

# **Municipal Finance in Crisis: A Case Study of Detroit**

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Presented at

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# Acknowledgements

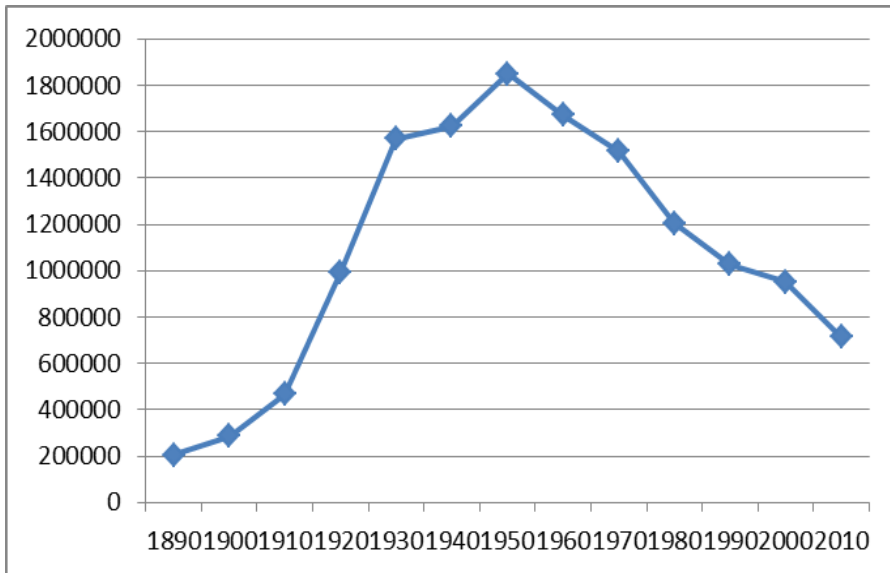
- Lincoln Institute of Land Policy
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- Articles:
  - *Cambridge Journal of Regions, Economy and Society; Journal of Policy Analysis and Management, Journal of Urban Affairs; Lincoln Land Lines; National Tax Journal; Public Finance and Management; Real Estate Economics; Public Finance Review; and Regional Science and Urban Economics*

# Outline

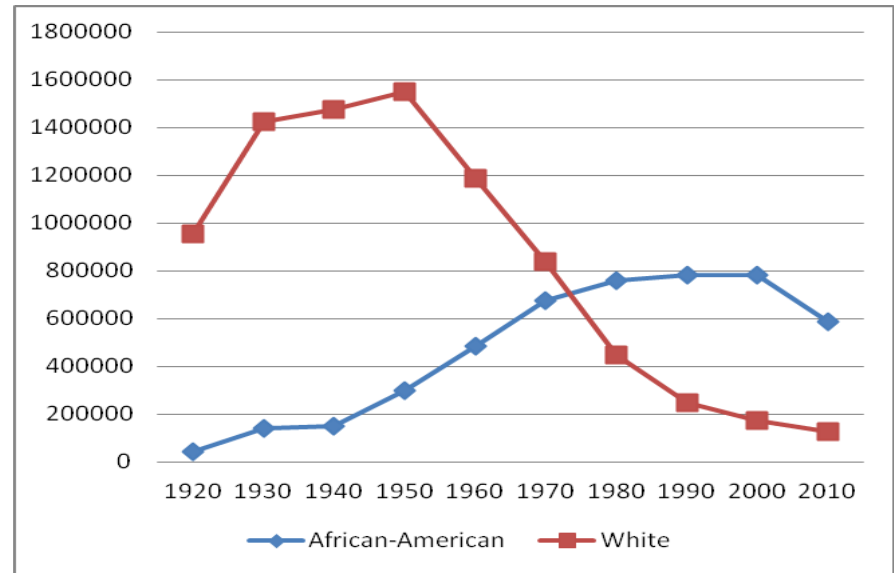
- Economic and Social Base
- Major Revenue Sources
  - Political Economy
- Property Taxation
- Land Value and Land Use
- Tax Competition
- Summary of Challenges
- Bigger Picture

# Detroit Population Trends

## Detroit Population Trends, 1890-2010

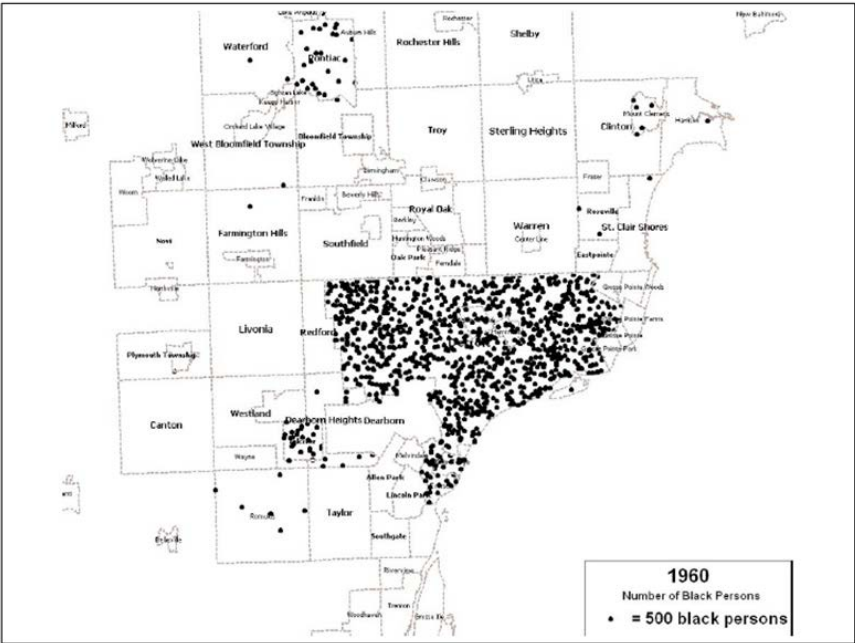


## Detroit Racial Trends, 1920-2010

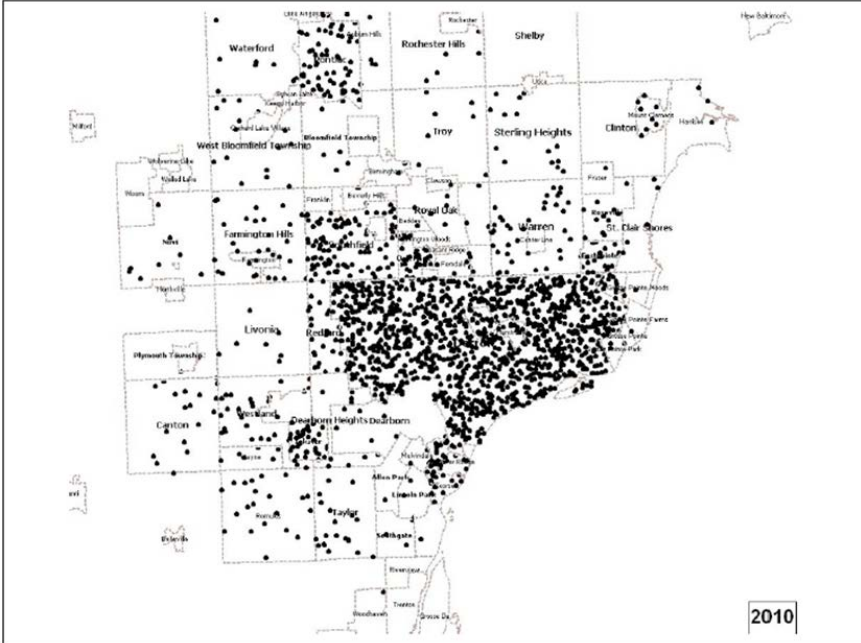


# Black Population in Region

Metro Detroit Black Population, 1960

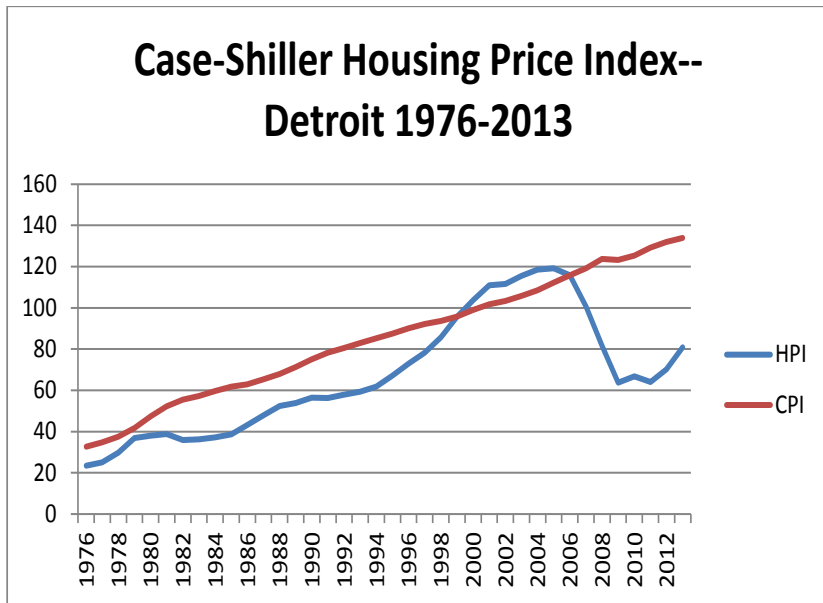


Metro Detroit Black Population. 2010



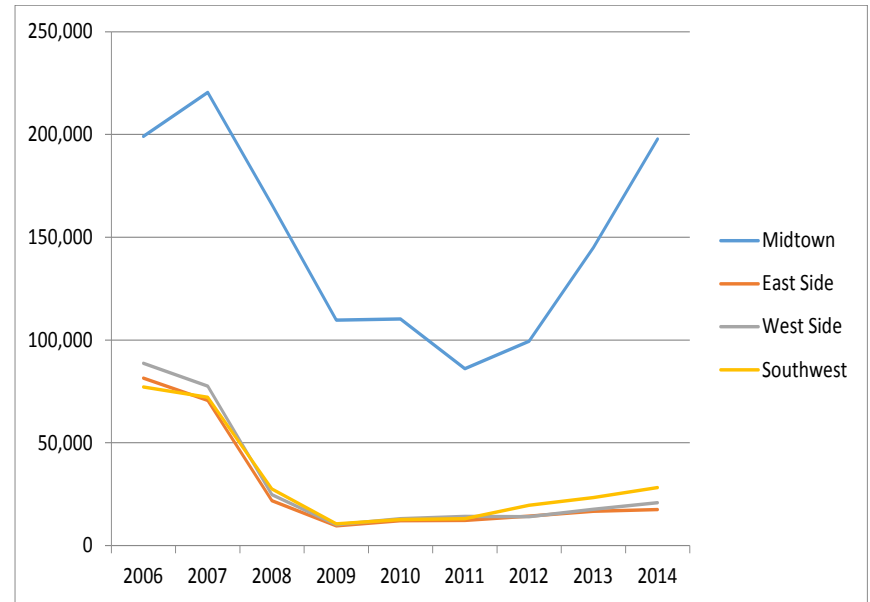
# Detroit Housing Prices

Detroit Housing Price Index vs. Consumer Price Index



Source: Core Logic and Bureau of Labor Statistics

City of Detroit Residential Sales Price Trends



Source: Realty Trac

# Employment and Income in Detroit, 2000-2012

	Employees			Annual Payroll (000,000)		
	2000	2012	Change	2000	2012	Change
<b>City Center</b>	93,168	85,690	-8.0%	\$4.176	\$5.584	33.7%
<b>Balance</b>	166,171	94,593	-43.1%	\$6.566	\$3.855	-40.1%
<b>Total</b>	259,339	180,283	-30.5%	\$10.742	\$9.439	-12.1%

Source: County Business Patterns



# Detroit Economic and Demographic Information

• Median H/H Income	~\$26,000
• Poverty Rate	~ 39%
• Population	~680,000
• Labor Force	~247,580
• Labor Force Participation Rate	~ 60%
• Employed	~213,000
• Unemployed	~ 34,430
• Not in Labor Force	~256,000
• Unemployment Rate	~ 14%
• Social Security (Disability)	~ 34,000
• Social Security (All Types)	~148,000



# Detroit 1940s and 1950s



# Detroit Today



# Downtown



# Campus Martius



# Campus Martius



# Paradise Valley



# Fashion District



# Indian Village





# Indian Village



# Indian Village



# Midtown



# Herman Gardens







# Abandoned Industrial



# Abandoned Industrial





# Abandoned Industrial



# Empty Blocks



# Empty Blocks



# Empty Blocks



# Eastside



# Eastside



# Brightmore Neighborhood



# Rosedale Park Historic District





# Causes (and Effects)

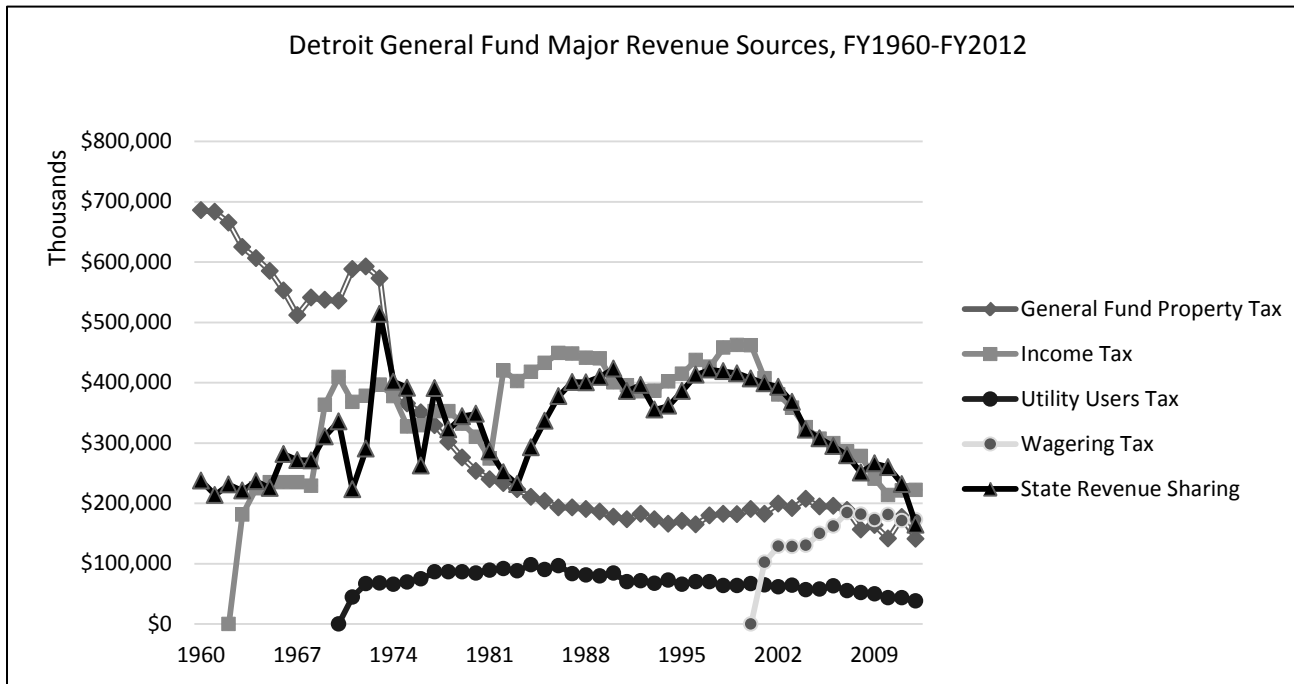
- **Manufacturing Decline/Global Forces**
  - **Great Recession—Real Estate Collapse**
- Racial Tension
- Policies (land use, tax rates, public services, schools)
  - 40% of Street Lights Are Non-functioning
  - Highest Crime Rate Among Large Cities
  - 47 Minute Police Response Time (national average=11 minutes)
- Corruption

## Crime Incidents and Case Clearance Rates

City	Violent Crime	Murder	Rape	Robbery	Aggr. Assault	Simple Assault	Property Crime	Burglary	Larc. Theft	MV Theft	Arson	Total
Detroit												
Cases Assigned	15,254	344	426	4,976	9,508	17,240	43,759	16,032	16,500	11,227	958	136,224
Cleared	2,841	39	54	401	2,347	2,427	1,844	730	578	536	57	11,854
Clearance Rate	18.6%	11.3%	12.7%	8.1%	24.7%	14.1%	4.2%	4.6%	3.5%	4.8%	5.9%	8.7%

# Major City Revenue Sources (millions of real \$)

**Detroit General Fund Major Revenue Sources, FY60-FY12**



Source: Detroit Audit Reports, 1960-2012

Total Debt  
and Unfunded  
Liabilities =  
**\$18 billion**

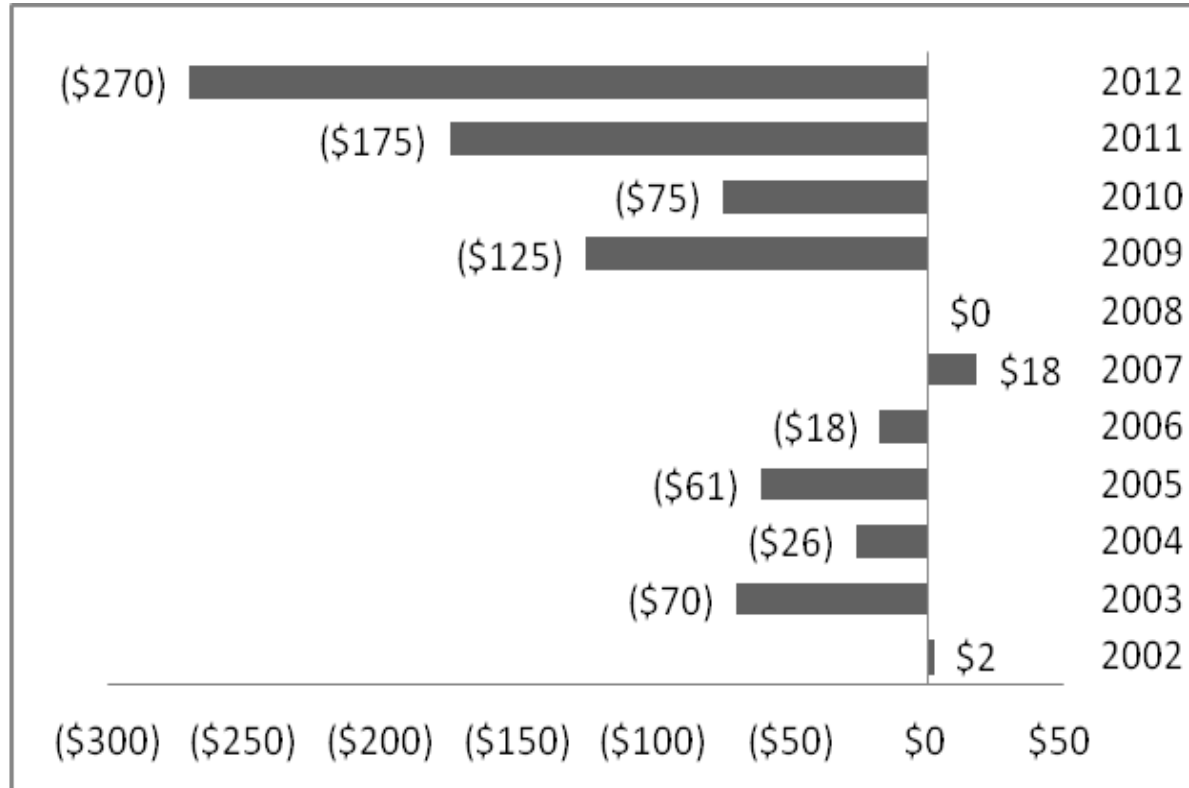
or **\$68,000** per  
Detroit household  
(Median Household  
Income ~\$25,000)

Bankruptcy (cut  
debt by \$7 billion)

**54% Tax**  
**Delinquency, 2014**  
**(now down to 30-  
35%)**

# Detroit Financial Situation

City of Detroit Balance by Fiscal Year (in millions)



True deficits unrevealed by “debt restructuring”,  
and underfunding retiree benefits accounts.

Bankruptcy reduced obligations by \$7 billion, giving the City a significantly improved fiscal situation. However, population is still in decline...

# Property Values and Property Taxation

- Michigan Property Tax Rules
- Falling Property Values and Assessment
- Tax Base Erosion
- Where is Land Most Valuable in Detroit?
- Tax Delinquency and Property Abandonment
- Tax Competition
  - Tax Abatements
  - Tax Rates and Public Services

# State Property Tax Rules

- Though the Importance of the Property Tax Has Diminished over Time, It Is Still a Key Revenue Source for the City and the Overlying Jurisdictions
  - Every State Defines Its Own Rules for the Property Tax
    - Tax Base
    - Tax Rate
    - Limitations
    - Abatements
  - The Same Is True for Other Revenues Sources (income tax, local option sales tax, gaming and wagering taxes, etc...)

# Features of the Michigan Property Tax

- Headlee Amendment (1978)
- Proposal A (1994)
- Special Assessments (levied without voter approval, not subject to constitutional limits)
  - Finance street improvements, sewer, police, fire, trash collection
- Millage Rate Limits
- Mobile Home Park Exemption
- Exemptions, Tax Abatements, Tax Credits, Etc... to Subsidize Development

# Headlee Amendment

- Imposed in 1978 in Response to Public Dissatisfaction with High Property Tax Burdens
- Nationwide “Tax Revolt”
- Limited the Growth in Property Taxes to the Rate of Inflation Plus New Construction
  - Requires rate reductions or “Headlee rollbacks”

# Proposal A: Property Tax

- Proposal A (1994)
- Property tax changes.
  - Cut homestead millage rates
    - Cut statewide average school millage rates from 34 mills to 6 mills (state education tax)
  - 18 mill limit for schools on non-homestead property
  - Increased the cigarette tax
  - Increased the sales tax rate
  - **Placed a constitutional cap on the growth of assessment increases for tax purposes**



# Taxable Value Cap

- The taxable value of a property is allowed to increase by the lesser of the rate of inflation or 5%
  - Historically, taxable value (TV) grew less slowly than state equalized value (SEV)
    - Growth in TV < Growth in SEV so that  $(TV/SEV) \downarrow$ 
      - Tax Base Erosion
- A couple rules
  - TV increases to SEV when a home is sold (“pop up”)
  - For new construction, TV = SEV
  - Applies to each individual property, not jurisdictions’ aggregate property values
- Growth in SEV and TV in a jurisdiction depend on
  - The rate of property turnover
  - The rate of new construction
  - The rate of growth (or decline) in actual property values

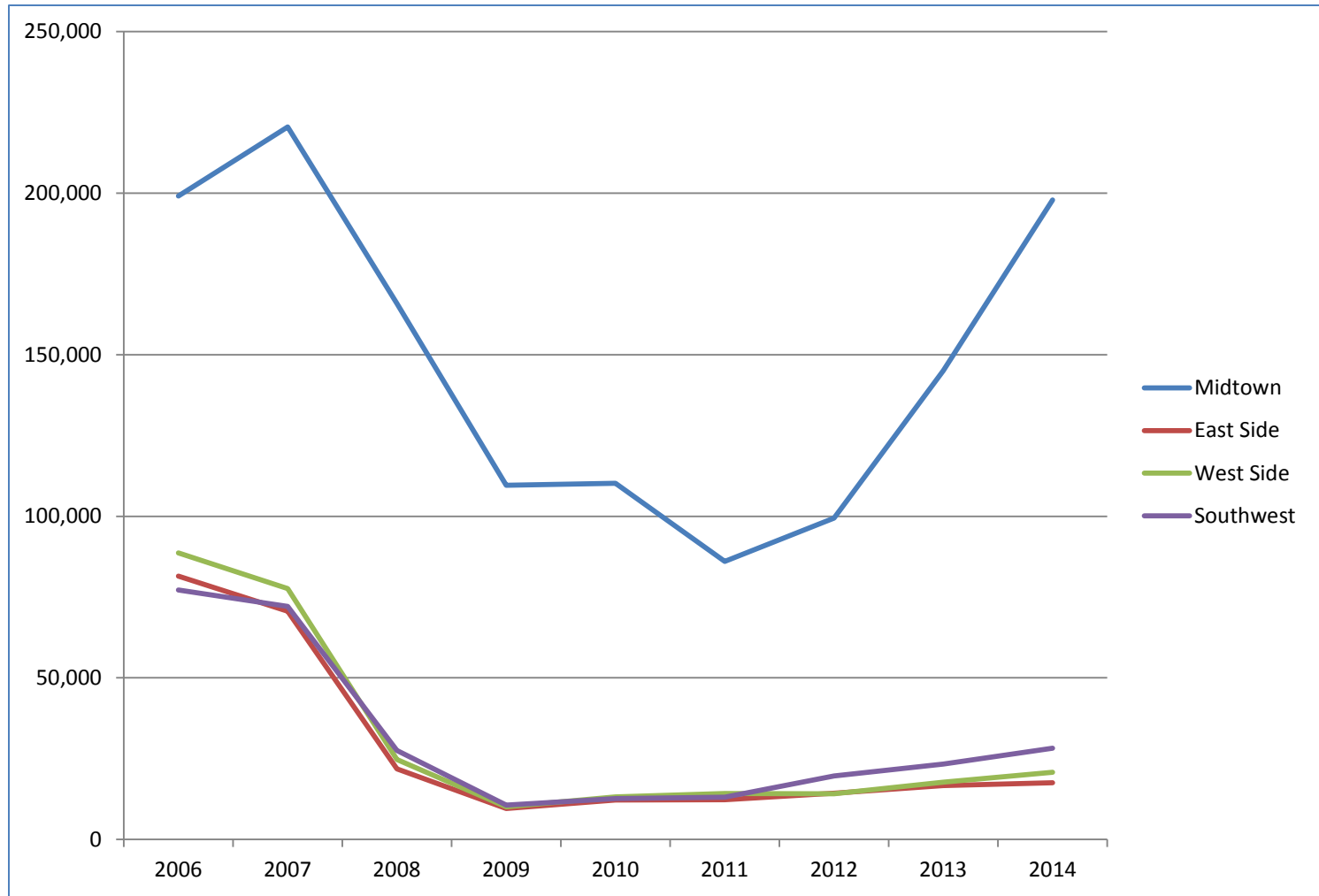
# Definitions & Institutional Background

- Taxable Value Grows at Rate of Inflation until Property Is Sold (Assessment Growth Cap Imposed in 1994)
- State Equalized Value= $1/2 * \text{Market Value}$
- Tax Payment= $\text{Taxable Value} * \text{Statutory Tax Rate}$
- Statutory or Millage Rates Vary Depending on Abatements
- Effective Tax Rate= $\text{Tax Payment} / \text{State Equalized Value}$
- Effective Tax Rates Vary Substantially from Neighborhood to Neighborhood and from Parcel to Parcel

# Falling Property Values

- Falling Property Values
- Lagging Declines in Assessed Values
- Assessment Errors
  - Over-assessed by a factor of five on average
  - Vertical inequity
  - Horizontal Inequity

# Realty Trac Average Home Sale Prices



# Assessments vs. Sales Price

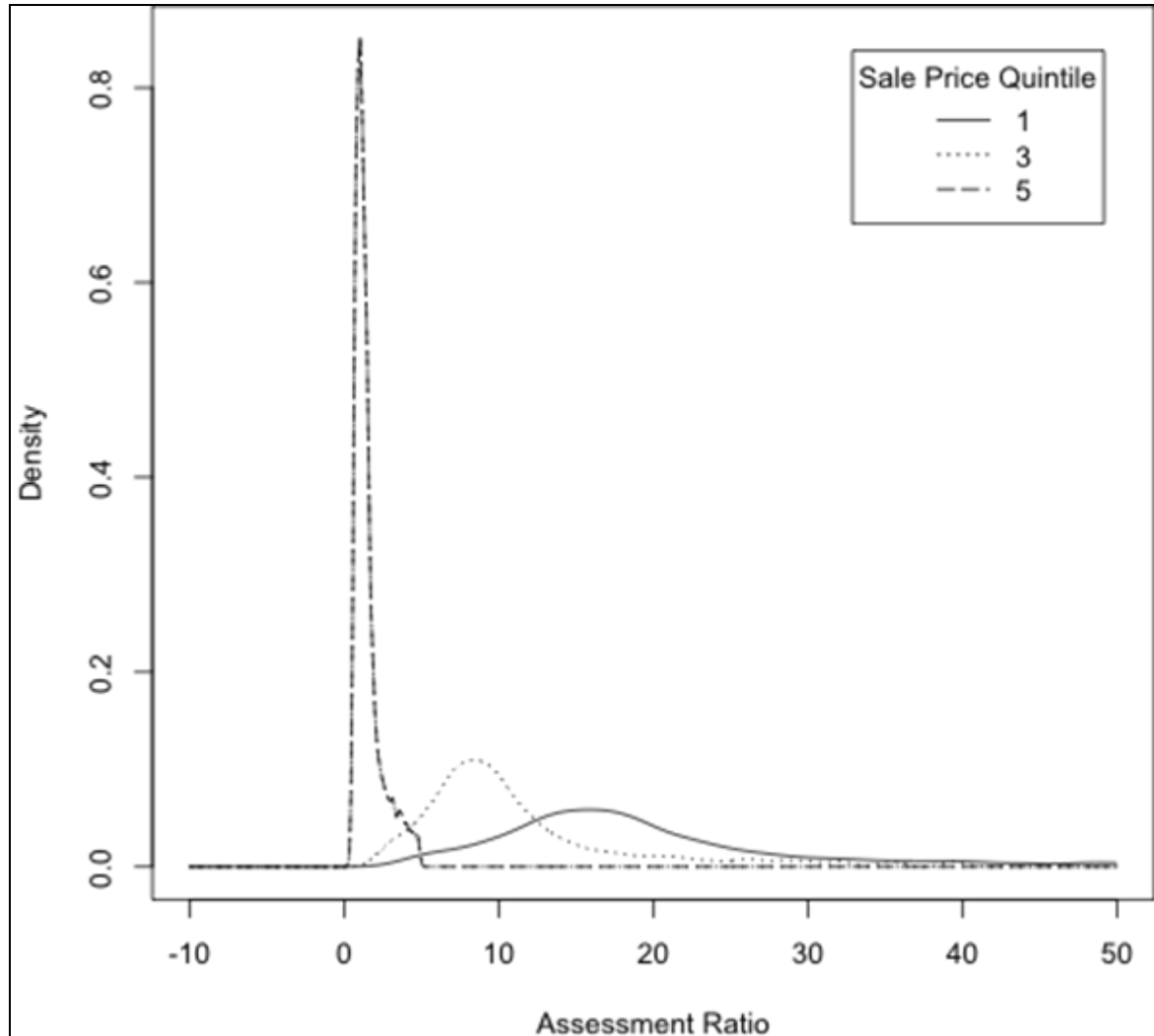
City of Detroit Improved Residential Parcel Sales by Quintile

Year of Sale	Quintile					Number of Sales	
	1	2	3	4	5		
2005	Sales Price	\$6,148	\$33,602	\$62,460	\$80,058	\$112,580	6,307
	Assessed Value*	\$30,899	\$34,250	\$35,630	\$43,552	\$57,616	
2006	Sales Price	\$5,718	\$31,298	\$62,069	\$80,888	\$117,385	7,959
	Assessed Value*	\$31,006	\$37,102	\$37,826	\$42,477	\$57,500	
2007	Sales Price	\$2,954	\$13,438	\$32,712	\$64,217	\$102,536	9,957
	Assessed Value*	\$33,675	\$39,352	\$45,486	\$41,483	\$53,959	
2008	Sales Price	\$1,509	\$6,259	\$13,255	\$33,526	\$85,741	11,338
	Assessed Value*	\$36,277	\$43,807	\$52,748	\$50,810	\$50,396	
2009	Sales Price	\$1,702	\$4,372	\$8,281	\$16,258	\$62,092	10,170
	Assessed Value*	\$39,127	\$43,853	\$50,596	\$57,289	\$52,491	
2010	Sales Price	\$354	\$4,174	\$9,499	\$21,144	\$73,186	8,869
	Assessed Value*	\$41,472	\$41,506	\$50,733	\$56,736	\$54,791	

Source: City of Detroit Assessment. \*Current State Equalized Value times 2.

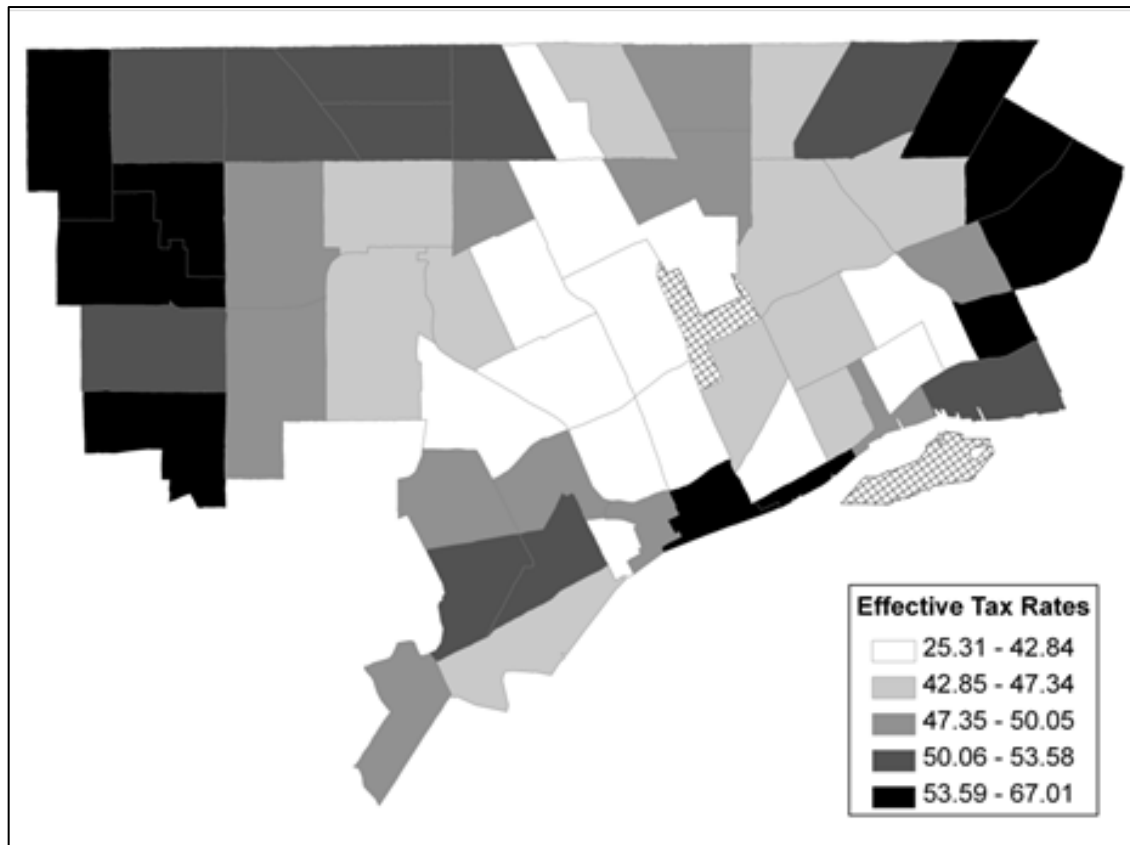
**Assessments Appear to Be Very Inaccurate!**

# Assessment Ratio Distributions by Sales Price Quintile



# Tax Base Erosion: Assessment Growth Cap

Neighborhood Average Effective Tax Rates of  
Owner-Occupied Residential Property, 2010

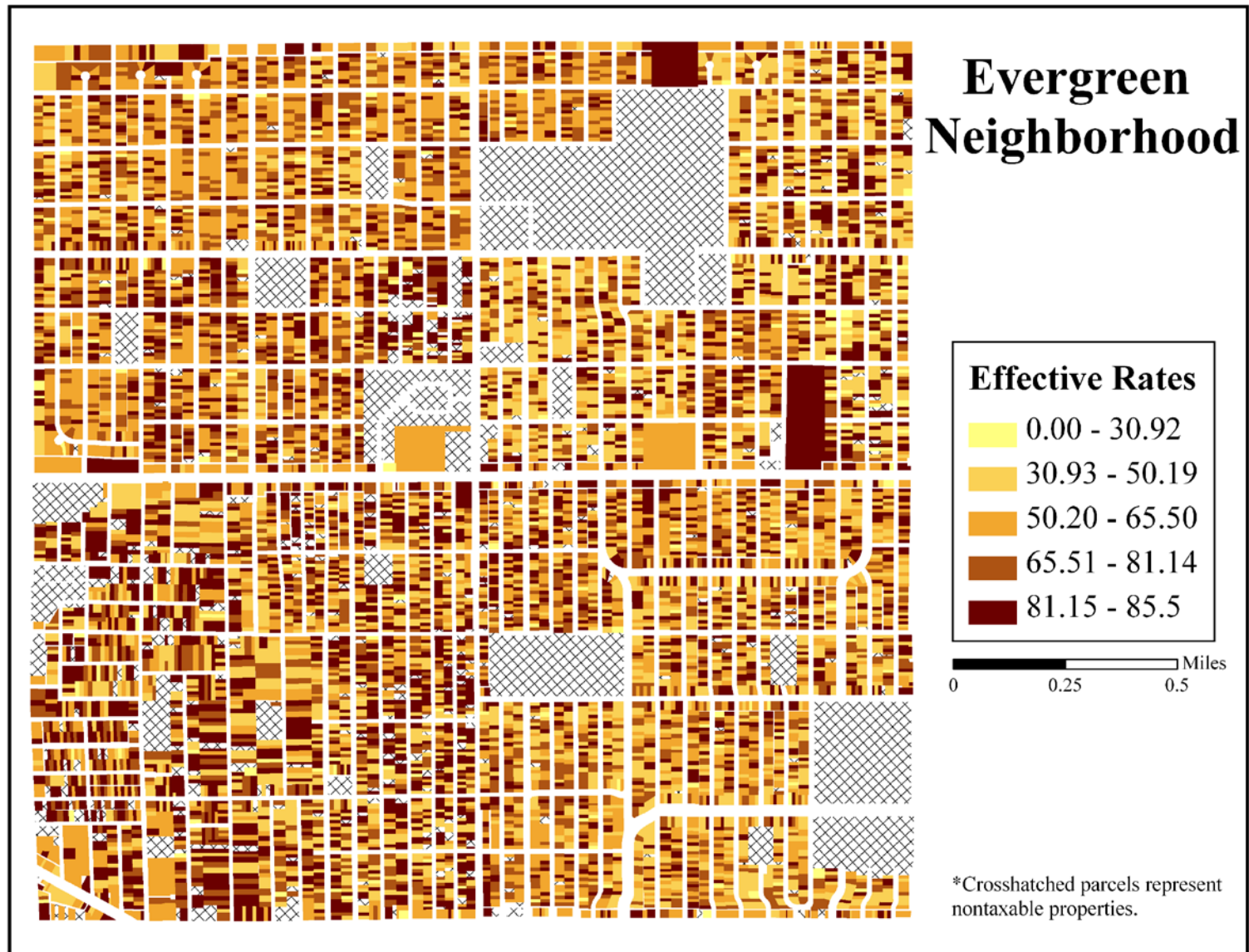


Recall that:

Tax Payment =  
Statutory Tax Rate \* TV

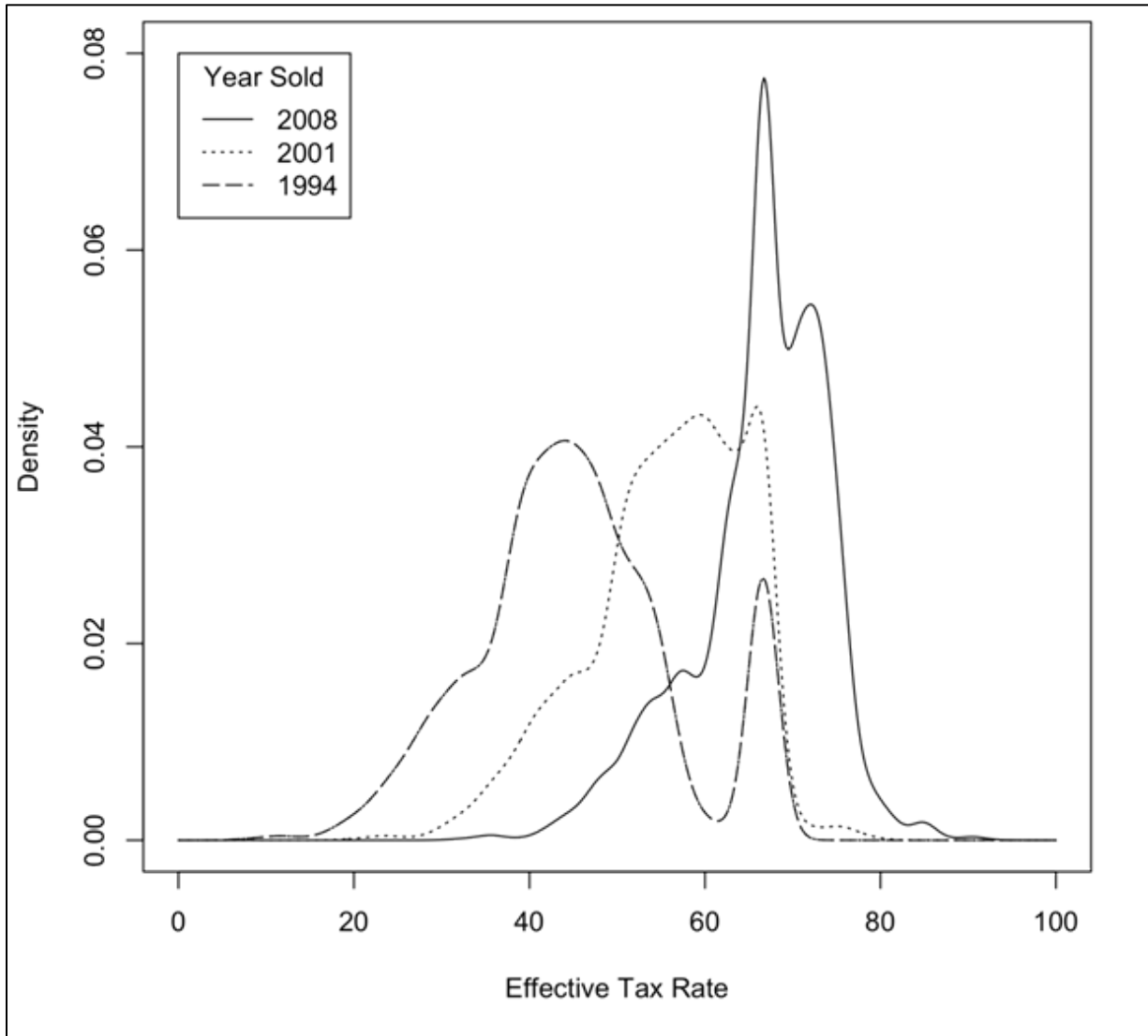
Effective Tax Rate =  
Tax Payment / SEV

# Parcel Level Effective Tax Rates, 2010





# Quantile Regression: Effect of Assessment Growth Cap on Effective Tax Rate Densities



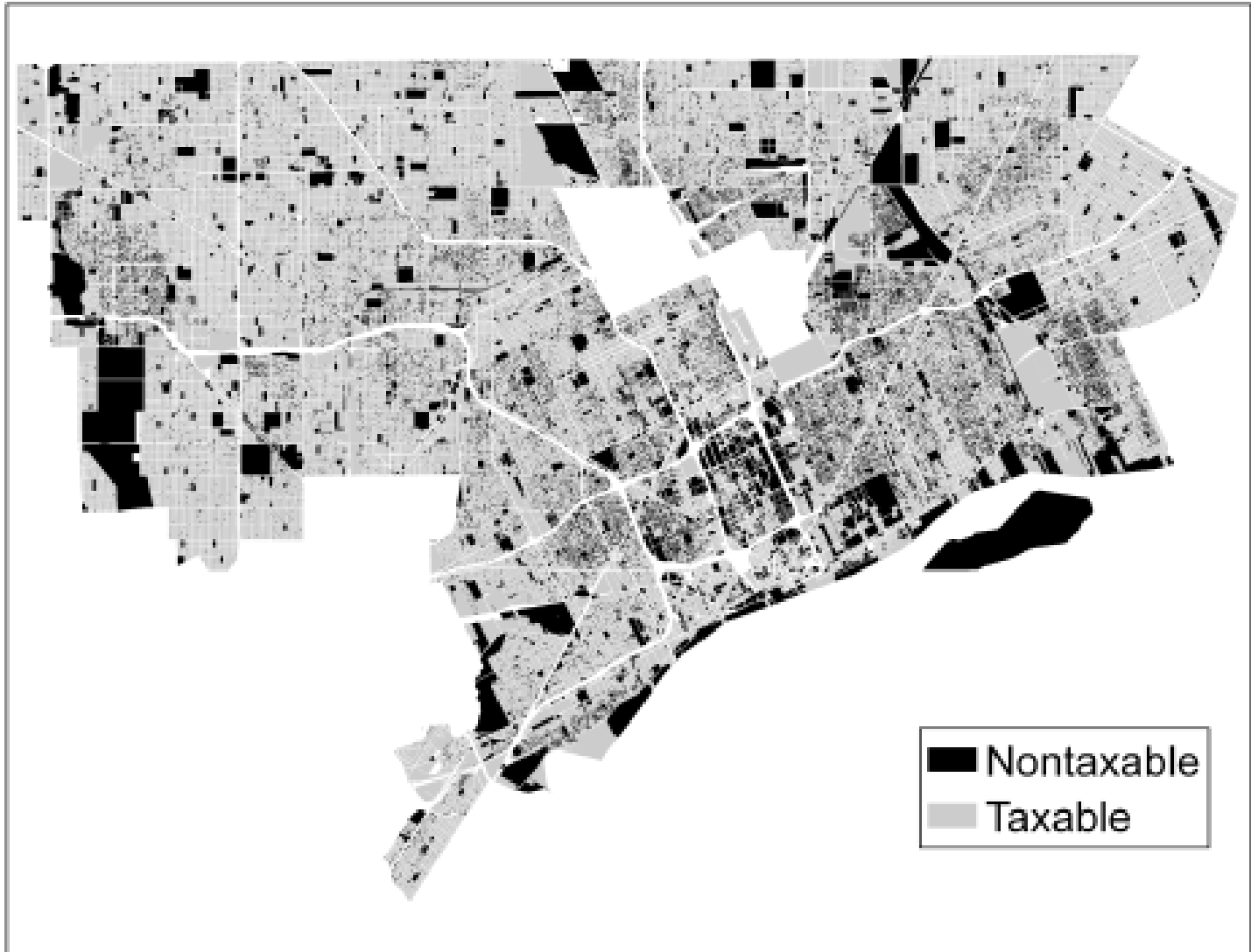
Hodge, Skidmore,  
Sands, & McMillen  
(2015)

Quantile  
Regression  
Techniques Allows  
a More Complete  
Evaluation of the  
Distributional  
Implications of the  
Assessment  
Growth Cap

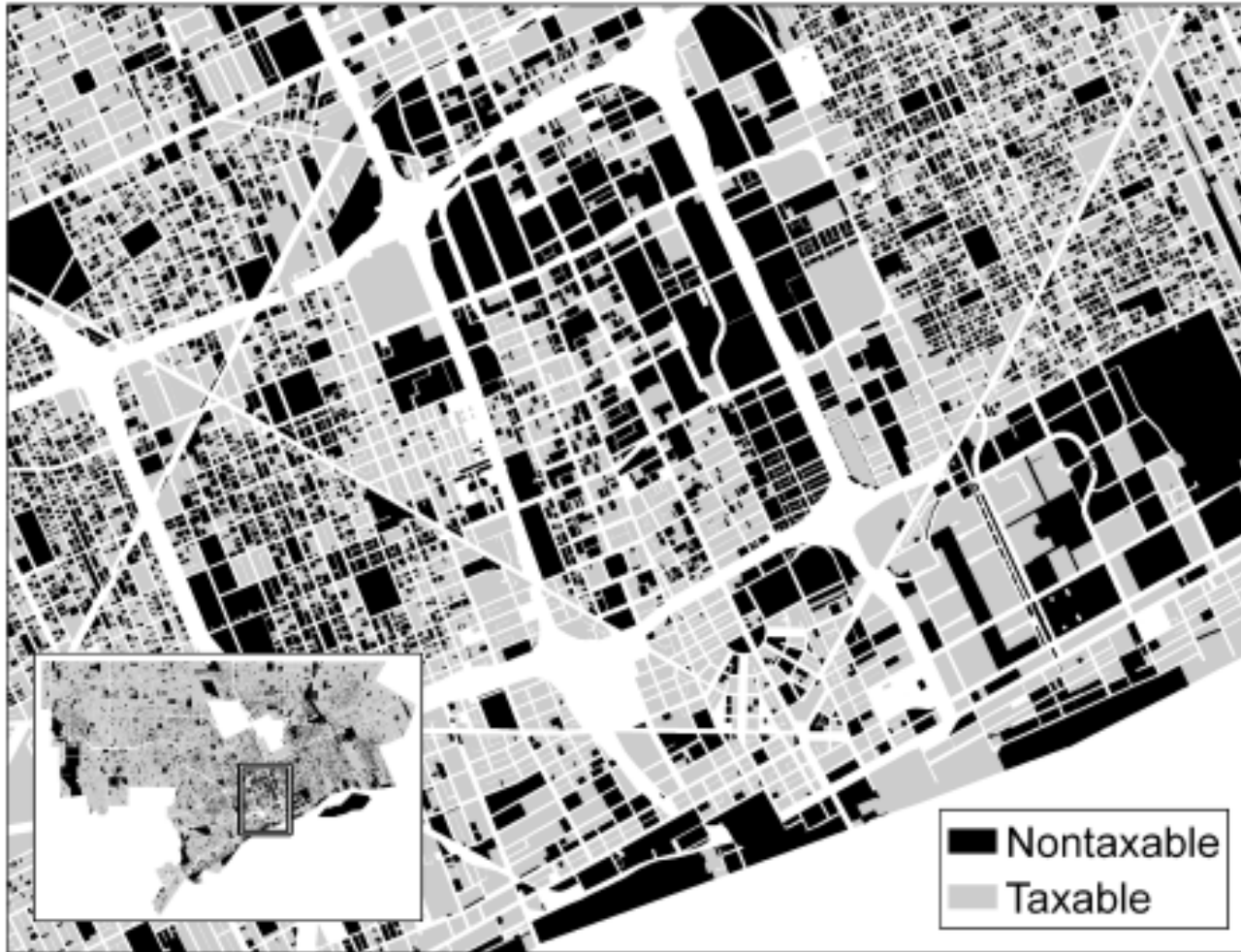
# Land Value in Detroit

- Collapsed Property Market
- Many Vacant Property Sales
  - Opportunity to Learn about Land Values in Declining Urban Area
  - Where is Land Valuable in the City?
- Viscous Cycle of Tax Delinquency
  - Public Ownership of Parcels Is Increasing
  - What Policies Might Help Stabilize the Market and Increase Land Value?

# Taxable and Nontaxable Properties in 2010



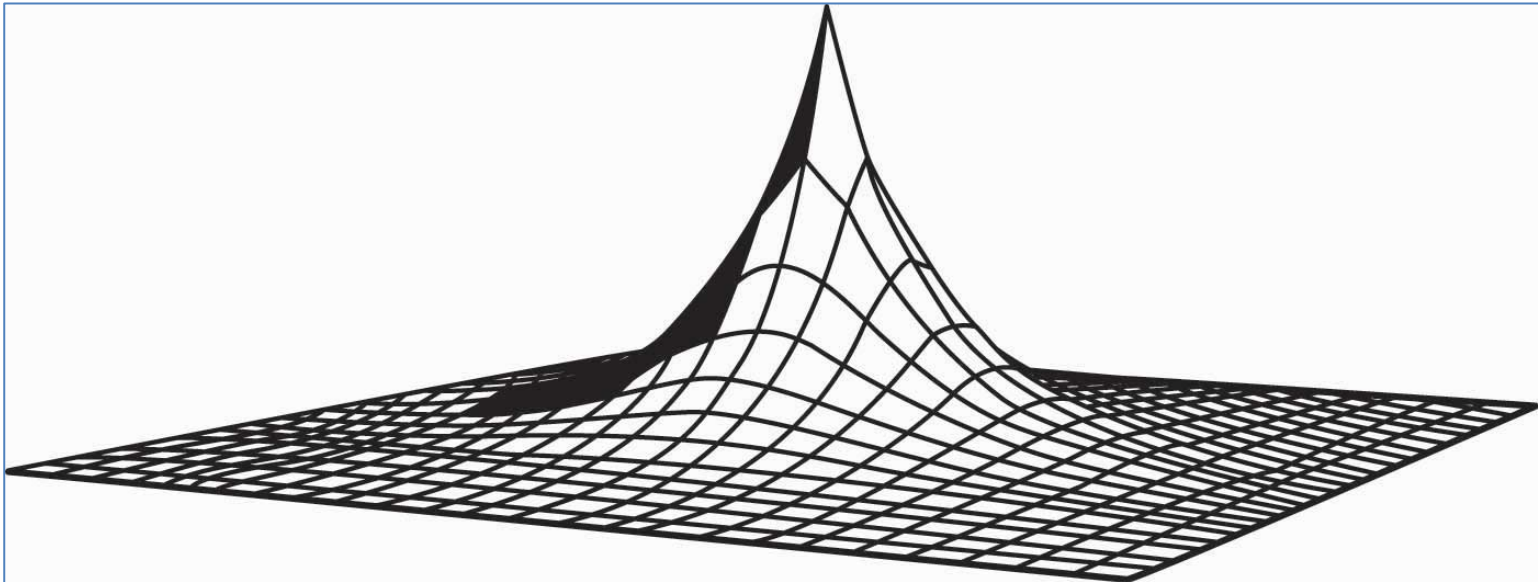
# Central City Taxable and Nontaxable Properties



# Theory

## 1. Urban Land Value Gradient

- Monocentric City (Muth, 1969; Mills, 1972)
- Modifications
  - Non-monocentric City (Dubin and Sung, 1987; Ahlfeldt, 2010)

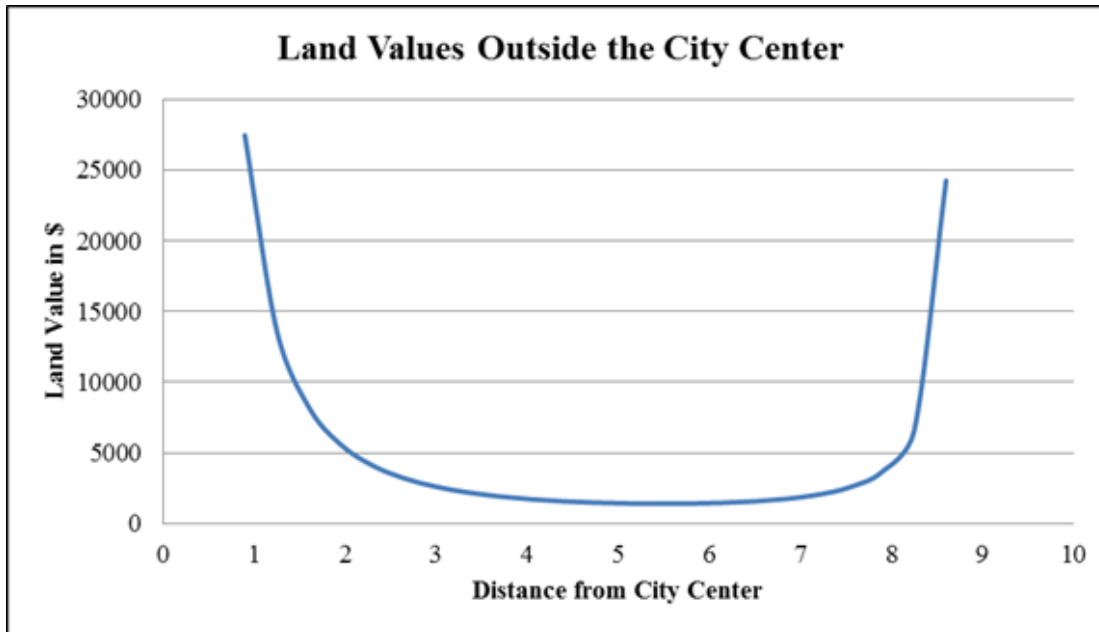
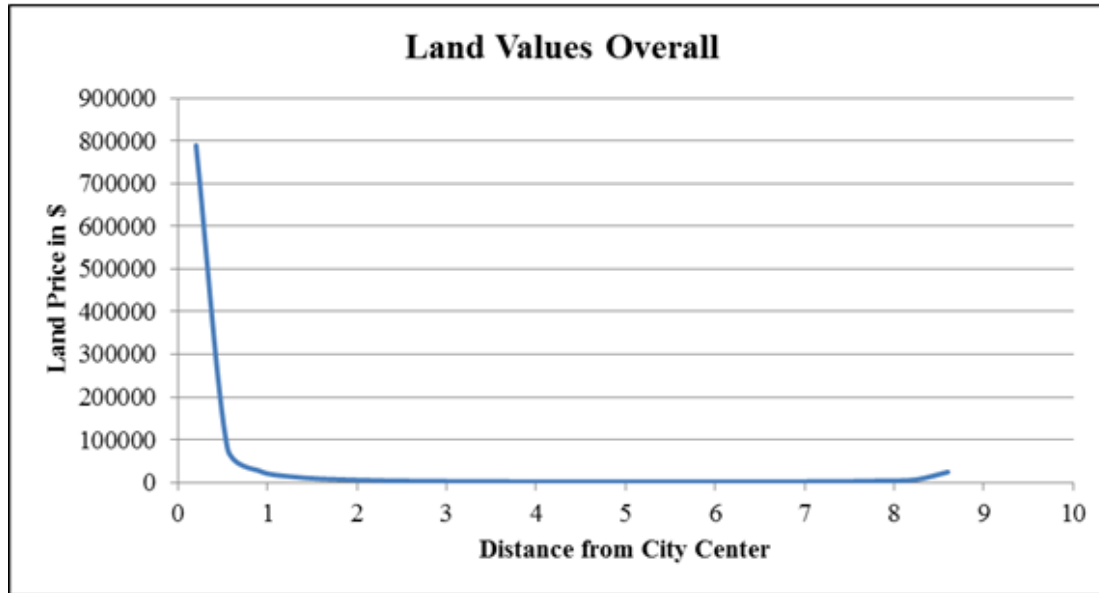




# Data and Methods

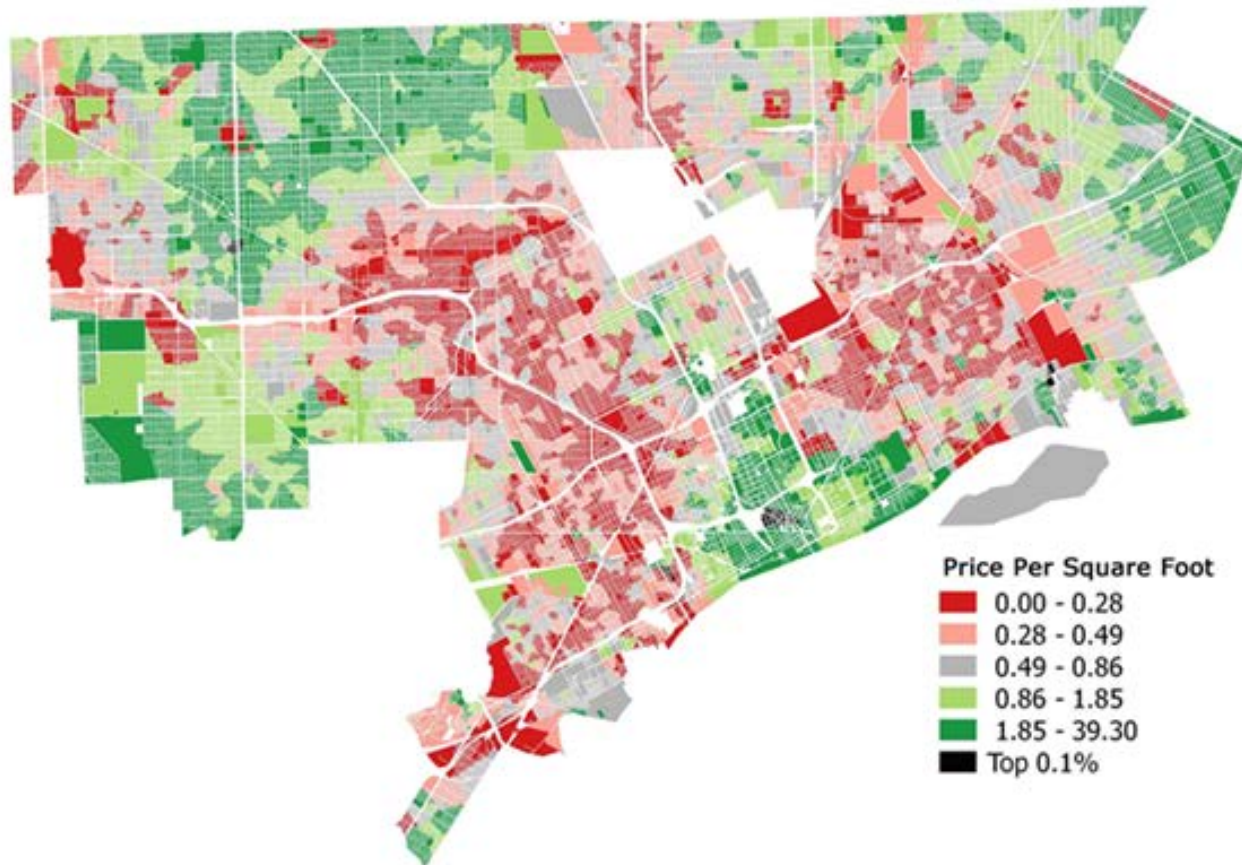
- The City of Detroit's Assessment Division provided parcel-level data for this research.
- The raw data include information for 444,183 real and personal property parcels, of which we focus on vacant land parcels.
- In total there are 93,786 vacant parcels, of which 47 percent are owned by the City of Detroit or some other public entity.
- Omit observations for various reasons
- Remaining are **3,788 parcels, 4.6 percent of total vacant parcels** sold during the 2006-2010 period.
- Use regression analysis to generate land value gradient
  - land value = f(distance from city center, distance from border, other factors)
  - standard regression with modifications and locally weighted regression

# Estimated Land Value Gradient



# Predicted Land Values from Locally Weighed Regression

Predicted Land Values, by Quintile





# Implications of Land Value Analysis

- Evidence of a U-Shaped Land Value Gradient
- Informs Vacant Land Management Decisions—Decide which Land to:
  - Return to Private Ownership
  - Hold in Public Hands for the Medium to Long-term
  - Permanently Remove from the Market (green space)
- Permanently Eliminating Land from the Market Could Strengthen the Land Value Trajectory

# Property Tax Delinquency and Abandonment

- Delinquency Facts and Processes
  - 54% of Parcels Were Tax Delinquent in 2014 (w/ 20% delinquent for five or more years)
    - This Year Tax Delinquency Down to 30-35%
  - Wayne County Does Not Have the Resources to Bring Tax Foreclosure Proceedings on All Delinquent Properties
  - Properties with Less than \$1,500-\$2,000 in Back-taxes Are Ignored
  - For Tax Foreclosed Properties, a Public Auction is Held
    - If a Property Is not Sold at the First or Second Auctions, the Property is Transferred to a Public Body such as City, State or Land Bank
  - 30,000 Tax Foreclosures Are Expected This Fall
    - <http://www.detroitnews.com/story/news/special-reports/2015/07/01/detroit-braces-flood-tax-foreclosures/29589915/>
  - The Number of Publicly Held Parcels is Growing

# Why Is the Tax High Delinquency Rate so High?

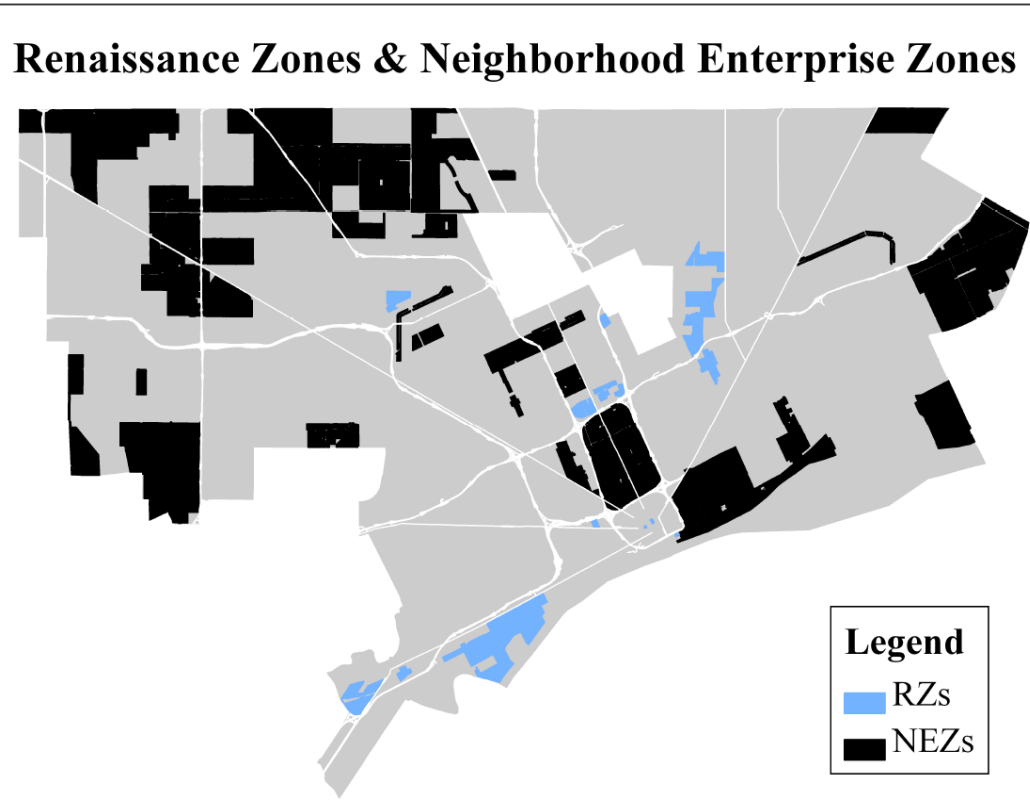
- Social Contract in Crisis?
  - Limited Public Services
  - High Taxes (High Rates and Unfair Assessments)
- Enforcement Mechanism
  - High Assessments...High Tax Payment
  - Failure to Pay Taxes Results in Savings over Several Years Greater than the Value of the Property
    - Lose Property
    - 65%+ Delinquency Rate among Rental Property Owners

**Can Detroit Reestablish/Strengthen  
the Social Contract?**

# Regional Competition

- Tax Abatements
- Tax/Public Service Package

# Tax Base Erosion: Abatement Zones



## Renaissance Zones

-Eliminate all property taxes (except debt retirement millage) for twelve years, followed by a three year phase in to full tax rate.

## Neighborhood Enterprise Zones

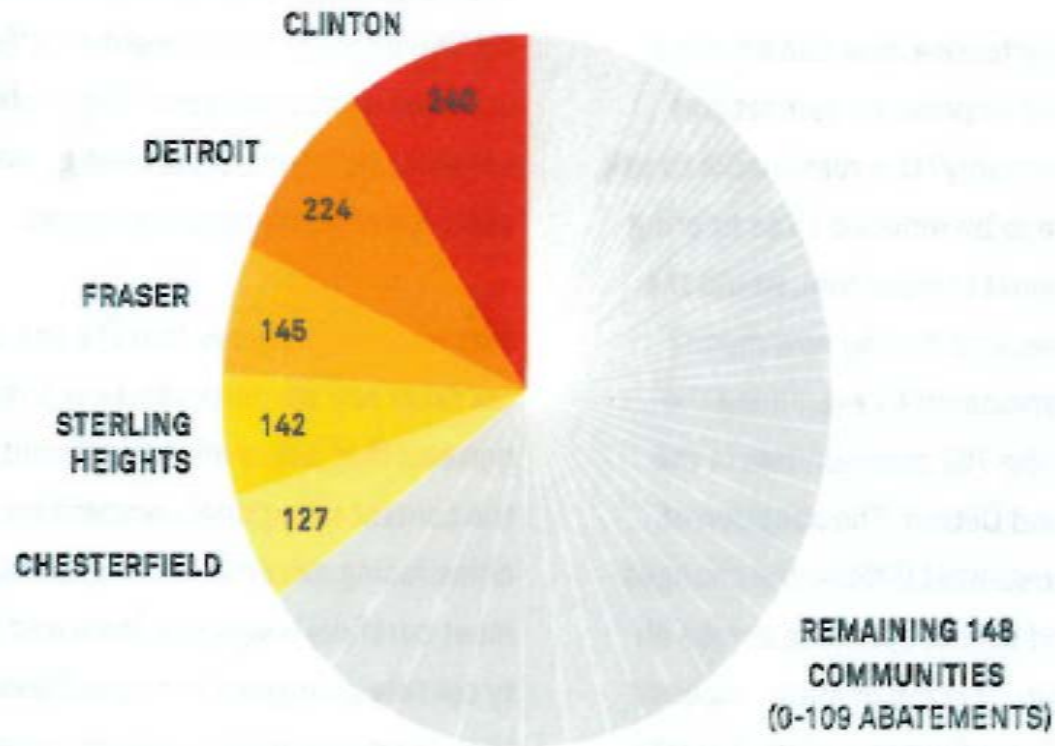
-Millage reductions on new investments/new construction

## Industrial Facilities Tax

-Value of the land is taxed at the full millage rate. Qualified improvements are taxed at half the prevailing rate

# IFT Use in Five County Detroit Region

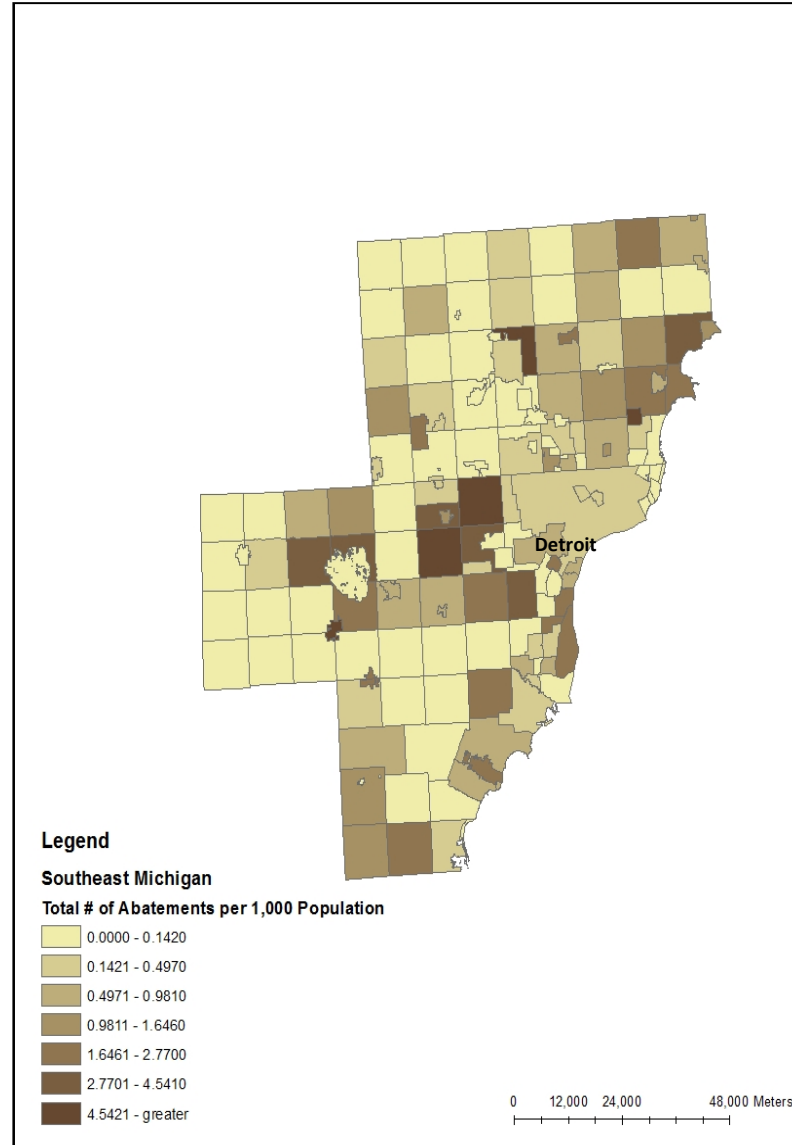
IFT Abatements Granted by Communities in Detroit's Five-County Region, 1983–2002



Source: Data from Michigan Department of Treasury (2015); authors' calculations.

# Detroit Is Not a Heavy IFT User

Total Number of Tax Abatements Granted Per 1,000 Population: 1983-2002



# Are Tax Abatements Effective in SE Michigan?

- Kang, et al. (2015) estimate the effects of industrial property tax abatements on industrial, residential, and commercial property value growth for 152 communities in the five counties surrounding Detroit
- Offering tax abatements yields statistically significant positive impacts on industrial property value growth.
  - The impacts are larger in high tax than in low tax communities
  - Positive spillover effects of industrial tax abatements on residential and commercial property value growth
  - Fiscal benefits to local governments that offer tax abatements are quite small as compared with the costs of offering abatements
  - Is there better approach to encouraging development?



# Tax Rates in Detroit Are About Double the Region Average

Detroit and Grand Rapids Property Tax Millage Rates 2010\*

Taxing Authority	Detroit		Grand Rapids	
	Homestead	Non-Homestead	Homestead	Non-Homestead
State Education	6.0000	6.0000	6.0000	6.0000
City Operating	19.9520	19.9520	5.9178	5.9178
City Debt Service	<b>9.5558</b>	<b>9.5558</b>	-	-
Library	4.6307	4.6307	2.4533	2.4533
School Operating	-	17.8308	-	18.0000
School Debt	<b>13.1015</b>	<b>13.1015</b>	2.2900	2.2900
County	7.8220	7.8220	5.3940	5.3940
Intermediate School District	3.4643	3.4643	4.6903	4.6903
Other	0.3146	0.3146	1.1200	1.1200
Community College	2.4769	2.4769	1.7865	1.7865
<b>Total</b>	<b>67.3178</b>	<b>85.1486</b>	<b>26.2482</b>	<b>46.5382</b>

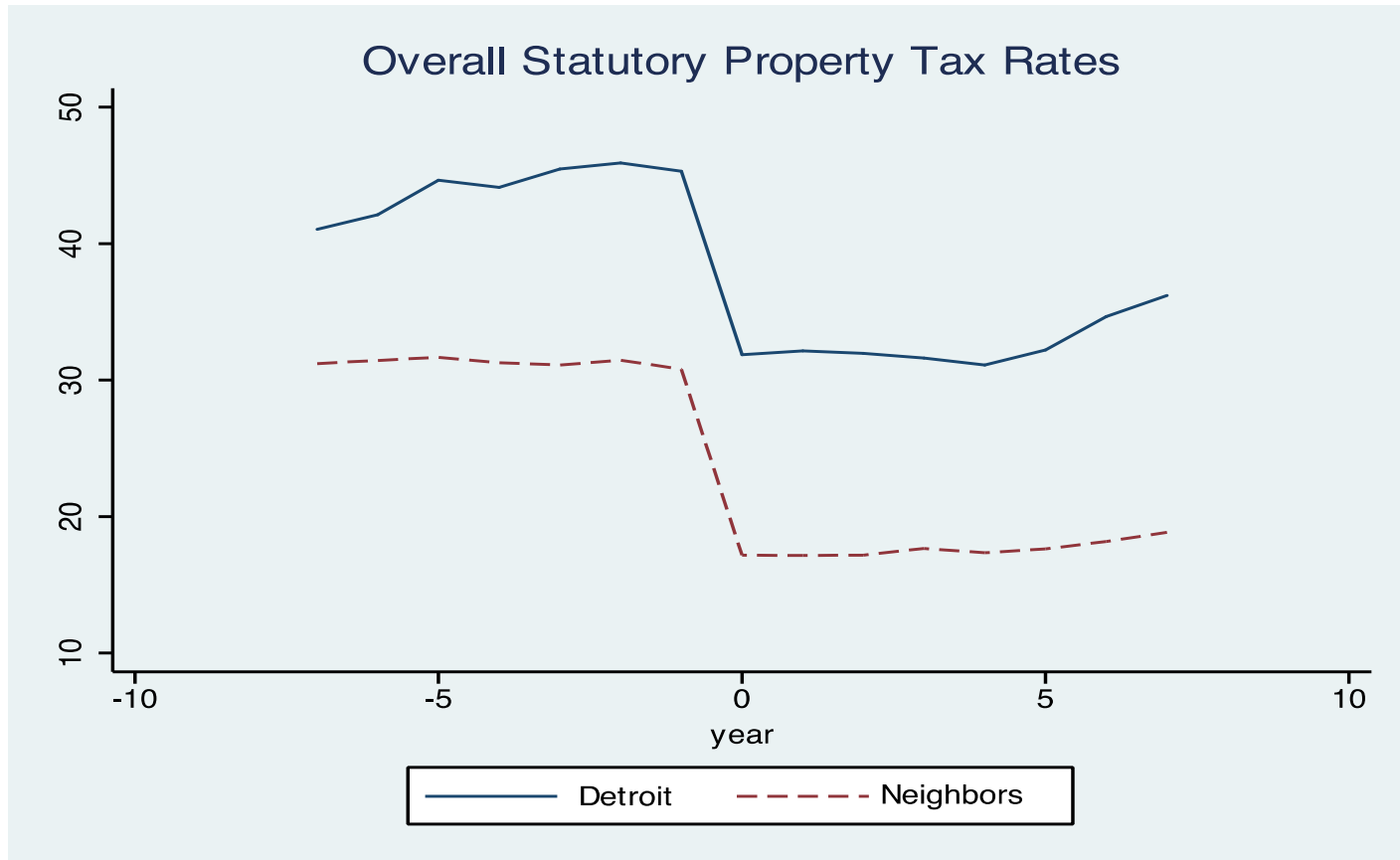
\*One mill equals .001 percent. Source: City of Detroit Executive Budget, City of Grand Rapids

# How Can Detroit Improve Its Relative Position in the Region?

- Reduce Taxes?
- Improve Public Services?

# Property Tax Competition in SE Michigan

## Overall Statutory Property Tax Rates in Detroit and the Region Before and After Proposal A



# Tax Base-Tax Rate Relationship

- Holding Other Factors Constant, a Rate Reduction Can Spur Tax Base Growth
  - Capitalization
  - New development
- Reverse Causality:
  - Population and tax base decline can lead to rate increases
  - Headlee rollbacks force rate reductions in high growth areas

# Data & Empirical Framework

- Data
  - Time period: 1983-2002
  - Cross-section: All 152 cities and townships in Macomb, Monroe, Oakland Washtenaw, and Wayne Counties, Michigan
  - 2,280 observations in full samples
- Empirical Challenge
  - Identify Causality (statutory rate, per pupil school spending)
    - We need instruments
      - Change in Statutory Tax Rates Caused by Proposal A
      - Change in School Spending Caused by Proposal A
  - Competition (intra-regional migration)

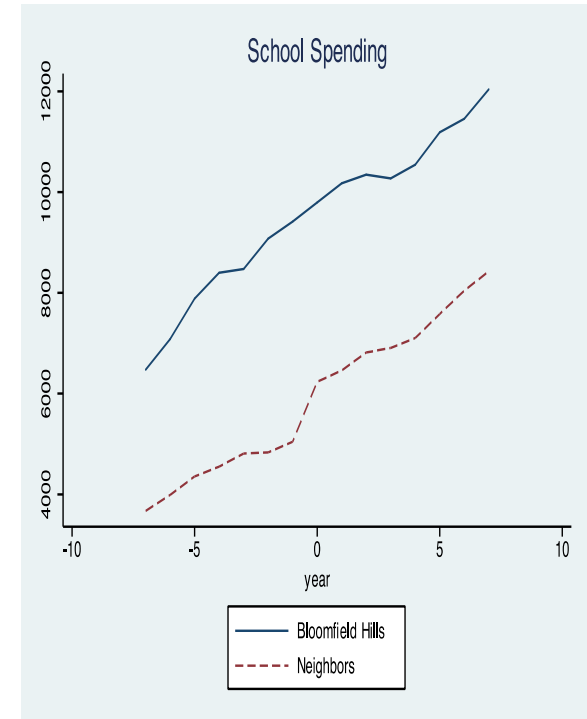
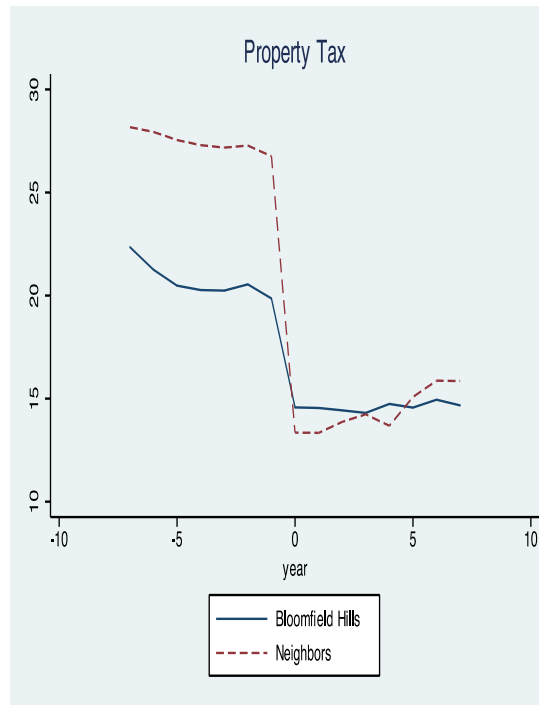
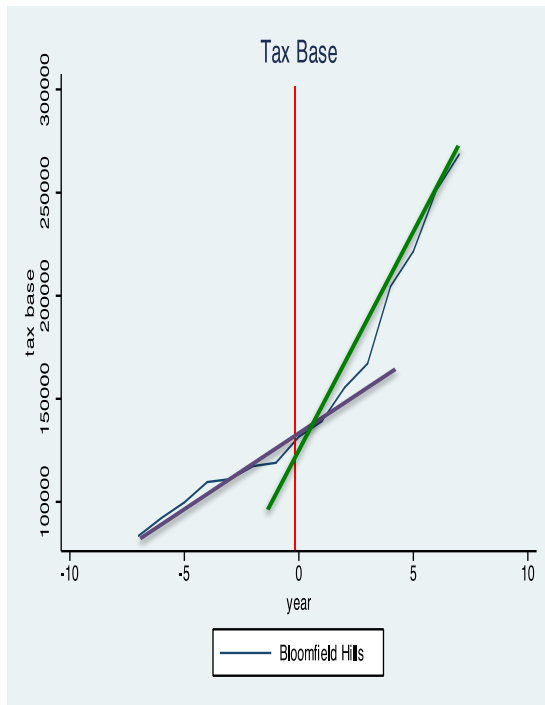
# Summary Statistics

**Table 2. Summary Statistics Pre- and Post-Proposal A**

Variables	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
	Before Proposal A			After Proposal A		
Dependent Variable						
Property Values	1,064	20,855	12,873	1,216	37,197	23,439
Own Policy Variable						
Property Tax	1,064	29.91	5.48	1,216	16.96	5.52
School Spending	1,064	4,623	1,164	1,216	7,047	1,177
Covariate						
Crime	1,064	41.94	50.23	1,216	32.60	69.91

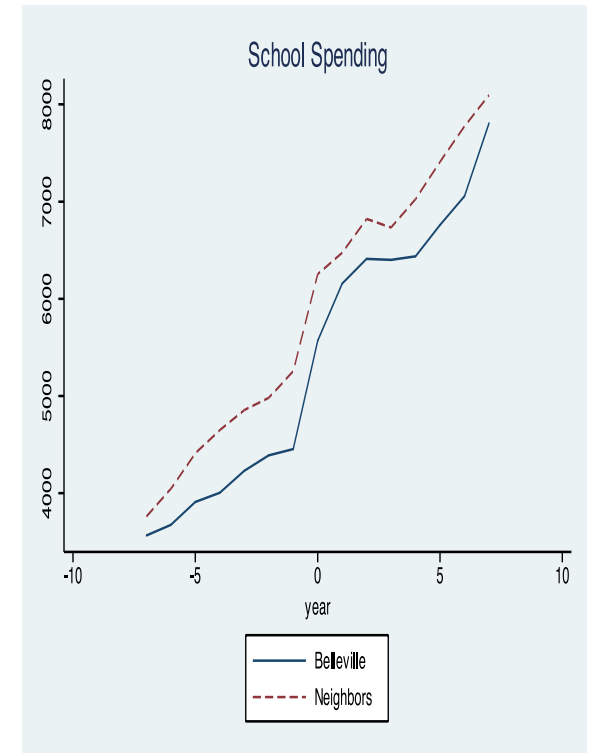
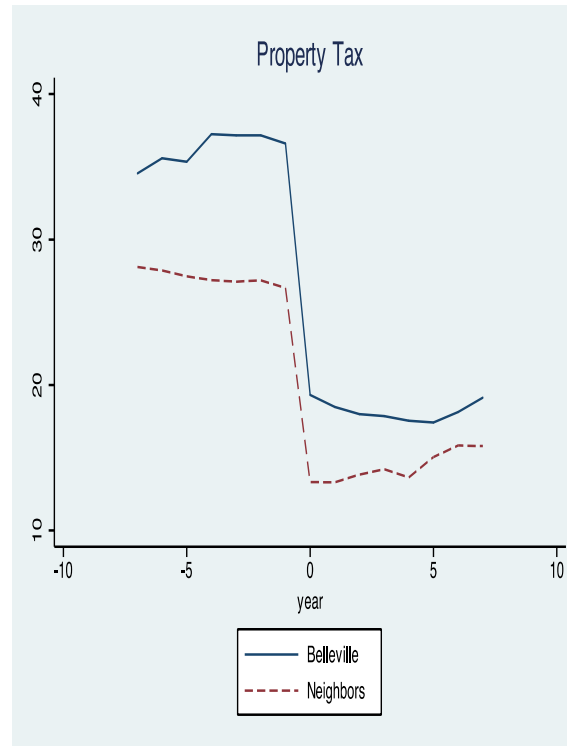
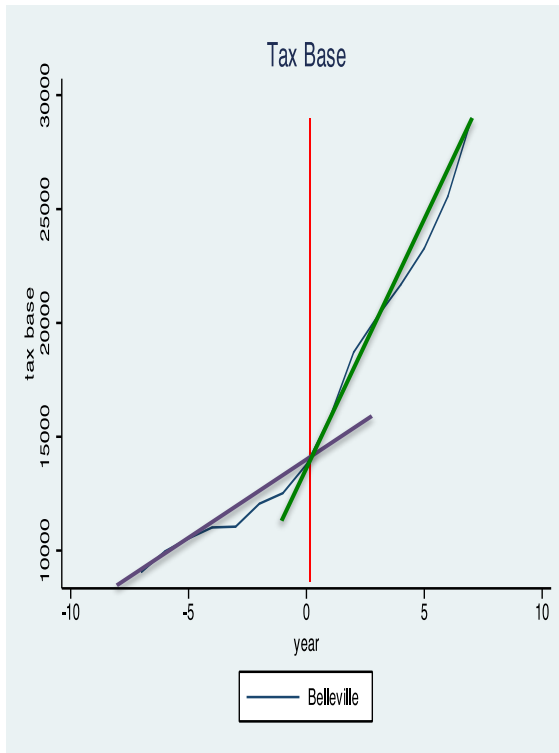
# Example-Bloomfield Hills

- Bloomfield Hills- an example of wealthy community**



# Example--Belleville

- **Belleville – an example of poor community**





# Implications

- Estimated Tax Elasticities Are Greater than One
  - If a high tax community could hold services constant, a tax rate reduction by itself could be enough to generate property value growth sufficient to offset tax revenue losses resulting from the rate reduction (if it could capture the increased value in the tax base).
- The Effect of School Spending Is Also Important
  - The property value response to a change in school spending is larger than that to a change in property values.
- Also, a combination of efforts could help to alter the trajectory of a city
  - Crime
  - Public sector inefficiencies
  - School quality

# What About Detroit?

- Challenges and Hope
  - Detroit could potentially generate significant growth in property values by reducing tax rates, but...
    - Taxable value cap
    - Leaders in competitor communities could respond by lower their own rates
    - Great recession
  - Detroit's property value trajectory could be altered with a combination of tax rate reductions and additional outside funding to support public services

# Property Tax Reform Alone Is Not Sufficient

- Property Tax Policy Changes Can Help but....

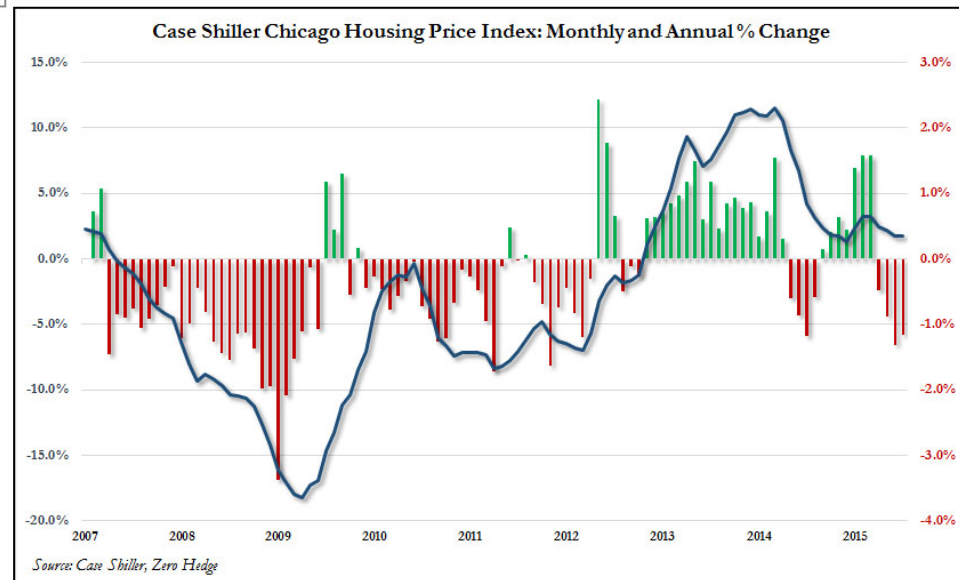
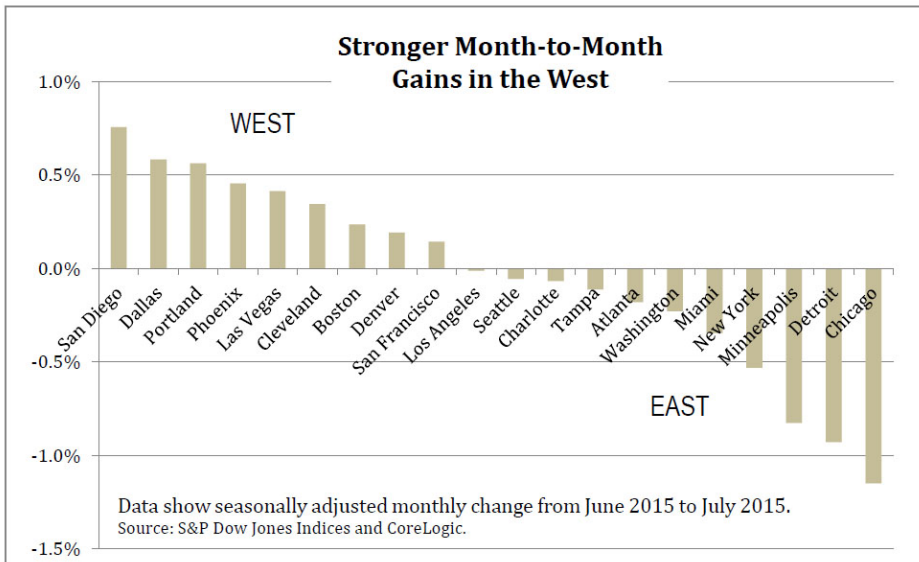
The property tax environment is just one of several severe and complex problems facing Detroit and its residents. These challenges have accumulated over a period of more than six decades and will not be easily reversed. Although we are certain that reform of the property tax is necessary, we also recognize that property tax reform alone is not sufficient to guarantee a lasting recovery. Without a significant increase in employment opportunities, advances in the education and skill levels of residents, and improvements to public and private services, no amount of tinkering with the property tax system will be sufficient to make Detroit, once again, a vibrant and robust urban community.



# Broader Perspective: Local and State Government Obligations

- State and Local Governments
  - Novy-Marx and Rauh (2013)
    - Fully funding state and local government retirement obligations would require a tax increase of \$1,385 per household per year
- Recent Case: Chicago
  - <http://www.foxnews.com/politics/2015/09/21/chicago-residents-face-perfect-storm-tax-hikes/>

# Step Aside Detroit: There Is A New "Worst" City For Housing In The U.S.



# Broader Context—State Governments

- Illinois—Underfunded State Retiree Benefits (\$100 billion or about \$21,000 per Illinois household)
- California—Underfunded Retirement Benefits (\$327 billion or about \$22,000 per California household)

# Debt

## US Debt Expansion

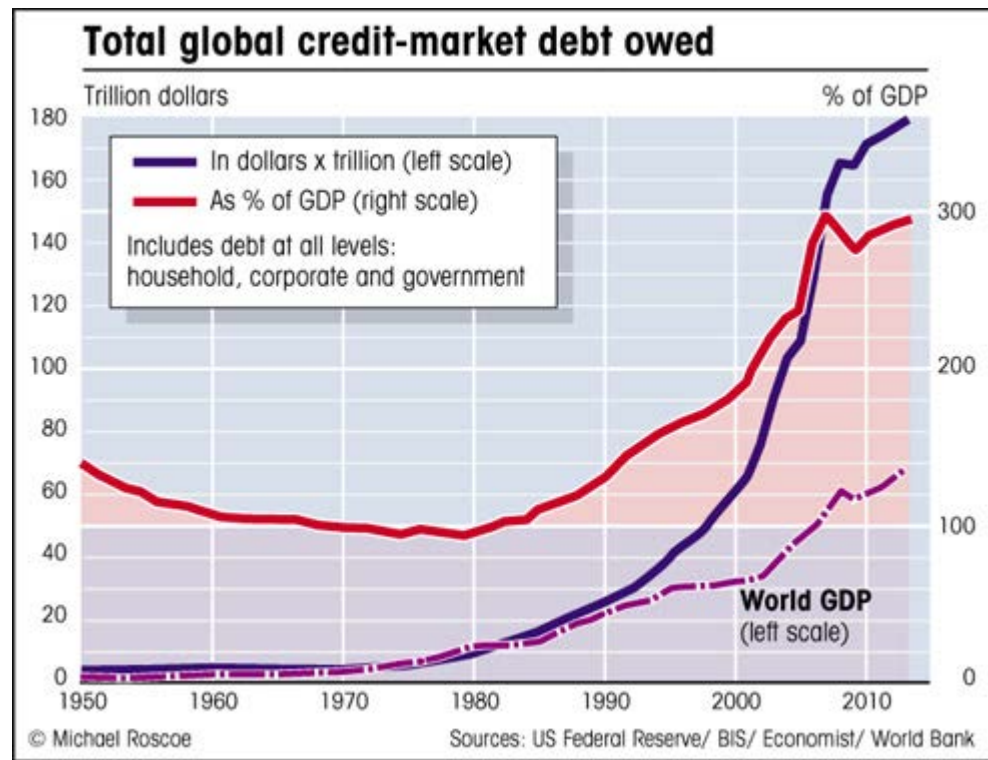
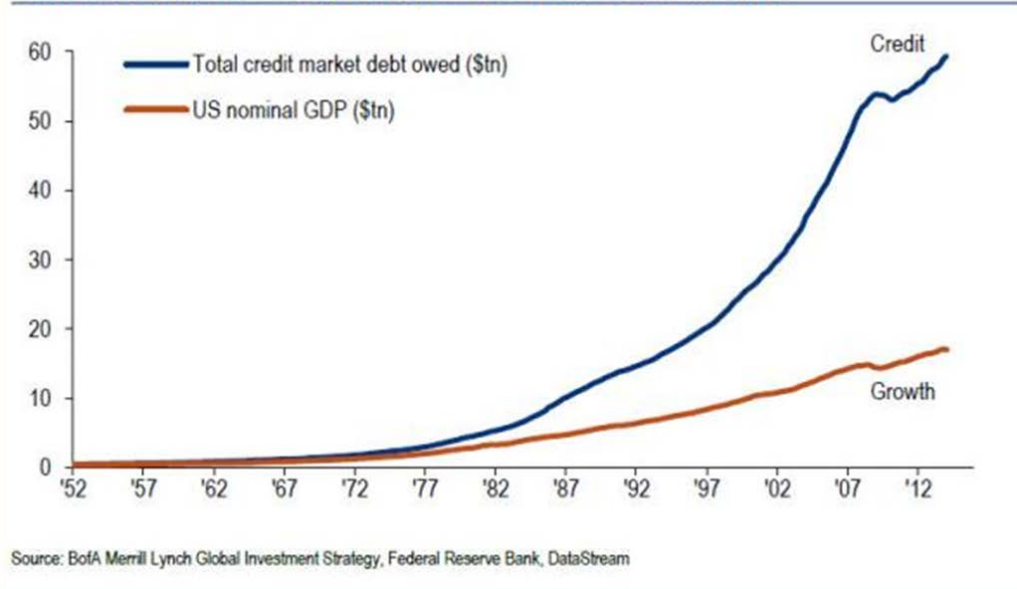


Chart 12: US nominal GDP and total credit market debt owed since 1952



"Long term, it's not so much a financial crisis that we face. It's more a political and social crisis because these promises that we have made for ourselves will be broken."

Stephen King HSBC Bank