EAX TRADING

MUNI BOND TRADING + DATA

Clarke Roberts, Managing Partner and Founder, EAX Trading
“Although the municipal securities market is often characterized as a “buy-and-hold” market, significant secondary market trading occurs.”*

PROBLEMS IN SECONDARY MUNI TRADING

• Muni trades incur exorbitant transaction & search costs in the secondary market
  • Price differential exceeds 2% (200 bps) for over half of customer-to-customer chains\(^1\)
  • Length of 2 or more days for over half of customer-to-customer chains\(^1\)

• Regulators: “…investors have access to relatively little pricing information”\(^2\)

• Dealer inventories to provide liquidity declined 65% since 2007 \(^3\) due to new regulations

• $2.5 trillion\(^2\) in annual secondary trading via phone or antiquated bulletin-board systems

3. Federal Reserve
MUNIS ARE LIKE THE HOUSING MARKET

Muni Characteristics

• 1.7 million individual bonds (CUSIPs)

• High retail ownership (>75%)

• Personal tax exemption

• Low turnover, most bonds trade twice per year

Price Discovery in the Housing Market

• Buyers express interest by house type: # of bedrooms, # of bathrooms, for about $X

• Sellers list their house for a price

• Agent matches serious buyers + sellers prior to firm bidding

INEFFECTIVE PRICING DATA

Muni Reference Pricing

- Last trade
- 3rd party price evaluation
- Comparables of like-bonds

...similar to housing market

- The price you bought your house
- Zillow estimated price
- Your neighbor’s selling price

No quote on CURRENT demand for your bond & amount for sale
EAX REDEFINES TRADING & DATA

- For the first time, buyers may express interest across types of bonds (patent pending*)

- Buyers use our cloud technology to indicate desired bond features, size & price range

- Sellers view indicative market for their bonds & contact buyers at attractive prices

- Search based model creates a new trading and data ecosystem
  
  Align Interest: Sellers have specific security
  Buyers want type of bond within price range

*United States Patent Application Serial No. 14/643,870
(claiming priority to Serial No. 62/950,594, filed March 10, 2014) Filed: March 10, 2015
EAX: THE TARGETED APPROACH

Current Process

Seller Posts Bid Wanted
- Typically the same order sent to multiple ATS sites
- Full order information submitted
- **No price range**

Enter Bid
- Bidders flooded daily with bid wanted requests
- Bidder determines which ATS to respond on
- No filter for price range or method to proactively indicate interest

Seller Reviews Bid
Seller gathers bids, determines whether to:
- Execute with bidder
- Discard bid and match internally (“Last Look”)
- Do nothing

EAX Process

Bid Profile
- Create Profile, typically pre-open, to input desired yield curves for types of bonds

Bid Wanted Invitation
- Seller views indicative yields and # of bidders at each price
- Seller invites bidders with similar expectations

Enter Bid
- Upon accepting invitation, bidders review order and their own indicative price
- Submit single sealed bid
- Firms are not held to indicative pricing; EAX scores how often firms bid below their profiles

Execution
- Seller views and accepts best bid if within desired price range
- EAX submits counterparty clearing instructions
CREATE BID PROFILE

- Enter target yields vs. indexes across bond features, maturity & call ranges
- Limit bid-wanted invitations to sellers with similar expectations
- Flexible methods to receive bid invitations: app, email, IM, text
TARGETED BID INVITATIONS FOR SINGLE-SEALED BIDS

Sellers Search & Select Invitation
Price

Invitations Display Profile Price
REDEFINE THE SECONDARY MUNI BOND MARKET

CREATE A SEARCHABLE NETWORK OF TRADING INTEREST