniform within a jurisdiction
 - Assessment values do not track market values (arm's-length sales prices)
- Effective tax rate = tax bill / market value
 - Varies within a jurisdiction

Property Tax “Regressivity”: Assessment Gaps

- Effective property tax rates *higher* for lower value homes
 - ① More appeals come from higher value homeowners
 - ② Lower value homes are sold more often so pricing models tend to be more accurate for them
 - ③ Valuation models obscure neighborhood characteristics (e.g., what makes Kalorama homes more desirable than Anacostia homes)
- Low-value homeowners: Less liquidity; higher baseline risk of distressed sale amplified by regressive tax structure

Assessment Gap: Charlotte, NC

Assessed Value vs. Sale-Based Market Value



This Paper

Research Questions:

- 1 Do low-value homes sell at discounted values following large tax changes?
- 2 Do low-value homes face more foreclosures following large tax changes?
- 3 How much of these effects are attributable to assessment gaps?

Results:

- 1 Low-value homes sell at a 19% discount 1-3 years after a property tax shock
- 2 Low-value homes receive foreclosure filings at a 0.6 pp higher rate, roughly an 80% increase from the baseline rate (0.75%)
- 3 A 10 pp narrowing of the assessment gap is associated with a 64% increase in foreclosure filings and an 18% decrease in sale prices.

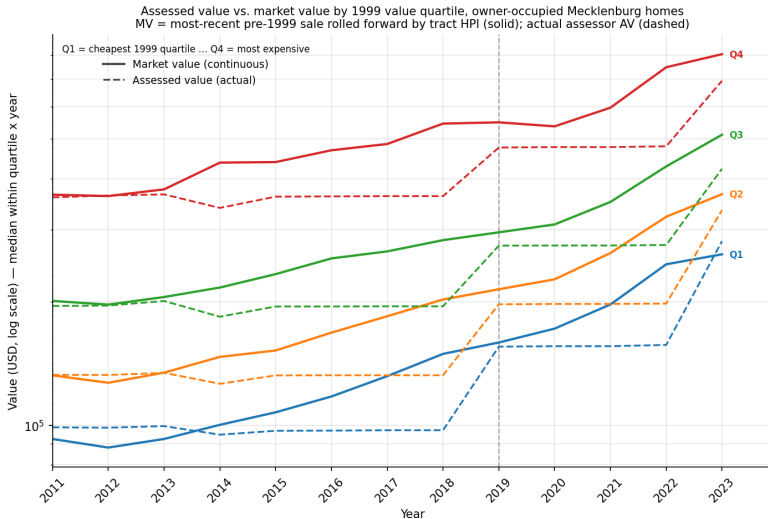
Property Tax "Shocks"

- ① Property tax effects on homeowner distress are hard to measure due to their incremental change
- ② Tax bills may only vary by a small amount from year to year
- ③ However, several states have 6-to-8-year reassessment cycle mandates
 - Infrequent reassessments → large appreciation buildup → large changes in their tax bills in reassessment years
 - Creates a measurable "shock"

Mecklenburg County (Charlotte) Assessments

- Reassess every 8 years: 2003, 2011, 2019
- Has exploitable tax shocks
- County assessor publishes amazing data on historical tax liabilities

Assessment Gaps



Methods Overview

- ① Use a similar county with annual reassessments (Fulton County, GA) to help control for market factors unrelated to property tax shocks
 - DDD: Compare outcomes for bottom-quartile homes by county $\times$ year
 - Estimate **large tax change** effect on **homeowner distress**
 - Limitation: Only explains effects of property taxes, *not regressivity*
- ② Instrument for assessment gaps with "years since reassessment"
 - Estimate **assessment gap** effect on **homeowner distress**

Difference-in-Difference Approach

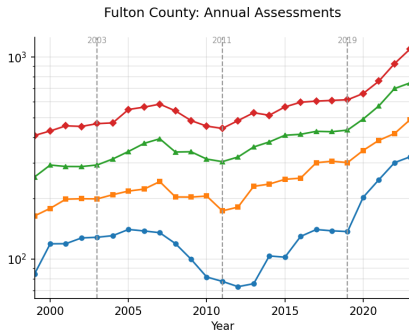
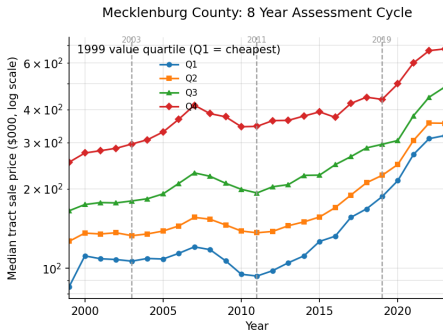
Effect of tax shocks on bottom-quartile homes in Mecklenburg

- Run event study for outcomes log sale price or foreclosure filings
 - Compare counties: Mecklenburg (reassesses in cycles, treated) v. Fulton (reassesses annually, control)
 - Compare home tiers: bottom 25% v. all other
 - Track outcomes by years relative to Mecklenburg reassessment
 - Additional controls: reassessment window FE, lower-order interactions, leaving only reassessment-specific movement

Coefficients of interest

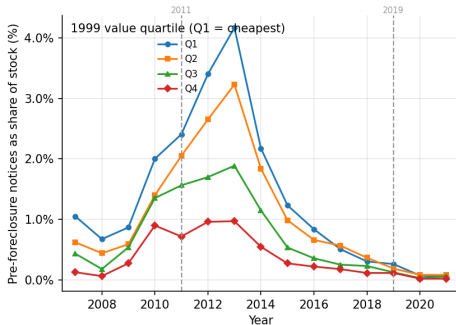
$\{\beta_\tau\}$ trace outcome path of the bottom-quartile Mecklenburg homes relative to controls and upper quartiles

Sales Prices

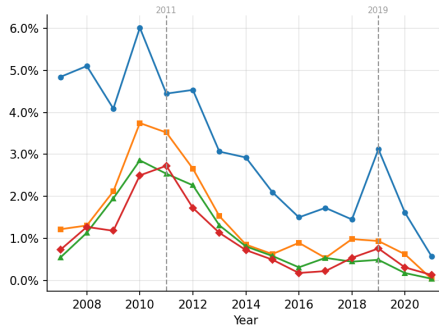


Foreclosure Filings

Mecklenburg County: 8 Year Assessment Cycle



Fulton County: Annual Assessments

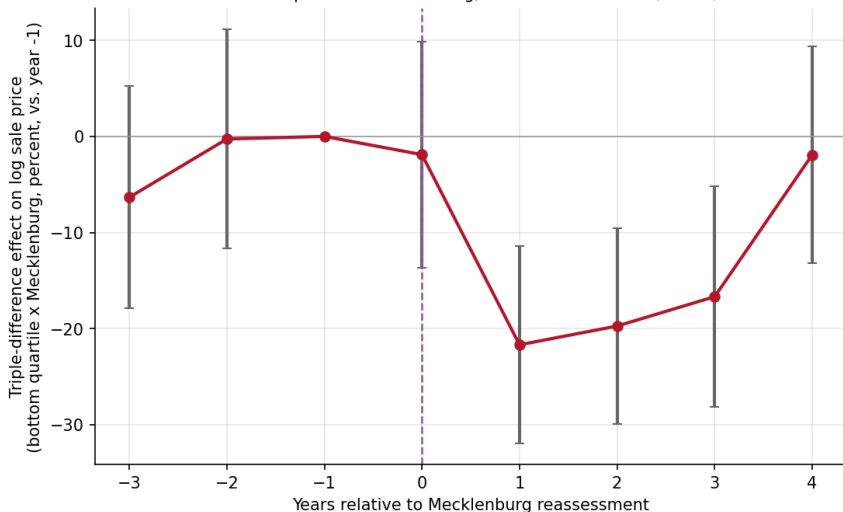


Summary Statistics

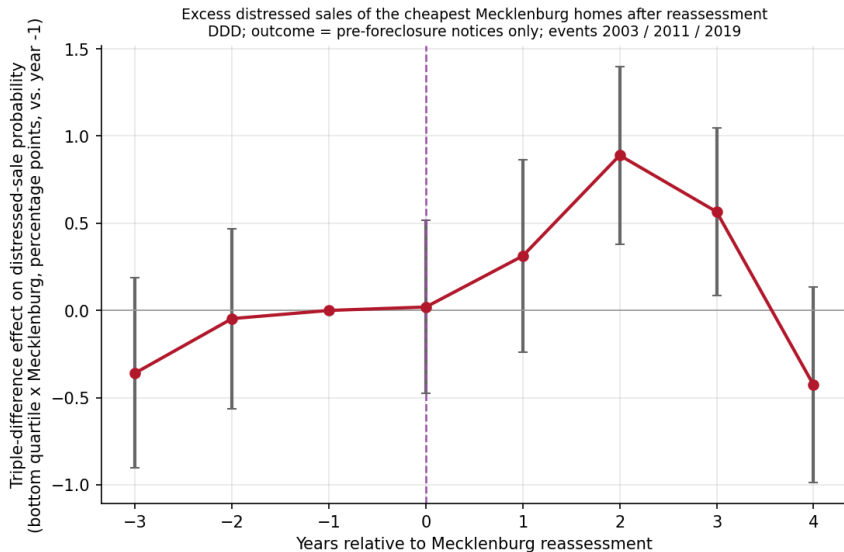
Variable	Mecklenburg (treated)			Fulton (control)			Difference	Norm. diff.
	<i>N</i>	Mean	SD	<i>N</i>	Mean	SD		
Sale price (\$)	185,942	273,734	234,828	15,910	535,883	758,195	-262,149	-0.467
Assessed value (\$)	185,942	474,810	325,470	15,910	540,389	514,042	-65,579	-0.152
Imputed market value (\$)	183,745	317,374	259,389	15,136	588,243	859,604	-270,869	-0.427
Imputed AV/MV ratio (ρ)	183,745	0.98	0.36	15,136	0.99	0.44	-0.01	-0.013
Imputed effective tax rate (%)	183,745	1.17	0.43	15,136	1.69	0.76	-0.53	-0.853
Imputed tax bill (\$)	183,745	3,239	2,615	15,136	7,517	7,971	-4,279	-0.721
Loan-to-value	168,391	0.86	0.15	12,952	0.87	0.21	-0.01	-0.067
Loan amount (\$)	178,425	186,845	168,689	13,808	299,168	308,716	-112,323	-0.452
Distressed-sale indicator	185,942	0.107	0.309	15,910	0.236	0.425	-0.129	-0.348
Year built	185,922	1989	23	15,907	1973	32	16	0.580

Event Study: Sales Prices for Low-Value Homes

Sale-price response of the cheapest Mecklenburg homes after reassessment
DDD: bottom quartile x Mecklenburg; reassessments 2003 / 2011 / 2019



Event Study: Foreclosure Filings for Low-Value Homes



Effect of Large Property Tax Changes on Homeowner Distress

- ① On average, bottom-quartile homes in Mecklenburg see sale prices fall by **20–22%** 1-3 years post-reassessment
 - Suggests a **1 pp** reassessment-driven tax increase leads to a **5.3%** decrease in sales price
- ② On average, bottom-quartile homes see foreclosure rates **0.6 higher** 1-3 years post-reassessment
 - An **80% increase** from year prior to reassessment

Effect of Assessment Gap on Homeowner Distress

- Until now, we've only seen how tax shocks affect homeowners
- **Goal:** estimate how the assessment gap (market \$ - assessed \$) drives homeowner distress (foreclosure or sale price discount)
- **Problem:** market value determines both; appreciation widens the gap *and* lowers distress through equity
- **Solution:** instrument the gap with *assessment timing* (predetermined), and control for market value directly
 - *Relevant:* timing mechanically predicts the gap
 - *Excludable:* timing affects distress only through the gap

Instrumental Variables Approach

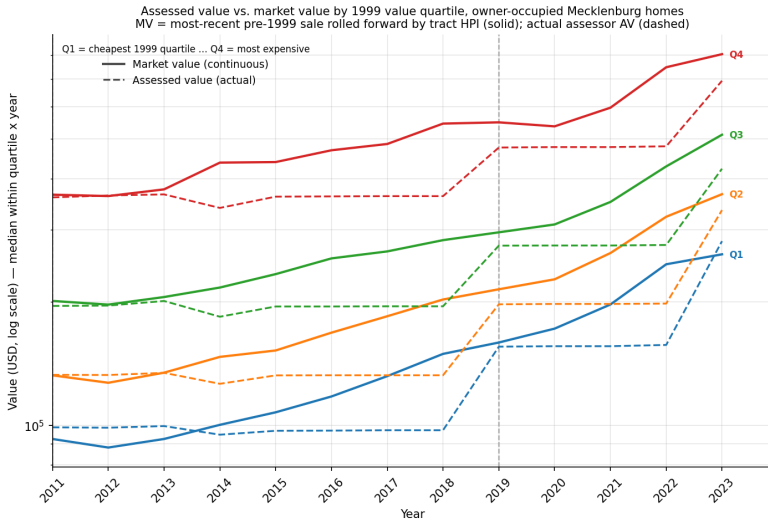
Effect of the assessment ratio (AV/MV) on distress and prices

- Two stages that isolate movement in a home's assessment ratio
 - First stage: use years since the last reassessment to move the ratio; frozen values drift below market until next assessment resets them
 - Second stage: trace how that reassessment-driven movement in the ratio feeds into foreclosure filings or log sale price
- Pool counties: Mecklenburg with Fulton (reassesses annually, always at year 0); Fulton supplies the within-year comparison
- Add calendar-year FE, local house prices, unemployment, home value

Coefficient of interest

θ traces the effect of a one-point change in the assessment ratio (AV/MV) on sale price discounts and foreclosure filings, holding the tax rate fixed

Assessment Gaps



First Stage: Assessment Ratio & Years to Reassessment

Dependent variable: assessment ratio $R = 100 (AV/MV)$

	(1) Mecklenburg only	(2) Mecklenburg + Fulton
YearsSinceAssessed	-3.556 (0.996)	-2.878 (0.162)
Reassessment-cycle FE	Yes	–
County FE	–	Yes
Calendar-year FE	No	Yes
Clustering	Cal. year	Tract
First-stage F	12.7	317.1
Observations	1,591,843	1,605,067

Second Stage: Effect on Foreclosures and Sales Prices

Dependent variable: foreclosure notice, log sale price

	(1) Notice of trustee sale	(2) Log sale price
Assessment ratio ($\hat{R}$)	0.0004 (0.0002)	-0.0194 (0.0071)
Controls	Yes	Yes
County FE	Yes	Yes
Calendar-year FE	Yes	Yes
First-stage F	250.9	27.5
Observations	1,605,067	83,832

θ = effect of a one-percentage-point rise in the assessment ratio, AV/MV

Balance

Variable	<i>YearsSinceAssessed</i> coefficient (standardized)
Assessment ratio (endogenous)	-0.0502 (0.0028)
Local house-price index	0.0009 (0.0043)
County unemployment rate	0.0033 (0.0005)
Log market value	-0.0013 (0.0030)

Effect of the Assessment Gap on Homeowner Distress

- ① On average, 10 pp narrower assessment gap (assessed value closer to market) raises foreclosure filings $\sim 64\%$ and lowers sale prices $\sim 18\%$, relative to annually-reassessed Fulton
- ② Not driven by local house prices, unemployment, or home value

Thank you for your time!

email: roxanag@email.sc.edu

website: roxana-gonzalez.github.io