# Credit Cluster and Contagion Risk Related to Distressed Municipalities

Richard A. Ciccarone President & CEO Merritt Research Services, LLC Presentation at **The Municipal Finance Conference** at the Brookings Institute July 12, 2016



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## 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 (e.g. pensions)

## 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



Source: Merritt Research Services based on U.S. Census

### Large Cities with Highest Per Capita Overlapping Debt Net Direct +Overlapping Debt Per Capita Net Direct + Overlapping Debt + Unfunded Liability Per Capita

 $1000 \hspace{0.2cm} 3000 \hspace{0.2cm} 5000 \hspace{0.2cm} 7000 \hspace{0.2cm} 9000 \hspace{0.2cm} 11000 \hspace{0.2cm} 13000 \hspace{0.2cm} 15000 \hspace{0.2cm} 17000$ 



Source: Merritt Research Services, LLC All ratios apply to FY 2014. Detroit's 2014 unfunded liability is estimated.



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 & 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



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..

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#### 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



*Source: Merritt Research Services, LLC data as of July 1, 2016.* The number of total cities included by fiscal year: FY 2015: 1015 (preliminary); FY 2014: 1715 FY 2013: 1850 cities; FY 2012: 1964; FY 2011: 1945; FY 2010: 1649: FY 2009: 1327; FY 2008: 1129; FY 2007: 911; FY 2006: 823.

### Select City & County Areas with Highest Elevated Cluster Risk

(Statistical Model Results Based on National Ranking using FY 2014 Financials and Census Data)

| Ranked In Order of<br>Most Cluster Risk by<br>City | Cluster Risk<br>Rank<br>Percentile (City<br>/ Med. for<br>County Cities) | CreditScope<br>Credit Rank<br>Percentile (city<br>/Med. for<br>county cities)<br>Credit Quality |
|--|--|---|
| New Orleans, LA                                    | . <mark>46</mark> / NA   | 7.2 / NA  |
| Detroit/Wayne, MI                                  | .63 / 9.55   | 1.02/ 13.86   |
| Newark/Essex, NJ                                   | . <mark>98</mark> / NA   | <b>3.92/</b> 22.15  |
| Philadelphia City &<br>County, PA                  | 1.17/ NA   | 1.51/ NA  |
| Pittsburgh/Allegheny, PA                           | 1.66 / 13.19   | <b>8.26</b> / 42.29   |
| Chicago/Cook IL                                    | 1.77 / 13.22   | <b>2.22</b> / 35.1  |
| Syracuse/Onondaga, NY                              | 1.82 / 2.58  | 1.18 / 33.95  |
| Cincinnati/Hamilton, OH                            | 3.7 / 9.49   | <b>4.36</b> / 62.27   |
| St. Louis, MO                                      | 2.86 / NA  | .41 / NA  |
| Birmingham/Jefferson Al                            | 2.91 / 27.04   | 8.64/ 42.07   |



**Source:** Merritt Research Services, LLC. Data 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. The two cluster risk rankings relate first to the city-centric orientation while the second ranking refers to the median for cities followed by Merritt that belong to the same county. The CreditScope rankings reflect a Merritt developed quantitative model credit standing assessment for the city, specifically, and the median for all city credit rankings in the county.

The Compound Effect of a Distressed Municipality on Overlapping Governments – Example: Flint, MI Shared Weakened Credit Profiles Based on 2014 Data and Rankings

## Flint School District

CreditScope 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

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

Financial Condition: 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

CreditScope Rank - Bottom 2%

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

Financial Condition:

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

Unrestricted Net Assets to Govt. Expenditures is -2%

75% Pension Funding Ratio using 8% discount rate 2x more retirees than active

employees

## Credit Risk Not Always Recognized by the Market Sample Yield Spreads for Cluster Sensitive Cities Recent Basis Point Spread to MMD AAA and AA Scales



**Sources: Emma Trade Activity data, The Bond Buyer, New Issue Scales and Thomson Reuters TM3.** Trade data applies primarily to the period from 6/20/2016 to 6/27/2016 except for Cincinnati School Dist. (4/27/2106 and Milwaukee County (5/31/16). Milwaukee County trade reflects small odd lot purchase yield since no other recent trades available.

# Summary and Conclusions

- "Cluster Risk" is real but "Guilt by Association" is not.
  - A municipal cluster is a geographic concentration of interconnected governments or agencies that have common elements and the potential to spread distress.
- Finding the right elements is the key to identifying the most vulnerable cluster risk city-locales.
  - Population, debt burden, pension liability, tax burden, infrastructure age are on our list of primary risk factors that make some areas more prone than others.
- Cities and counties deemed by our model as most vulnerable are challenged; but, not predestined for distress.
- Both the market and policymakers often don't properly recognize or address Cluster Risk & Contagion until distress becomes advanced and more difficult to solve.

#### Notes and Disclosures

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