Effects of Liquidity on the Nondefault Component of Corporate Yield Spreads: Evidence from Intraday Transactions Data

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Summary

In this paper, we try to answer some fundamental questions on corporate bond valuations, including the extent that corporate bond yield spreads reflect default risk and how a nondefault component of yield spreads, if it exists, is associated with bond liquidity. Existing studies generally have mixed results on the effect of default risk on yield spreads and lacked direct measures for bond liquidity. We use credit default swap (CDS) spreads to estimate the default component of yield spreads. Our main contribution to the literature is our use of intraday transactions data to measure bond liquidity.

We construct three types of bond liquidity measures, including price impact of trades, transaction costs, and trading frequency variables, using newly available intraday transactions data. We control for the default component of bond spreads using the term structure of CDS spreads, addressing both maturity mismatch and coupon effect that may have biased previous estimations. Importantly, in doing so, our methodology allows us to have enough degrees of freedom to use fixed-effects models to control for the unobservable firm heterogeneity that may otherwise bias the regression analysis.

Using swap rate as the risk free rate, the estimated nondefault component of yield spread is moderate and statistically significant for only AA-, A-, and BBB-rated bonds and increasing in this order both in basis points and as a fraction of yield spreads. With Treasury rate as the risk free rate, the estimated nondefault component is statistically significant for all investment-grade bonds and BB-rated bonds. In basis points, the nondefault component is the largest for BBB-rated bonds; but as a fraction of yield spreads, the nondefault component is decreasing in bond rating, that is, the highest for AAA-rated bonds. In addition, the nondefault component accounts more than half of yield spreads for A- and higher-rated bonds.

We find a positive and significant relationship between the nondefault component and bond illiquidity for investment-grade bonds but no significant relationship for speculative-grade bonds. We demonstrate that such estimated relationship would appear weaker if the unobservable firm heterogeneity were not well controlled for. We also find that the nondefault component of bond spreads comoves with indicators for macroeconomic conditions, particularly, negatively with the Treasury term structure. In addition, controlling for conventional liquidity proxies does not affect the statistical significance of our transaction-based liquidity measures, suggesting our liquidity measures identify a unique portion of the nondefault component associated with the stochastic variation in bond liquidity. Finally, the estimated effects of our transaction-based liquidity measures are robust to a number of alternative model specifications and samplings, such as excluding news-driven trades and using Treasury rate as the risk free rate.