

# Changing Financial Landscape and Small Businesses in Distressed Communities: A Case Study of Detroit

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Prepared for *Small Business and Entrepreneurship during an Economic Recovery Conference*

Board of Governors of the Federal Reserve System

November 9-10, 2011

The views expressed are the authors' and do not necessarily reflect those of the Federal Reserve Bank of Chicago or the Board of Governors of the Federal Reserve System.

We thank Daniel DiFranco for providing very valuable research assistance.

# Issues/Motivation

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- Small business access to credit is an important component of economic recovery, allowing for sustainable small business ownership, job creation, and neighborhood vitality.
- “...if southeast Michigan is going to move to a more innovative economy, [it] must restore the structures and resources necessary for a robust entrepreneurial eco-system.”

-NEI

# Our Case Study of Detroit

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- Examine the financial infrastructure in the core city of Detroit, compared to three surrounding counties.
  - ▣ Our measures of financial Infrastructure
    - Bank branch presence/access, across census tracts
    - Loans to businesses across census tracts

# Outline

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- ▣ The Data Analysis
  - Demographic characteristics
  - The banking infrastructure
  
- ▣ The Regression Analysis
  - What explains the banking infrastructure in the Detroit Area
  - Residual gap analysis
  
- ▣ The Implications/ Qualitative: Interviews and Focus groups

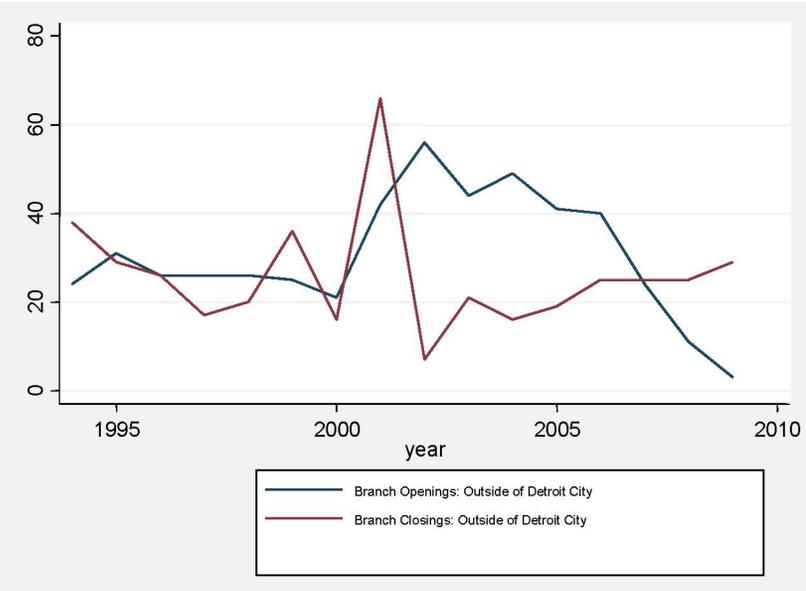
	City of Detroit			Three Surrounding Counties		
		Non-LMI	LMI		Non-LMI	LMI
	Number	%	%	Number	%	%
Population	990,992	0.09	0.91	2,689,983	0.80	0.20
Population per Square Mile	6888	3156	3066	2723	2664	3046
Total Square Miles	144	0.09	0.88	988	0.82	0.18
Number of Tracts	328	0.09	0.89	736	0.79	0.21
Occupied Housing Units	350,660	0.10	0.90	1,068,475	0.80	0.20
African-American distribution by LMI	807,280	0.09	0.90	216,666	0.55	0.45
African-American as a % of the total population	0.81	0.08	0.74	0.08	0.04	0.04
Hispanic distribution by LMI	47,562	0.02	0.98	64,105	0.65	0.35
Hispanic as a % of population by LMI	0.05	0.00	0.05	0.02	0.02	0.01
Occupied Units with at least 1 Vehicle	272,890	0.12	0.88	1,000,622	0.81	0.19
Occupied Units with no vehicle by LMI	77,770	0.05	0.95	67853	0.65	0.35
Occupied Units with no vehicle as a % of total housing units	0.22	0.01	0.21	0.06	0.04	0.02

Source: Census, 2000

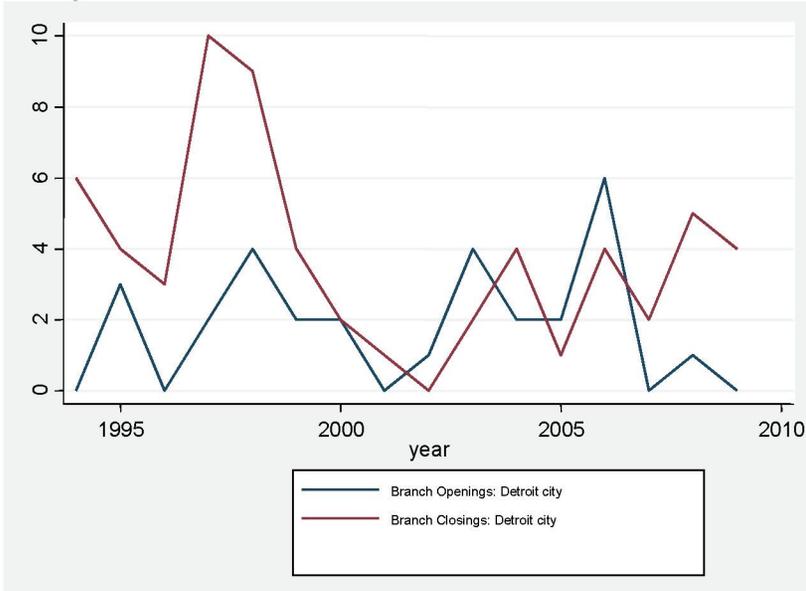
# The Banking Infrastructure Branch Openings and Closings

Few openings & closings

## Three Surrounding Counties



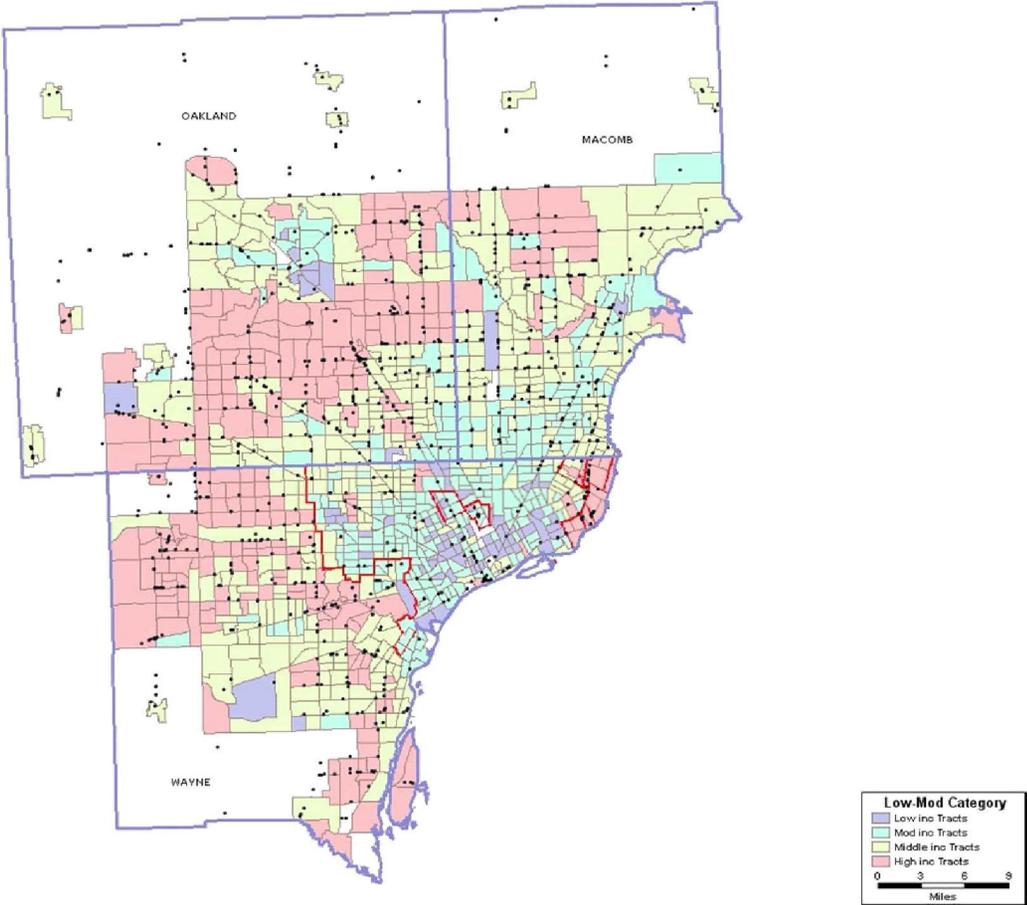
## City of Detroit



Source: Authors' calculations, imputed openings and closings, based on data from FDIC, Summary of Deposit data

# The Banking Infrastructure

## Bank Branches, by Census Tract Income, 2010



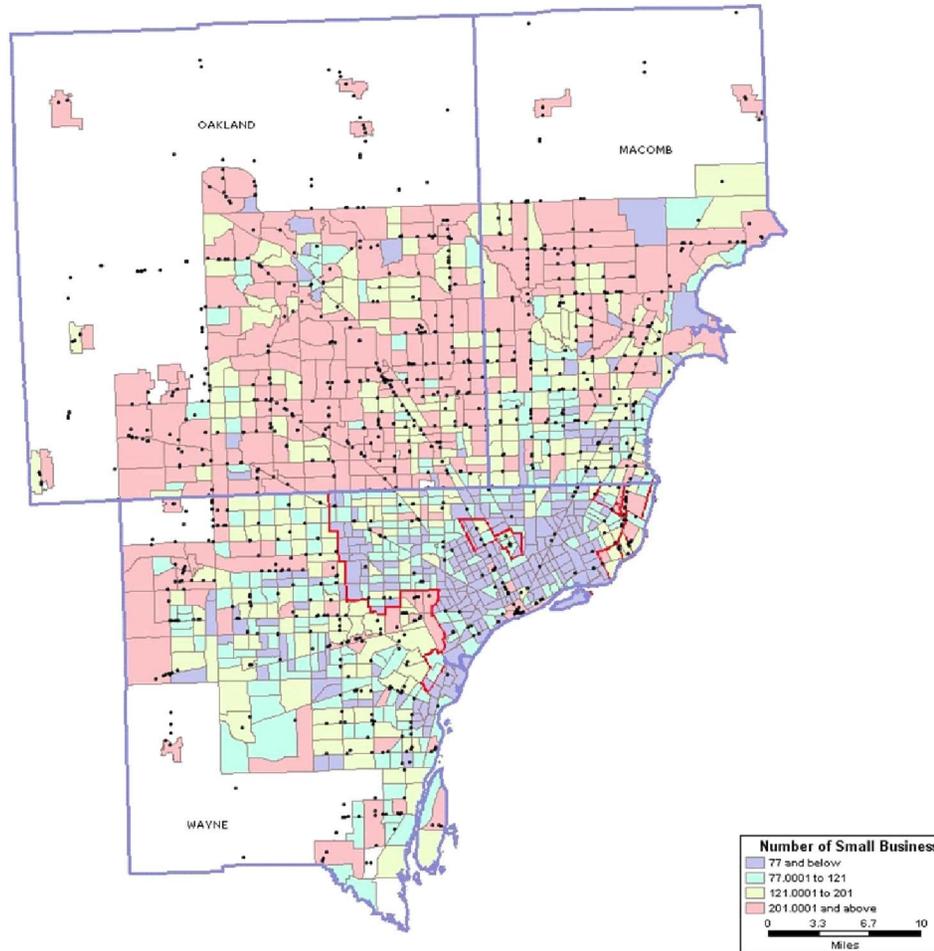
Source: Authors' calculations based on data from US Census 2000, and FDIC

# The Banking Infrastructure

## Bank Branches, by Number of Businesses, 2010

### City of Detroit and Surrounding 3 counties (populated places)

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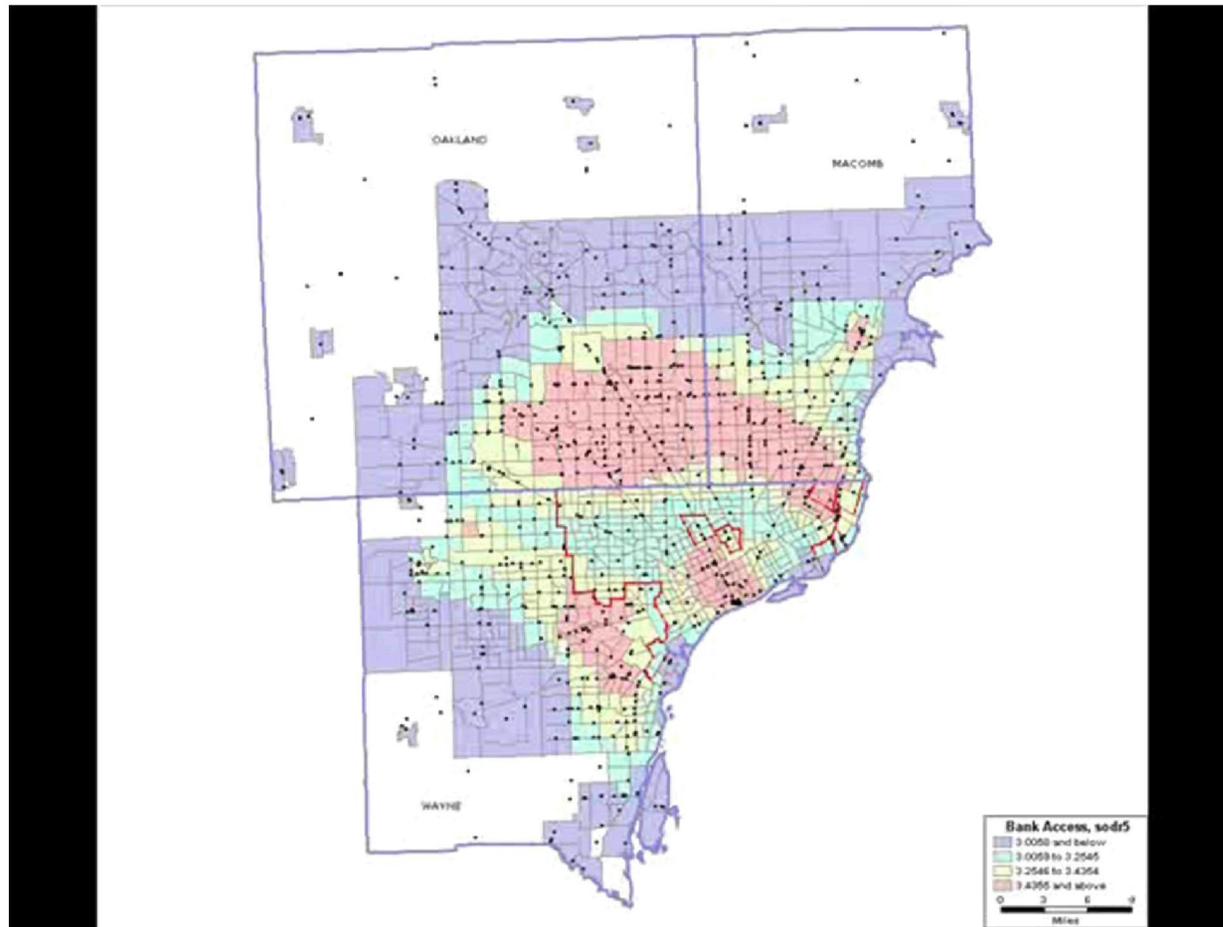


Source: Authors' calculations based on data from US Census 2000, and Dunn and Bradstreet

# The Banking Infrastructure

## Bank Access, 1994, 2005, 2007, 2010

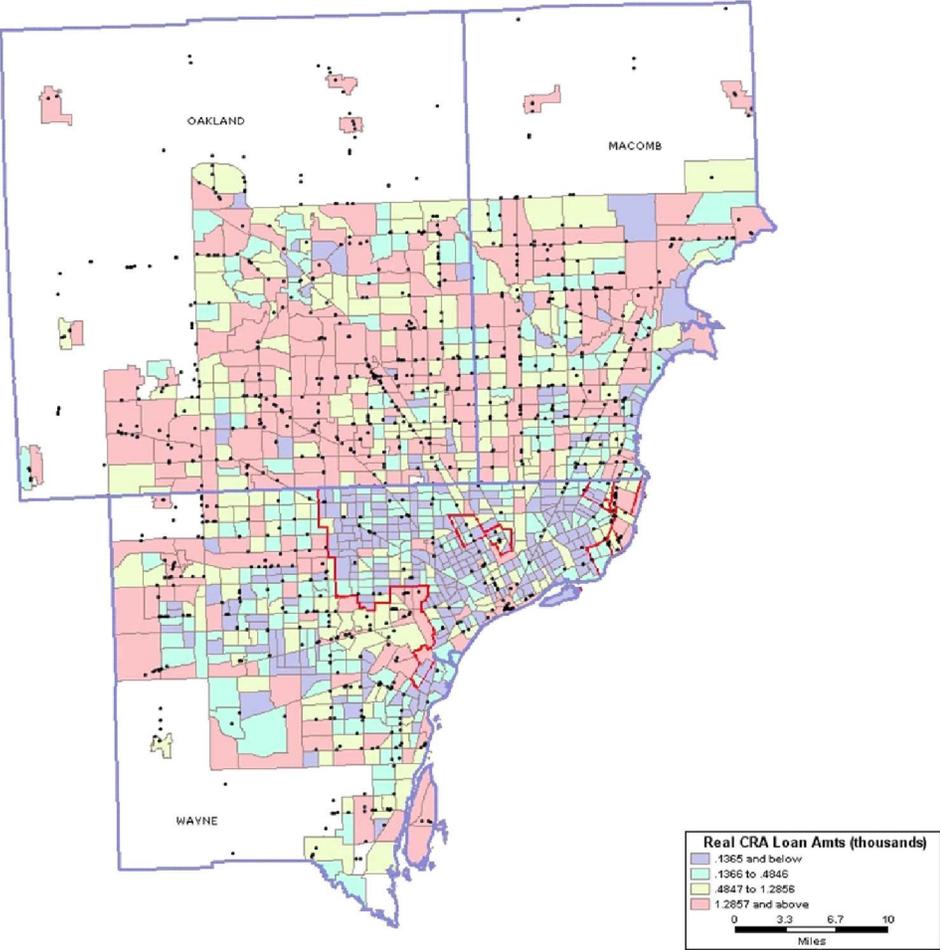
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$$\text{Bank Access}_i = \ln \left( 1 + \sum_{k=1}^n \frac{1}{\max(1, D_{i,k})} \right)$$

Source: Authors' calculation  
Based on FDIC

# The Banking Infrastructure CRA Loan Amounts, 2010 City of Detroit and Surrounding Three Counties (populated places)



## What Explains the Banking Infrastructure in the Detroit Area

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- A regression analysis of the determinants of financial “infrastructure” as defined.
  - Recession (cyclical factors)
  - Population per square mile in the census tract
  - Number of businesses per capita
  - Moving average of deposit in a census tract (i.e., saving)
  - Various housing characteristics (home value, etc.)
  - Median household income in the census tract
  - Average education level of adults in the census tract
  - Percentage of African-Americans in the census tract

Dependent Variable	Branch	
	within Tracts	
Recession	-0.0083	
	(0.0076)	
Business per 100 people	0.05113 ***	
	(0.0028)	
Population per square mile	2.99E-06 **	
	(0.0000)	
Vacancy rate	0.0642	
	(0.1237)	
Median home value	0.0051 ***	
	(0.0011)	
% of adult with HS diploma and more	0.0510	
	(0.0497)	
Median household income	-0.0185	
	(0.0199)	
Moving average of deposit	0.0004 ***	
	(0.0001)	
10-50 percent African-Americans	-0.0367 ***	
	(0.0102)	
More than 50 percent African American	-0.0999 ***	
	(0.0086)	
Constant	0.1757	
	(0.2099)	
Rsquare	0.4043	
Number of Observations	8433	

OLS Coefficient Estimates  
Standard errors in parentheses  
\*\*\*significant at 1%

# What Explains the Banking Infrastructure in the Detroit Area

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## □ Residual Gap Analysis

- Are low-income and minority neighborhoods disproportionately served by fewer banks within their vicinity, and do they have disproportionately less loans to business?

# Residual Gap Analysis

## Branch per Capita Differences Across Neighborhoods

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	City of Detroit			Outside of the City of Detroit		
	ACTUAL	PREDICTED	RESIDUAL DIFFERENCES	ACTUAL	PREDICTED	RESIDUAL DIFFERENCES
<b>Neighborhood Location Characteristics</b>						
All locations	0.1107	0.1302	-0.0195	0.3173	0.3101	0.0072
<b>Racial Ethnic Characteristic</b>						
Between 10-50 percent African Americans	0.1834	0.1044	0.0790	0.2548	0.2713	-0.0165
More than 50 percent African Americans	0.1046	0.1362	-0.0316	0.2661	0.3533	-0.0871
Between 10-50 percent Hispanics	0.1161	0.0694	0.0467	0.1196	0.1545	-0.0349
More than 50 percent Hispanics	0.0646	0.0482	0.0164	--	--	--
<b>Income Class</b>						
Low- to-moderate Income	0.1554	0.1978	-0.0423	0.3337	0.3261	0.0077
Non low- to-moderate Income	0.0969	0.1094	-0.0124	0.2457	0.2408	0.0050

The residual differences are from an econometric OLS estimation of predicted branch density per population, compared to actual branch density, correcting for differences in branch density explained by differences in population density, business density, housing characteristics including home value and vacancy rate, deposits, and income.

# Residual Gap Analysis

## Branch per 100 Business Differences Across Neighborhoods

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	City of Detroit			Outside of the City of Detroit		
	ACTUAL	PREDICTED	RESIDUAL DIFFERENCES	ACTUAL	PREDICTED	RESIDUAL DIFFERENCES
<b>Neighborhood Location Characteristics</b>						
All locations	0.4653	0.6276	-0.1624	1.2634	1.2017	0.0617
<b>Racial Ethnic Characteristic</b>						
Between 10-50 percent African Americans	0.8569	0.1987	0.6582	0.5992	0.9732	-0.3741
More than 50 percent African Americans	0.4181	0.7140	-0.2958	0.4242	0.7816	-0.3575
Between 10-50 percent Hispanics	0.3422	0.1533	0.1889	0.3899	0.8026	-0.4127
More than 50 percent Hispanics	0.6356	-0.1959	0.8315			
<b>Income Class</b>						
Low- to-moderate Income	0.5083	0.8327	-0.3243	1.3333	1.2864	0.0469
Non low- to-moderate Income	0.4520	0.5645	-0.1124	0.9505	0.8230	0.1276

The residual differences are from an econometric OLS estimation of predicted branch density per business, compared to actual branch density, correcting for differences in branch density explained by differences in population density, business density, housing characteristics including home value and vacancy rate, deposits, and income.

# Residual Gap Analysis

## Loan to Business Differences Across Neighborhoods

	City of Detroit			Outside of the City of Detroit		
	ACTUAL	PREDICTED	RESIDUAL DIFFERENCES	ACTUAL	PREDICTED	RESIDUAL DIFFERENCES
<b>Neighborhood Location Characteristics</b>						
All locations	0.6255	0.9332	-0.3076	2.1973	2.0792	0.1181
<b>Racial Ethnic Characteristic</b>						
Between 10-50 percent African Americans	0.9992	-0.0534	1.0526	1.2877	1.8137	-0.5260
More than 50 percent African Americans	0.5777	1.1664	-0.5887	0.8696	1.5026	-0.6329
Between 10-50 percent Hispanics	0.8157	-0.1071	0.9228	0.8395	1.6163	-0.7768
More than 50 percent Hispanics	1.2164	-1.4182	2.6346			
<b>Income Class</b>						
Low- to-moderate Income	0.4539	0.9756	-0.5216	2.1641	2.1905	-0.0264
Non low-to-moderate Income	0.6933	0.9164	-0.2230	2.3523	1.5591	0.7932

# Summary

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- Confirm Bank openings/closings, but fewer activities in the City of Detroit
- Less physical banking/financial infrastructure
- Less lending to businesses
- Potential disparities in lower-income and minority-neighborhoods

# Implications

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- *Making a Case for the City of Detroit*
  - “When people want to start a business, they tend to go to the edges of the city, not the city. Suburbanites will not shop in Detroit, whereas Detroiters will shop in the suburbs. The market is bigger therefore a half a mile north of the city, rather than in the city”.

# Implications

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- *The Tightening of Credit*
  - Business owners expressed frustration. At financial crisis, banks arbitrarily close lines of credits to individuals and to nonprofits, regardless of track record of payment. Financial institutions have closed lines of credit, with no explanations. People say that credit is more difficult for them now, irrespective of their payment history.

# Implications

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- *Serving Low- and Moderate-Income Minority Communities*
  - There was a general sense, at least with African-American small business owners, and some Hispanic business owners, that they did not bother asking for credit to banks, even those who have been in business for a while. They did not believe they would get it “because they are in Detroit” one said.

# Implications

- *The Importance of Reinforced Relationships....*
  - Some experts say that small businesses had a better relationship with community banks. But they are virtually non-existent in the City of Detroit now. “Newcomer bankers” may not have the full understanding of the specific opportunities to be had in the area”, one said.
  - Even if the bank manager said, “I am the man.” A business owner said, she found out that he wasn’t. “The decision was made at the headquarter, and it was not sensitive to the reality of the potential of my business.”

# Implications

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- *Address the Needs of Small businesses, and Identify “Untapped” Potential in Inner-Cities’ Neighborhoods*
- People want to know “what to expect in bank credit from the perspective of the Community Reinvestment Act”.

# Implications

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## □ *The Residual Differences*

- *Business owners identified other major impediments/costs for businesses particularly in the City of Detroit*
  - Bureaucracy
  - Population loss
  - Housing market
  - Other costs of doing business.... crime
  - The public education in the City of Detroit