VIEWPOINT

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Statement of the Financial Economists Roundtable, April 2015: The Structure of Trading in Bond Markets

Innovations in equity market structure over the last 20 years have substantially lowered transaction costs for both retail and institutional investors. These changes have brought equity markets into the 21st century. In contrast, corporate and municipal bond markets are still struggling to move out of the 19th century. As a result, dealer markups in these markets often dwarf trading costs in equity markets. Transaction costs for small orders in equities are typically a few pennies per share, whereas transaction costs for corporate and municipal bonds can be several dollars per $100 of bond principal value. Despite the fact that bonds are less risky than stocks, their transaction costs can be a hundred times higher.

The US Securities and Exchange Commission (SEC) could rapidly and substantially improve bond market efficiency by simply requiring brokers to post their customers' limit orders to an electronically accessible broker platform or alternative trading system (ATS), where one customer's limit order could trade against another customer's order without dealer intermediation. As similar requirements have done for stock limit orders, this requirement would produce substantial improvement in transparency and execution, with ATS service providers focusing their attention on serving buy-side traders rather than dealers, who now largely control bond markets. Dealers would remain important in these markets because for many bonds, buy-side traders are rarely on both sides of the market at the same time. But when they are, they should be able to trade easily with one another if they can trade at more favorable prices than dealers offer.

In Michael Lewis's recent book *Flash Boys* (W.W. Norton & Company, 2014), he identifies problems that, if fixed, would save equity market customers a couple of basis points in execution costs here and there. The concerns that Lewis identifies are minor compared with the efficiency gains possible in the bond markets, which could be achieved rapidly with a few simple rule changes designed to harness the forces of competition and technology to better serve bond investors.

At the most recent meeting of the Financial Economists Roundtable,[1] members discussed the current state of security market structure. This statement summarizes our conclusions and explains how an order display requirement in the fixed-income markets would significantly improve market quality for retail and institutional investors alike. Although we believe that some changes in the equity markets may be warranted, the resulting benefits for equity investors would be small compared with the benefits that investors would receive from simple changes in the fixed-income markets.

Editor's note: Larry Harris may have a commercial interest in the topics discussed in this article.

Editor's note: This article was reviewed and accepted by Executive Editor Robert Litterman.

Authors' note: This statement is an outcome of the Financial Economists Roundtable discussion at its annual meeting on 19–21 July 2014 in Quebec City. It reflects a consensus of more than two-thirds of the attending members. Although the statement provides suggestions to the US Securities and Exchange Commission for how to improve bond market quality, the issues involved affect bond markets throughout the world. If adopted, these suggestions would improve all global bond markets.

Current Structure of the Corporate and Municipal Bond Markets

Both corporate and municipal bonds trade in over-the-counter markets. Unlike equity markets, where multiple exchanges consolidate the quotes and orders of market participants, corporate and municipal bonds trade via a network of bond dealers. An institutional customer wishing to buy or sell a block of bonds typically contacts a dealer, who either trades as a principal with the institution or acts as an agent and seeks another institutional customer or dealer willing to sell or buy the bonds.

About 10 years ago, regulators mandated bond post-trade reporting systems that disseminate, with a 15-minute delay, the price and quantity of every trade conducted by a dealer. This innovation improved transparency in bond markets by allowing customers to obtain more current information about bond market values. Unfortunately, because some bonds trade infrequently, the last trade for a given issue may be weeks or even months old, thus providing little useful information to a current buyer or seller. Pre-trade transparency could address this concern, but innovation in that direction has so far been limited.

Much trade in these markets is still conducted over the telephone, which means that trades occur as a result of a series of bilateral conversations among broker/dealers and their clients. Such trading is inefficient and very costly compared with electronic trading.

This practice persists in spite of the proliferation of electronic trading technologies in many other markets, including the equity, futures, and US Treasury bond markets. Market participants cite a host of reasons to explain the lack of electronic trading in the bond markets, including the large number of bond issues (compared with instruments in equity and futures markets), the low trading demand from customers, and the complexity and nonstandardized nature of bonds relative to other instruments. None of these explanations preclude the formation of cost-saving electronic systems.

Dealers, including those who offer electronic trading systems for equities, have not developed comparable electronic trading systems for corporate or municipal bonds. The profits that these dealers obtain from the inefficient nature of trading in bond markets may explain why so little innovation has occurred. Bonds trade at high spreads, in part because dealers face limited competition when trading with their customers.

Academics, practitioners, and regulators have documented spreads of 3% and higher for municipal and corporate bonds. Perversely, these transaction costs rise as the trade size decreases. Thus, a relatively small trade of $50,000 may cost, on a percentage basis, 5 or 10 times more than a large trade arranged by a financial institution. This problem is especially acute for municipal bonds, which have particular appeal for retail traders because of their tax advantages.

The Proposal

Regulators have the power to mandate enhanced trade transparency to make corporate and municipal bond markets more liquid. Equity markets are generally characterized by high levels of both pre- and post-trade transparency. Pre-trade transparency refers to the practice of requiring market centers to publicly display orders and quotations in the form of published bid and ask prices; post-trade transparency entails the timely reporting of the price and quantity of shares for each trade.

Under pressure from the SEC in the last decade, the National Association of Securities Dealers (now the Financial Industry Regulatory Authority, or FINRA) and the Municipal Securities Rulemaking Board (MSRB) established trade price–reporting systems for the corporate and municipal bond markets, respectively. The public dissemination of these data improved market quality by permitting buy-side investors to see recent trade prices before arranging their trades. The reduction in transaction costs has been modest, however, in part because brokers are not required to disseminate these data to their clients before they trade.

In contrast, pre-trade transparency in bond markets is almost wholly absent. Although some private systems for pre-trade transparency do exist and their market share is slowly growing, we believe that much more should be done on the regulatory front.

To that end, we recommend that the SEC encourage the development and use of one or more facilities for the display and execution of customer orders in bond markets. The SEC could accomplish this goal through an explicit mandate to develop and use such systems or indirectly through a requirement that brokers who accept customer orders or trade with public customers use such systems.

We expect that the existence of such a facility would increase customer use of limit orders substantially, especially sell limit orders. Customers currently do not often use limit orders when trading bonds because doing so provides so little benefit to them without a place to post orders where they can be filled.

An order display facility would allow customers wishing to buy or sell bonds to display their interest to many more potential counterparties and at lower cost than is possible today. The public display of

customer orders would benefit market participants in many ways:

- With the exposure of customer orders in the public market, more dealers would see customer orders and compete to trade with them. Such competition would bring more favorable terms of trade to customer orders.
- The display of accessible customer orders would allow some trades to occur without the need for dealer intermediation, thereby decreasing all-in trading costs for customers. The facilitation of trade between public customers, without the need for dealer participation, is one of the basic principles behind the framework Congress established for the equity markets. We believe the same principle should apply to the fixed-income markets.
- Broker/dealers seeking to arrange trades at prices inferior to those of publicly displayed (and electronically accessible) orders would have to fill the public orders first, as they must in the equity markets. A no-trade-through requirement would ensure that traders (including dealers) who gave other traders options to trade were rewarded for making the markets liquid. And if broker/dealers were unwilling to fill standing orders, they would have to match the standing price, which would improve prices for their clients.
- As trading costs decreased, volume and liquidity would rise as additional participants were drawn into the marketplace, further increasing competition and liquidity. Customers would benefit from the increased market participation, and higher liquidity would lead to higher bond prices and thus to lower funding costs for municipalities and lower costs of capital for companies.

We understand that private systems for the display of "bid wanted" lists currently operate and that other bond ATSs have the potential to provide the needed transparency to the marketplace. We remain concerned, however, that absent a positive step from the SEC, the structure of the bond markets will prevent the needed changes that would benefit investors, both large and small. In particular, we believe that brokers should be required to post their customers' limit orders to an actionable electronically accessible order display facility and that no one should be allowed to arrange a trade at an inferior price without first filling all displayed orders that offer better prices. These changes will require the support and encouragement of the SEC. We note that similar changes in the NASDAQ market did not occur until its 1995 settlement with the SEC.

Pre-trade transparency is common in equity markets, where it benefits customers interested in trading both actively traded and inactively traded stocks. In the actively traded stocks, the requirement to display orders led to the development of extremely low-cost exchange trading systems. In less actively traded stocks, the requirement allows public traders to find each other if both sides are present. When only one side is present, dealers typically make markets, as they currently do in the bond markets.

Nothing about fixed-income instruments requires that they trade exclusively in dealer markets without significant pre-trade order exposure for those traders willing to display their orders.

- The huge number of bond issues does not preclude the display of orders by computers that can easily maintain and query enormous databases.
- The complexity of many fixed-income bonds means only that they are hard to price. Many equities are also difficult to price because the prospects of their issuers are hard to forecast.
- The low trading demand for many bonds ensures that they will continue to trade predominantly in dealer markets. But when buy-side traders are willing to offer liquidity to one another, an actionable electronically accessible order display facility will allow them to arrange more favorable trades. Lower transaction costs, of course, will increase demand.

Effect on Dealers and Brokers

The existence of one or more public order display facilities to which brokers must post their customers' limit orders would likely decrease dealers' profits per bond. Dealers would have to narrow their spreads to match the displayed order prices, or they would have to give up some of their trades to the displayed orders.

Some dealers may claim that if faced with such competition, they will withdraw from the market and thus provide less liquidity, making the public worse off. (Not surprisingly, most dealers oppose greater transparency of all types.) But dealers will lose profits and withdraw only if buy-side traders outcompete them. If so, the buy-side traders will be supplying liquidity and the markets will be no worse off and at least as liquid. And customers will be better off because they will obtain better prices, on average. Transaction costs will be lower because buy-side traders will not be paying dealers for services that they can often provide to one another at lower cost.

The decrease in fixed-income transaction costs will lead to an increase in fixed-income trading volumes, just as similar decreases in equity transaction

costs led to substantial increases in equity volumes. Dealers who can adapt will continue to profit, but they will have to profit from higher volumes at lower spreads.

Some brokers may also oppose this proposal. Those who act as dealers for their clients may be against it because they will lose dealing profits. Those who simply broker orders will be opposed because dealers currently pay brokers to send their customers' orders to them. Although these payments for order flow seem like kickbacks ("you must pay me to trade with my customer"), the SEC has permitted them in both equities and fixed income, albeit with substantial concerns in recent years. Since fixed-income bid–ask spreads are very large relative to the risks of dealing in these instruments, payments for fixed-income orders are often quite large compared with payments for equity orders.

The opposition of dealers and brokers to greater transparency may explain why new electronic trading systems have not gained traction in the fixed-income markets. Neither dealers nor brokers want to compete with their customers when offering liquidity.

This problem is well known. For example, until the SEC mandated similar order-handling rules for equities, NASDAQ securities traded in markets similar to those we still have for bonds. Spreads were wide compared with those for exchange-listed stocks, order-flow payments were high, and volumes were low as investors avoided incurring high transaction costs. Following affirmative actions by the SEC, these markets improved substantially, and both investors and issuers are now much better off.

Conclusion

The interest rate and credit risks associated with holding a corporate bond are very similar to the combined risks of holding a Treasury bond (which primarily embodies interest rate risk) and some shares of the corporation's stock (which primarily embodies credit risk). With this understanding, the poor quality of the corporate bond market is particularly surprising since government bonds and corporate equities both trade in highly efficient and transparent electronic markets. The example of these related markets suggests that greater transparency and more direct access for buy-side traders could substantially improve both corporate and municipal bond markets.

Dealers and brokers will not willingly give up their profits associated with maintaining the status quo. It thus falls to the SEC to write (or to encourage FINRA and the MSRB to write) regulations that will improve the fixed-income markets, as was done for the equity markets. Requiring brokers to post customer limit orders to an actionable electronically accessible order display facility—and preventing traders from trading through those orders—would increase liquidity in fixed-income markets substantially.

As investors approach retirement, many reallocate their portfolios from equities to fixed income. The aging of populations in all developed countries suggests that fixed-income markets will be of increasing importance to investors. Now is the time to bring those markets into the 21st century.

Notes

1. The Financial Economists Roundtable is a self-appointing international organization of 50 highly accomplished financial economists over the age of 50 who meet annually to discuss public policy issues of current importance. The mission of the organization appears at http://fic.wharton.upenn.edu/fic/Policy%20page/FER.htm, along with a list of its current members.