

MESIROW INSTITUTIONAL SALES AND TRADING

NFMA Introduction to Municipal Credit Analysis Webinar

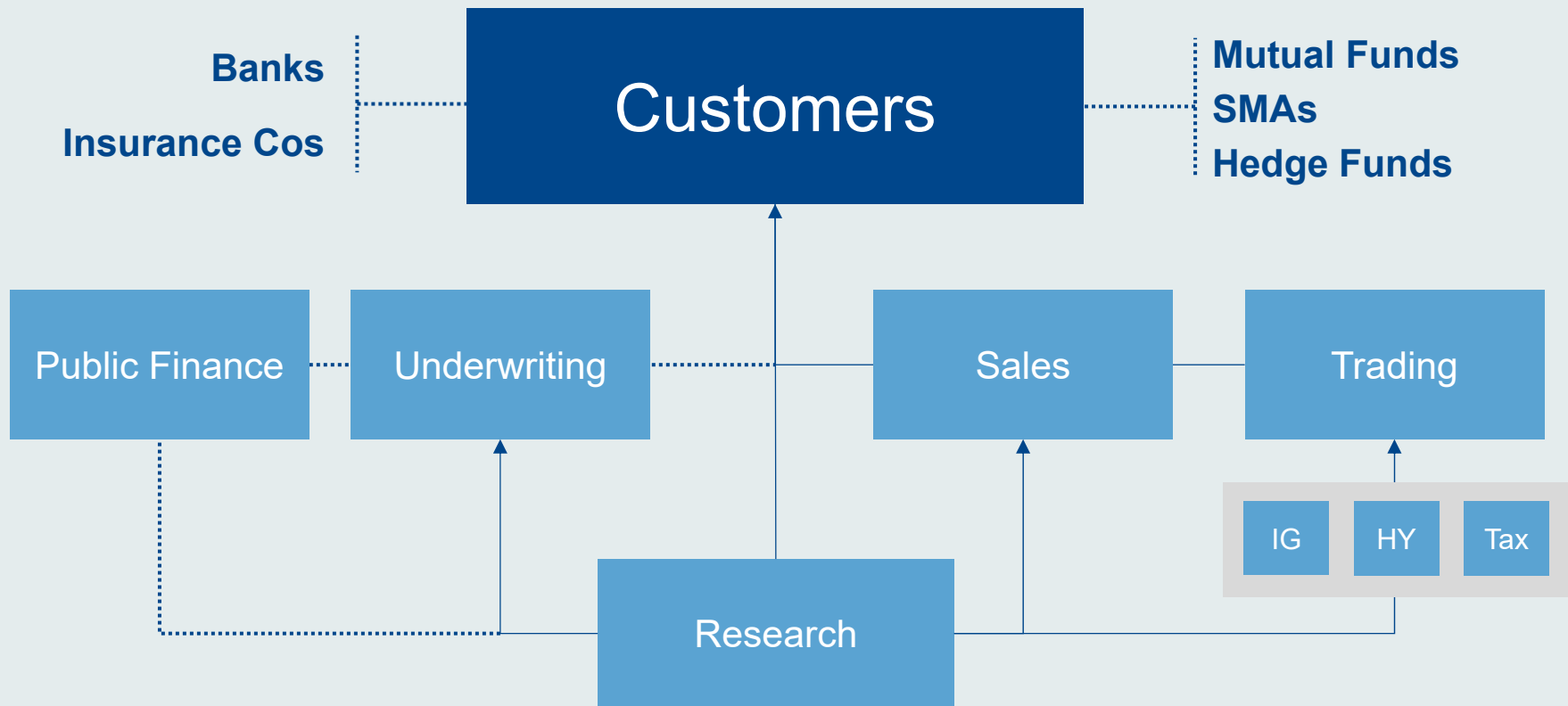
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Presentation summary

1. Sell-side analyst
2. Types of analysts
3. Yield curves
4. Bond pricing
5. Spreads – bonds, sectors, ratings
6. Credit spread
7. Liquidity
8. Example: Dallas
9. Example: Chicago Board of Education
10. Relative value tools
11. Option adjusted spreads: Separating the bond from the option

Sell-Side Desk Analyst role



Types of analysts, use of relative value

Rating agency

- Pure credit analyst

Buy-side

- Pure credit analyst
- Pure credit + relative value (spreads)
- Investment analyst – credit, structure, supply/demand, cross-sector
- Strategist – Cross asset
- Quantitative analyst

Sell-side

- Desk analyst
- Strategist
- Quantitative analyst

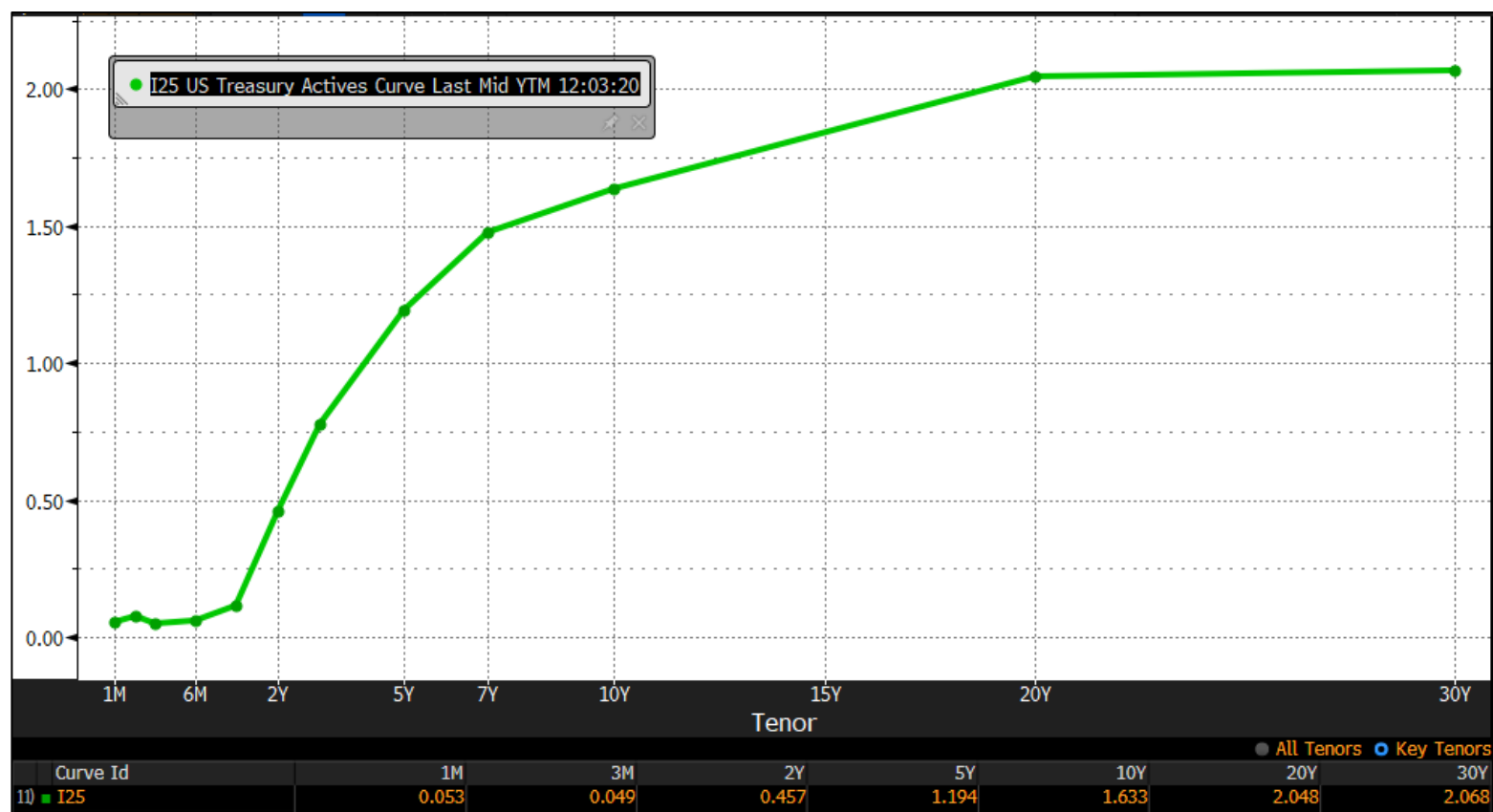
Third Party

- Data analyst
- Strategist
- Credit analyst

Source: Mesirow Research.

Yield curves

US Treasury – Risk-free curve

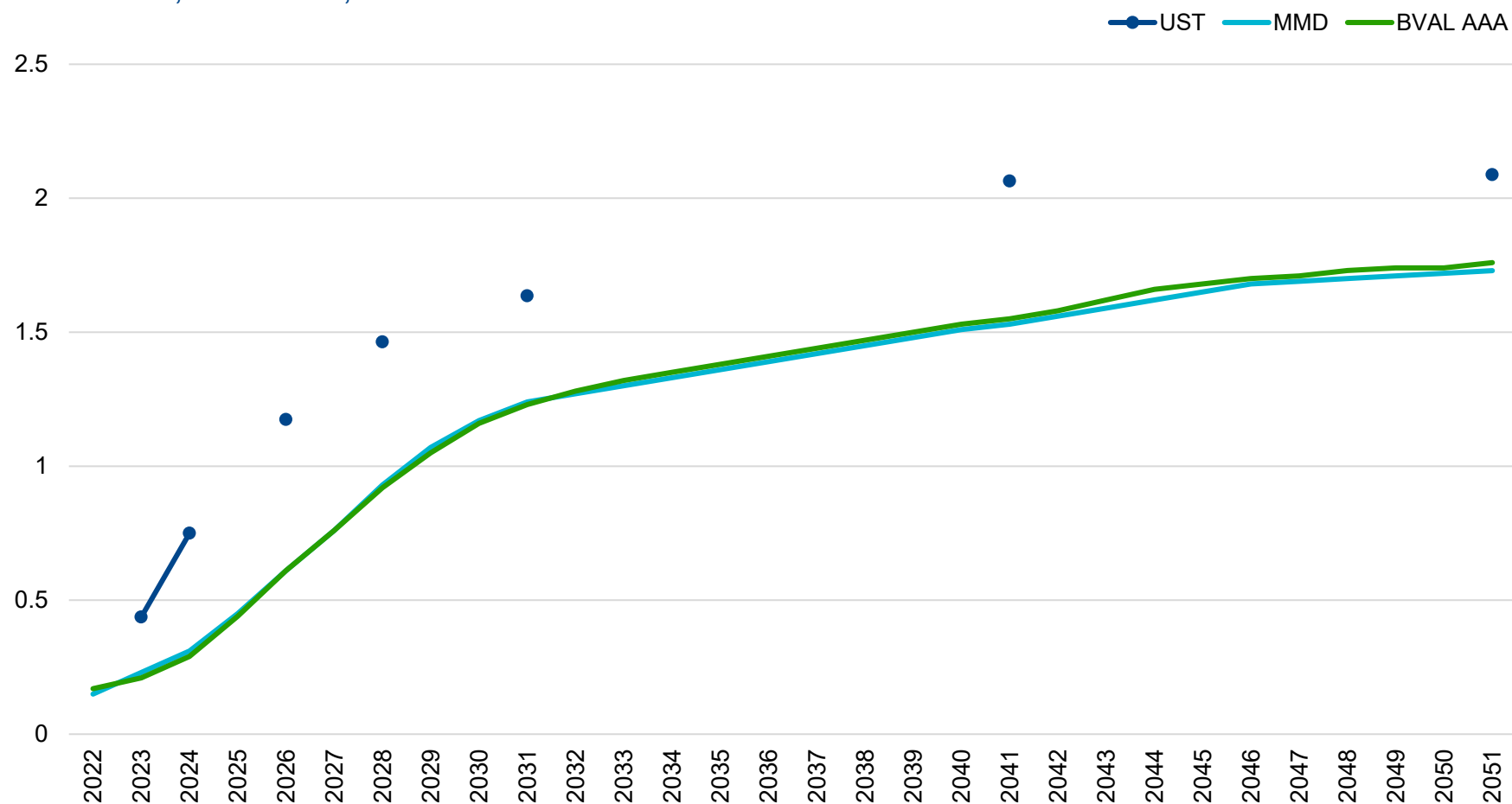


Source: Bloomberg.

Municipal market yield curves

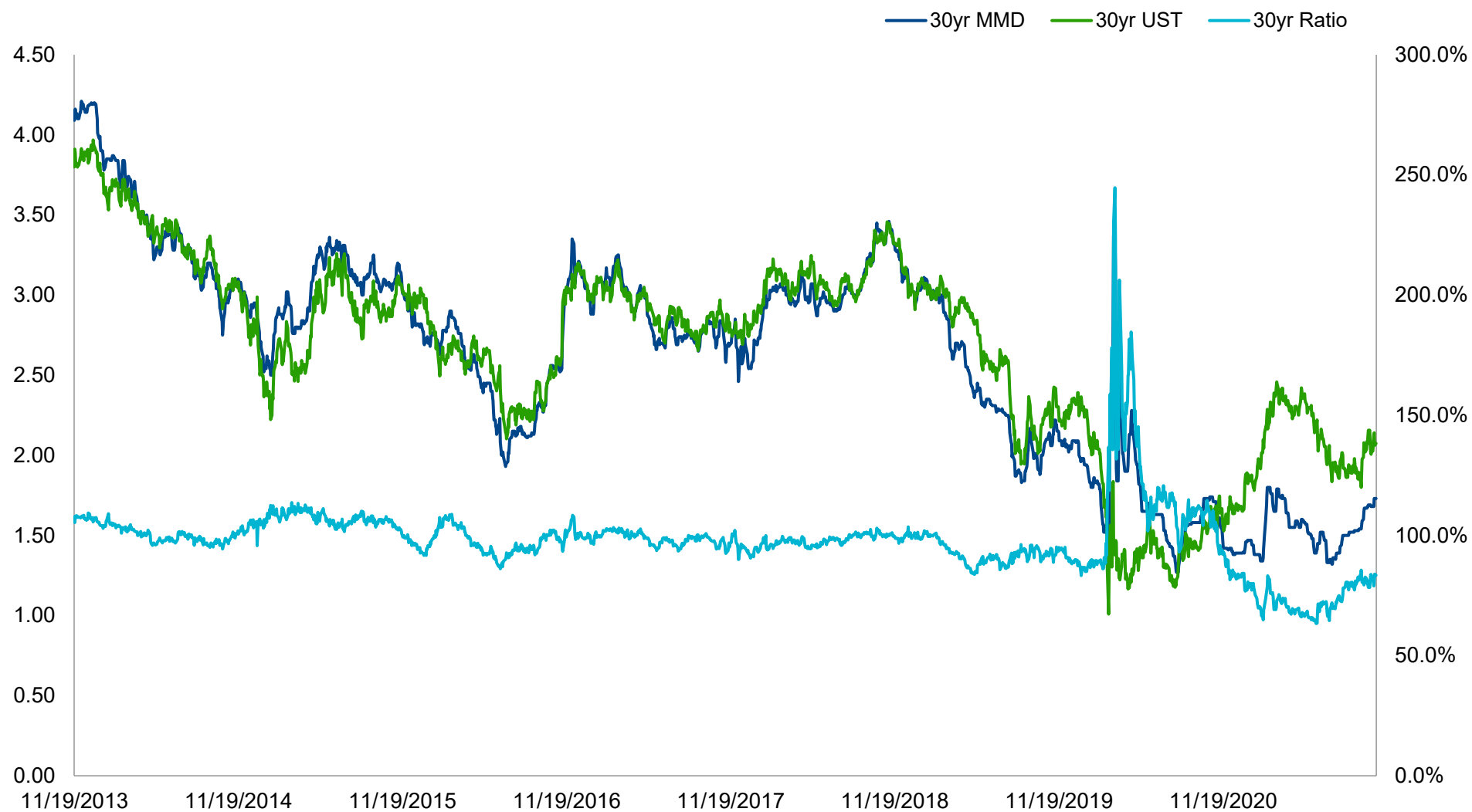
Tax-exempt yield curves

MMD AAA, BVAL AAA, UST Actives



Source: MMD, Bloomberg, Mesirow Research.

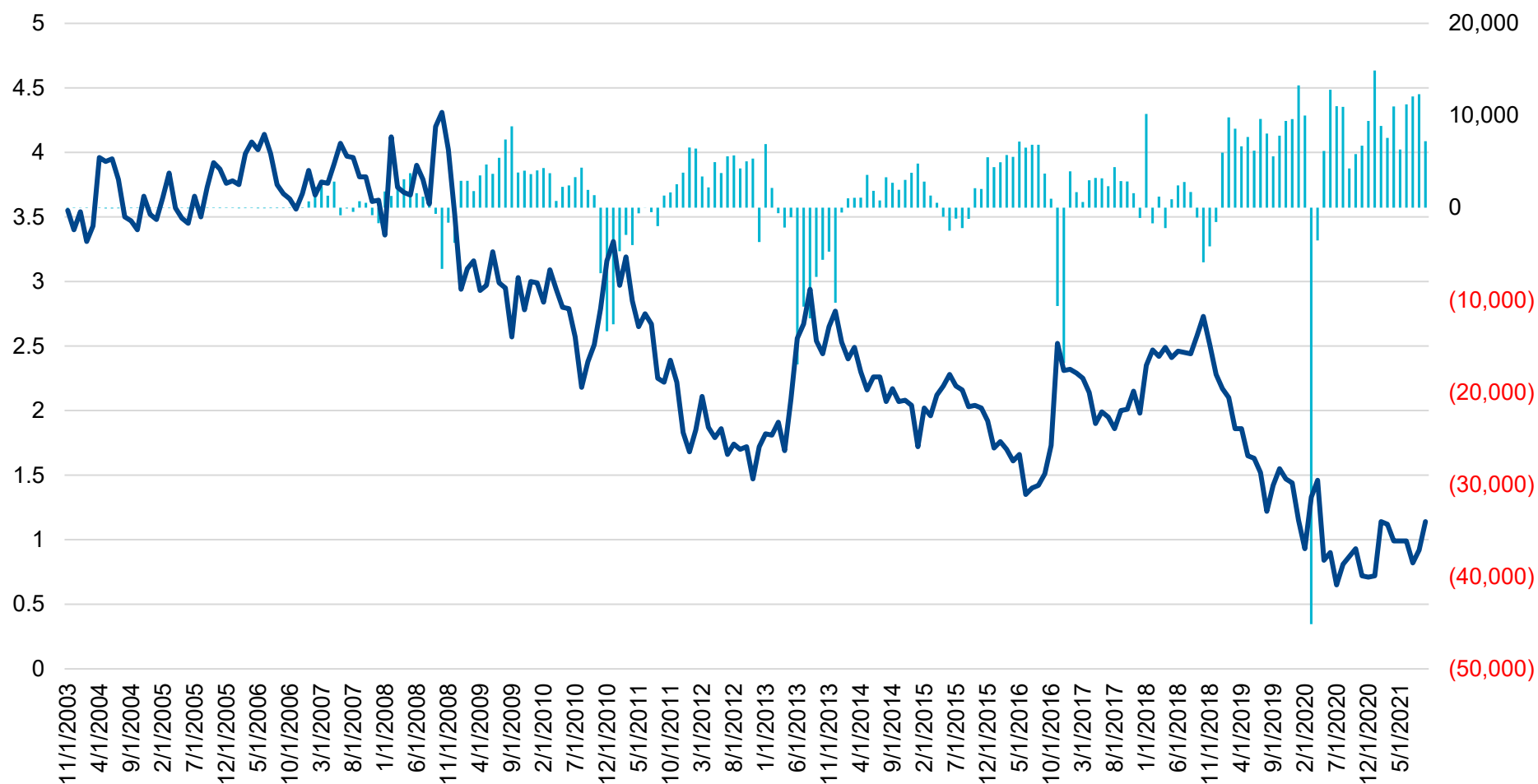
Municipal/Treasury ratio



Source: MMD, Mesirow Research

Municipal bond liquidity impact on pricing

MMD 10Y rate (L, %) & EPFR Muni fund flows (R, MM)



Source: Bloomberg, EPFR, Federal Reserve Bank of New York.

Municipal bond pricing

In general, the price of a bond (P) can be computed using the following formula:

$$P = \sum_{t=1}^n \frac{C_t}{(1+r)^t} + \frac{M_t}{(1+r)^n}$$

P = price (in dollars)

n = number of periods (number of years times 2)

t = time period when the payment is to be received

C = semiannual coupon payment (in dollars)

r = periodic interest rate (required annual yield divided by 2)

M = maturity value

Maturity (April 1)	Principal Amount	Interest Rate	Yield
2022	\$4,215,000	5.000%	0.110%
2023	4,420,000	5.000	0.210
2024	4,645,000	5.000	0.370
2025	4,875,000	5.000	0.510
2026	5,125,000	5.000	0.670
2027	5,380,000	5.000	0.810
2028	5,645,000	5.000	0.950
2029	5,930,000	5.000	1.130
2030	6,225,000	5.000	1.280
2031	6,535,000	5.000	1.380

Source: MSRB EMMA, Bond Markets, Analysis, and Strategies, Fabozzi.

Bond spreads

Yield to maturity components

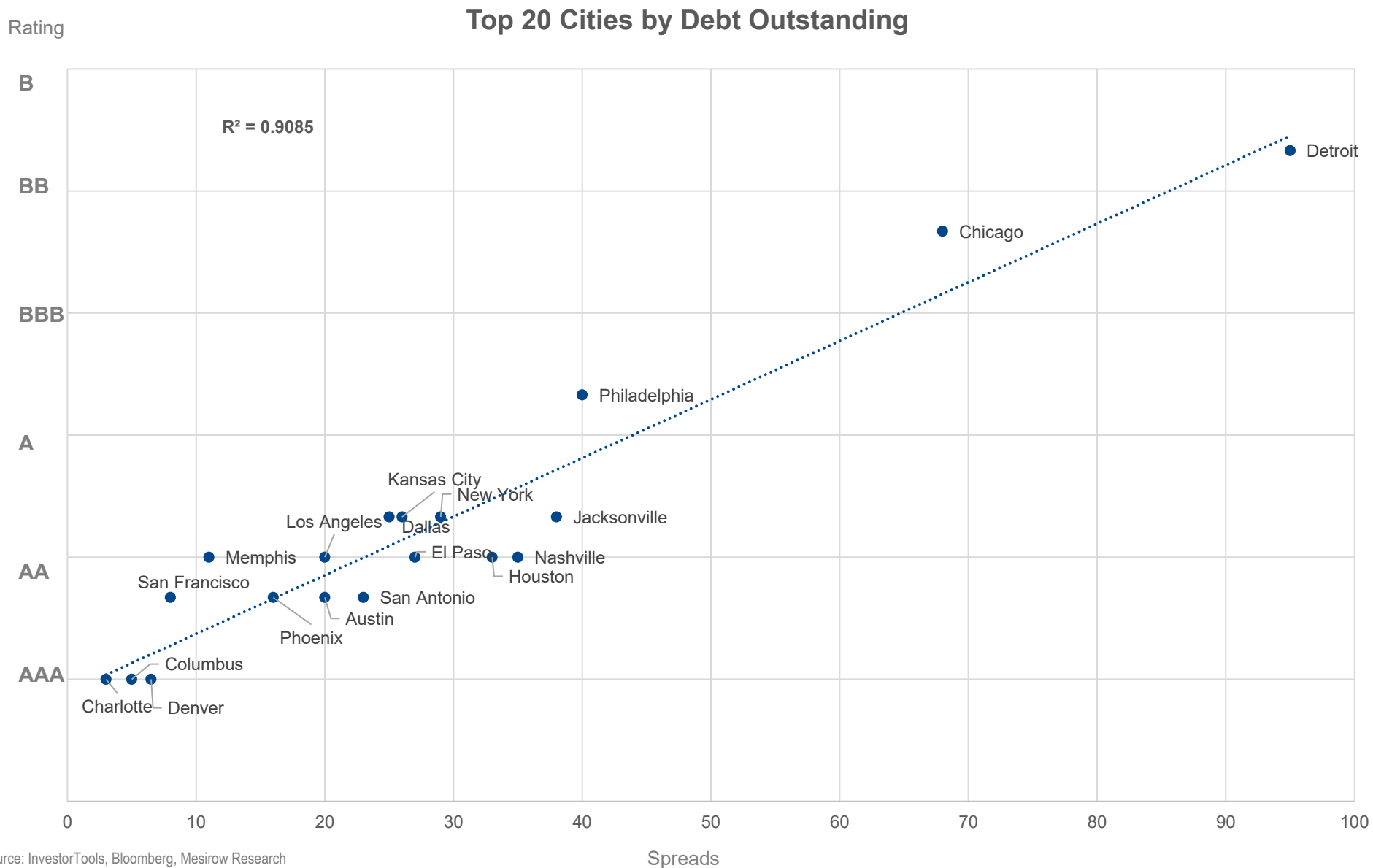
Spread	Risk premium	Taxation
		Liquidity
		Credit risk
Benchmark	“Risk-free” rate of return	Expected inflation rate
		Expected real rate

Spreads by credit quality

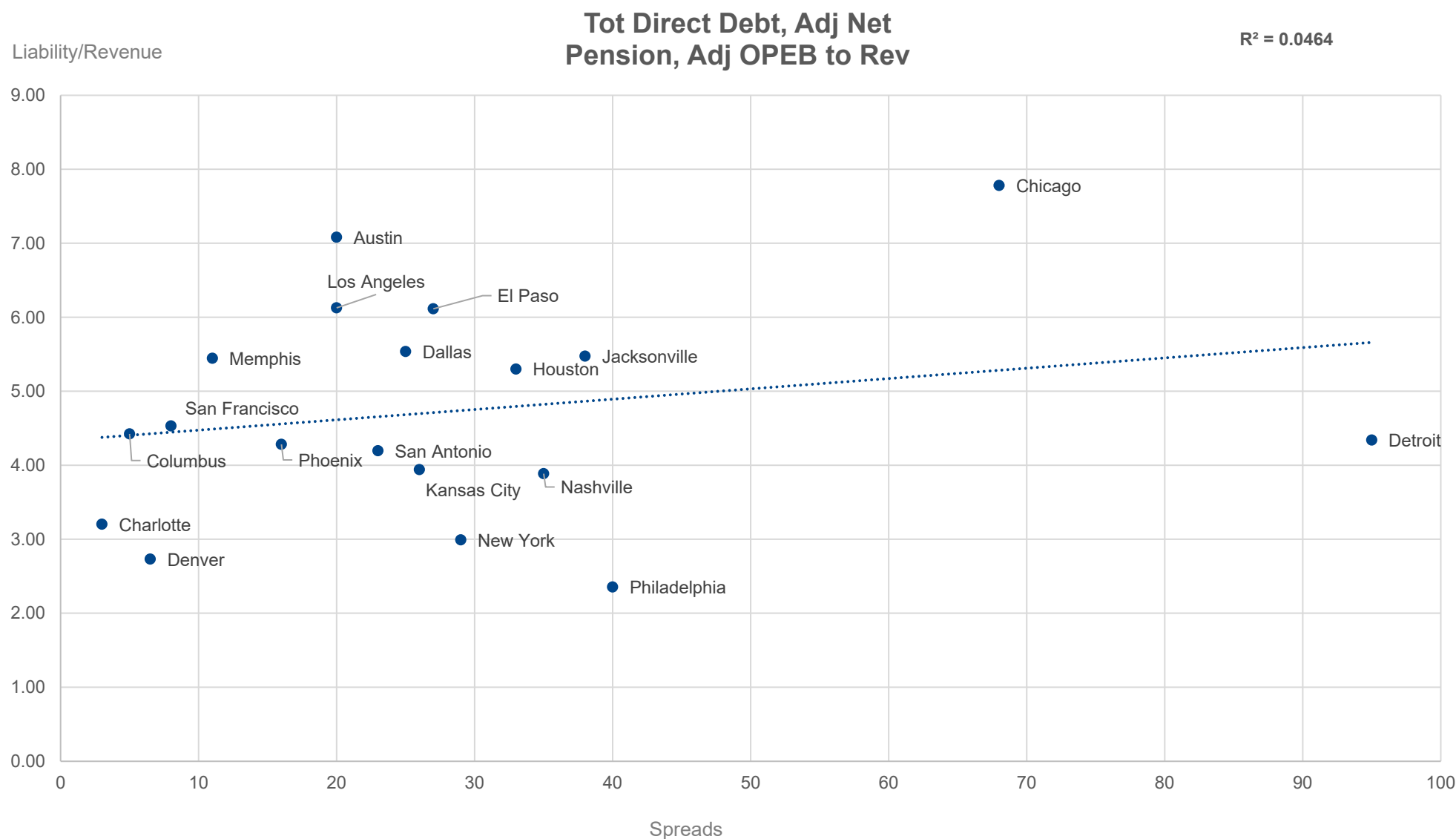
Sectors	Rating category			
	AA	A	BBB	BB
General obligation	13	33	50	
Airports	39	38	62	
Hospitals	24	36	68	161
Higher education	17	32	80	
CCRC		55		
Public power	3	30		
Water sewer	19	28	56	

3 month average, 9-11 year maturity institutional trades

City Ratings to Spreads



City Liabilities to Spreads



Source: nvestorTools, Bloomberg, Moody's, Mesirow Research

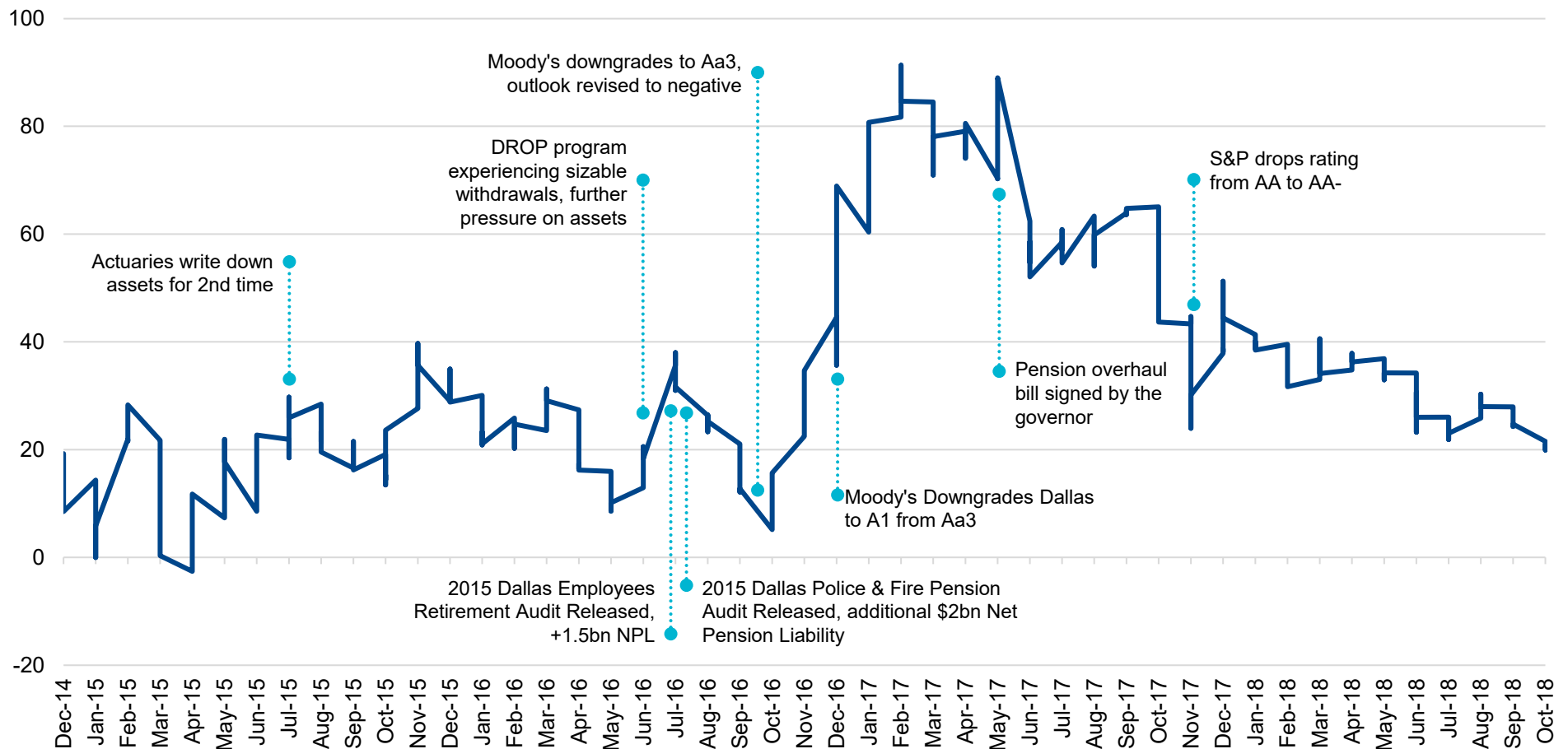
Municipal bond liquidity impact on pricing

Ability to purchase or sell a bond quickly and easily at a price close to fair market value

- Bid-ask spreads
- Size – Amount outstanding on the bond and for the issuer
- Trading volume
- Spread sensitivity to fund flows

Spreads and ratings: Investment grade

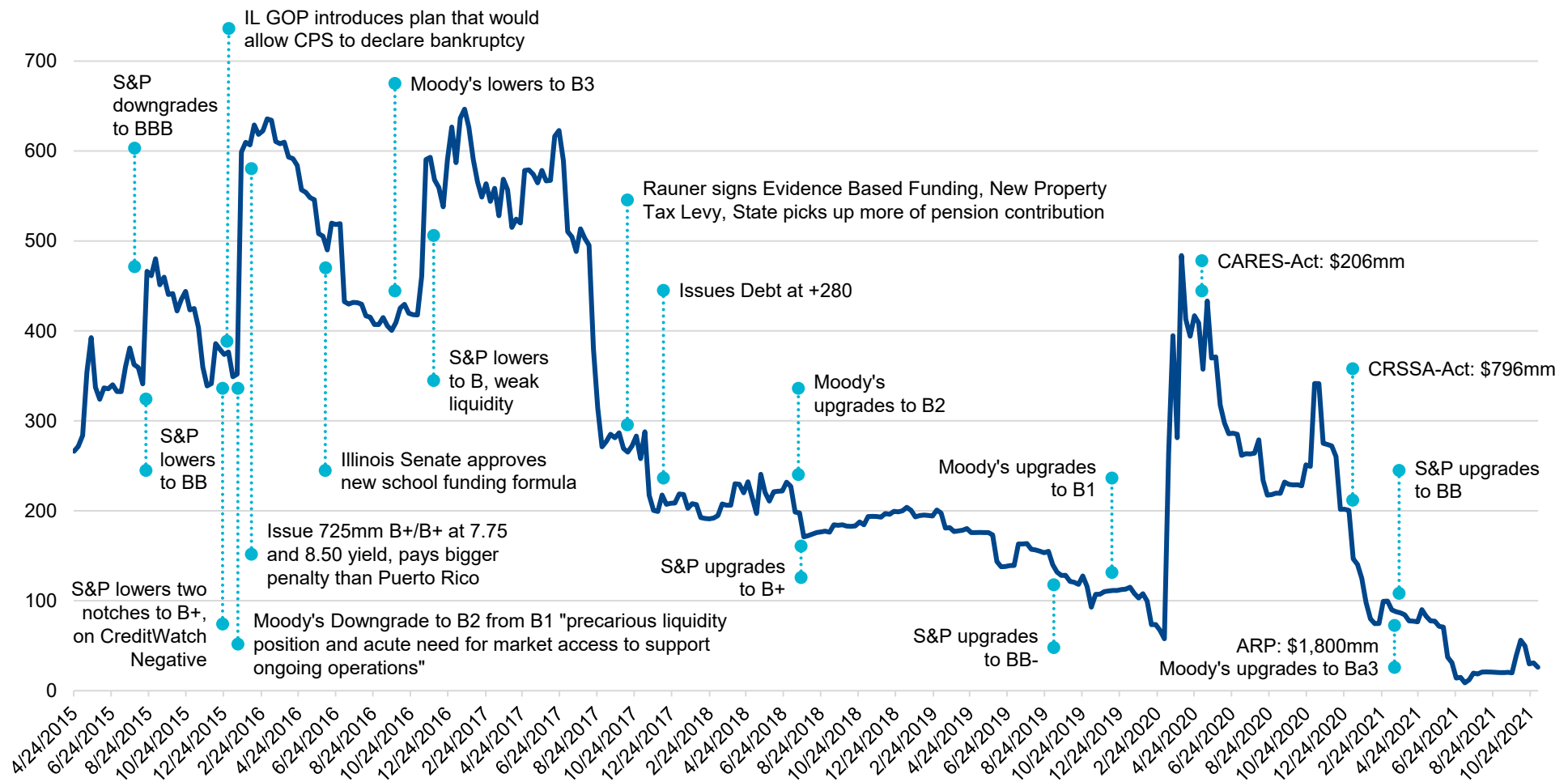
City of Dallas | Dallas TX GO Spread



Source: Dallas Police and Fire Pension CAFRs, Moody's, S&P

Spreads and ratings: High Yield

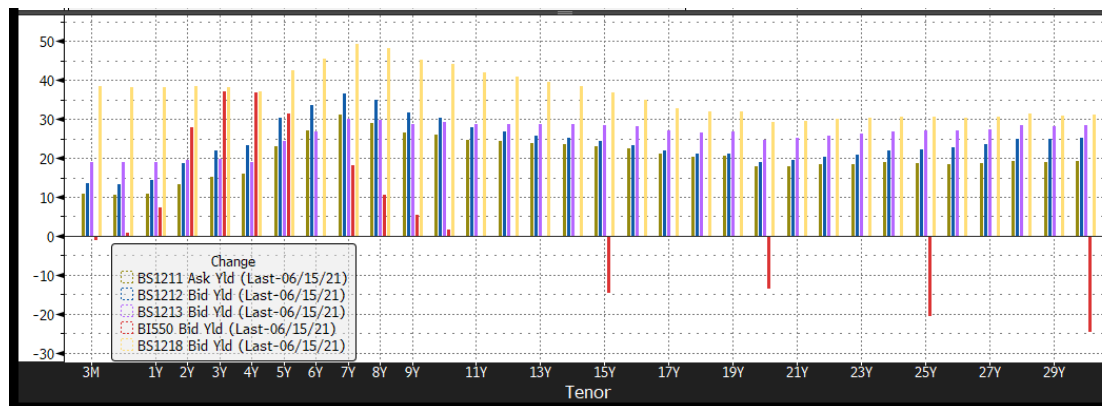
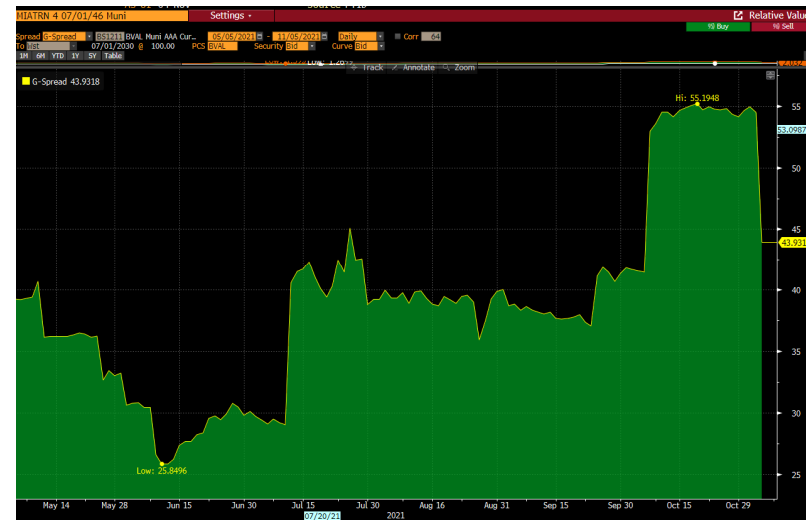
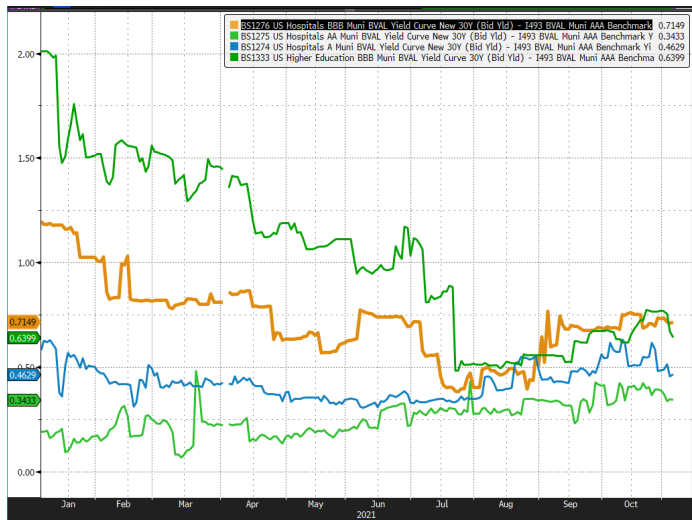
Chicago Board of Education | Spread



Source: Moody's, S&P

Municipal bond spreads: Tools

Bloomberg: AAA, RV, yield curve changes, sector yield curves



Source: Bloomberg

Q&A

Bonus: Option adjusted spread

Common in fixed income markets

Increasingly prevalent in municipal market

- Benchmark yield curve based on common 5% 10-year call
- Value bond and the option to compare with other bonds



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