

Liquidity Risk on Asset Pricing

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Financial theory suggests that expected asset returns are related to systematic risk associated with common factors. In equilibrium, an asset whose returns are more sensitive to risk factors should offer higher returns to compensate investors for holding the asset. The literature has presented several stock market and term structure factors important for the cross section of asset returns. Recent studies have further suggested liquidity as another good candidate for a priced state variable. Liquidity is often viewed as an important feature of the investment environment. All else equal, investors should require higher returns on assets whose returns have greater sensitivities to marketwide liquidity.

Pastor [1] investigate whether marketwide liquidity is a state variable important for pricing stocks. They find that expected stock returns are positively related cross-sectionally to the sensitivities of returns to fluctuations in aggregate liquidity. Acharya [2] develop a liquidity-adjusted Capital Asset Pricing Model (CAPM) under time-varying liquidity and demonstrate that the required return of an asset depends on expected liquidity and covariances of its returns and liquidity with market returns and liquidity. Empirical evidence shows that liquidity risk is important beyond the effects of market risk and the level of liquidity in the equity market.

The corporate bond market is much less liquid than the equity market with most corporate bonds trading infrequently. Thus, the level of liquidity is a serious concern for participants in the corporate bond market. Understanding how corporate bonds are priced is essential for developing a unified theory of asset pricing. The corporate bond market is a large sector of the US financial system with an outstanding issuance totaling more than \$5 trillion. How financial markets price corporate bonds and what are the key determinants of required returns are issues of fundamental importance to academics and practitioners. For academics, exploring the role of liquidity risk in corporate bond pricing is a necessary step toward understanding the determinants of the cost of borrowing. For financial managers, knowledge of sensitivities of

bond prices to liquidity and other risk factors aids in firms' issuance decisions.

Lin [3] used both regression and portfolio-based test methodologies to examine whether liquidity risk explains cross-sectional variations in expected corporate bond returns. Empirical evidence from both analyses strongly suggests that the liquidity risk factor is priced in corporate bond returns. There are significant monotonic variations in returns of beta-sorted portfolios related to liquidity risk, which are independent of the effects of default and term betas and ratings. The average return on bonds with high sensitivities to innovations in aggregate liquidity exceeds that for bonds with low sensitivities by about 4% annually. A significant positive relation exists between expected corporate bond returns and liquidity beta in the cross-sectional regression. A one standard deviation of Pastor and Stambaugh liquidity beta above the cross-sectional mean is associated with a return increase of 97 basis points per annum, which accounts for 20% of the standard deviation of monthly corporate bond excess returns. More important, there is a strong positive relation between liquidity risk and expected corporate bond returns even after controlling for the effects of other risk factors, expected liquidity, and bond characteristics. This positive relation is robust to different empirical specifications of corporate bond pricing models and choices of a variety of proxies for the liquidity factor. Liquidity risk spread accounts for a significant portion of corporate bond risk premium. Results strongly suggest that liquidity risk is an important determinant of expected corporate bond returns.

References

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