



Lowering the Cost of Capital

A Discussion of SRF Pricing Results and Ideas for Improving Pricing Performance



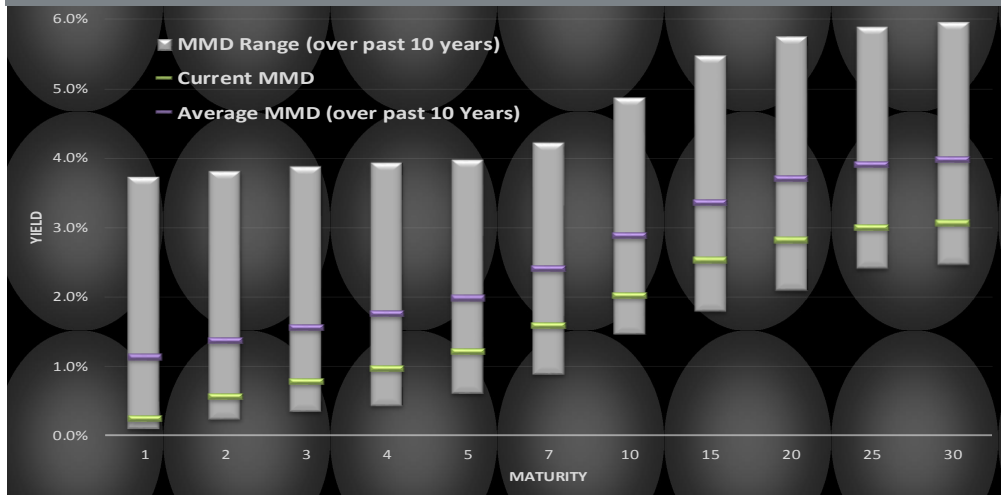


A Discussion of SRF Pricing Results

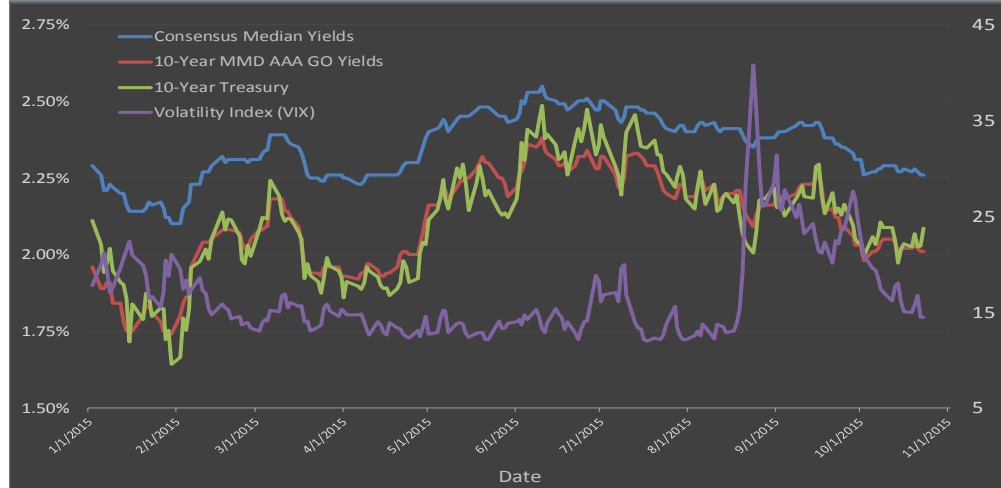
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General Market Conditions

MMD Rates over Time

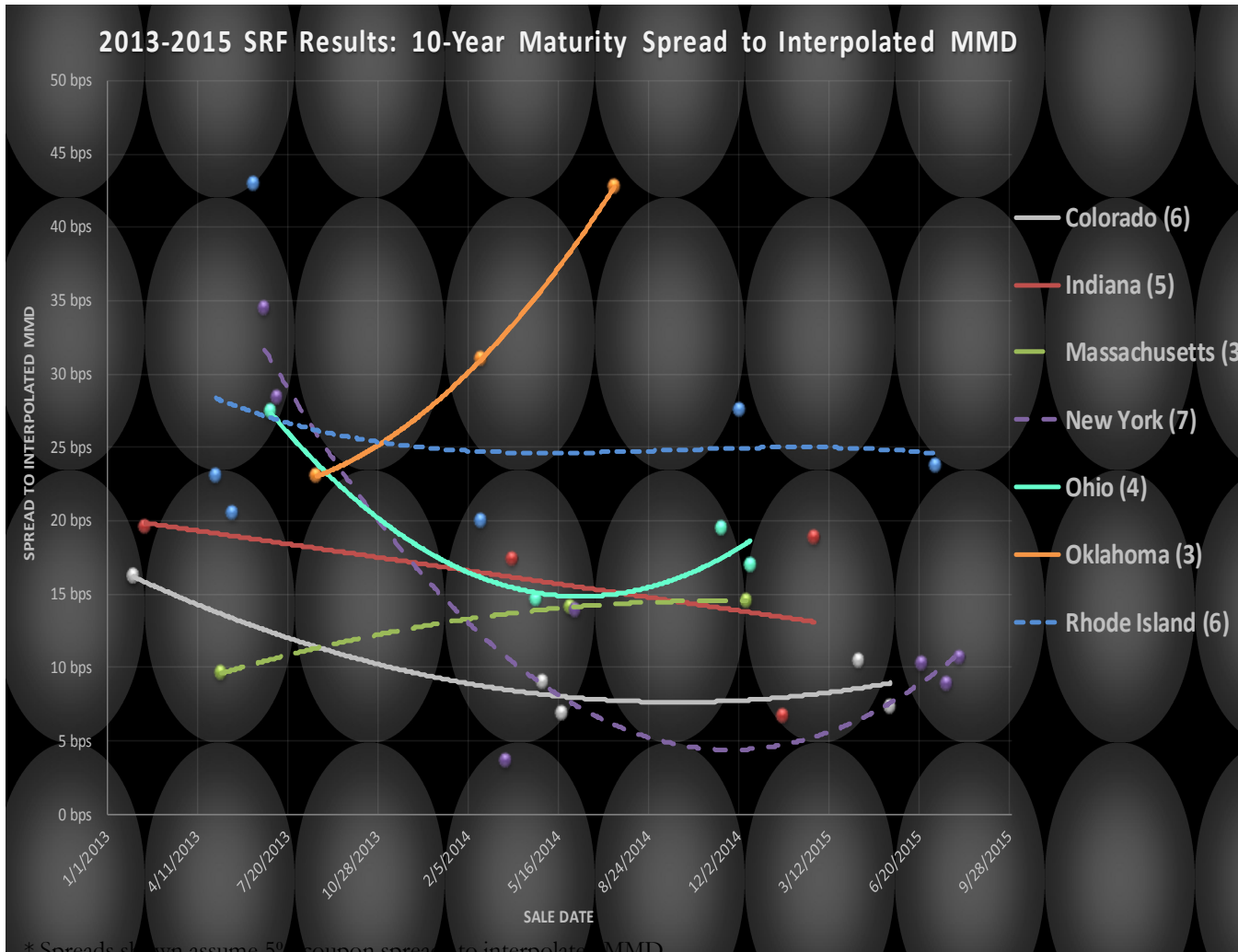


10yr Spot Rates & Volatility



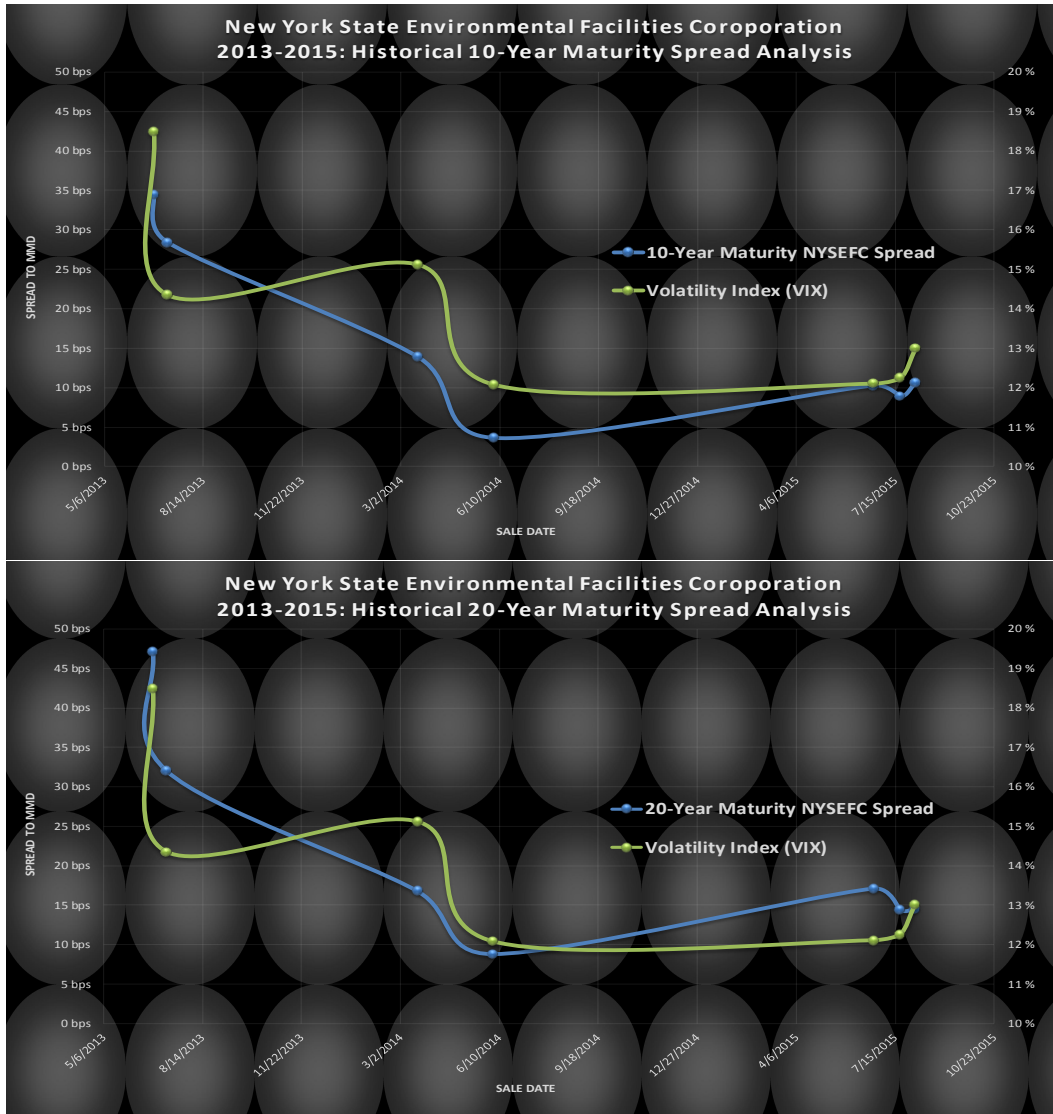
- Rates remain near historical lows
- Volatility remains heightened
 - Continued global economic and geopolitical risks foster investor uncertainty and trepidation
- 2015 has seen big weekly, daily and intraday rate movements
 - Successful bond sales are able to anticipate movements
- While 2015 was a roller coaster ride of volatility, it has been a sideways market

SRF Pricing Results since 2013 for the most active States



- SRF credit spreads can vary significantly over time due to market dynamics
- Issuers can not rely on historical pricing results as a gauge of where their bonds should price in the current market environment

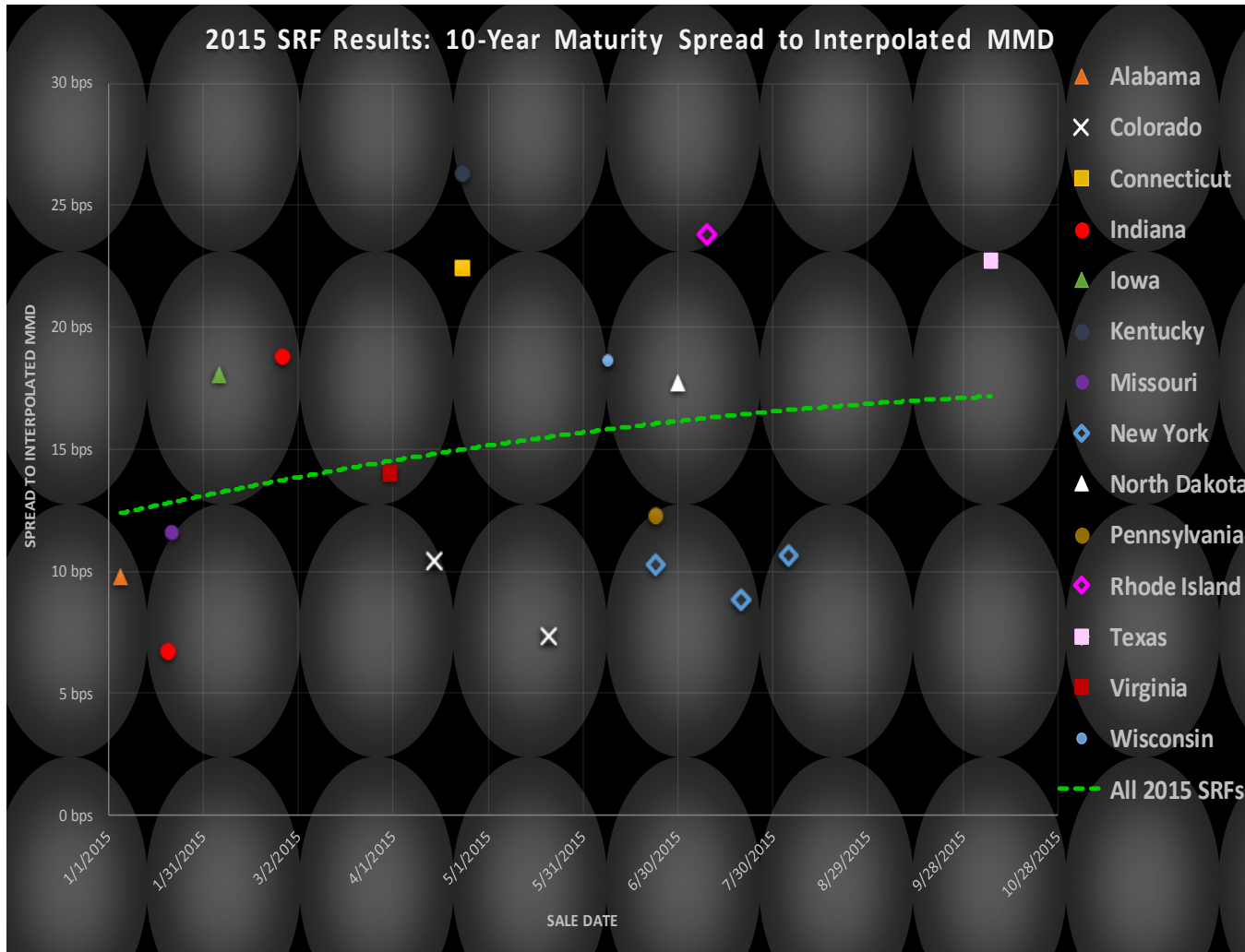
SRF Pricing Results & Market Volatility: NYSEFC Case Study



- While SRF credit spreads (and all municipal market spreads) can vary significantly over time, much of this variation can be explained
- Looking at NYSEFC issuance over the past 3 years, credit spreads are highly correlated to market volatility (VIX Index)

* Spreads shown assume 5% coupon spreads to interpolated MMD

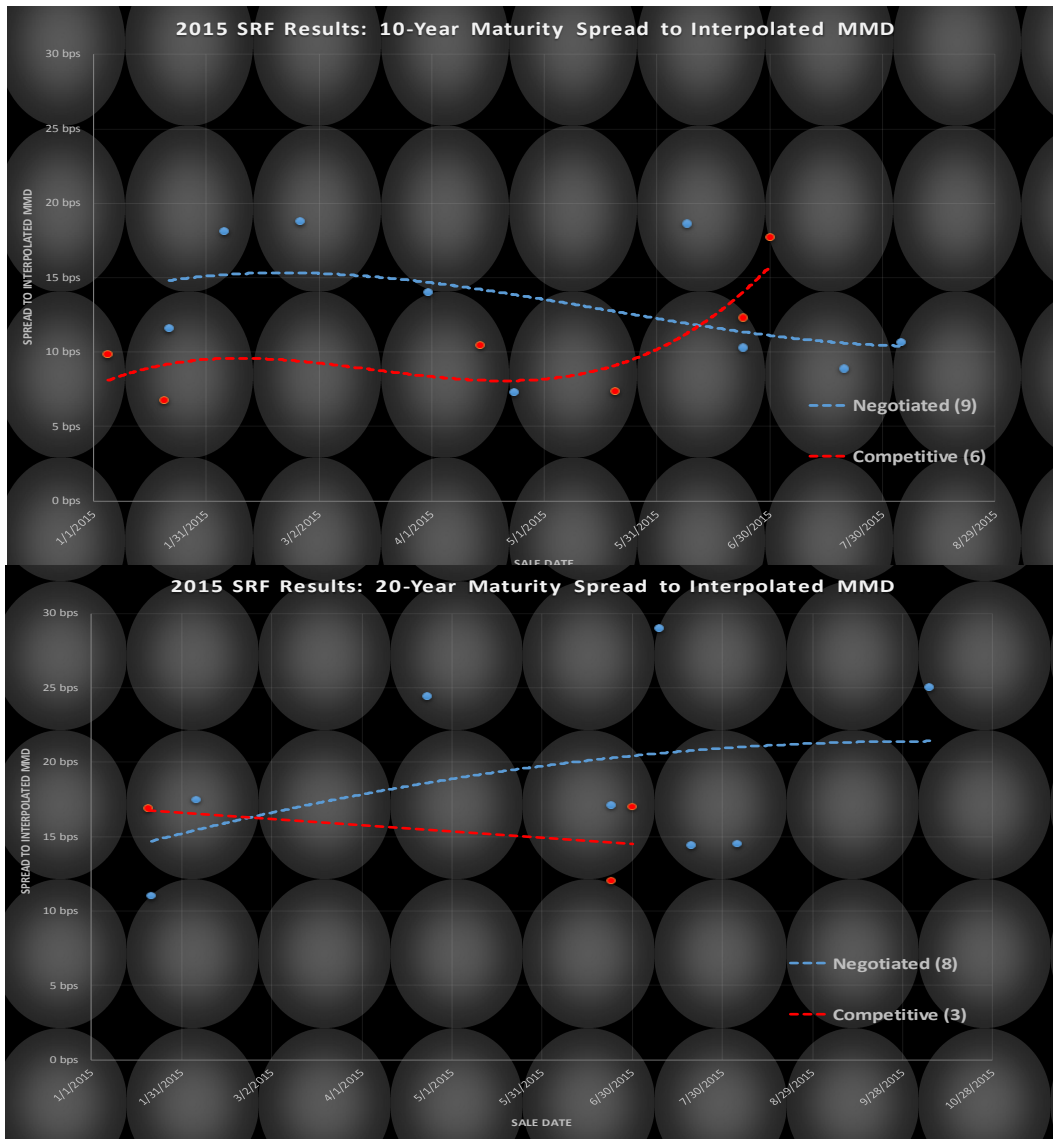
SRF Pricing Results for 2015 by State



- Despite market volatility, SRF credit spreads remained relatively stable in 2015
- On average, most SRF programs price 15bps (+/- 5bps) over the MMD Index in 10 years and longer

* Spreads shown assume 5% coupon spreads to interpolated MMD

SRF Pricing Results for 2015 by Method of Sale

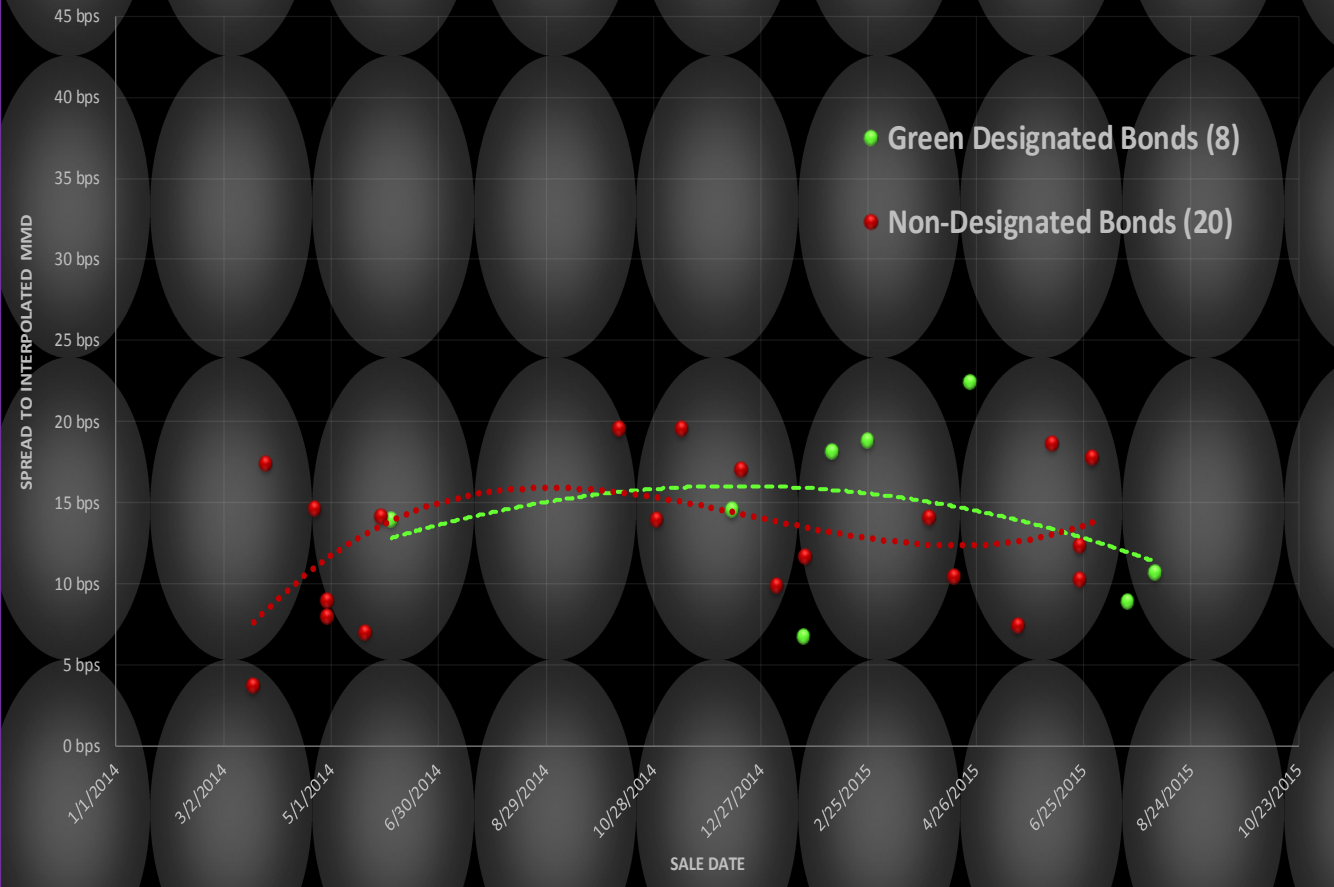


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- SRF Issuers were well balanced between competitive and negotiated methods of sale
- In the 10 year maturity, data would suggest competitive sales priced ≈ 3 -5bps better
- In the 20 year maturity, data isn't conclusive on method of sale
- Results may be skewed, since all outliers were negotiated

SRF Pricing Results by Green Designation

Green Bond Analysis
2014-2015: 10-Year Maturity Spread to Interpolated MMD



* Spreads shown assume 5% coupon spreads to interpolated MMD

- Green bonds are relatively nascent
- No green bond certification exists
- Currently, there are no Environmentally Friendly or Socially Responsible Municipals funds
- To date, there has been no meaningful price impact for the green designation

Ohio Water Development Authority Bond Pricing Policies and Procedures



Underwriter Selection Process

Underwriter Request for Qualifications (RFQ)

- Send RFQ to firms that have expressed interest in working with OWDA (typically 35 to 40 firms)
- As part of the RFQ, OWDA will ask firms to :
 - Provide case studies of recent and relevant SRF or pooling financing transactions
 - Provide ideas regarding two to three issues related to OWDA
- Interview a short-list of those firms for the Senior Manager role
- Results of RFQ process
 - Three to Four firms are selected to be in the Senior Manager rotation
 - Firms with SRF Experience
 - Relevance and Quality of ideas presented
 - MBE/WBE Preference
 - Ohio Presence
 - Two to Three firms are selected to be on the Co-Senior Manager rotation
 - All other qualified firms are included on the Co-Manager rotation
- The life-cycle of the RFQ is typically three to four years
- OWDA reserves the right to add or subtract firms from the various rotations between RFQ cycles

Underwriter Selection Process

Underwriter Selection for a transaction

- Select firms from the qualified list
 - Senior Manager
 - Co-Senior Manager
 - Co-Manager
- Selection considerations
 - Experience / Expertise with program
 - Size of the transaction
 - Type of transaction, i.e. fixed or variable rate
 - Bond distribution/Sales capacity
 - Rotation
 - Other items
 - Ohio Firms
 - MBE/WBE
 - Firm who brings an idea to OWDA are selected to be the Senior Manager

Pricing Practices

Pre-pricing

- Work with underwriters and financial advisor to establish pricing date
- Investor presentations / meetings
- Pre-Pricing level feed-back from
 - Financial Advisor
 - Underwriters
- Pre-marketing or whisper talk based upon spreads to MMD or UST

Day of Pricing

- Set pricing levels based upon market feedback and advice
- OWDA does not have specific goal or target for spread
- Set spread based on what is happening in current market in addition to historical data and secondary market trade data

Order Allotment Policy

Typical Allotment Policies

- **Group Net Policy**
 - The allocation of all Underwriting Fees – Management Fee and Takedown—for the Underwriting team is determined before bonds are sold
 - Allocation of compensation for bonds sold to retail (less price sensitive) and institutional (more price sensitive) investors is the same
- **Net Designated Policy**
 - Traditional retail orders allotted to firm placing the order
 - Non-retail investor who is allotted bonds determines the compensation to the Underwriting team based on parameters the issuer sets:
 - Specified Minimum Number of Firms to be designated
 - Maximum Designated Credit
 - Minimum Designated Credit (Optional)

Order Allotment Policy

OWDA Allotment Policy

- **Was Group Net**
 - Control compensation
- **Now Net Designated**
 - Reward firms who sell bonds
- **Priority Policy**
 - No more than 50% to 60% of order to one firm
 - At least 3 firms designated
 - Minimum designation of 10%
 - No priority to institutional retail
 - Definition of retail limited to “Mom and Pop” retail

Massachusetts Clean Water Trust Marketing to Investors



MASSACHUSETTS
CLEAN WATER TRUST

Green Bond Marketing

Massachusetts Clean Water Trust Series 18 Green Bonds

- The Trust sold \$228 million of Green Bonds in a negotiated sale with JP Morgan as the senior manager
- Why issue Green Bonds?
 - Ability to tell a story about the bonds
 - Explain the essentiality of the projects we fund
 - Market towards retail
 - Get the bonds in the hands of Massachusetts residents
 - Broaden investor base
 - Use this opportunity to rebrand
 - Recently changed our name and used this opportunity to get our name out
- Marketing Plan
 - Preliminary Official Statement
 - Investor Outreach
 - Advertising Campaign

Preliminary Official Statement (POS)

The Trust used the POS as the first marketing item

- Followed the Green Bond Principles in the POS
 - Use of Proceeds
 - We highlighted four projects that exemplified the work we do
 - Included an appendix with each loan being financed and the percent completed
 - Project Evaluation and Selection Process
 - Explained the IUP process and engineering review that goes into each project
 - Proceeds Management
 - Explained that the bond proceeds would be put in monitored segregated accounts and in accordance with our investment policy
 - Post-Issuance Reporting
 - We report on the use of proceeds once a year in the EPA Annual Report
- Released the POS two weeks prior to pricing

Investor Outreach

Held an investor breakfast, retail call with syndicate and a conference call with a retail broker firm

- **Investor Breakfast with 16 investors**
 - More questions regarding the projects than the structure
 - Six of the 16 placed orders
- **Retail call with syndicate**
 - Allowed us to highlight the green component and point them to the pertinent pages in the POS
- **Lunch meeting with Fidelity**
 - Had a meeting with the Boston sales team and surrounding offices on the phone to get focus on our upcoming deal
 - Walked their sales team through the POS with a focus on the communities that were receiving financing

Advertising Campaign

Used radio ads, online ads and an email blast to direct traffic to a website specifically created for the sale

- Radio ads played on the morning and evening drive time starting a week prior to retail pricing on local news radio
- Online ads were placed on CBSBoston.com, Boston.com, Bostonherald.com, the Wall Street Journal Digital network and the Financial Times
 - All digital channels were geographically targeted towards Massachusetts retail investors
 - Received 293 hits
- The email blast was sent the morning before the retail order period to 137,000 targeted recipients
 - Received 2,883 hits

Results

Was it worth selling Green Bonds?

- **Selling Green Bonds was not more difficult than a normal bond sale**
 - What we do is tailored towards selling Green Bonds and allows for SRF's to tell the essentiality of the projects we finance
 - We plan on selling our future bonds as Green Bonds
- **Who purchased the sale?**
 - \$29 million sold to priority retail sales
 - \$165 million sold to institutional investors
 - \$32 million sold to members of the syndicate
- **Did Green Bond investors participate?**
 - \$3.9 million of bonds were sold to retail green investors
 - \$250,000 of bonds were sold to institutional green investors
 - The Trust received orders from nine new green investors
 - One investor was investing in green bonds for the first time
 - Four of the investors were new to JP Morgan in the Green Bond market

Questions??

