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Bond and stock market response to unexpected dividend changes ☆

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ABSTRACT

We use comprehensive transaction data from Trade Reporting and Compliance Engine to study the response in corporate bond market to dividend announcements and compare that with the response in stock market. We find that the information content/free cash flow effect dominates the wealth transfer effect in bond market. The relationship between the magnitude of dividend changes and future profitability is weak. However, the reaction in stock and bond markets on announcement dates can be informative about the earnings one year after announcements. Additionally, the reaction of speculative-grade bonds on announcement dates is more informative about future profitability than that of investment-grade bonds.

1. Introduction

The announcement of unexpected dividend changes can have different impacts on financial markets. The *information content* hypothesis states that managers are more informed than outside stakeholders about company performance, and thus unexpected dividend changes are viewed by stakeholders as a signal sent by the managers about a firm's future profitability (see, e.g., Bhattacharya, 1979; Kalay, 1980; and Miller and Rock, 1985). An alternate, although not mutually exclusive, is Jensen's (1986) *free cash flow* hypothesis, which predicts that the distribution of dividends prevents managers from empire building and wasting resources in poor investment opportunities and therefore benefits both stockholders and bondholders. In contrast, the *wealth transfer* hypothesis states that the payment of dividends is a transfer of wealth from bondholders to stockholders and is perceived positively by stockholders, but negatively by bondholders. Therefore, these hypotheses suggest that the stock market will react positively (negatively) to the news of unexpected dividend increases (decreases), but their prediction of the reaction in bond market differs. While the information content and free cash flow hypotheses suggest a positive relationship between unexpected dividend changes and bond returns, the wealth transfer hypothesis suggests a reverse relationship.

In the literature, the research on the impact of dividend announcements on stock market is extensive, but the studies on bond market response to unexpected dividend changes are either based on a small sample of debt issues or on monthly transaction quotes

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from dealers (see, e.g., Dhillon and Johnson, 1994; Handjinicolaou and Kalay, 1984; Jayaraman and Shastri, 1988; and Woolridge, 1983). According to Bessembinder, Kahle, Maxwell, and Xu (2009), studies of corporate bond market based on monthly bond data are not well specified and are likely to incur type I and more significantly type II errors. Moreover, the evidence of the dominant effect of dividend changes on bond returns is inconclusive. Woolridge (1983) and Handjinicolaou and Kalay (1984) find that bond returns are positively correlated with unexpected dividend changes and thus claim that the information effect dominates the wealth transfer effect. By contrast, Dhillon and Johnson (1994) report that bond prices move in opposite directions to stock prices in response to large dividend changes, a phenomenon consistent with the wealth transfer hypothesis. Similarly, Jayaraman and Shastri (1988) find no evidence of significant change in bond returns around the announcements of specially designated dividends.

In light of recent improvement in the transparency of corporate bond market, we use transaction data from Trade Reporting and Compliance Engine (TRACE) to study the relationship between unexpected dividend changes and bond returns around dividend announcements. Specifically, we examine corporate bond returns corresponding to 5571 dividend announcements. To the best of our knowledge, this is the first study that uses comprehensive transaction data to examine the reaction in bond market to dividend announcements. We find that both abnormal stock and premium bond returns on dividend announcement dates are positively associated with unexpected dividend changes. Our results imply that the information content/free cash flow effect dominates the wealth transfer effect in bond market.

Furthermore, we examine the relationship between unexpected dividend changes and earnings. In the literature, the evidence of the relationship between dividend changes and future profitability is mixed. For instance, Nissim and Ziv (2001) find that dividend changes are positively related to future earnings changes, while Benartzi, Michaely, and Thaler (1997), DeAngelo, DeAngelo, and Skinner (1996), Grullon, Michaely, Benartzi, and Thaler (2005), and Penman (1983) indicate either a weak relationship, no relationship, or opposite relationship between dividend changes and future earnings. Unlike these studies that directly examine the relationship between dividend changes and future profitability, this paper identifies dividend announcements that result in significant abnormal stock or bond returns as predicted by the information content hypothesis because these dividend announcements are more likely to contain information of future profitability. We find the relationship between the magnitude of dividend changes and future profitability to be weak. However, if unexpected dividend increases (decreases) are accompanied by significantly positive (negative) abnormal stock or bond returns on the announcement dates, earnings after one year of announcements will improve (deteriorate). Additionally, the reaction of speculative-grade bonds on announcement dates is more informative about future profitability than that of investment-grade bonds. The relationship between dividend changes and profitability, however, becomes much weaker after two years of announcements, even after considering financial market reaction on announcement dates.

The remainder of this paper is organized as follows. Section 2 reviews recent studies on the relationship between stock and corporate bond markets. In Section 3, we describe the data used in the study. Section 4 shows the abnormal stock and premium bond returns around dividend announcements. In Section 5, we examine the relationship between dividend changes and profitability. Section 5 concludes the paper.

2. Literature review

According to Merton (1974), investing in corporate bonds can be viewed as having a long position in the riskless asset and a short position in a put option on the firm. On the other hand, buying stock is like purchasing a call option on the firm with exercise price equal to the face value of the corporate debt. When the bond matures, the stockholders decide if they want to exercise their call option by paying the face value of the debt and retain the ownership of the firm or let the option expired and bondholders be the residual claimants. From this point of view, both stock and bond values are positively related to firm value. Additionally, the volatility of firm value is positively related to equity value, but negatively related to bond value. Therefore, we would anticipate seeing that stock and bond returns are positively correlated when the market receives news about firm value but negatively correlated when information about the riskiness of the company arrives.

A number of researchers have studied the co-movement of corporate bond and stock markets. For example, Schaefer and Strebulaev (2008) investigate the sensitivity of bond returns to equity returns (hedge ratio) and find that the empirical hedge ratio is similar to what is implied in structural models, such as the one in Merton (1974). Bao and Hou (2013) examine the hedge ratio of bonds issued by the same company with different time to maturity and find that the hedge ratio of de facto junior bonds (i.e., bonds with longer time to maturity) is higher than that of bonds that mature earlier. They also indicate that the sensitivity of corporate bond returns to equity returns increases with credit risk that is measured by book-to-market ratios or distance-to-default even after the control of credit ratings. Similarly, Huang and Shi (2013) examine the yield spread and conclude that the empirical sensitivity of change in credit spreads to equity returns is in line with what is implied in structural models. Thus, although there usually exists a discrepancy between credit spread implied in structural models and that observed in financial markets, current evidence seems to suggest that structural models are good in capturing the credit component of yield spread. Furthermore, several studies point out that illiquidity risk, which is not captured in structural models, plays an important role in determining credit spread and may help to explain part of the yield spread that cannot be justified with structural models. For example, Bao and Pan (2013) show that the volatilities of bond returns are much higher than what are implied in Merton's (1974) model and indicate that the excess volatilities can be explained by the idiosyncratic liquidity risk of corporate bonds. Additionally, Bao, Pan, and Wang (2011) find that the variation in yield spread of investment-grade bonds is significantly related to market-level illiquidity and the liquidity risk can explain the substantial part of yield spread at the individual bond level.

Another way to examine the relationship between stock and corporate bond markets is to conduct event studies that compare the effects of various announcements on bond and stock returns. For instance, Wakeman (1978) and Hand, Holthausen, and Leftwich