

Credit Clusters: Is There a Spill-over Effect with Distressed Municipalities

Panel Presentation at MAGNY

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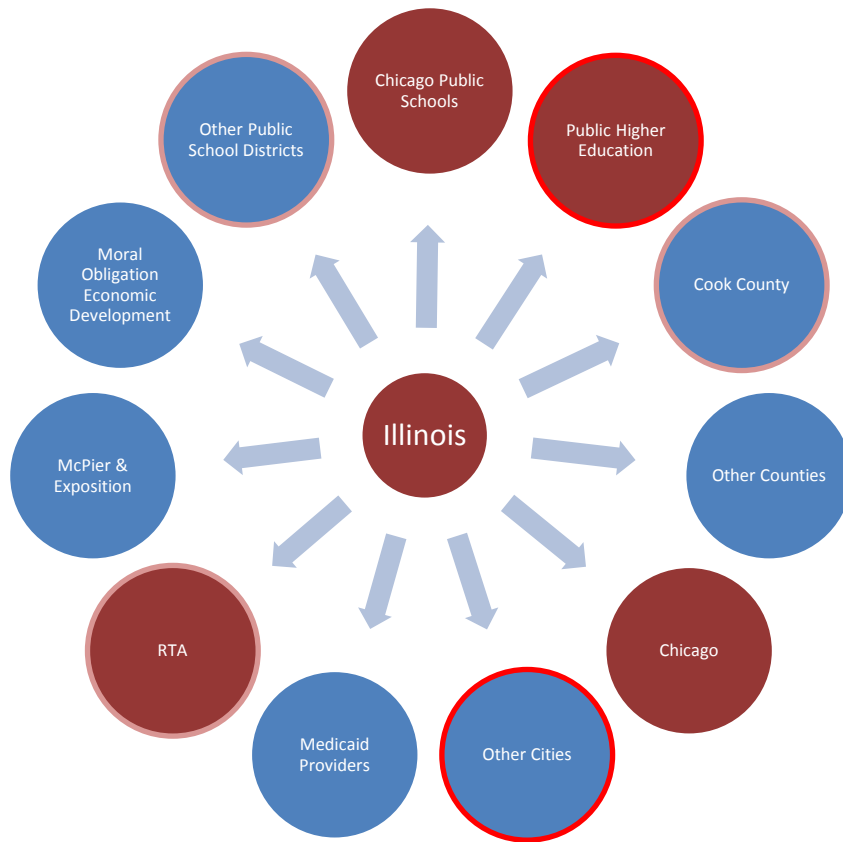
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Credit Clusters: The Spillover Effect with Distressed Municipalities



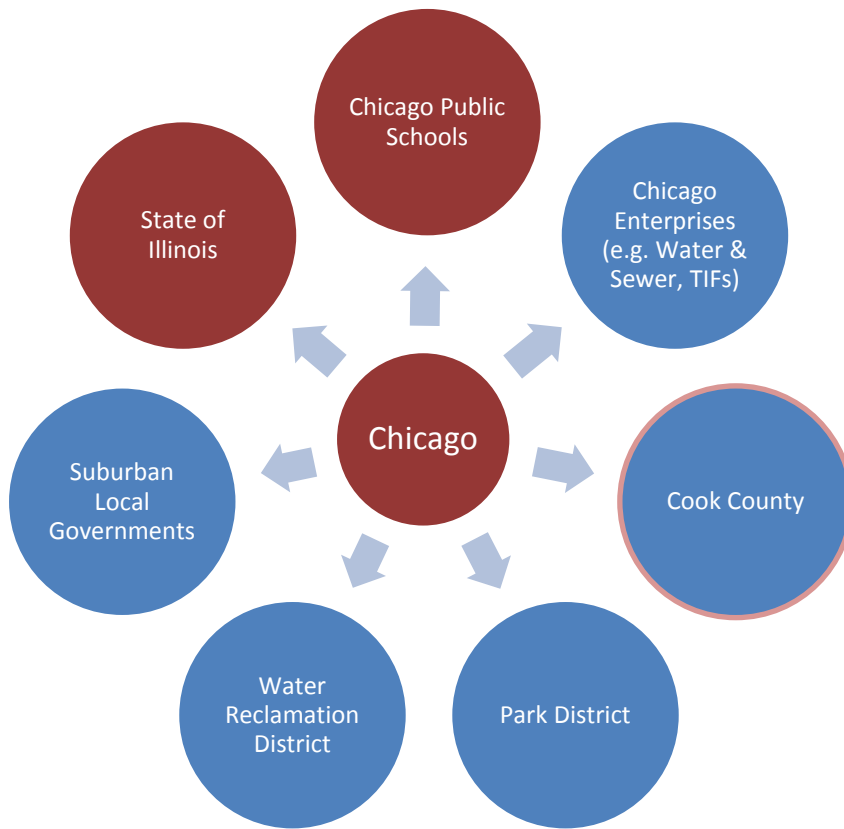
The Potential for Contagion and Interdependent Relationships -- State Centric



COMMON OVERLAPPING INFLUENCES Stemming from State:

- Economic Base
- Debt and Pensions Overlay
- Tax Overlay
- Infrastructure
- Statutory Framework

The Potential for Contagion and Interdependent Relationships – Local Centric



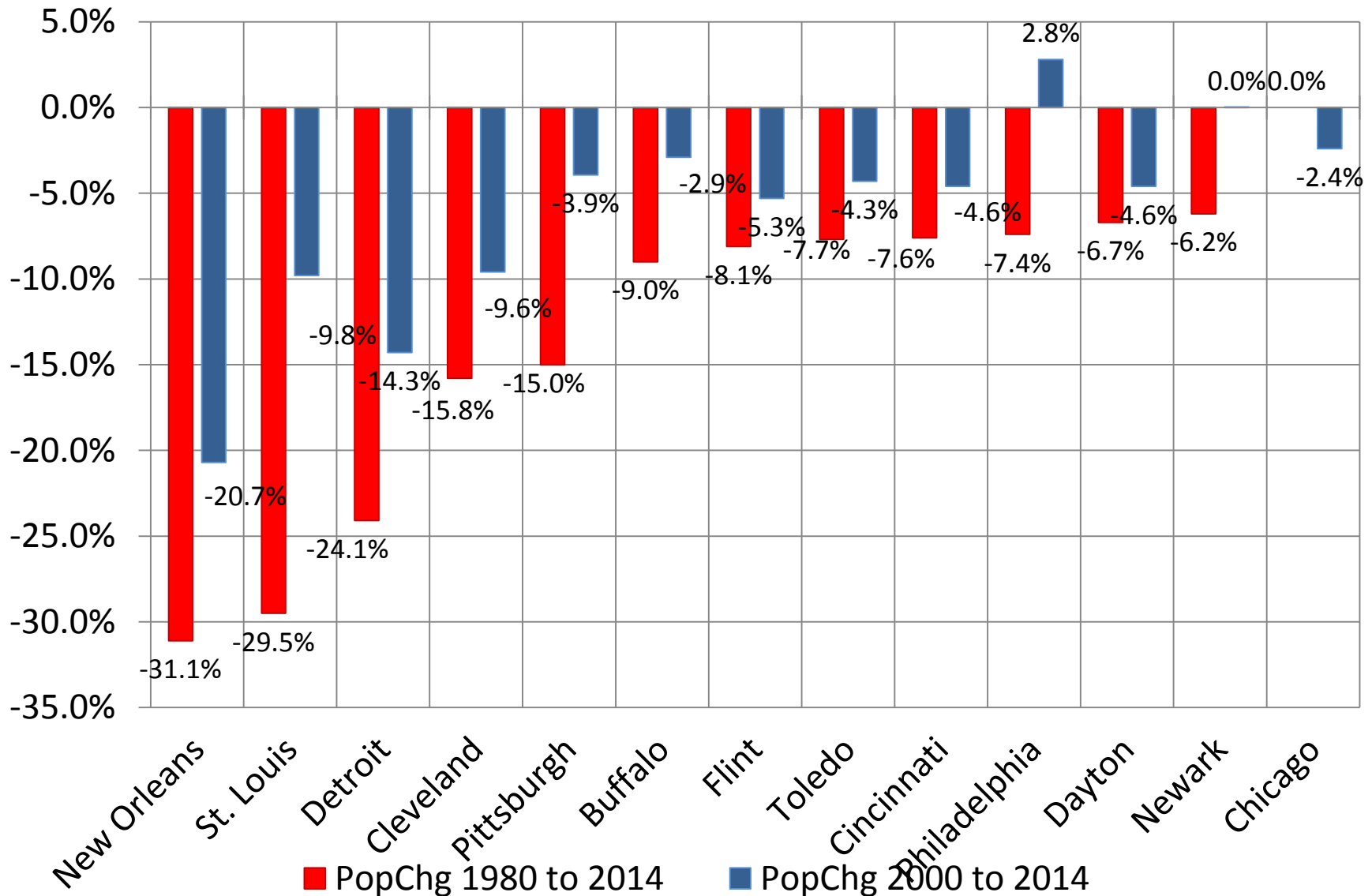
COMMON OVERLAPPING INFLUENCES Stemming from City:

- Economic Base
- Debt and Pensions Overlay
- Tax Overlay
- Infrastructure

Common Influences: Shared Economic Base

Select Large Cities with Declining County Populations

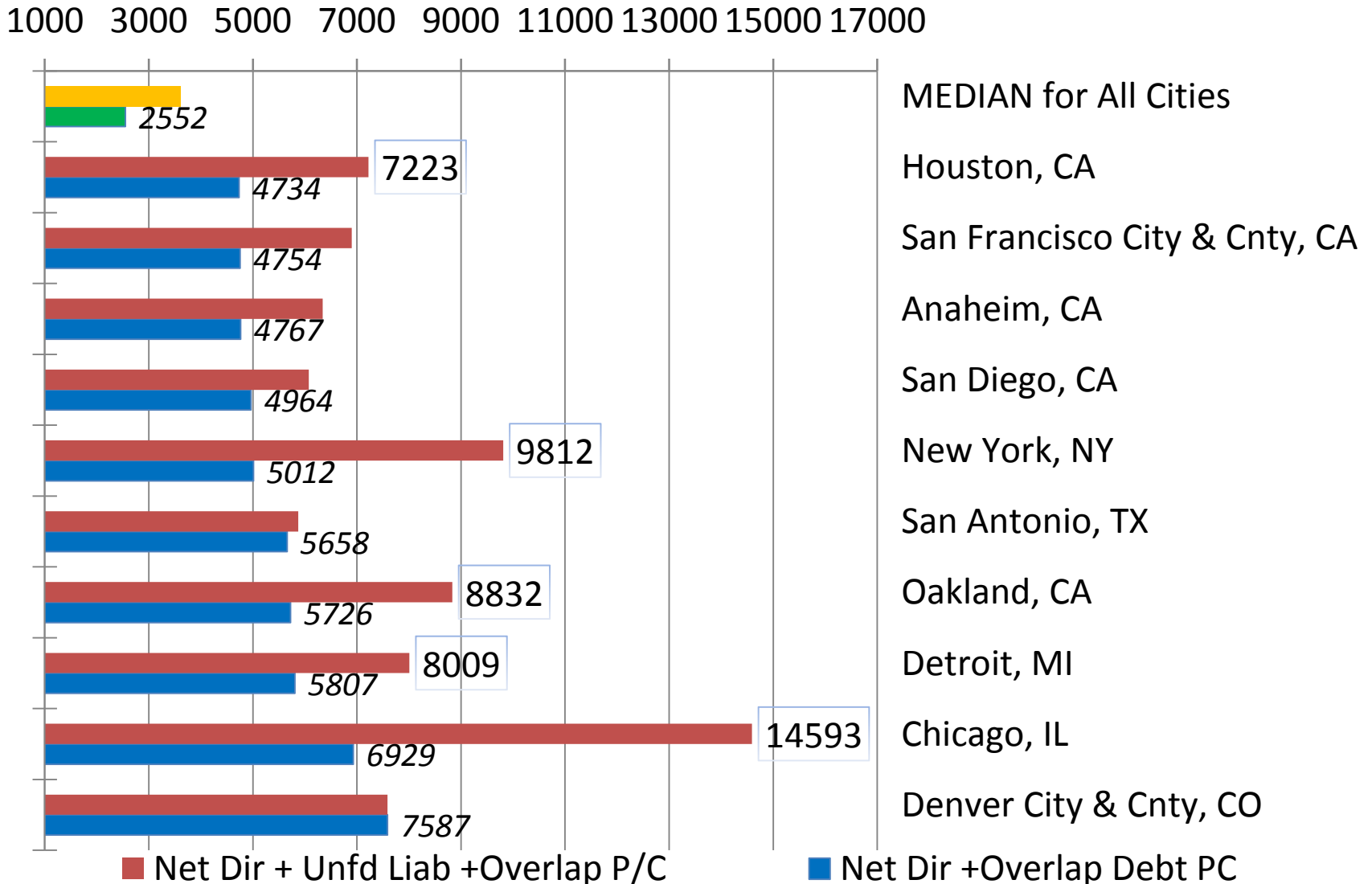
Periods from 1980 to 2014 and 2000 to 2014



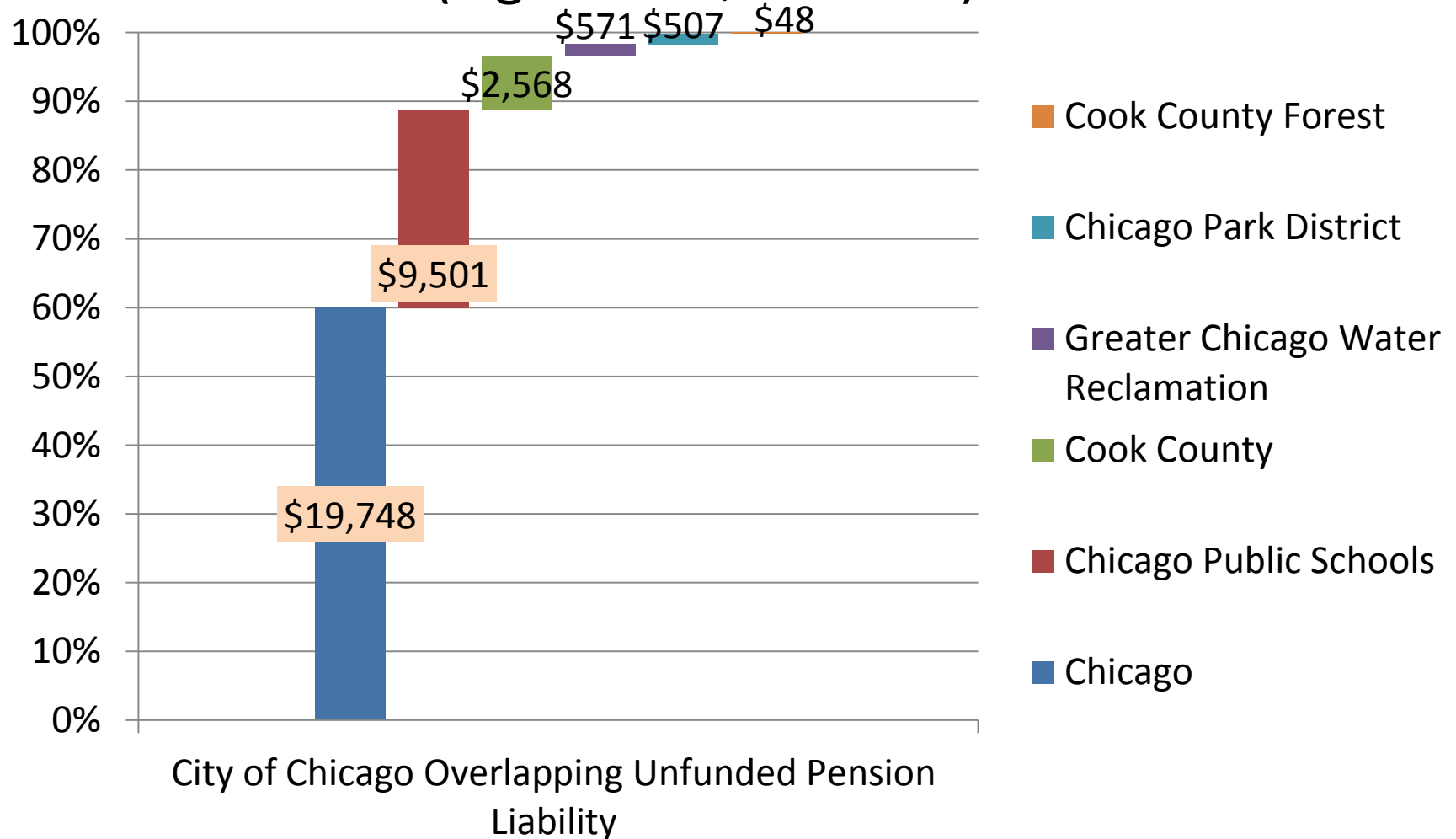
Large Cities with Highest Per Capita Overlapping Debt

Net Direct + Overlapping Debt Per Capita

Net Direct + Overlapping Debt + **Unfunded Liability** Per Capita



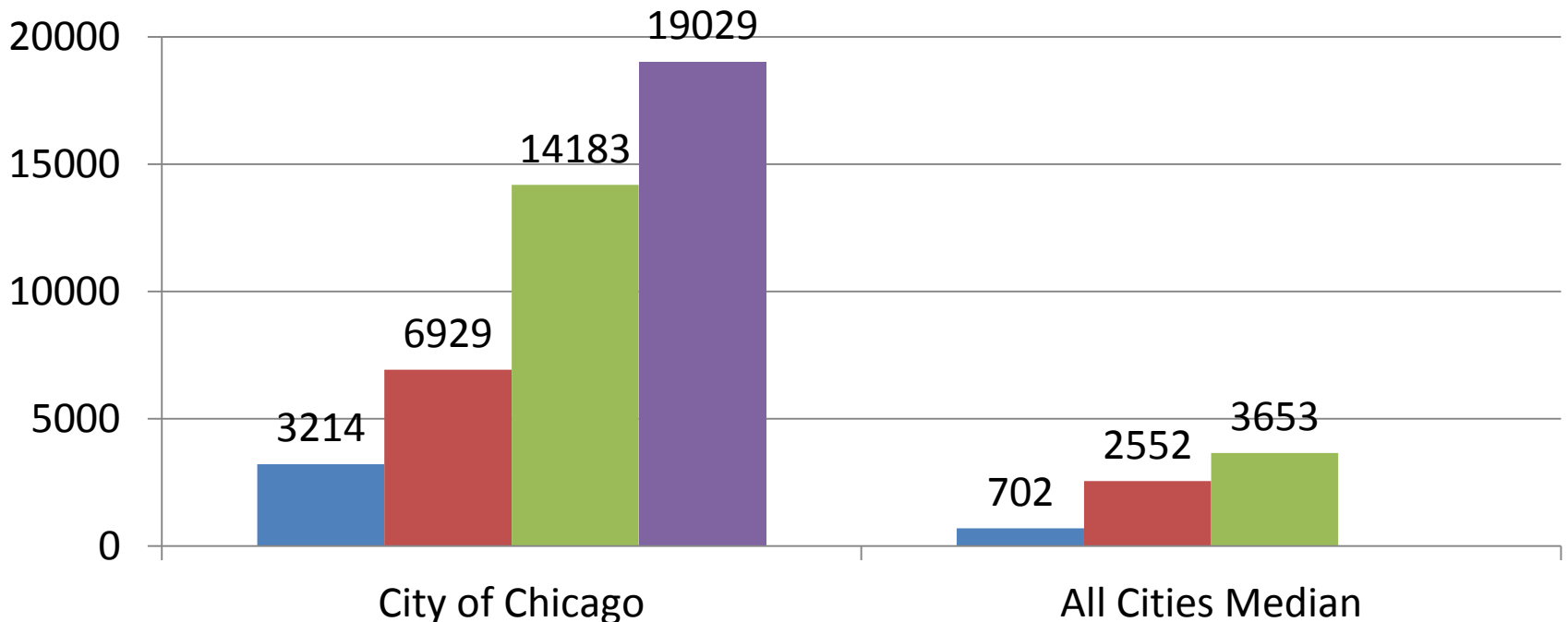
Total Overlapping Pension Liability for City of Chicago Taxpayers -- \$32.4 Billion – Excludes State Pensions (Figures In \$ Millions)



Source: Merritt Research Services LLC and City of Chicago Official Statement, Series 2015 C based on FY 2014 results.

Debt and Pension Impact on Taxpayers Usually Understated by Traditional Debt Ratios

Example -- City of Chicago – Per Capita Burden FY 2014

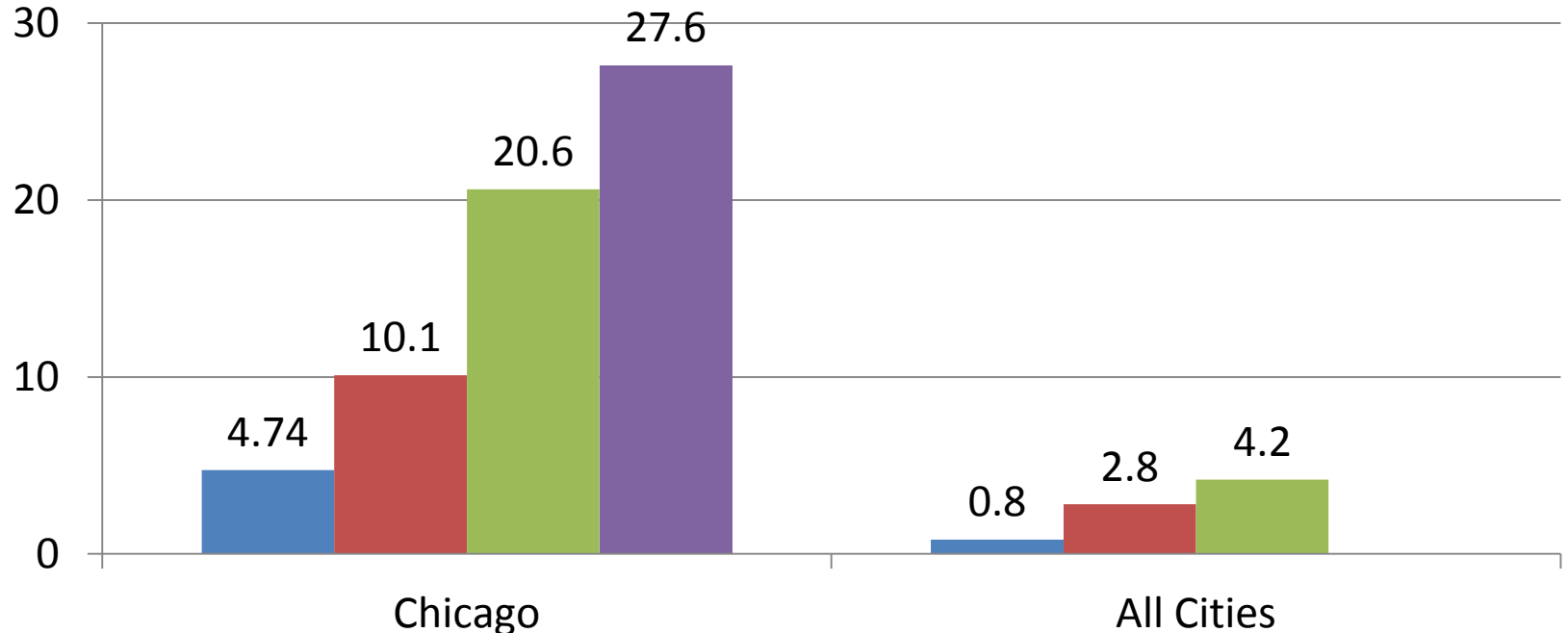


- Net Direct Debt Per Capita
- Net Direct & Overlapping Debt Per Capita
- Net Direct & Overlap + Unfd Pens Liab Per Capita
- Net Direct & Overlap Debt + Unfd Pens Liab + Overlap Unfd Pens Liab P/C

Source: Merritt Research Services LLC and City of Chicago Official Statement, Series 2015 C . All Cities Medians includes 1657 cities for Net Direct; 1099 for Dir and Overlap and 517 for Dir & Overlapping Debt plus pensions.

Debt and Pension Impact on Taxpayers Usually Understated by Traditional Debt Ratios

Example -- City of Chicago – As a % of Full Value FY 2014

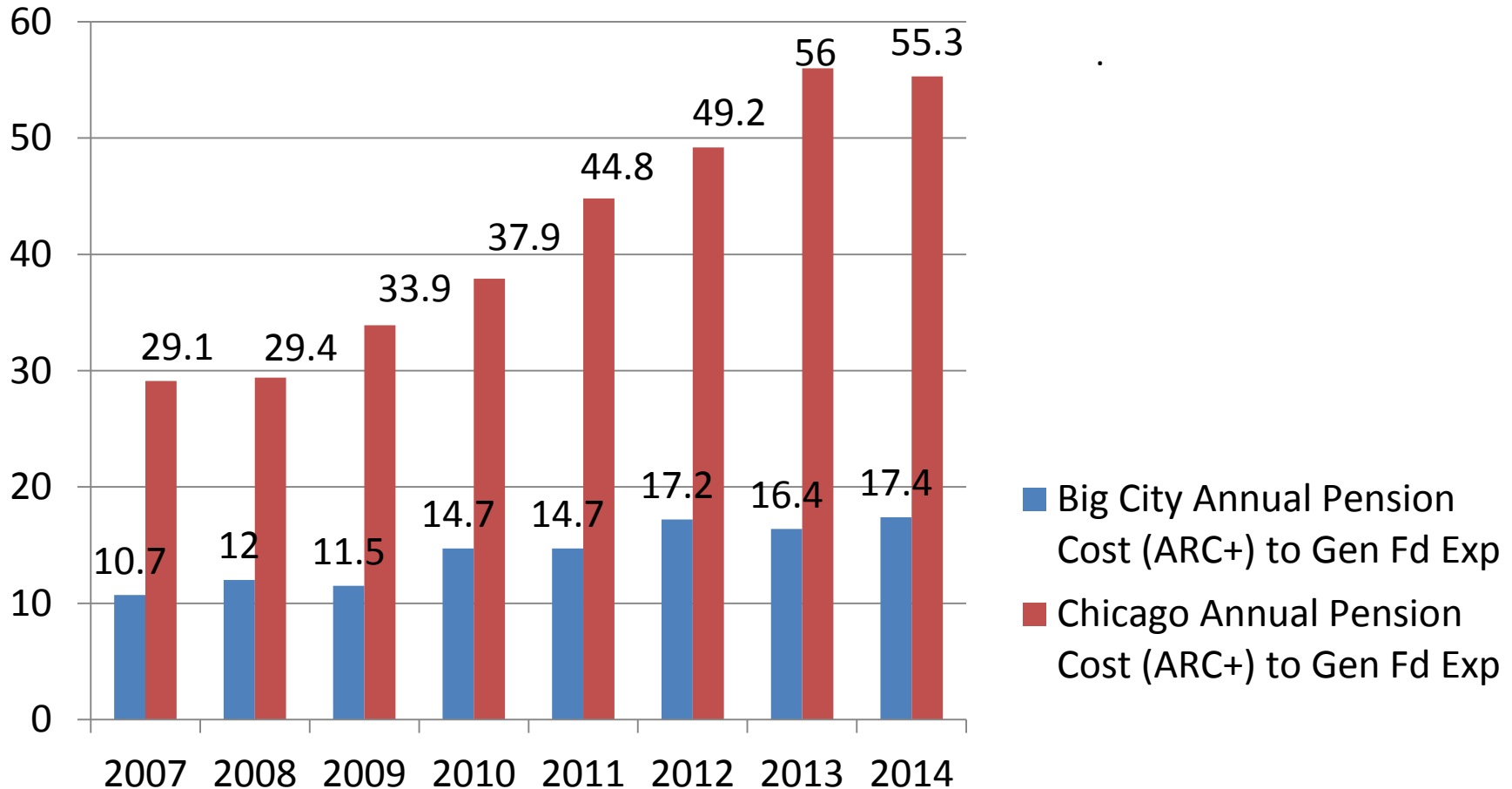


- Net direct Debt as % of FV
- Net Direct + Overlapping as % of FV
- Net Direct Debt + Overlapping + City Unfd Pens Liab as % of FV
- Net Direct & Overlapping Debt + Unfd Pens Liab + Overlapp Unfd Pens Liab to FV

Source: Merritt Research Services LLC and City of Chicago Official Statement, Series 2015 C . All Cities Medians includes 1532 cities for Net Direct; 1073 for Dir and Overlap and 506 for Dir & Overlapping Debt plus pensions.

Pension Requirements for Chicago and Big Cities:

Annual (Actuarial) Pension Cost as % of General Fund – Single Employer Plans only (2007-2014)



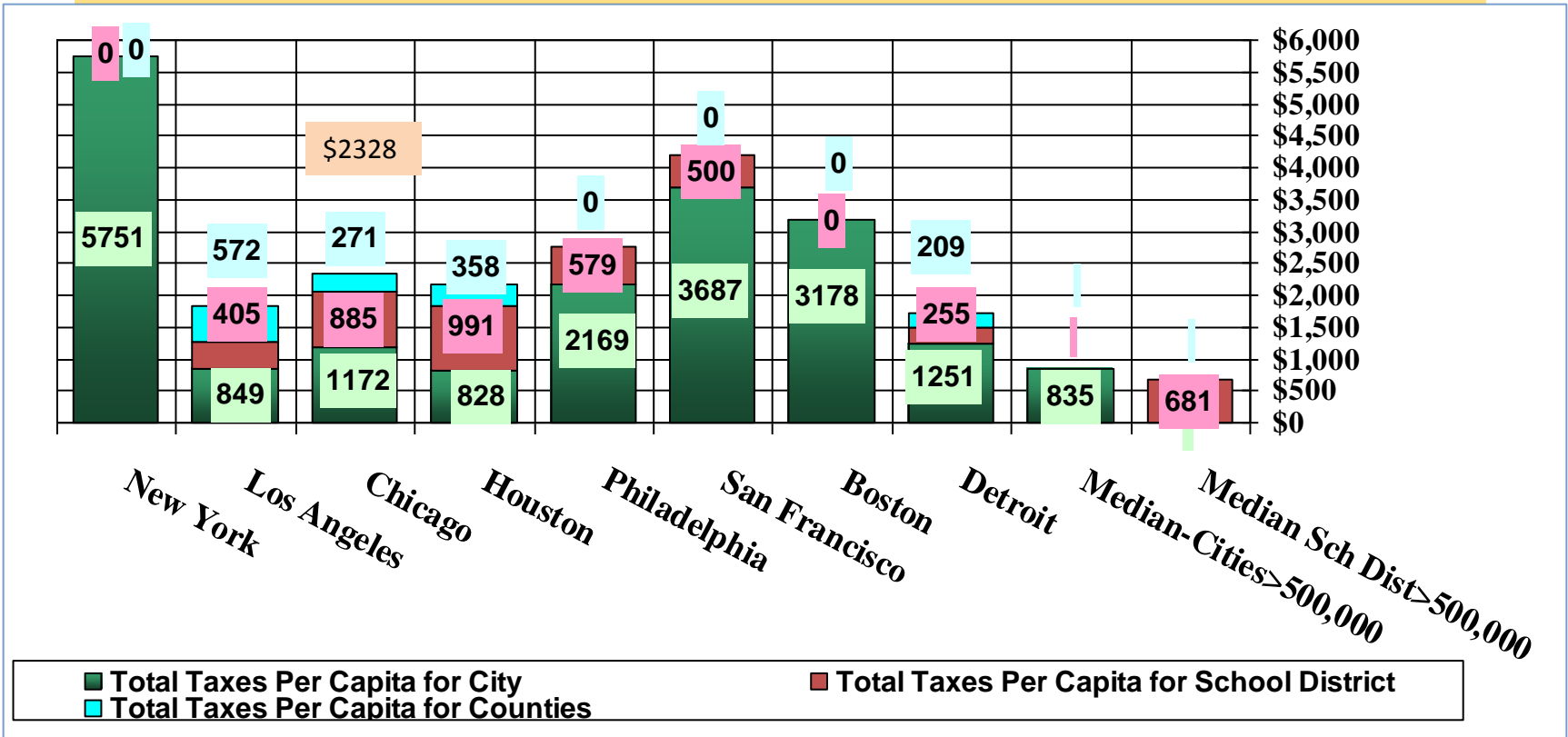
Source: Merritt Research Services, LLC. Data.

Key Comparative Ratios: Taxing Capacity

Total Tax Revenue (Gov. Activities) Per Capita \$

Cities over 500,000 Population

The median total Governmental Activities Total Tax Revenue Per Capita for cities over 500,000 population is \$835. The median total revenue per capita for large city school districts is \$681. Chicago's consolidated tax revenue per capita for FY 2014 was \$2,328 (41% of New York and 56% of San Fran) to \$2511 with new taxes.

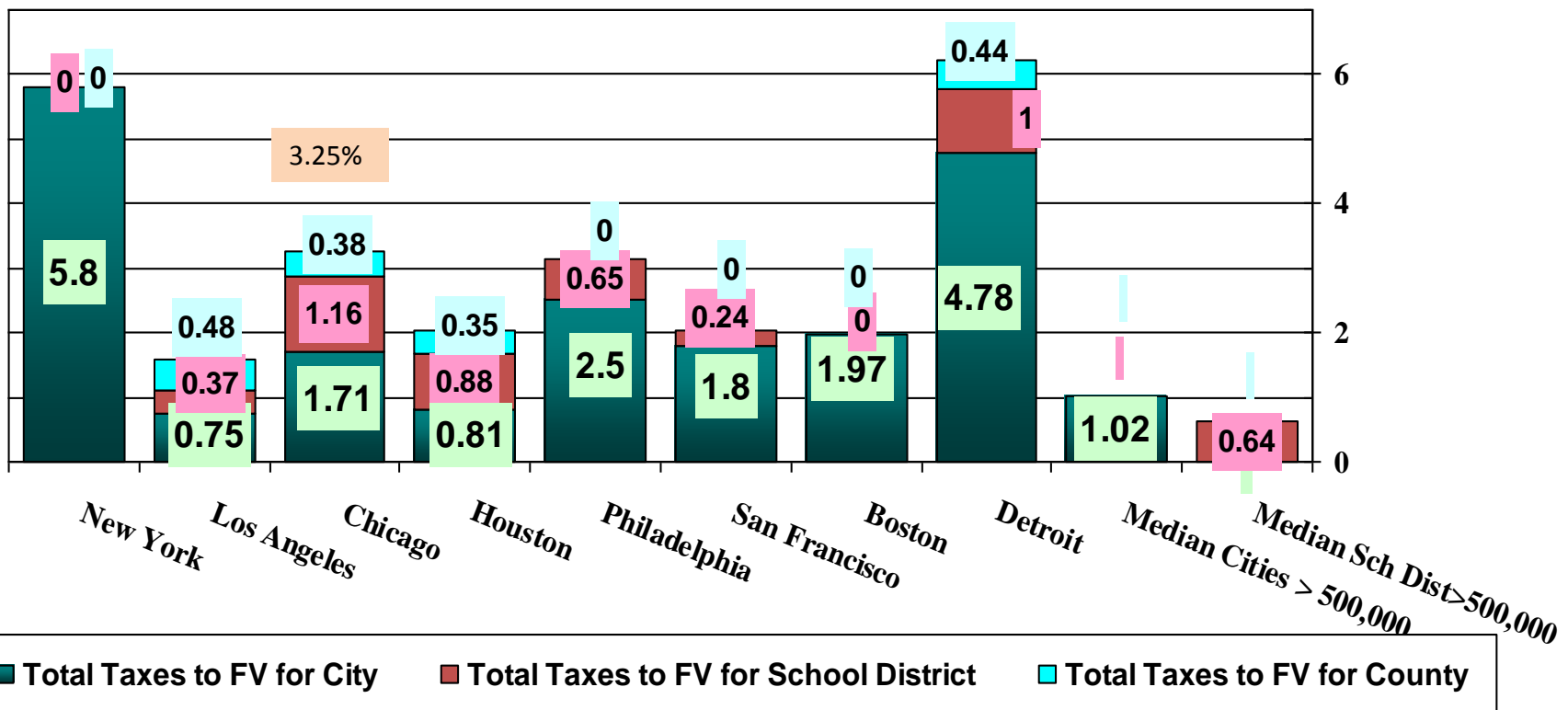


Source: Merritt Research Services, LLC. Data for Big Cities median includes 33 Cities over 500,000. Taxes represent total governmental activities taxes for FY 2014 for the cities, school districts and counties shown. Consolidated City, County and/or School Districts do not show separate tax revenue per capita figures. Chicago total excludes additional tax incidence for Park District and County Forest Preserve, whose functions might be provided by other city governments..

Key Comparative Ratios: Taxing Capacity

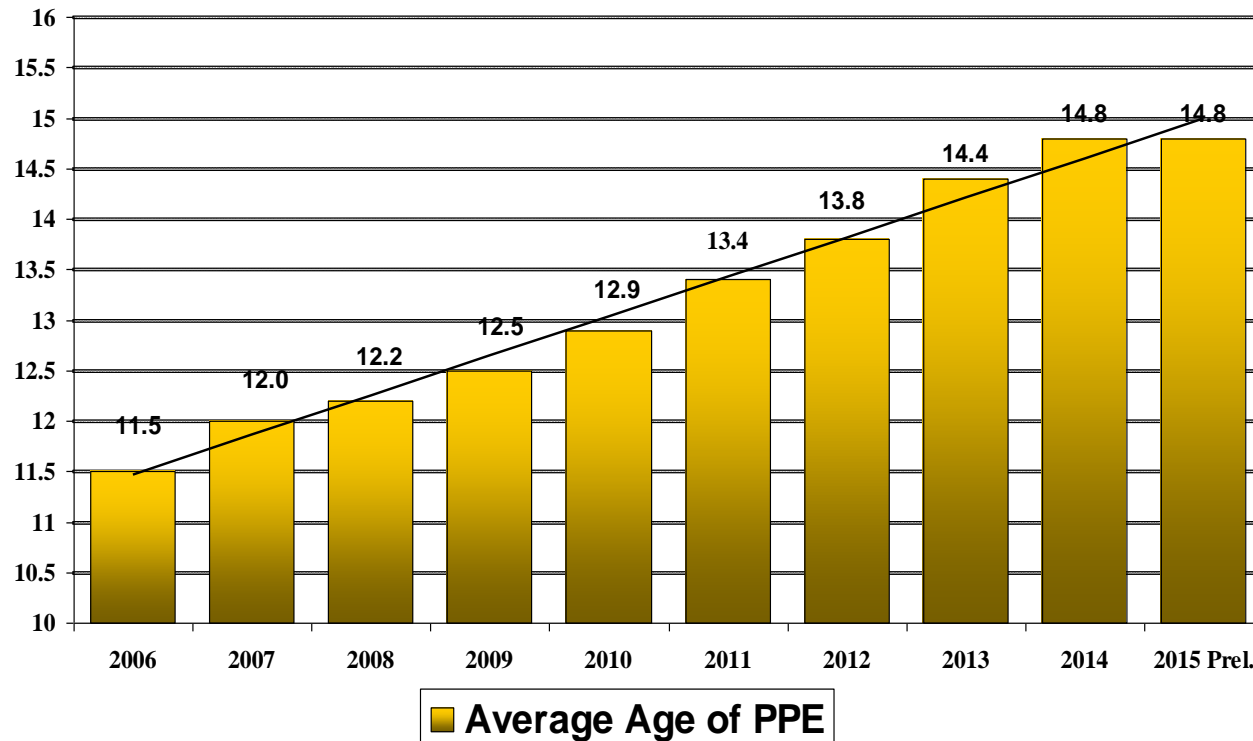
Total Tax Revenue (Gov. Activities) to Estimated Full Market Value % Cities over 500,000 Population

The median total Governmental Activities Total Tax Revenue as a % of Full Value for cities over 500,000 population is **1.02%**. The median total revenue to FV for large city school districts is **.64** of 1%. Chicago's consolidated tax revenue per capita for FY 2014 was **3.25%** (56 % of New York and 52 % of Detroit) rising to 3.5%



Source: Merritt Research Services, LLC.. Taxes represent total governmental activities taxes for the FY 2014 for the cities, school districts and counties shown. Consolidated City, County and/or School Districts do not show separate tax revenue figures. Chicago total excludes additional tax incidence for Park District and County Forest Preserve, whose functions might be provided by other city governments..

Infrastructure: Aging Infrastructure Creeping Up on Cities by Average Age of Property, Plant & Equipment Annual Median for Cities: 2006-2015 (Preliminary)



Average Age of PPE for Select Large Cities (Most recent FYE):

Detroit	23.3
Philadelphia	23.3
Pittsburgh	18.7
Chicago	16.7
Providence	18.0
Cleveland	12.8
Milwaukee	24.3

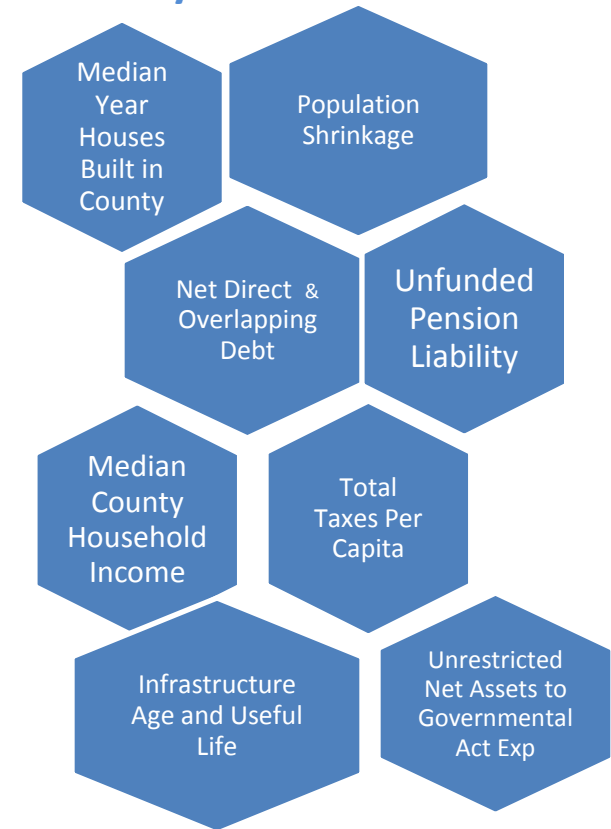
Source: Merritt Research Services, LLC data as of February 19, 2016. The number of total cities included by FY: FY 2015: 341; FY 2014: 1641; FY 2013: 1803 cities; FY 2012: 1952; FY 2011: 1944; FY 2010: 1649; FY 2009: 1326; FY 2008: 1129; FY 2007: 911; FY 2006: 823.

City & County Areas with Highest Elevated Cluster Risk

(Statistical Model Results Based and FY 2014 Financials and Census Data)

	Cluster Burden Rank Percentile (city/county)	CreditScope Credit Rank Percentile (city/county)
Detroit/Wayne, MI	.1 / 3.6	1.0/ 12.2
Philadelphia City & County, PA	0.3/ NA	4.3/ NA
Pittsburgh/Allegheny, PA	1.0/ 6.0	8.7/ 42.7
Chicago/Cook IL	1.8/ 10.1	2.5/ 34.9
Providence City/County, RI	2.7/ 2.8	.4 / 9.5
Cleveland/Cuyahoga, OH	3.7/ 8.1	4.3/ 36.4
Milwaukee City/County, WI	4.3/ 6.8	4.2/ 38.9

Key Factors



Scores in red represent bottom 5% ranking of all cities or counties.

Source: Merritt Research Services, LLC based on FY 2014 financials, US Census data and Merritt Statistical Model Scores.

Cluster Burden represent statistical model results based on inputs related to stress factors.

CreditScope rank is based on significant overall credit factors for a single governmental body.

The Compound Effect of a Distressed Municipality on Overlapping Governments – Flint

Flint School District

**CreditScore Rank Bottom
1 %**

Enrollment down near 50%
since 2008

**Fund Balance to Expenditures -
21%**

Unrestricted Net Assets to
Governmental Expenditures
(-26%)
Average Age of PPE is 33 years

City of Flint

CreditScore Rank- Bottom 1%
High Area Burden Risk -Bottom
7%

**Total Fund balance to
Expenditures (-18.3%)**

**Unrestricted Assets to
Expenditures (-159.7)**

**High Unfunded Pension
Liability 52% with 8% Discount
Rate -- 2x retirees to active
employees**

**Average Age of Infrastructure
20.5 years.**
Flint Water –among highest water
rates in nation.

Genesee County

CreditScore Rank - Bottom 2%
FV per cap. of County \$44,465-
Bottom 1% of all Counties

Thin Financials:

Zero Days Cash on Hand for Gen
Fd. & 31 days for Govt Act.

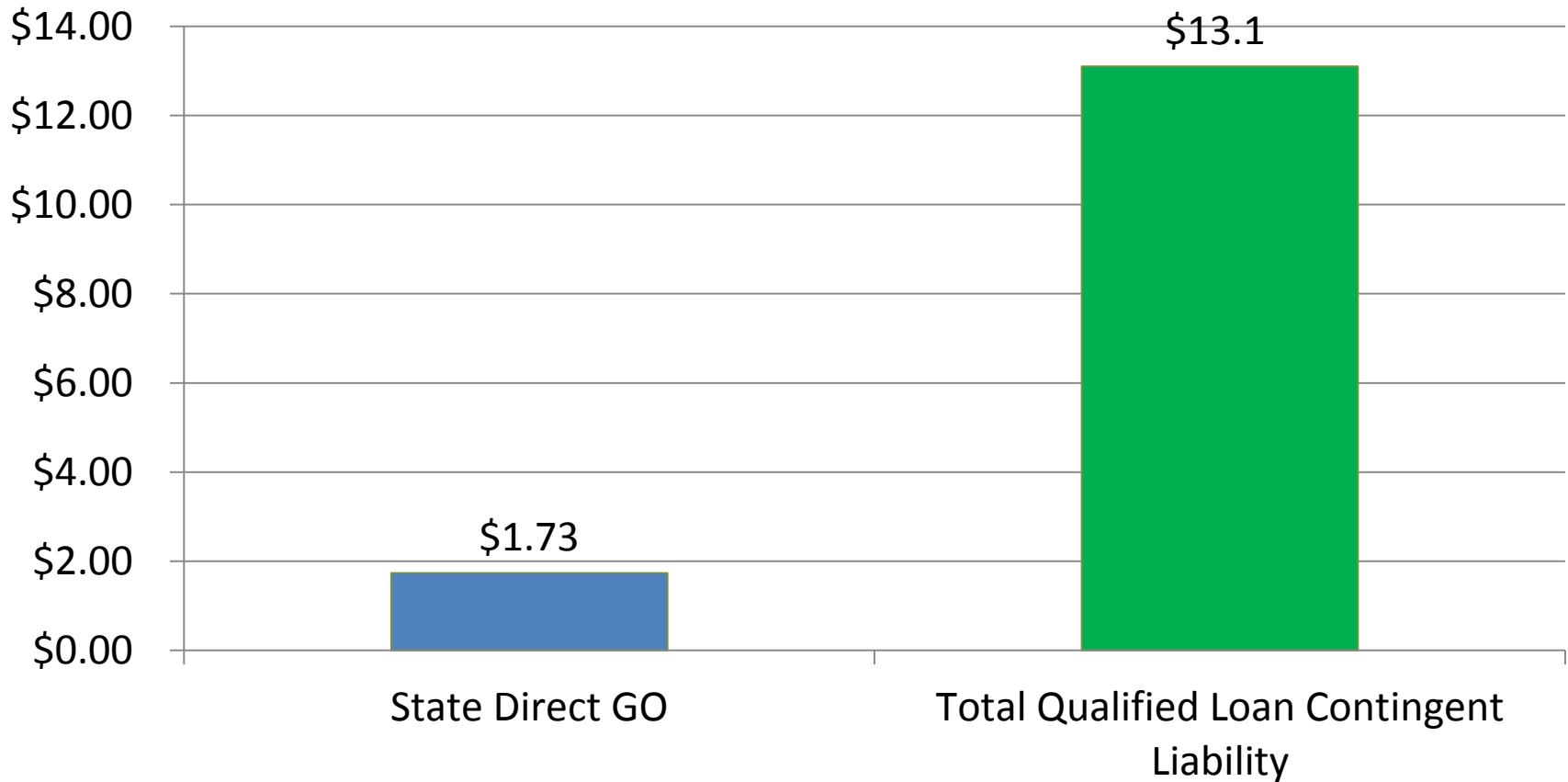
Unrestricted Net Assets to Govt.
Expenditures is -2%

**Pension Funding Ratio is
75% using 8% discount rate**
2x retirees to active employees

Potential for Distressed Credits to Impact States

Michigan State Debt Relative to Contingent Qualified School Loan Program

GO Debt Direct & Contingent Exposure \$ Billions as of FYE 6/30/2015



Notes and Disclosures

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