



WASMER, SCHROEDER & COMPANY

INVESTMENT ADVISORS

PUBLIC FINANCE & ENVIRONMENTAL SUSTAINABILITY CONFERENCE

September 17, 2015

UNC School of Government – Environmental Finance Center

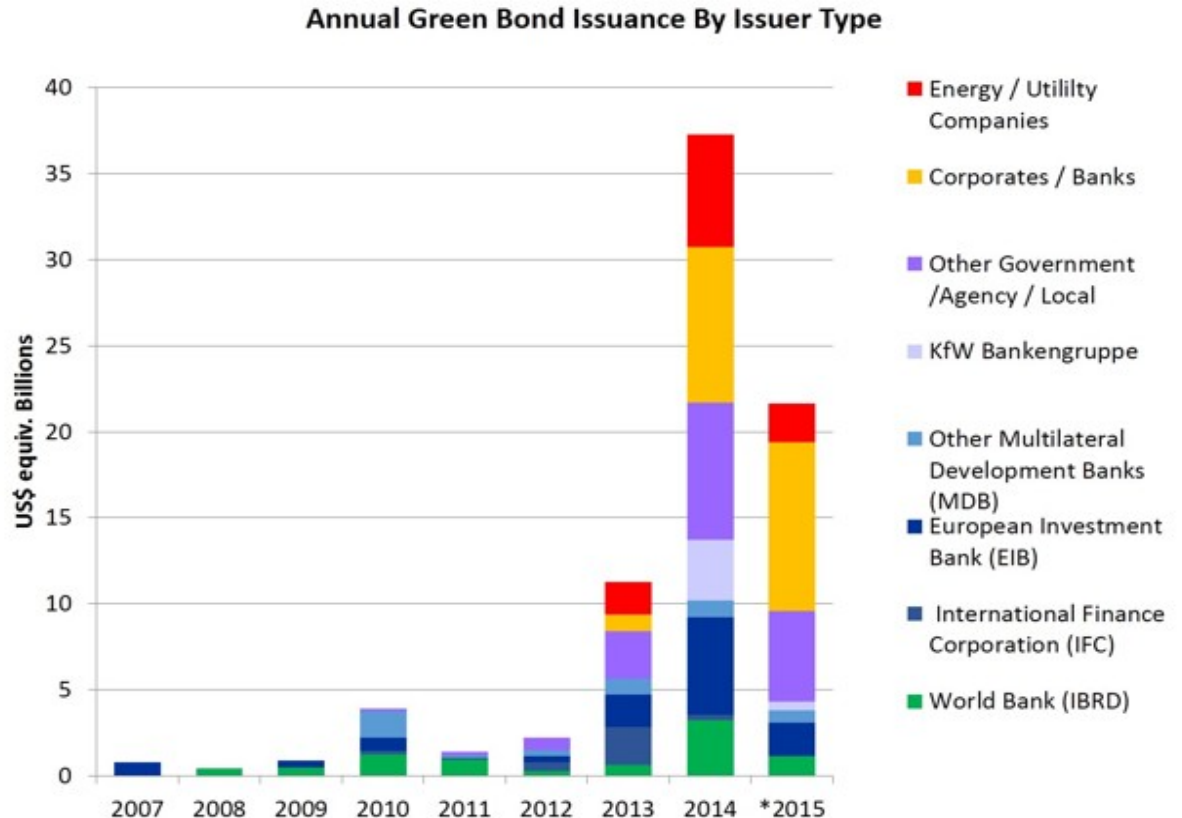
GOING GREEN PANEL



SIGNIFICANT MARKET INTEREST IN GREEN BOND SECTOR

STRONG ANNUAL ISSUANCE GROWTH:

- \$11 billion in 2013 -
(\$100 million muni share)
- \$37 billion in 2014 -
(\$2.5 billion muni share)
- \$22 billion YTD in 2015 -
(\$2 billion muni share)



Source: Bloomberg/World Bank
*Through August, 2015



BRIEF HISTORY OF “GREEN SECTOR” AND ROLE IN MUNI BOND MARKET

- History: World Bank launched its first green bond issuance in 2008
- Until 2013, green bonds were primarily a taxable product
- Official muni market green bond issuance picked up in 2014
- Definition can be subjective, although “Green Bond Principals” guidelines have gained traction
- Variations of the green theme: NYCHDC recent bond issuance more aligned with “positive impact” concept
- Panel will cover all perspectives: underwriter, issuer, investor



PANELISTS

MODERATOR:

- Michael J. Schroeder, CFP®, President & Chief Investment Officer – Wasmer, Schroeder & Company

SPEAKERS:

- Jillian C. Ziarko, Associate, Public Sector and Infrastructure Banking – Goldman Sachs & Co.
- Ellen Duffy, Senior Vice President – Debt Issuance & Finance – New York City Housing Development Corporation
- Barbara VanScoy, Co-Founder & Chief Impact Investment Officer – Community Capital Management



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Changing Market Perceptions of Utility Credits

Moderator: Angela Kukoda, Senior Vice President – FirstSouthwest

- ❖ Ted Damutz, Senior Credit Officer – Moody’s Investors Services
- ❖ Chris Mier, Managing Director – Loop Capital Markets
- ❖ Joel H. Levy, Director, Portfolio Manager, and Senior Research Analyst – TIAA-CREF

September 17 & 18, 2015
Chapel Hill, North Carolina

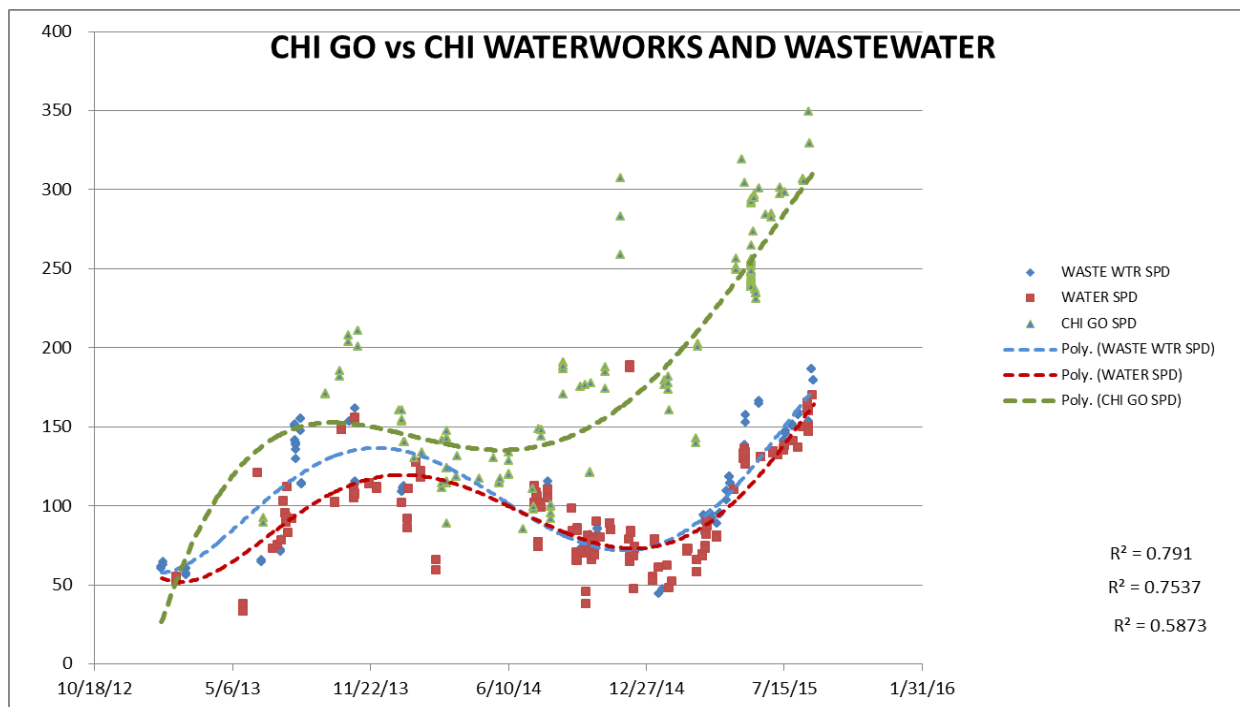
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Introduction: “Changing Market Perceptions of Utility Credits”

- Analysts from all segments of the industry are rethinking their approach to credit assessment of utility revenue bonds
- Does this hypothesis have any validity? Agree or Disagree?
 - Nationally Recognized Rating Statistical Organization
 - Strategist
 - Portfolio Manager
- In what ways are they safer? Riskier? What other factors complicate the discussion?
- Is new rating agency rating methodology reflective of a significant change in approach?
 - Shift in weighting of traditional credit characteristics
 - New analytic considerations
- Linkage to the “parent credit”?
- What does the market say about all of this?
- What are the investors looking for?
- How do green bonds fit into the equation?
 - The “hallo” effect
- Additional credit considerations

When a “Parent” has Credit Issues, Related Utility’s Spreads Widen as Concerns Mount



	CHI UTGO SPD	CHI WASTE WTR SPD	CHI WATER SPD
Mean	202.80	105.53	96.87
Median	210.0	95.0	91.6
Mode	240.0	82.0	73.0
Std Dev	66.00	33.53	30.67
Range	264.1	142.0	156.1
Min	85.0	44.0	33.0
Max	349.1	186.0	189.1
Count	175	138	203

Ratings

Chicago GO Ba1/BBB+/BBB+/A-
 Wastewater Baa3/A-/AA/AA-
 Water (2nd Lien) Baa2/A-/AA/AA

- Like the New York case, the standard deviation for Chicago GOs trades are double those of Chicago Waterworks and Wastewater bonds.
- Rising concerns about the GO bonds has raised concerns about overlapping governance and the strength of legal protections in and out of Chapter 9 that have widened the spreads on the utility bonds.

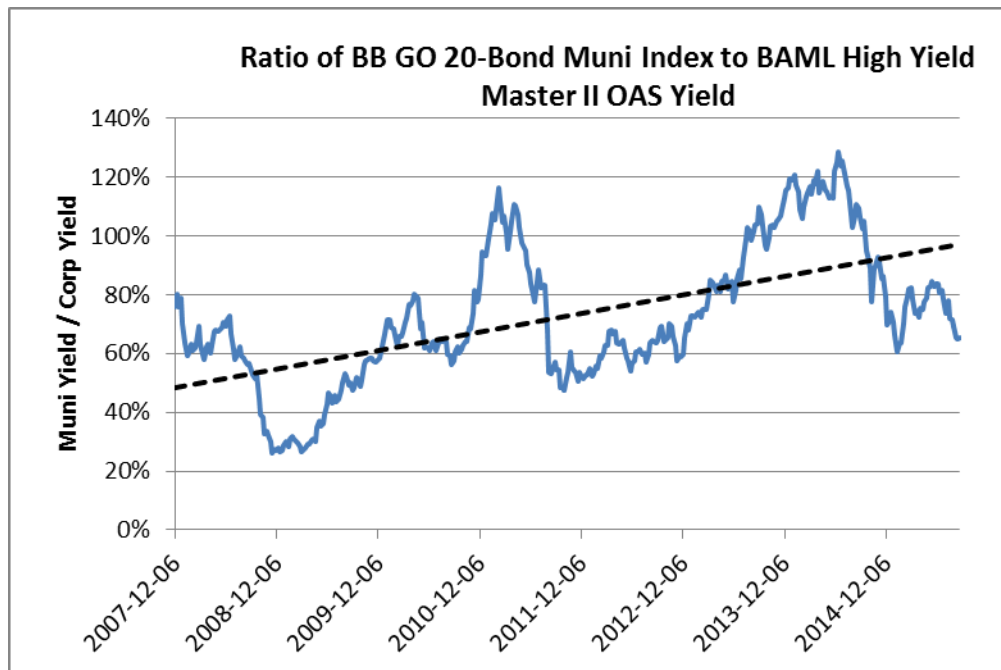
Does the Secondary Market say anything about the Risk of Utility Bonds in Light of Analysts' Credit Concerns?

DESCRIPTION	CPN	MAT	CALL	RATING	YLD	SPD to		INDUSTRY
						MMD		
PORTLAND ORE SWR SYS REV REF-SEC LIEN	5.000	8/1/16	NC	Aa3/AA-	0.260	5		Second Lien Sewer System
CLARKSVILLE TENN WTR SWR & GAS	5.000	2/1/19	NC	Aa3/N/A	1.226	24		Water, Sewer and Gas
PORTLAND ORE SWR SYS REV REF-SEC LIEN	5.000	6/1/19	NC	Aa3/AA-	1.285	19		Second Lien Sewer System
CORPUS CHRISTI TEX UTIL SYS REF-JR LIEN	5.000	7/15/19	NC	A1/A+	1.430	33		Utility System Junior Lien
SAN ANTONIO TEX ELEC & GAS REV REF	5.000	2/1/22	NC	Aa1/AA	1.916	23		Electric and Gas Systems
PORTLAND ORE SWR SYS REV REF-FIRST LIEN	5.000	10/1/23	NC	Aa2/AA	2.066	10		First Lien Sewer System
ORLANDO FLA UTILS COMMN UTIL REF-SER A	5.000	10/1/23	NC	Aa2/AA	2.250	28		Utility System Revenue
TAMPA FLA WTR & SWR REV REF-SYS	5.000	10/1/24	NC	Aa1/AAA	2.220	14		Water and Sewer Systems
PALM BEACH CNTY FLA WTR & SWR REF	5.000	10/1/25	10/1/23	Aaa/AAA	2.280	8		Water and Sewer
SAN ANTONIO TEX ELEC & GAS REV REF-SYS	5.000	2/1/26	NC	Aa1/AA	2.480	26		Electric and Gas Systems
PALM BEACH CNTY FLA WTR & SWR REF	5.000	10/1/26	10/1/23	Aaa/AAA	2.390	9		Water and Sewer Revenue
TAMPA FLA WTR & SWR REV REF-SYS	5.000	10/1/26	10/1/25	Aa1/AAA	2.450	15		Water and Sewer Systems
KING CNTY WASH SWR REV REF-SER A	5.000	7/1/28	1/1/25	Aa2/AA+	2.721	26		Sewer Revenue Refunding
ATLANTA GA WTR & WASTEWT R REV REF	5.000	11/1/33	5/1/25	Aa3/AA-	3.240	43		Water and Wastewater Revenue
MINNESOTA ST MUN PWR AGY ELEC REF-SER A	5.000	10/1/35	10/1/24	A2/N/A	3.300	42		Electric Revenue Refunding
NEW YORK N Y CITY MUN WTR 2ND GEN RES	5.000	6/15/39	6/15/24	Aa2/AA+	3.310	30		Water and Sewer Sys Sec Gen
NORTHEAST OHIO REGL SWR DIST REF & IMPT	5.000	11/15/39	11/15/24	Aa1/AA+	3.310	30		Wastewater Improvement
ATLANTA GA WTR & WASTEWT R REV REF	5.000	11/1/40	5/1/25	Aa3/AA-	3.450	41		Water and Wastewater
NORTHEAST OHIO REGL SWR DIST REF & IMPT	5.000	11/15/44	11/15/24	Aa1/AA+	3.345	26		Wastewater Improvement

- Recent trades reveal that AA-rated utilities continue to trade at fairly tight spreads to the AAA-rated MMD benchmark

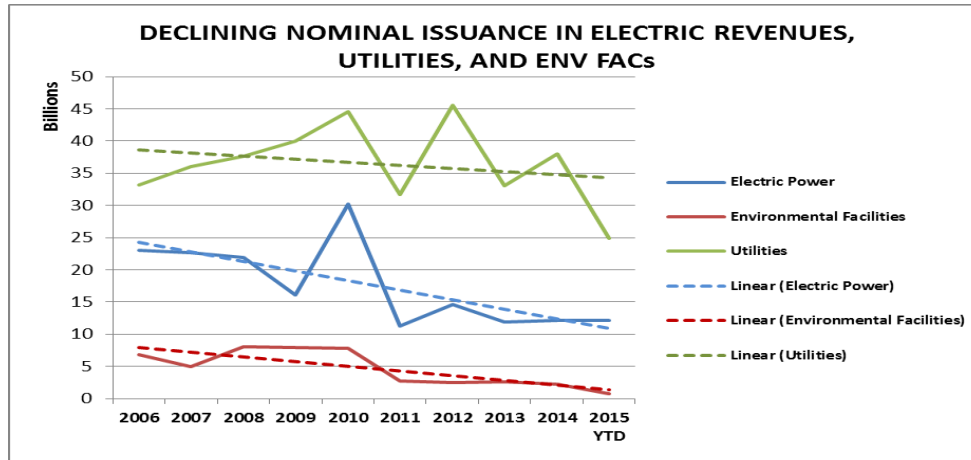
New Credit Threats may be Impacting both Muni GO and Revenue Bonds

- GOs and revenue bonds are both being impacted by many of the same concerns--treatment in bankruptcy, value of constitutional and statutory protections, revenue volatility, and even consent decrees (they are not just for revenue bonds anymore!).
- Concerns about Muni credit, in general, may now be reflected in the relative spread relationship between munis as an asset class and other credit sensitive markets, like corporate bonds.



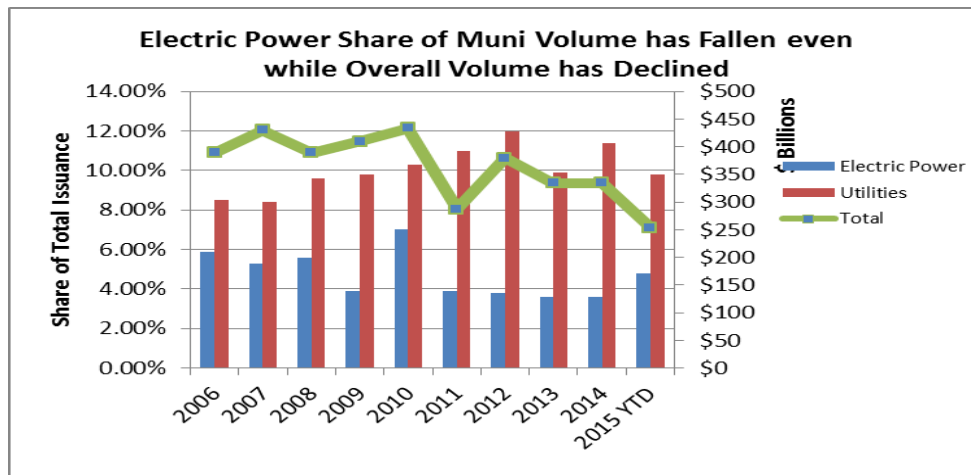
Muni Yield to Corporate Yield Ratios have increased from about 50% to about 80% over the last 8 Years.

The Impact of New trends in Credit Risk may be Masked by Limited Issuance of Utility Bonds – Supporting Tighter Spreads



Utility Issuance has fallen in nominal dollars and also in percentage terms of the total volume, even as total volume has declined, creating a “double-whammy” on the availability of utility bonds and influencing pricing relative to other sectors.

This may offset some, or all, of any additional risk premium applicable to utility bonds.



Investor Considerations

- Who is the Main Obligor?
- Project
 - Use of Proceeds
 - Ability to Segment Proceeds / Project
 - What is the management oversight?
- Relative Value
- Liquidity

Investor Considerations

- The Type of Project
 - How “Green” is the project?
 - Scarcity?
- Environmental Concerns
 - Has there been an EPA consent decree?

Investor Considerations

- How will Investors view the project?
- Is the project part of a larger strategy?
- Does the investment meet the spirit of the mandate?
- How committed is management to the project?