
Realty-based Indicators of Chicago's Balance Sheet

April 19, 2017

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Federal Reserve Bank of Chicago

Balance Sheet Approach to Reflect Municipal Solvency

■ Key questions

- What is “insolvency” or “dysfunctionality” for a city?
 - ◆ Bond default/inability to borrow?
 - ◆ Inability to provide services/fulfill its mandates?
 - Value of assets within its boundaries are zero (value-creating residential and commercial activity are nil)?
 - Some may argue that political/institutional constraints or relations also are a determinant

■ In either case, I might argue that a balance sheet tally may be helpful in assessing insolvency now and future

- Further, many indicators may be useful in assessment and forecast, but property value very good asset to reflect current situation and prospects

Municipal Balance Sheet

■ Assets

- Financial assets/cash
- Building, equipment and land
- Public capital (infrastructure)
- Other?
- Value of real property within boundaries
- Other business activities/income streams (with (taxable/reachable) nexus?)
 - E.g. retail, tourism, commuter earnings
- **Goodwill, shared responsibility, and intergovernmental revenue streams from overlying or sponsoring government, i.e. state govt.**

■ Liabilities

- Service responsibilities/mandates
- Debt
 - ◆ Unfunded pension liability
 - ◆ Other post-retire benefits
- Other?
- *E.g. Constraints on borrowing or revenue or effective governance as reflected by chronic or structural deficits?*
- *Tax flight sensitivity*
- *Political gridlock & lack of social capital*

Income (P&L) Statement

■ Revenues/income

- Own-source taxes and fees
- Inter-governmental revenues and grants-in-aid
- Interest and rental income on assets
- “Capital gains”
 - ◆ On public and private assets
 - ◆ Changes instit. Constraints
 - ◆ Changes future service needs
 - ◆ Changes future revenue streams

■ Expenditures

- Services
 - ◆ E.g. “normal cost of pensions”, wages, contracted services)
 - ◆ New obligations for current services (e.g. OPEBs)
 - ◆ Depreciation of physical assets
 - ◆ “Capital losses”
 - **Ditto,**

Traditional Fiscal Indicators can be reflected in balance sheet approach

- **High/climbing cost population for service provision (e.g. poverty or high percent school-age)**
- High/climbing cost/prices of service provision (e.g. undue unionization or rising crime, flight of pop. tax base)
- **Ongoing sale of assets and use of one-time revenue sources**
- Growing borrowing to meet current service obligations/rising costs of borrowing
- **Inordinate borrowing and/or revenue-raising constraints**
- Political gridlock/inability of cooperation in development

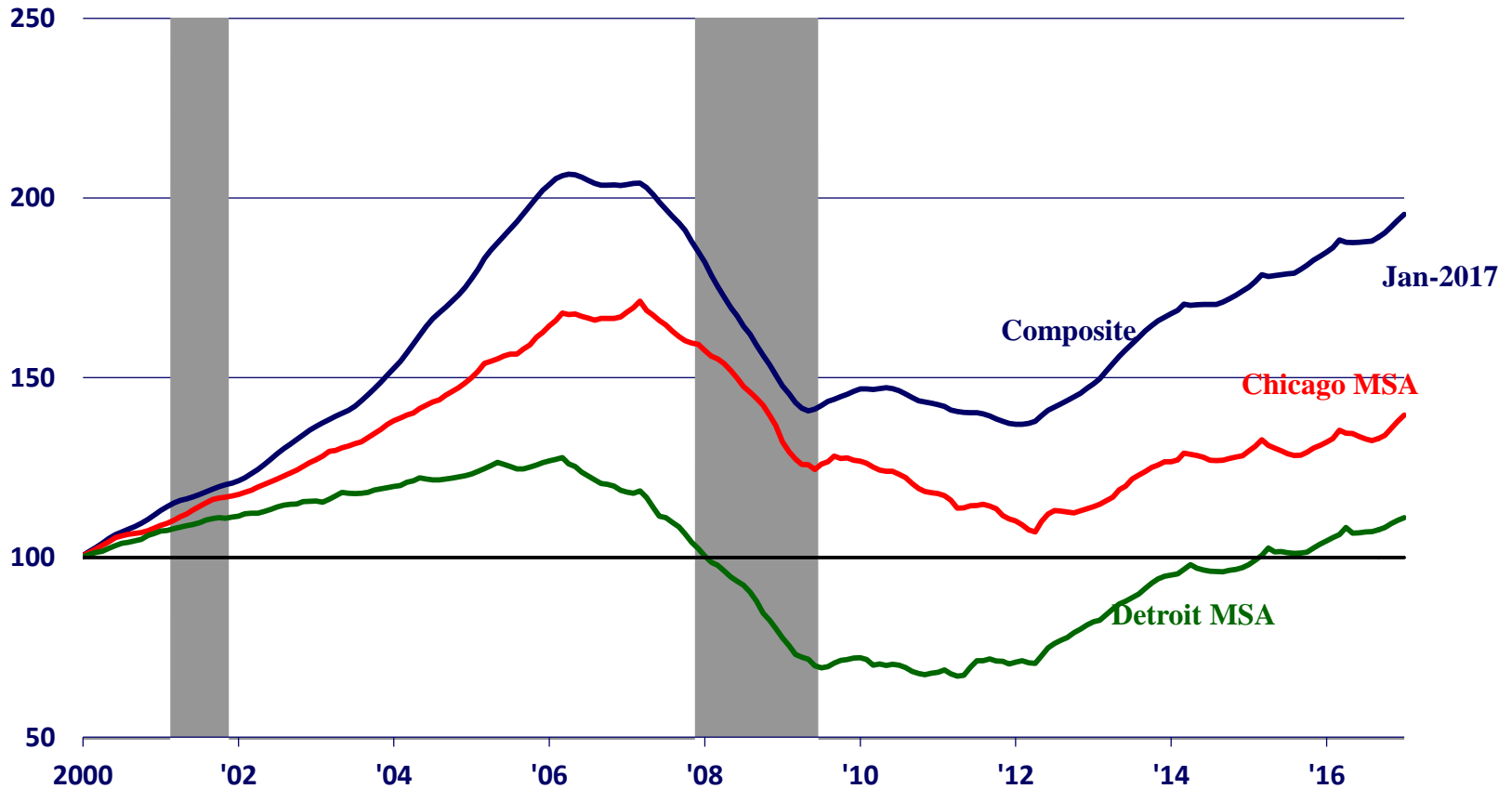
Property value may reflect most portions of the balance sheet and city's solvency

- actively traded**
- forward looking**
- widely reachable/liquid by city govt.**
- much of it is immobile (like equity)**

Single-Family Housing Market (OK, It is far from perfect.)

S&P/Case-Shiller Home Prices

(Index: Jan. 2000=100)



Evidence in favor of property value indicator

- Are *fiscal* liabilities (fully) capitalized? Past studies
 - Stadelmann/R. Eichenberger (*Int. Tax Public Finance*, 2013)
 - ◆ Capitalization substantial (Swiss Cantons) but varies with est. strategy
 - D. Epple et al. (*Public Choice*, 1981)
 - ◆ Municipal Pension Funding: Pittsburgh and suburbs
 - ◆ Mixed results: Overcap if exclude city of Pittsburgh; none otherwise
 - William Wheaton (*National Tax J.*, 1984) full capitalization
 - John McDonald (*National Tax J.*, 1993) mostly capitalized
 - R. McKay (*National Tax Journal*, 2014)
 - ◆ “Announcement study” in San Diego
 - ◆ **Overcapitalization**

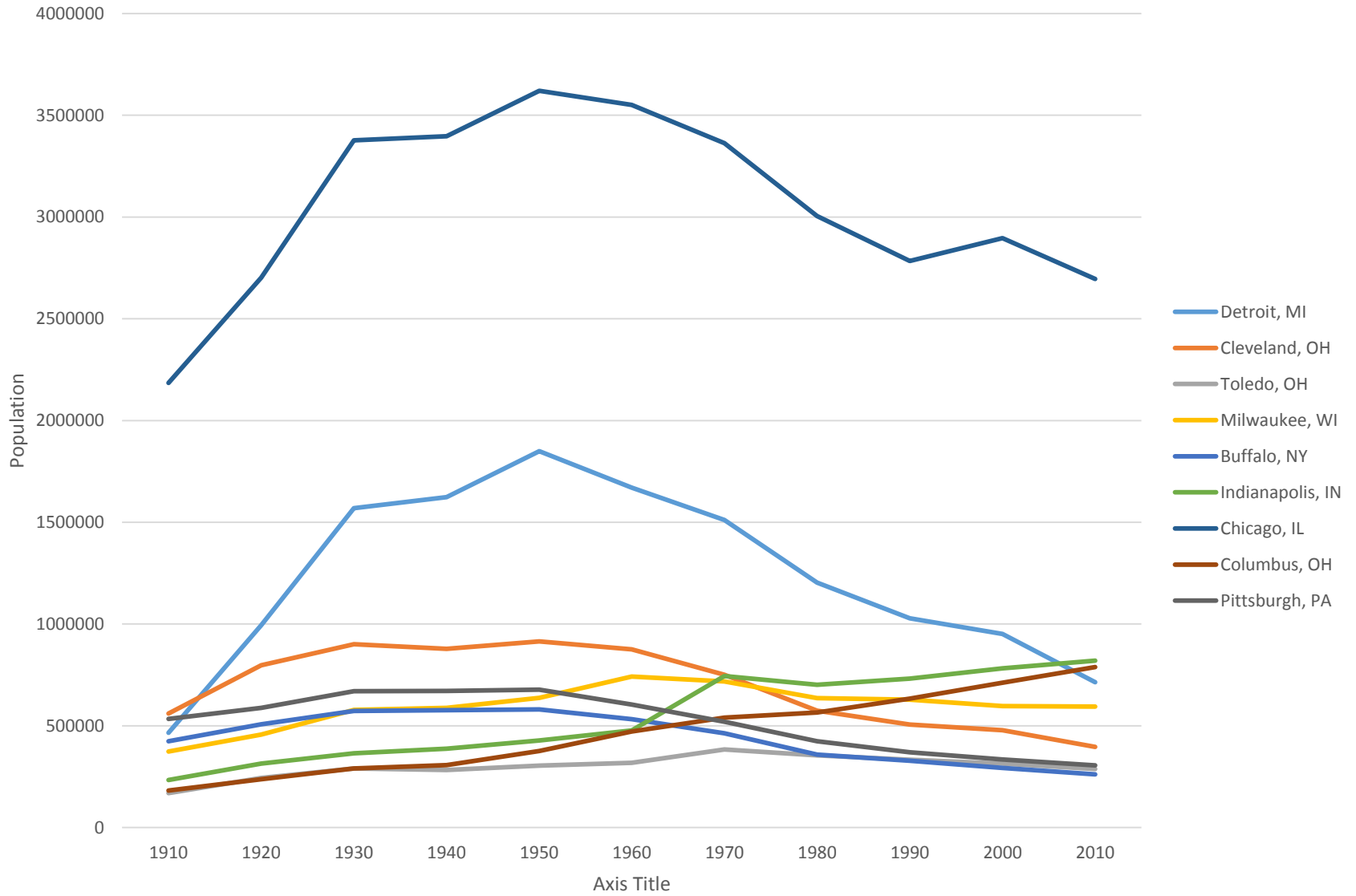
Why test this out on Chicago v. Detroit?

-- Is Detroit a Benchmark?

Property market collapse coincides with

- Service provision near zero
- Gridlock apparent (political disarray, little local intergovt. cooperation, state gov't at odds (e.g. Emergency Financial Management)
- Taxable reach/ local resources exhausted (intergovernmental resources, too)
- Sharp flight/sensitivity of tax base fairly obvious

Major City Populations Over Time



Yet, popular media couldn't refrain from comparing with Chicago

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POLITICS

AFTER CREDIT DOWNGRADE, IS CHICAGO THE NEXT DETROIT?

Avoid Chicago's Bonds; It Could Be the Next Detroit

Jonathan Yates

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Five Reasons Chicago Is in Worse Shape Than Detroit

Tim Jones
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Can Rahm Emanuel Save Chicago From Bankruptcy?

QUICKEN
AMERICANS

Residents Abandoning Chicago: Is It Following in Detroit's Footsteps?

Illinois' sources of revenues are leaving as government employees keep demanding more, more, more.

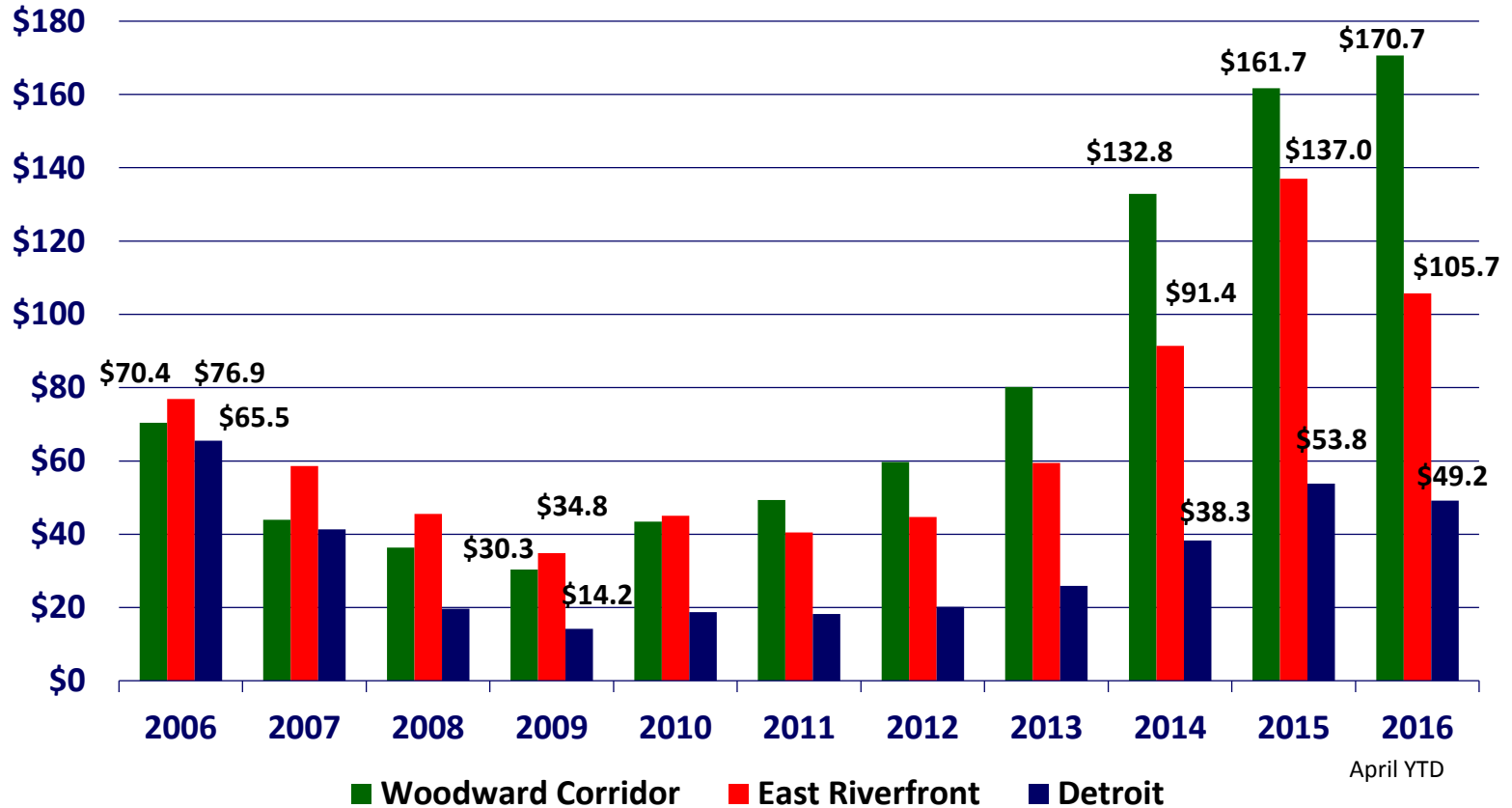
Scott Shackford | Mar. 25, 2016 12:40 pm



Some Measures of Real Property Values: Chicago, Detroit, and Milwaukee (Is Chicago “Detroit”?)

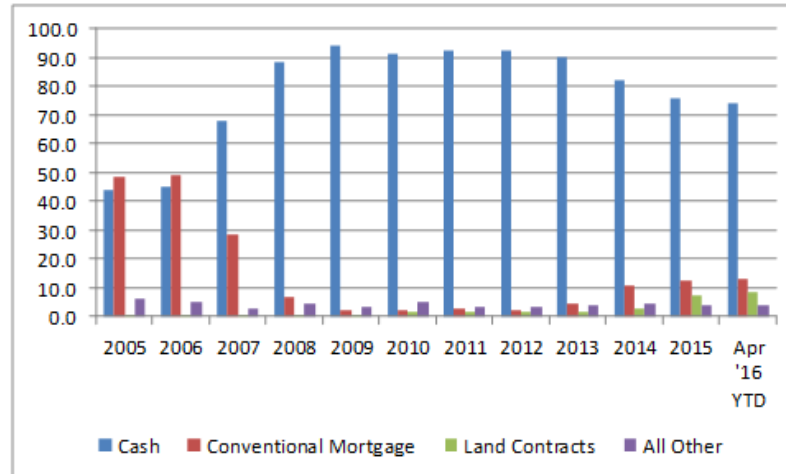
Annual Average Home Selling Price - Detroit

Woodward Corridor, East Riverfront, and Detroit (\$000s current dollars per capita)



* Source: Paul Traub's calculations using MLS data from Realcomp II LTD. Includes single family residential and condominium sales.

Detroit Jurisdiction
Real Estate Sales Data - by Type of Financing
Percent of Total Reported
Residential and Condo Only



	Percent of Total				Total
	Cash	Conventional Mortgage	Land Contracts	All Other	
2005	44.1	48.7	0.8	6.4	100.0
2006	44.9	49.3	0.7	5.1	100.0
2007	68.0	28.4	0.6	3.0	100.0
2008	88.5	6.8	0.4	4.3	100.0
2009	94.0	2.1	0.5	3.4	100.0
2010	91.4	2.2	1.4	4.9	100.0
2011	92.5	2.6	1.7	3.2	100.0
2012	92.6	2.4	1.7	3.3	100.0
2013	90.1	4.3	1.7	3.9	100.0
2014	82.0	10.6	2.9	4.6	100.0
2015	76.0	12.6	7.3	4.2	100.0
Apr '16 YTD	74.4	12.9	8.8	3.9	100.0

* Source: RealComp

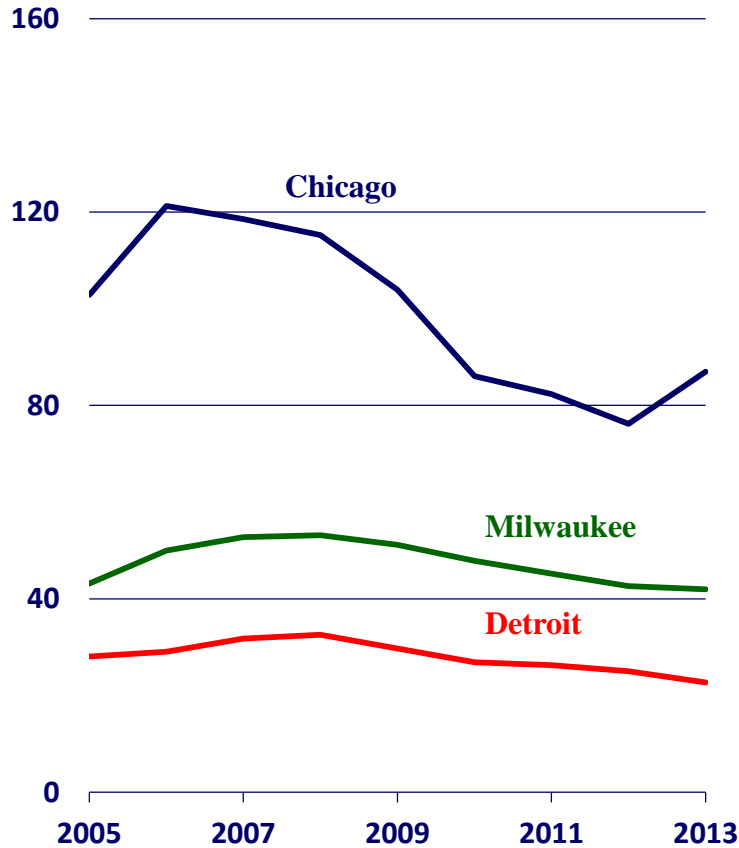
Note:

All Other includes Cash to Existing Mortgage, Exchange, FHA, FHA-203, VA, and Rural Development.

Estimated Market Values: Three Cities

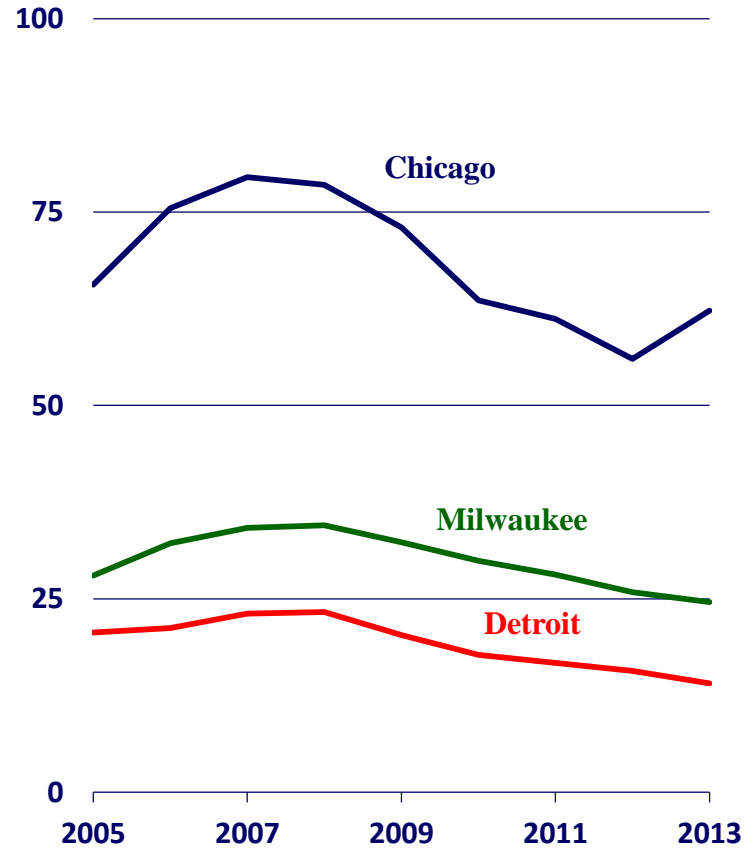
Total

(\$000s per capita)



Residential

(\$000s per capita)

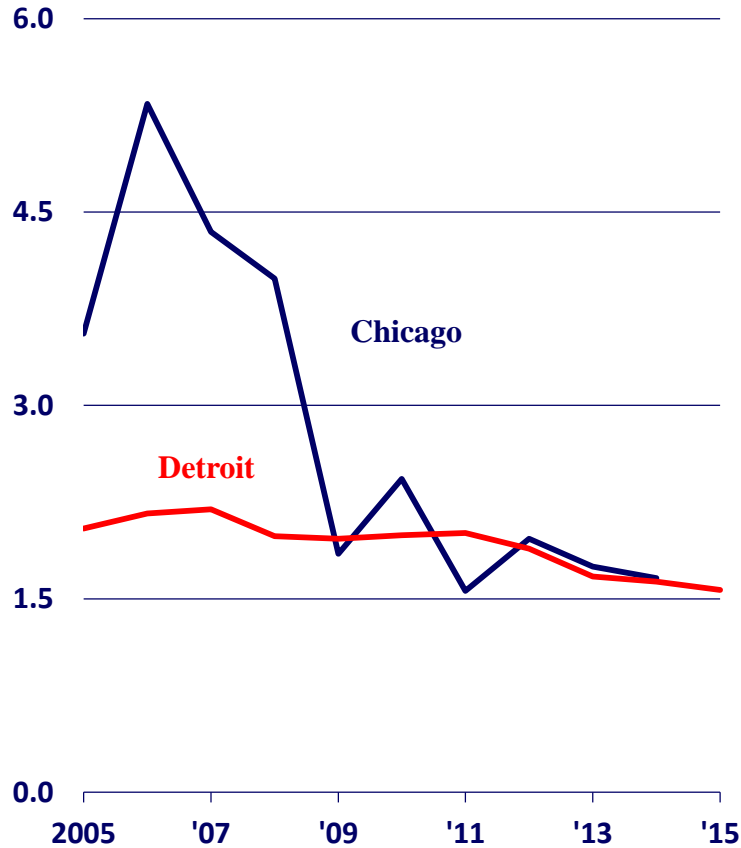


* Market values for Detroit were estimated by multiplying assessed values reported in CAFRs by 2.
Chicago market values reported by the Civic Federation.
Milwaukee values are equalized assessed values.

Chicago and Detroit Estimated Market Values

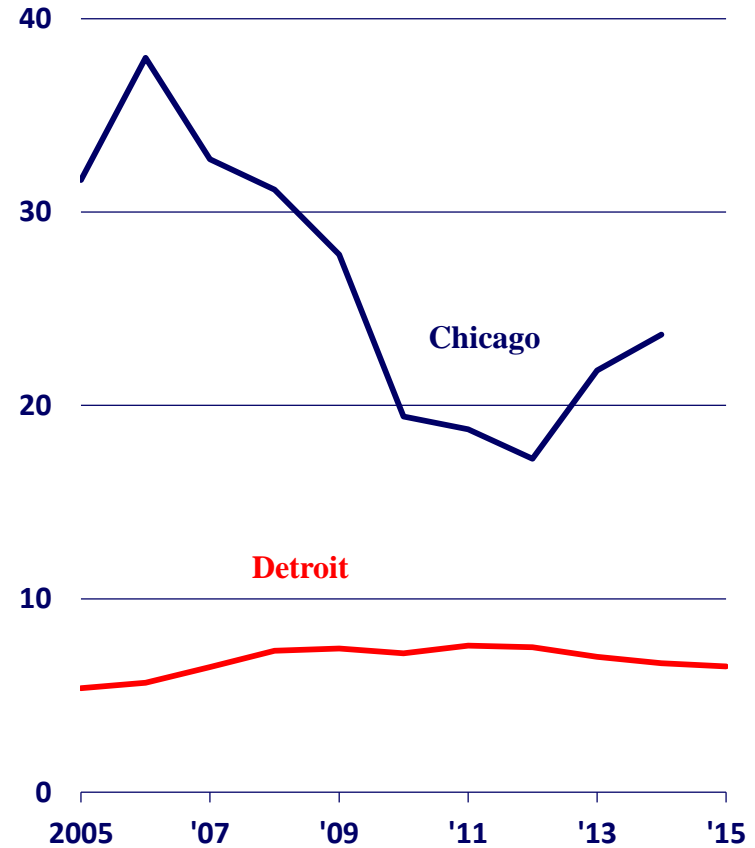
Industrial

(\$000s per capita)



Commercial

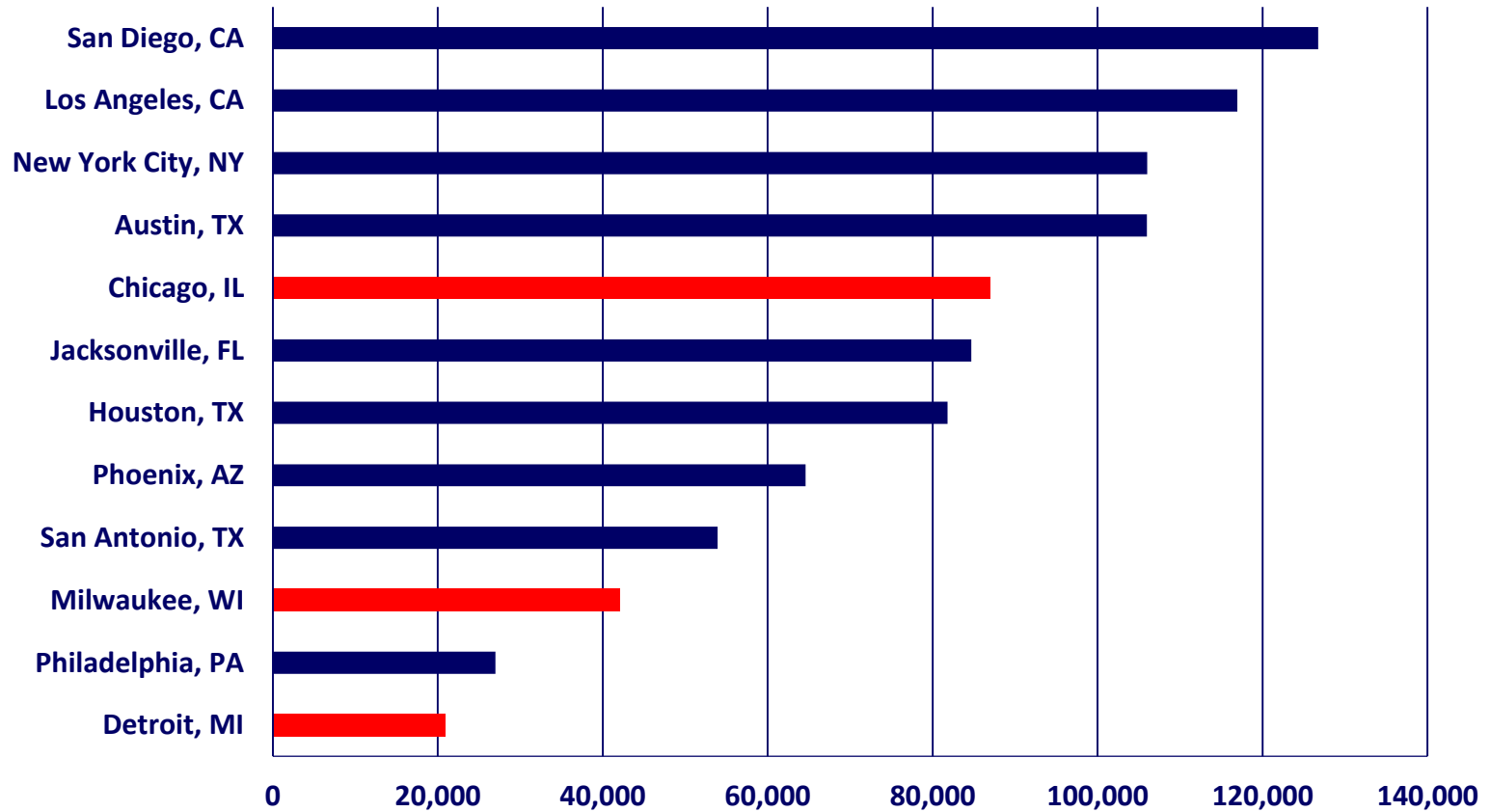
(\$000s per capita)



* Sources: Detroit Certified Annual Financial Reports and The Civic Federation.

Estimated Real Estate Values of Large Cities

(\$ thousands per capita, 2013)



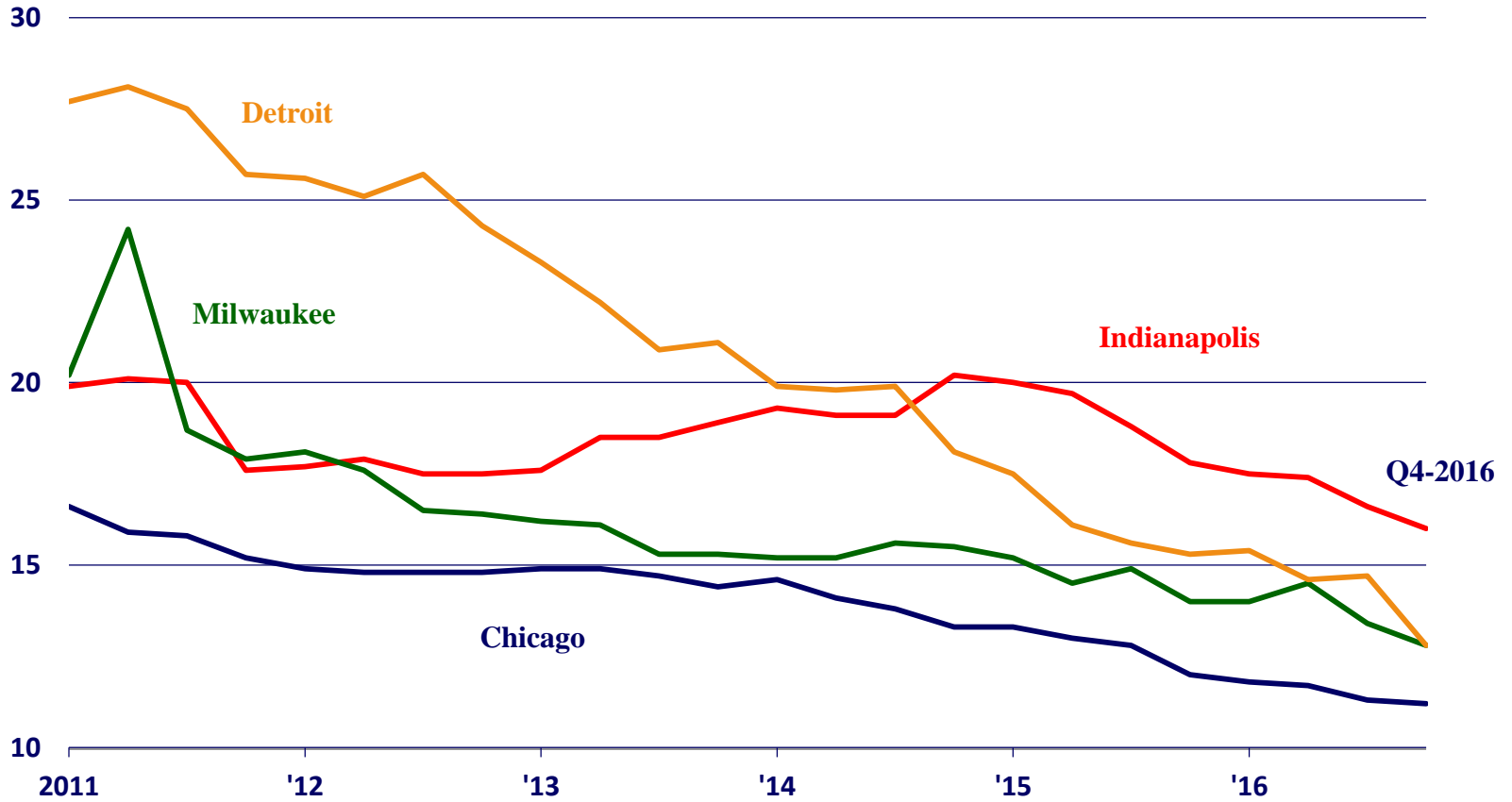
* Sources: Individual city comprehensive annual financial reports

Sources of urban revival....

Office Vacancy Rates: Downtown Areas

Midwest Cities

(percent)



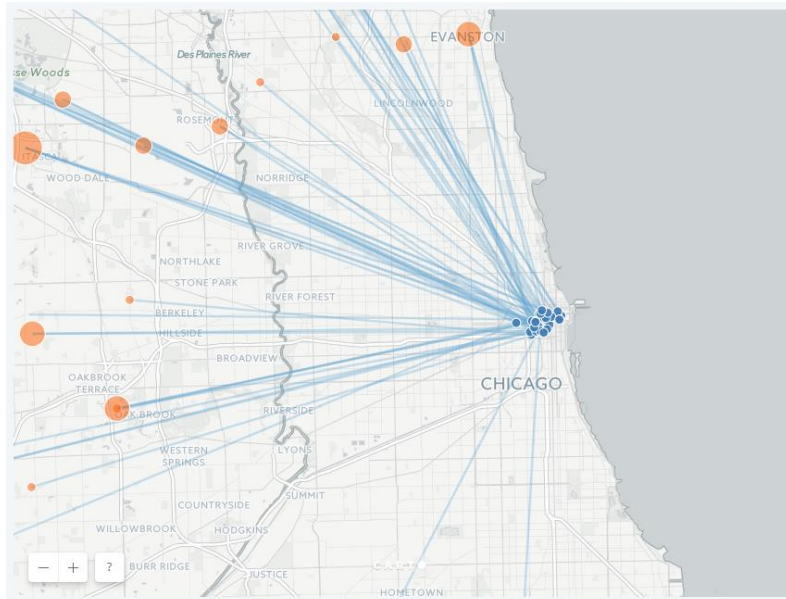
* Source: CB Richard Ellis

Central Chicago Gains HQs

“Over 50 since 2001....”

Companies making big moves from suburbs to Chicago

More than 10,000-square-foot rentals. Hover over a line to see the company and where they moved from. Click a suburb or downtown location to see companies that left. Suburb bubbles are sized based on number of companies that left.



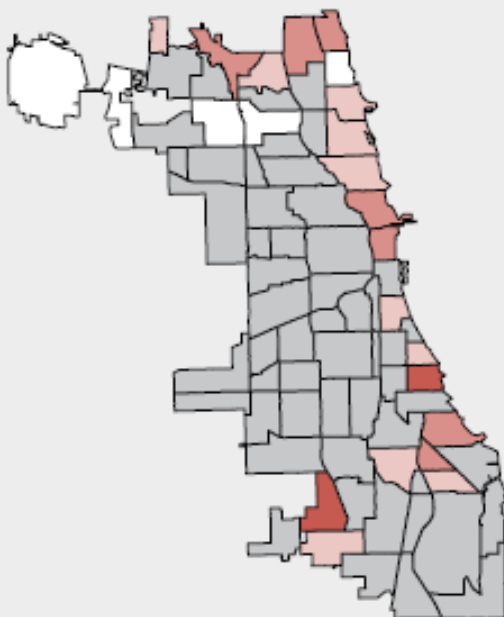
Source: *Chicago Tribune*

- **From suburbs**, e.g. McDonalds (2016), Motorola Mobility and Solutions, United Air, Walgreens, Sara Lee, Hilshire Brands...
- **From elsewhere**, e.g. Oscar Meyer (Madison), GE Healthcare (London), Boeing (Seattle), ConAgra (Omaha, MeadeJohnson Nutrition (Evansville), ADM (Decatur), Caterpillar (Peoria), Kraft-Heinz (Pittsburgh), CLAYCO (St. Louis)

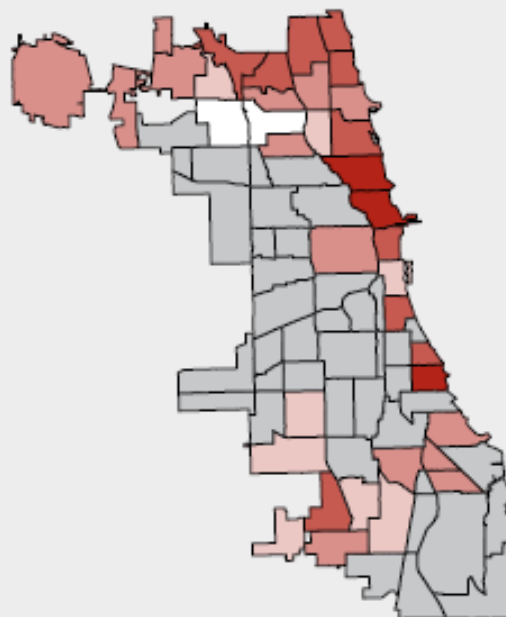
FIGURE 2

College graduates, by quintile, in Chicago community areas, 1960–2000

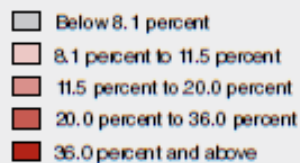
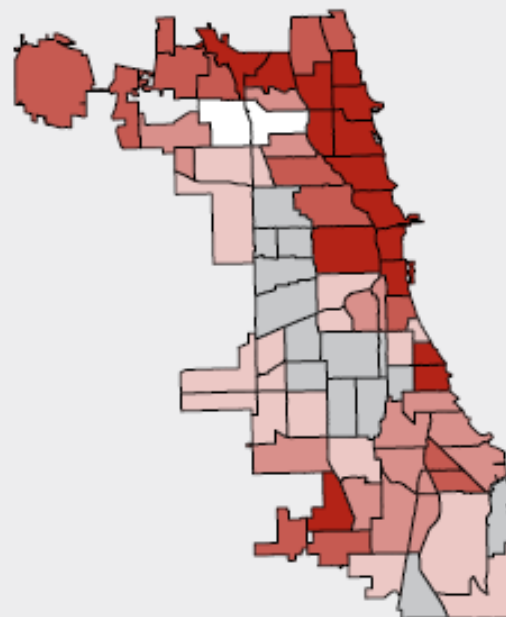
A. 1960



B. 1980



C. 2000



0 15 30 45
miles

Notes: Only adults aged 25 and older are included in the analysis. Community areas in white indicate data not available.

Sources: Kitagawa and Taeuber (1963); Chicago Fact Book Consortium (1984, 1995); and U.S. Census Bureau, 2000 Census of Population and Housing, Summary File 3.

Economic Perspectives, Vol. 34, 4th, No. 4, 2010

“Educational Attainment and Household Location: The Case of Chicago’s Lakefront,”

By [William Sander](#), [William Testa](#)

How do cities' positioning with respect to property value change if we consider explicit debt liabilities, hypothesizing that property owners are vs. failing to capitalize public debts into transaction values of property?

Liabilities (Working Draft Estimate for EOP 2013)

Chicago and Detroit Liabilities, 2013			
Chicago		Detroit	
Category	Amount	Category	Amount
Direct and Overlapping Bonded Debt (\$000s)		Direct and Overlapping Gov't Act. Debt (\$000s)	
Net Debt Applicable	18,008,788	Net Debt Applicable	4,105,191
City of Chicago G.O. Bonds	7,670,298	City of Detroit Direct	2,345,177
Board of Education	6,207,790	Detroit Public Schools	1,694,187
Chicago Park District	865,665	Wayne County	63,617
City Colleges of Chicago	250,000	Wayne County Community College	2,211
Cook County	1,715,011		
Cook County Forest Preserve	86,091		
Metropolitan Water Reclamation	1,213,933		
Water Revenue Bonds (\$000s)	1,954,020	Water Revenue Bonds (\$000s)	2,524,775
Wastewater Transmission Revenue Bonds (\$000s)	1,333,984	Sewage Disposal Revenue Bonds (\$000s)	2,824,494
Pension UAAL (\$000s)	35,041,093	Pension UAAL (\$000s)	3,651,270
OPEB (\$000s)	106,131	OPEB (\$000s)	5,718,286
State Teachers' Retirement System (\$000s)	11,770,368		
Commercial Paper Notes (\$000s)	270,188		
Total Debt	68,484,572	Total Debt	18,824,016

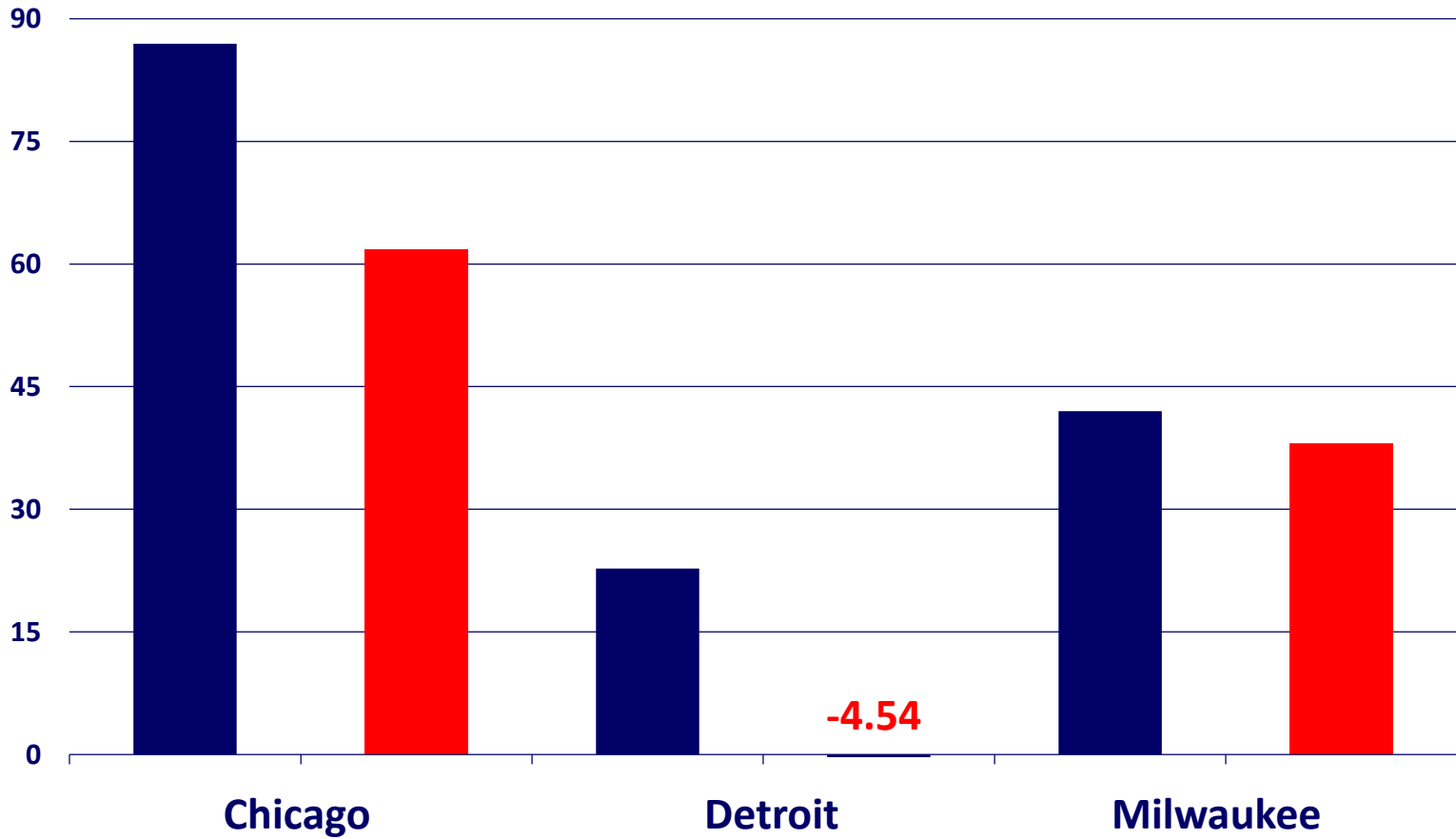
Liabilities (Working Draft Estimate for EOP 2013)

Milwaukee Liabilities, 2013	
Milwaukee	
Category	Amount
Debt Repaid with Property Taxes (\$000s)	
Total Direct and Overlapping Debt	1,543,855
Direct Debt	719,242
Milwaukee Area Tech. Coll. District	42,687
County of Milwaukee	329,108
Milwaukee Metro. Sewage Area	452,818
Water Revenue Bonds (\$000s)	10,836
Sewage Disposal Revenue Bonds (\$000s)	88,035
Pension UAAL (\$000s)	429,925
OPEB (\$000s)	287,460
State Retirement UAAL (\$000s)	5,537
Total Debt	2,365,648

(Preliminary) Realty-Based Value Estimates

With and Without Capitalization

(\$000s per capita)

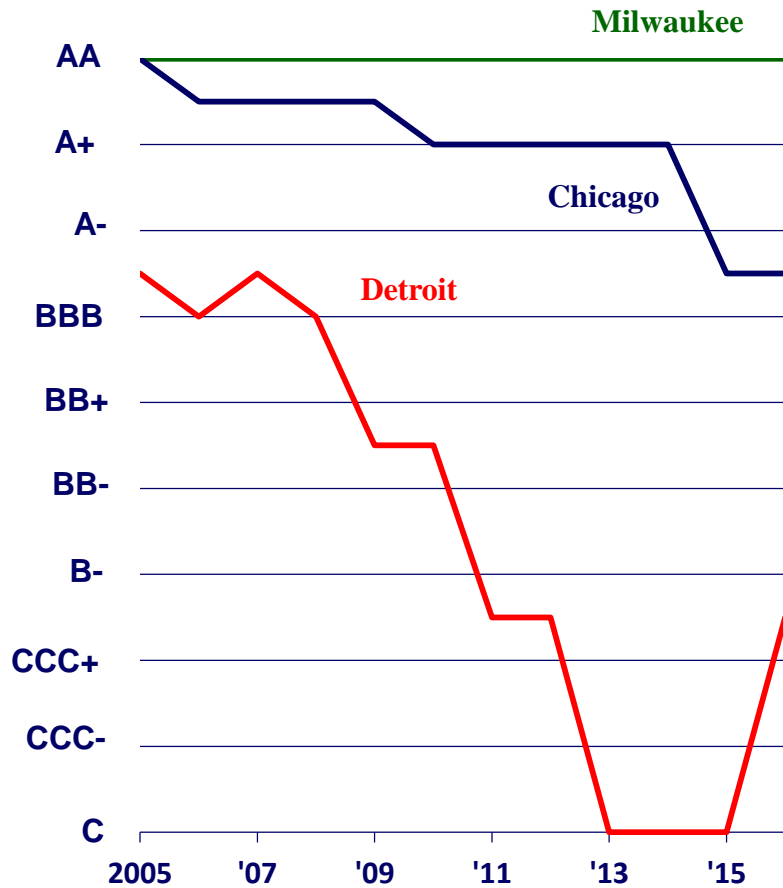


At end.....

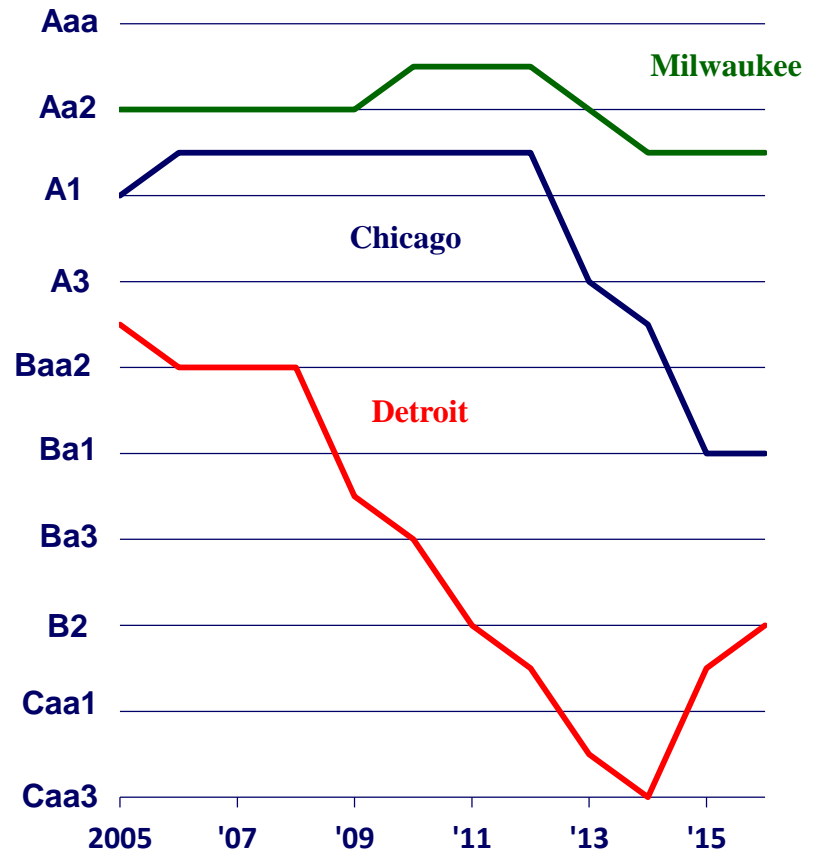
- **Property owners apparently see considerable value in the “Chicago franchise” despite mounting debt and the administrative disarray of local and State government**
- **Some ratings/rankings of city fiscal health may be misleading**

Bond Ratings

Standard and Poor's



Moody's



* Sources: Chicago and Detroit values were obtained from Comprehensive Annual Financial Reports. Milwaukee values are reported in the Office of the Comptroller's official statements on bond issues.