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MassDirect Notes

- In 2014, Massachusetts launched its MassDirect Notes (MDN) program
- The MDN program was created to be a dedicated way for retail investors to get regular, predictable access to new-issue bonds
- Bonds were sold on a near-continuous basis as part of a rolling offering
- Modeled on the corporate medium term note programs of large, blue chip companies like Caterpillar and Duke Energy
- Bonds were sold through an open-architecture electronic trading platform called TMC Bonds

MDN Program Details

- As part of the MDN program, bonds were offered for sale every day for the last two weeks of every month
- Bonds re-priced daily: yields adjusted based on changes to MMD, but spreads to MMD were maintained
- All of the bonds were state G.O.'s, fixed-rate securities, with maturities ranging from two to ten years
- The entire program was rated in advance by the rating agencies
- Bonds were assigned the state's regular CUSIPs, standard denominations, same ratings
- The program was sized at $250 million and ran from March 2014 to July 2014

Why Did We Develop This Program?

The MDN program was based on three goals to provide long-term benefits to taxpayers:

I. To expand the investor base, particularly for retail investors, giving them dedicated access to the primary market

II. To position the state to "get paid" for more transparency

III. To price bonds daily through smaller bond sales, which would effectively plumb the market for true investor demand

I. Expanding the Investor Base for Retail

- The MDN program was more than just a typical retail order period on steroids
- It was a dedicated, daily, convenient program for retail investors
- The open-architecture nature of the electronic trading platform made it possible for any retail advisor anywhere in the country to place an order for a Mass. G.O.

- Open architecture MDN program vs. traditional underwriting:

  Level 1: National Broker-Dealers

  Level 2: Regional Broker-Dealers

  Level 3: Independent & Other

II. “Getting Paid” for Transparency

- The ability to offer bonds in a rolling offering program was possible because of the state’s enhanced disclosure program
- The state updated its information statement on a bi-monthly basis, whether it was selling bonds or not
- And it developed a dedicated investor website that was used to make voluntary filings on a regular basis

- Also, the use of an electronic trading platform provided investors with significantly more pre- and post-price transparency than a traditional financing
- Bonds were also sold and allotted on a first come, first serve basis
- Same day order confirmation for investors

III. Finding the Right Level of Demand

- Even for frequent issuers, it's incredibly hard to know where bonds should price on a given day
- The typical process of pricing bonds on a single day – typically in a large transaction – makes it unlikely that supply and demand equal each other out
- The MDN program priced bonds every day, taking a dollar-cost averaging approach to pricing
- This reduced market risk, but more importantly, it removed the relative value buyer from the pricing
- No bonds were underwritten – no supply was forced upon the market
- The daily pricing of small amounts of bonds plumbed the market for the true investor demand for Mass. G.O.'s, which led to a **normalizing of pricing spreads**

Pricing Spread Analysis

- Prior to the launch of the program, MA looked at how short-dated MA G.O.'s had priced in the primary in previous transactions
- Analysis covered bond sales from 2008-2014
- Focused on spreads to MMD for new issue bonds with maturities of 2 years to 10 years
  - So no BABs, no taxable, no variable rate bonds included in the analysis

Pricing Spread Analysis Results

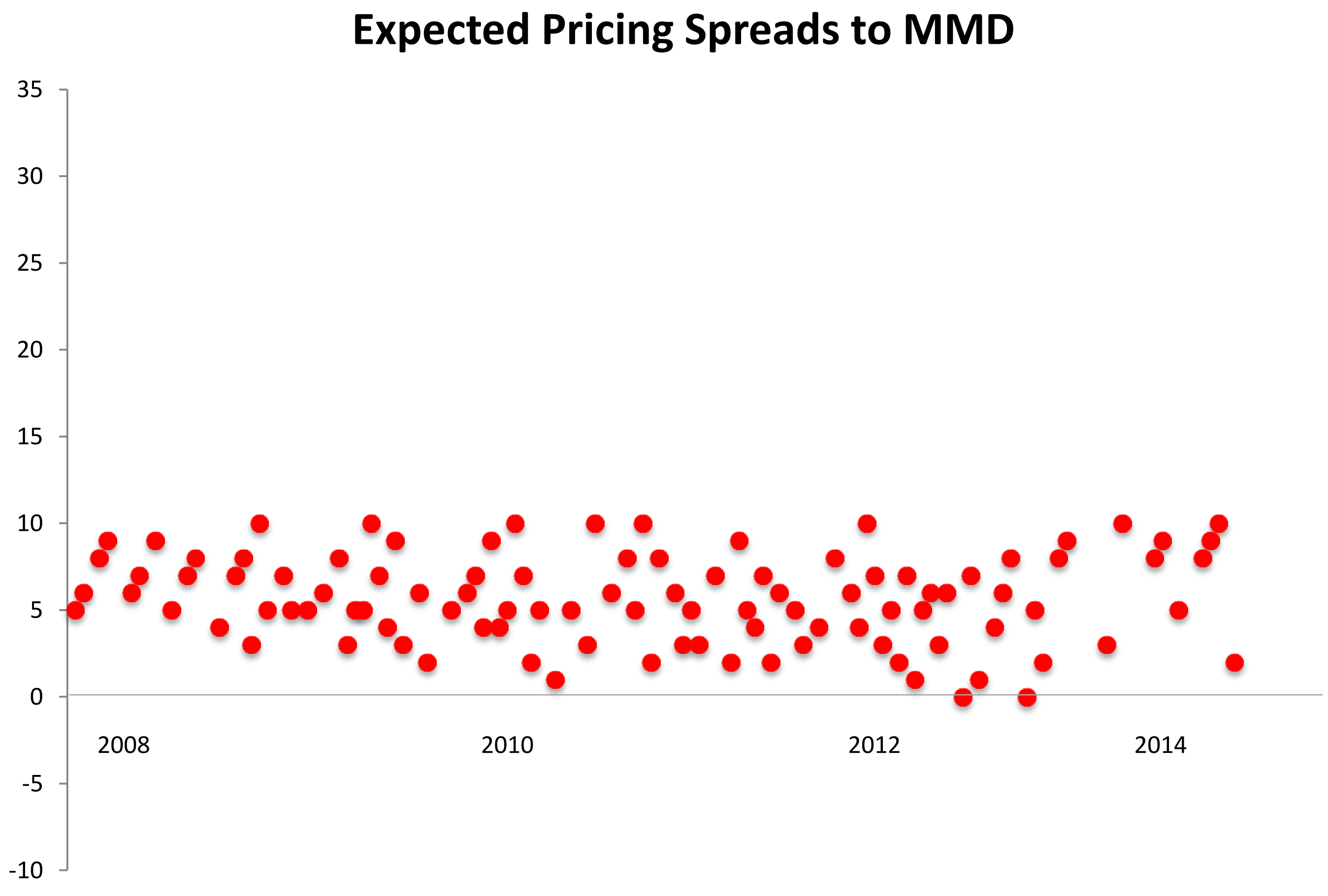
- The wide range of spreads to MMD for short-dated, highly rated bonds was a big surprise and counter intuitive

MA G.O.'s Historical Spread Analysis

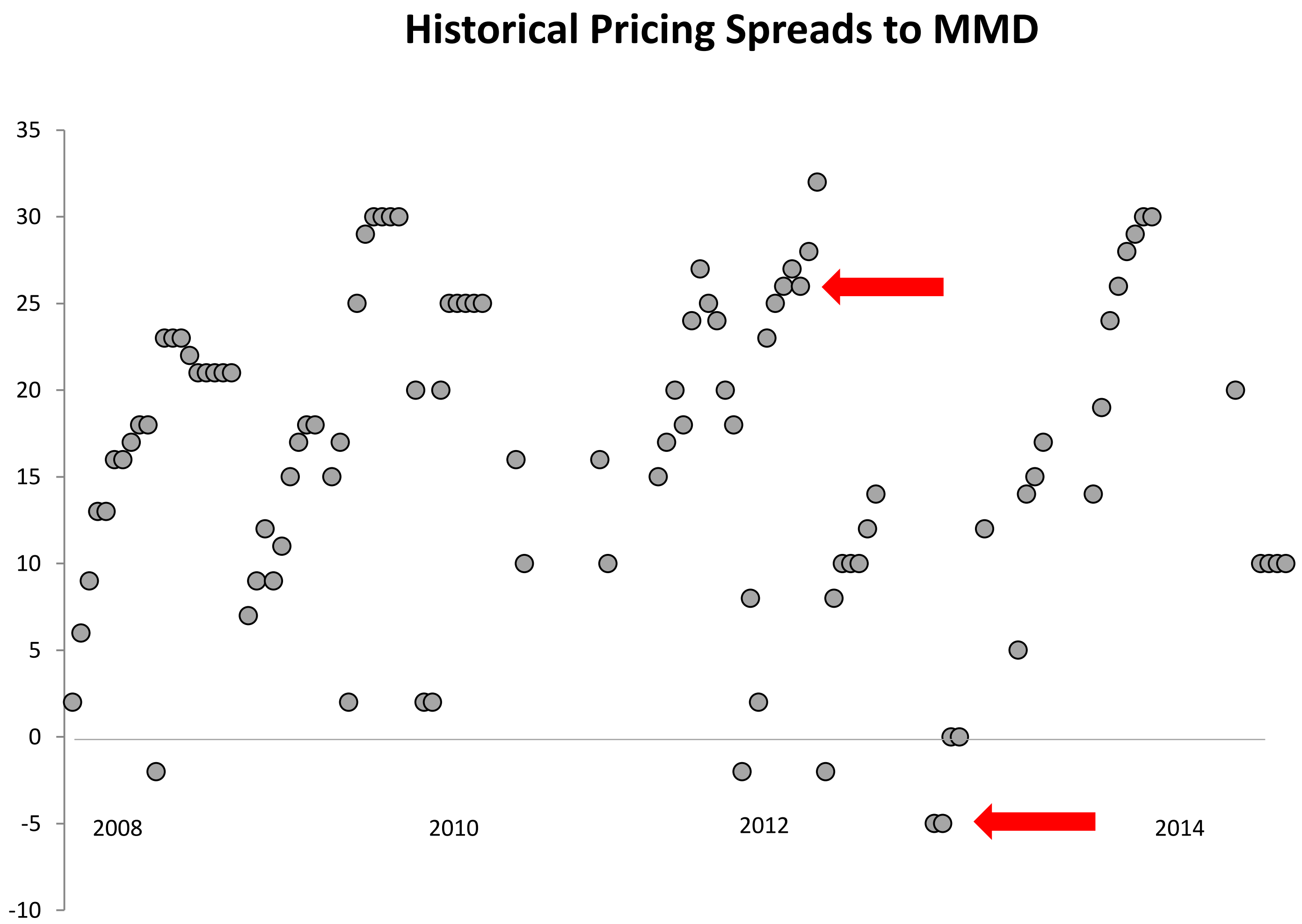
Maturity	MAX Spread	MIN Spread	AVG Spread	Hi/Low Range
1	15	-2	2	17
2	23	6	13	17
3	23	9	15	14
4	23	-5	14	28
5	25	-5	15	30
6	29	0	18	29
7	30	0	20	30
8	30	17	24	13
9	30	18	24	12
10	32	12	22	20

- Wider spreads tended to be associated with larger deals, with larger maturities, in negotiated financings
- However, not enough data points to be definitive

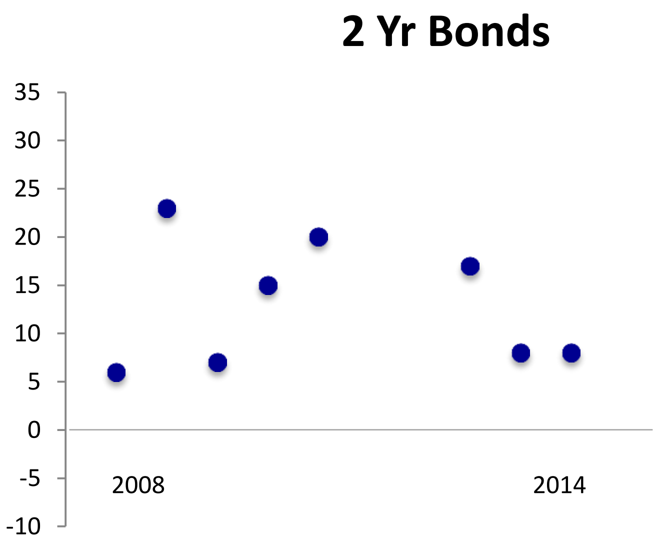
Pricing Spreads: Expected

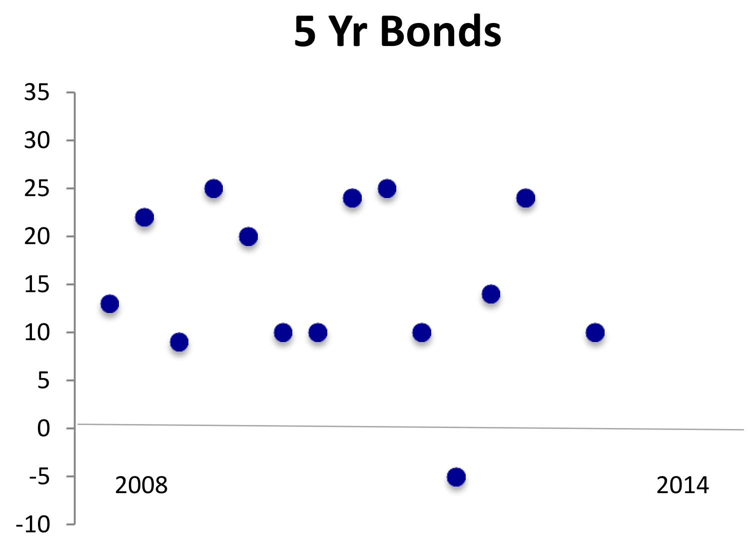


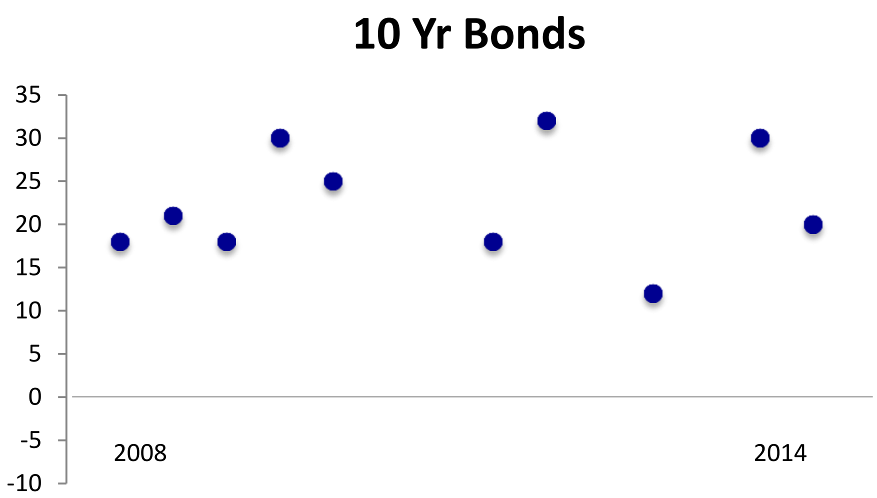
Pricing Spreads: Actual



Pricing Spreads for Select Maturities







Results

- The initial MDN period in 2014 included 9 weeks of sales, with the program selling out of bonds bonds ahead of schedule
- For the program, $250 mm in bonds sold to retail, or $6 million in bonds per day
- 1,080 individual orders from 44 different firms
- Average order size under $250,000
- The small daily bond sales provided the state with real-time feedback on investor demand
- Over the course of the MDN program, the state used this real-time investor feedback to determine normal pricing spreads

Key Take-Aways

Electronic Trading Platforms can be used effectively by municipal issuers for new-issue financings, like they are in other markets

They promote a far more transparent, issuer and investor friendly process

They can lead to significantly better pricing results for issuers