Labor unions, bargaining power and corporate bond yield spreads: Structural credit model perspectives

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Abstract

This study investigates labor union effects on bond yield spreads from perspectives of structural credit models by employing American bond observations from 2001 to 2007. This research finds that union strength significantly and positively relates to bond yield spreads (this effect is roughly equal to that of issuer rating for one standard deviation change when controlling for well-known variables). The empirical results also show that the positive effects become weaker when management has higher bargaining power. Additionally, union strength volatility significantly and negatively relates to bond yield spreads and capital structure (leverage). The above results are robust when controlling for credit ratings, collinearity concerns, industry effect and tax effect.

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1. Introduction

Among structural credit model literature, Merton’s (1974) model is the forerunner and has many extensions. Merton’s (1974) model assumes that firm value follows a diffusion process and default occurs when firm value falls below debt face value (i.e., the default threshold) at the debt maturity date. The model estimates a firm’s asset value from its equity market value using the option-based theory, so that the determinants of an option value, such as asset volatility, firm leverage and others, influence corporate bond values.1 The extended structural credit models add other risk variables into Merton’s (1974) framework, such as interest rate (Longstaff and Schwartz, 1995), optimal capital structure (Leland and Toft, 1996), time-varying default threshold (Collin-Dufresne and Goldstein, 2001), incomplete accounting information (Duffie and Lando, 2001), and default event risk (Driessen, 2005).2 It reveals that both the systematic risk and a firm’s idiosyncratic risk affect corporate credit risk. Recent studies document that a firm’s idiosyncratic risk also plays a significant role in explaining yield spreads (Campbell and Taksler, 2003) and results from a firm’s characteristics or real activities.3 However, few existing studies explore the relations between a firm’s idiosyncratic risk and its real activities. The purpose of this study therefore is to fill part of the important gap by investigating the idiosyncratic risk effects resulting from labor unions on corporate credit risk.

Most labor union related studies emphasize on exploring how unions affect the wealth of equity holders rather than that of debt holders and are from the perspectives of profitability and strikes (Lewis, 1986; Becker and Olson, 1986). According to Merton’s...
The current research is the first study (to our best knowledge) to explore the relationships among labor union, bargaining power and corporate bond yield spreads from structural credit model perspectives. 4

Existing studies discuss the effects of unions on default threshold from two angles: capital structure and additional priority claims to a firm’s assets. Regarding capital structure, because a higher level of financial liquidity encourages unions to demand higher wages, unionized firms tend to have a higher debt level which reduces a firm’s liquidity and mitigates union’s wage demand. Bronars and Deere (1991) find a positive relationship between industry unionization rate and industry leverage ratio. Matsa (2010) obtains similar results. In addition, Chapter 7 (liquidity) of bankruptcy models explicitly regulates that labor claims have a higher priority than secured and unsecured creditors’ claims to bankruptcy liquidation proceeds. 8 A firm with higher union strength has a higher average wage which results in higher obligatory payments prior to bond holders’ claims and decreases bond holders’ recovery rate (or almost equivalent in effects to an increase in the level of default threshold). The above two viewpoints suggest a positive relation between union strength and a firm’s credit risk (or bond yield spreads).

Vender and Gallaway, 2002). In addition, union work rules which aim to protect union members’ jobs may slow down the production process. Card (1996) shows that union workers earn 17% more than non-union workers. Ruback and Zimmerman (1984) and Bronars and Deere (1994) find that union-organizing activities significantly lower a firm’s market value (a proxy for a firm’s future profitability) compared to its industry peer’s. Higher wages demanded by union members lead to higher production costs and lower earnings. Addison and Hirsch (1989) also document a negative impact of unions on a firm’s profitability. Becker and Olson (1986) show that firms lose sales and profits during strikes, which cause a decrease in shareholder wealth. 5 As a result, the wage and strike effects suggest that firms facing stronger unions would have lower operating cash flows and asset returns. 6 Therefore, from the asset returns perspective, unions increase a firm’s credit risk and bond yield spreads.

The effects of unions on asset volatility are twofold: generating uncertainty in operating performance and reducing R&D and risky investments. Becker and Olson (1986) show that firms with unions might face the threat of strike if their wage proposals in the collective bargaining cannot meet unions’ demands. As a result, the threat of strike casts uncertainty on firm operating performance and increases volatility of a firm’s asset value distribution. 7 On the other hand, beginning with Connolly et al. (1986), many studies support that union firms have lower capital investments and R&D activities. Chen et al. (forthcoming-a) show that firms in unionized industries adopt a less risky investment policy and this action is beneficial for bondholders’ wealth. The R&D intensity effects of a firm on bondholder returns are not definite in the literature. Hence, from the asset volatility perspective, the effects of unions on bondholders’ wealth are indefinite.

The recent current research is the first study (to our best knowledge) to explore the relationships among labor union, bargaining power and corporate bond yield spreads from structural credit model perspectives. 4 Becker and Olson (1986) find that, during the period of 1962–1982, strikes involving more than 1000 workers on average lead to a 4.1% drop in a strike firm’s stock price.

6 Reaches the field of labor and finance try to estimate union impacts on shareholder’s wealth. A recent study indicates that firm stock price on average drops 10% following a union election victory.

7 For example, NBC News reported that the International Association of Machinists (IAM), a union representing most of Boeing’s machinists, demanded a 13% rise in wage when Boeing made record profits in 2008. Boeing turned down union’s demand and was struck by IAM’s workers in Seattle. The strike lasted 58 days and caused Boeing a loss over four billion dollars.

8 Liquidation proceeds are distributed in order of priority: (1) administration expenses associated with liquidation; (2) unsecured claims arising after filing an involuntary bankruptcy petition; (3) wages earned within 90 days before the filing date, not to exceed $2000 per claimant; (4) contributions to employee benefit plans arising with 180 days before the filing date; (5) consumer claims, not exceeding $500; (6) tax claims; (7) secured and unsecured creditors’ claims; (8) preferred stockholders’ claims; (9) common stockholders’ claims.

9 Hilary (2006) finds that firms facing strong unionization are associated with higher bid-ask spreads, higher probability of informed trading, lower trading volume and lower analyst coverage.
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