This paper examines the effect of exchange-traded funds’ (ETFs) information disclosure on the pricing and trading of municipal bonds. Bonds held by ETFs are found to have significantly smaller price dispersion than similar, non-ETF-held bonds. The effect is stronger for retail trades than for institutional trades, suggesting ETF holding disclosure brings about higher benefit for investors who lack information ex-ante. ETF-held bonds are also more liquid and associated with higher trading activity. Similar effect is documented in the primary market, as when a municipality has outstanding bonds held by ETFs, its newly issued bonds have lower yield, higher price, and lower price dispersion. Overall, my findings indicate that ETF holding disclosure is an important channel through which investors can gain additional insight into the pricing of municipal bonds.

Motive

Municipal bond market is highly illiquid, opaque, and decentralized
- 80% of munibonds do not trade in a given month
- High bargaining power of dealers over customers
- Little pre-trade transparency despite post-trade reporting of transaction prices

ETFs are required to disclose holdings daily ⇒ provide pricing information of the constituents to the public

Question: Do ETFs affect the pricing and trading of municipal bonds? If so, through which channel?

Data and methodology

Data sample: 2010-2019
- Morningstar mutual fund holding data
- MSRB municipal bond transaction data
- Capital IQ municipal bond characteristics

Main regression specification:

Price Dispersion_{b,t} = \alpha_0 + \alpha_1 + \beta \times \text{ETF Holding}_{b,t} + \eta \times X_{b,t} + \varepsilon_{b,t},

where \( b \) indexes bond, \( r \) indexes rating, and \( t \) indexes year-month

Do bonds held by ETFs have lower price dispersion – the average dispersion between trade price and end-of-day price across all transactions on a bond in a month?

Price dispersion, as a percent of price, significantly declines in the first week a bond is held by any ETFs

Figure 1. Price dispersion and ETF holdings: event study

(Definitions for this equation are provided in the appendix.)

Table 1. Price dispersion and ETF holdings

<table>
<thead>
<tr>
<th>ETF Holdings_{b,t}</th>
<th>0.026***</th>
<th>0.030***</th>
<th>0.033***</th>
<th>0.033***</th>
<th>0.033***</th>
<th>0.033***</th>
</tr>
</thead>
<tbody>
<tr>
<td>MF Holdings_{b,t}</td>
<td>(0.010)</td>
<td>(0.021)</td>
<td>(0.039)</td>
<td>(0.010)</td>
<td>(0.022)</td>
<td>(0.021)</td>
</tr>
<tr>
<td>Price Dispersion_{b,t}</td>
<td>0.529***</td>
<td>0.531***</td>
<td>0.531***</td>
<td>0.531***</td>
<td>0.531***</td>
<td>0.531***</td>
</tr>
<tr>
<td>Bond Bid (%)_{b,t}</td>
<td>-0.484***</td>
<td>-0.481***</td>
<td>-0.481***</td>
<td>-0.481***</td>
<td>-0.481***</td>
<td>-0.481***</td>
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<tr>
<td>Log(Market_{b,t})</td>
<td>-0.532***</td>
<td>-0.532***</td>
<td>-0.532***</td>
<td>-0.532***</td>
<td>-0.532***</td>
<td>-0.532***</td>
</tr>
<tr>
<td>Log(Maturity_{b,t})</td>
<td>0.273***</td>
<td>0.273***</td>
<td>0.273***</td>
<td>0.273***</td>
<td>0.273***</td>
<td>0.273***</td>
</tr>
<tr>
<td>Observations</td>
<td>10,141</td>
<td>10,141</td>
<td>10,141</td>
<td>10,141</td>
<td>10,141</td>
<td>10,141</td>
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</tbody>
</table>

Institutional trades

Retail trades

Consistent with the literature of post-trade transparency (e.g. Schultz, 2012)

EFT-held bonds are more liquid cross sectionally

Higher transparency leads to lower dealer profit margin and lower dealer inventory imbalance

ETF effects spill over to primary market
- Higher valuation for bonds issued by municipalities with outstanding ETF-held bonds
- Stronger effect for municipalities with low issuance activity and for negotiated offerings

Conclusion

Positive effects of ETFs on municipal bonds
- Lower price dispersion, higher liquidity, and higher valuation
- Both primary market and secondary market are affected

Consistent with information channel: Pre-trade transparency due to ETFs’ daily holding disclosure improves customers’ bargaining power

References


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