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An Empirical Study of Bond Market Transactions

Gwangheon Hong & Arthur Warga

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Abstract

Short histories of dealer-market and exchange-based bond transactions in machine-readable form have recently become available. They permitted us to provide for the first time direct estimation of the effective bid-ask spread for corporate bonds in the institutional and retail markets. Overall, we found effective spreads for NYSE-traded corporate bonds to be similar to effective spreads for dealer-market transactions. Evidence is that corporate bond spreads have declined over time and that dealers carry out U.S. government bond trades with major institutional clients as a nonprofit service, perhaps to support other (ostensibly) profitable activities. We demonstrate that bid-ask spreads and the magnitude of price discrepancies between data sources are reliably associated with proxies for risk and liquidity.

In spite of decades of research involving corporate bond prices, little is known of the actual behavior of transactions from either the exchange or the dealer market. Our purpose was to estimate and compare effective bid–ask spreads (expected round-trip

trading costs) between the dealer and exchange markets and assess whether any systematic differences exist in exchange transaction prices and dealer-market quotes relative to transactions in the dominant dealer market. We were able to perform such research for the first time because data were recently made available on transactions from both markets.

The dealer and exchange markets represented here provide very different environments in which similar (in many cases, identical) securities trade. The exchange is a transparent electronic limit-order market, and the dealer market is characterized by a lack of transparency. Investors have an obvious interest in knowing about bid–ask spreads in different markets, but also important is the degree to which bid–ask spreads and their determinants differ between these markets.

To carry out the study, we used transactions reported to the National Association of Insurance Commissioners by all insurance companies (which are the largest group of counterparties to dealer-market bond trades) and transactions and bid–ask quotes from the NYSE's Automated Bond System (ABS). Surprisingly, despite the large size differences in transactions between the dealer and exchange markets, we found estimates of effective bid–ask spreads in the markets to be quite similar. Per $100 par value, investment-grade corporate bonds have average spreads of about 13 cents in the dealer market and 20 cents on the ABS for trades of 10 bonds or more. High-yield bonds (below a Baa rating) have spreads of about 19 cents (per $100 par value) in both the dealer and ABS markets. These spreads are smaller than estimates found in a study based on data from an earlier period.

We also found that transaction-based prices from the dealer market and from the NYSE's bond exchange are broadly in agreement with each other and with bid quotations from a major dealer (Lehman Brothers). Given the large difference in implicit transaction size, the closeness of the dealer and ABS markets is remarkable. We also found, however, that bid quotes from the exchange, which do not correspond to transactions (but are reported as indicative prices by various data vendors), did deviate significantly from quotes and transactions in the dealer market. This finding was not unexpected. It stems from the fact that the NYSE's bond exchange is an order-driven system that reflects the level of interest in instruments (such as bonds) that do not trade as frequently as, say, equities.

In addition, we found no evidence that participants in the ABS market are influenced by these inactive quotes. We also found evidence that dealers realize little explicit profit in their U.S. government bond trading with insurance companies. Finally, we show that bid–ask spreads and the magnitude of price discrepancies for all classes of bonds are reliably associated with proxies for risk and liquidity.

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