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Credit ratings and corporate cash holdings: Evidence from Korea's corporate reform after the 1997 Asian financial crisis

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A B S T R A C T

We examine the extent to which credit ratings affect firms' cash holdings by investigating the circumstances in Korea after the 1997 Asian financial crisis. We find that, due to the costs and benefits associated with different rating levels, credit ratings are a major consideration for corporate cash management. Specifically, firms that become relatively sensitive to rating changes increase their cash holdings, either to improve the chances of an upgrade, or to avoid a downgrade. Furthermore, this effect is driven by chaebol business groups that increasingly rely on external financing that depends on credit ratings following the attenuation of their internal capital markets. Finally, we show that the impact of credit ratings on firms' cash holdings is more noticeable when firms are more prominent in the market.

1. Introduction

Firms appear to take credit ratings into account when making their policy choices. For example, Graham and Harvey (2001) find that credit ratings are the second most important factor when managers determine capital structure. Moreover, the authors report that credit ratings are highly ranked in comparison with other traditional factors that can influence a firm's capital structure. In this regard, Kisgen (2006) provides empirical evidence that credit rating concerns directly affect capital structure decisions. Begley (2015) also shows that, when firms try to improve their credit ratings, they reduce their expenditure on research and development (R&D) as well as their selling, general, and administrative expenses (SG&A). This results in less innovation, lower profitability, and a fall in firm values. Additionally, Bereskin et al. (2015) note that credit rating concerns are beneficial because they provide an incentive for managers to improve their firms' corporate governance. However, although a number of studies examine the influence of credit ratings on firms' policy decisions, few have focused on the effect of credit ratings on firms' cash holdings. In this regard, this study examines whether sensitivity about credit ratings is significant for corporate cash policy decisions, given the discrete costs and benefits of rating changes.

The influence of credit ratings on firms' cash holdings has received much less attention, considering the common intuition that firms are safer when they hold more cash. However, it is reasonable to expect that when firms are sensitive to credit ratings they will increase their cash holdings, either to avoid a downgrade or to increase the chances of an upgrade. Moreover, if cash reserves were simply regarded as negative debt, it would be tempting to argue that an increase in cash holdings may imply a decrease in leverage (Subrahmanyam et al., 2015). In accordance with Kisgen's (2006) main results, which note that firms with credit rating concerns reduce their leverage, we would expect firms that become more sensitive to credit ratings to decide to retain more cash. Although Kisgen (2006) examines all firms with "notched" credit ratings regardless of when their ratings changed,[1] we focus on firms with credit ratings that became close to ratings upgrades or downgrades. In this context, it is reasonable to expect that managers deem credit ratings relatively more important immediately after changes to vulnerable credit ratings. Thus, we conduct detailed analyses of the effects of credit rating sensitivities on managers' actions.

The fundamental hypothesis of our study is that credit ratings are an important consideration for managers' corporate policy decisions because of the costs and benefits associated with different rating levels. Primarily, firms' credit ratings affect their costs of capital both

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[1] A notched credit rating means the "plus" high-grade or "minus" low-grade of a letter rating, as opposed to the mid-grade of the letter rating. For example, whereas BB+, BBB-, and C- are notched credit ratings, BB, BBB, and C are not.

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directly and indirectly. Indeed, ratings have emerged as a major mechanism to correct the information asymmetry problem between firms and investors. In this regard, they act as signals of firm quality and as a possible source of information about such quality. Thus, a potential rating change should be an important element of a firm's strategic decisions. Besides, firms can directly incur discrete costs from different credit rating levels. For instance, rating changes could lead to changes in coupon rates when a firm issues debt, or could result in a necessary repurchase of bonds.

Additionally, several regulations on the universe of investment opportunities provide incentives for firms to improve their credit ratings. For example, financial institutions such as banks and pension funds are allowed to invest in financial instruments rated above investment-grade level. In other words, a credit rating is a critical criterion of whether market participants will invest their money. As a result, it is reasonable to assume that firms with lower credit ratings will try to improve their ratings or will work hard to maintain their current ratings.

The empirical work of this study examines the effects of credit ratings on corporate cash management by considering Korean firms after the 1997 Asian financial crisis. The Korean government introduced reforms of the corporate and financial systems in order to recover from this unanticipated crisis. The improvement of the credit rating system was one of the important goals among these reforms. Indeed, recent evidence (Bereskin et al., 2015; Lee, 2011; Oh, 2014) indicates that the Korean government's financial restructuring process within the credit rating industry was successful following the 1997 crisis, thereby increasing the reliability of credit ratings. Specifically, Bereskin et al. (2015) show that all Korean firms increased their exposure to non-guaranteed bonds. As a result, the circumstances in Korea after the financial crisis present a suitable opportunity to investigate the relationship between firms' credit ratings and their cash holdings.

Indeed, we find that firms whose credit ratings have just moved to ratings that are close to upgrades or downgrades are associated with increased corporate cash holdings, suggesting that credit ratings affect such holdings. The firms that we expect to become particularly sensitive to their credit ratings (i.e., those upgraded or downgraded to notch credit ratings) show an approximately 0.6% annual increase in their cash ratios (i.e., cash holdings to total assets) after controlling for firm-specific factors.

Another advantage of using Korean data instead of U.S. data is the opportunity to examine the differential effects of credit ratings on cash holdings according to whether firms are affiliated to business groups. Business groups are typically entities that manage various businesses. Although they can be founded all over the world, they play a prominent role in most emerging economies, outside North America (Khanna and Rivkin, 2001). We also examine the effects of credit ratings on corporate liquidity management by separating our samples into two subsamples, according to whether or not firms are in Korean business groups (i.e., chaebol groups). The vigorous reforms that were driven by the Korean government, including credit rating reforms, affected chaebol groups in particular (Almeida et al., 2015; Bae et al., 2008; Bereskin et al., 2015). Moreover, internal capital markets among chaebol firms have barely functioned since the 1997 crisis (Lee et al., 2009). Instead, public debt markets act as a substitute for internal capital markets. As a result, the increased reliance on external capital markets for raising money is more noticeable among chaebol firms. In accordance with this argument, the results of our study show that increased cash holdings driven by credit rating sensitivities are more dominant among firms in chaebol groups than among non-chaebol firms. Specifically, chaebol firms whose credit ratings have just been adjusted to vulnerable ratings are significantly associated with 0.9% increases in their cash ratios.

Finally, we extend our analyses by focusing on firms that receive more attention from market participants. Since a credit rating is evaluated by reputable organizations (i.e., independent rating agencies) and is available to the public, it is reasonable to expect that the more prominent firms in the market are more concerned with the likelihood of changes to their credit ratings. The results of our study suggest that the effects of credit ratings on firms' cash holdings are more pronounced when a firm is prominent in the market. Specifically, we show that the relationship between credit rating sensitivities and increased cash holdings is stronger when a chaebol firm is investment-grade rather than speculative-grade, and when a chaebol firm is a leading firm rather than a non-leading firm within the same business group.[2]

The remainder of this paper is organized as follows: Section 2 presents a review of the related literature and describes the development of the hypotheses. Section 3 explains our empirical approach and the associated data. Section 4 discusses our results, and Section 5 presents the concluding remarks.

2. Related literature and development of the hypotheses

2.1. Credit ratings and corporate capital structure

Our paper contributes to the literature by considering how sensitivities to credit ratings affect corporate decision-making. Graham and Harvey (2001) show that credit ratings are one of the most important policy factors by conducting a survey that asks 392 chief financial officers (CFOs) about the cost of capital, capital budgeting, and capital structure. The survey shows that credit ratings receive higher scores than other variables traditionally supported by many capital structure theories. Kisgen (2006) finds that credit ratings directly affect capital structure decisions, and argues that a manager's concern for credit ratings is due to the discrete costs and benefits of rating changes. Kisgen's (2006) finding indicates that firms whose credit ratings are about to change issue less debt (relative to equity) than firms that are not close to credit rating upgrades or downgrades. Hovakimian et al. (2009) and Kisgen (2009) focus on leverage behavior following rating changes and present evidence that is consistent with firms targeting minimum credit rating levels. Extending Kisgen's (2009) studies, Agha and Faff (2014) examine the joint effects of financial flexibility and credit re-ratings on firms' cost of capital, investment, and financing decisions. Specifically, they demonstrate the asymmetric responses to credit re-ratings driven by firms' financial flexibility states. Faulkender and Petersen (2006) and Mitto and Zhang (2010) show that bond market access (measured by a credit rating change) is an important factor in decisions about leverage.[3] For example, firms that have access to the public bond markets have significantly more leverage, and the impact of this leverage is more pronounced for firms of low credit quality.

However, even though a number of studies consider the effects of credit ratings on corporate capital structure, few have focused on the association between firms' credit ratings and their cash management. In the following section, we provide a review of the various motivations of firms for holding cash and the relations between credit ratings and cash holdings.

2.2. Cash holdings and credit ratings

The earlier literature on corporate liquidity management

[2] A leading firm is the chaebol firm that symbolically represents its group. It is generally characterized by its large assets and its highly profitable and mature nature. In general, the insiders of a chaebol group as well as outside investors regard the leading firm as the prominent firm within the group.

[3] The role of credit ratings is well recognized in not only the debt markets but also the equity IPO markets. For example, An and Chan (2008) find that IPO firms with credit ratings are underpriced less than those without credit ratings.

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