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Bank loan price reaction to dividend announcements: an empirical analysis of the secondary loan market

BANK LOAN PRICE REACTION TO DIVIDEND ANNOUNCEMENTS: AN EMPIRICAL ANALYSIS OF THE SECONDARY LOAN MARKET

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Abstract

In this thesis, I examine the secondary loan price reaction to dividend announcements. Using a sample of loans from 254 US firms covering the period between 2000 and 2016, I find that loans are associated with significantly negative abnormal returns around dividend cut announcements, consistent with the information content hypothesis. In contrast, there are no abnormal returns around dividend increase announcements. Further analysis shows that the information content effect of dividend increases is offset by the wealth transfer effect. The results provide evidence that the information content and the wealth redistribution hypotheses are not mutually exclusive, and loan prices react according to the combination of both hypotheses. Additionally, empirical evidence indicates that cash holdings, monitoring incentives, the structure of debt contracts, and covenants can help mitigate the costs arising from agency conflicts.

Keywords: Secondary loan market, dividend changes, information content, wealth redistribution, financial contracting

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Chapter 1: Introduction

Abnormal stock price responses to dividend changes have been the subject of extensive theoretical and empirical research. Collectively, the empirical studies' results show positive (negative) abnormal stock returns after announcements of dividend increases (decreases), suggesting that dividend increases convey positive news, whereas dividend reductions convey negative news to the equity market. Despite extensive research on stock prices and dividend changes, researchers have paid little attention to the secondary loan market price reaction to dividend changes. Given that loans are secured and usually contain covenants preventing the payment of dividends, it is unclear whether dividend increases (cuts) convey positive (negative) news to the secondary loan market as they do for the equity market. No study has examined the effect of dividend changes on secondary loan prices; this thesis fills this gap in the literature.

Two main theoretical arguments could explain how secondary loan market prices might react to dividend changes: the information content of dividends and the wealth transfer hypotheses. Both hypotheses predict that in reaction to the information content of dividends, stock prices will rise after a dividend increase and decline after a dividend cut. However, the two hypotheses offer different predictions for loan price behaviour. The information content hypothesis suggests a positive effect on loan prices around dividend increase announcements and a negative effect around dividend cut announcements; consequently, stock and loan returns are positively correlated. This hypothesis suggests that an increase in dividends will convey positive information about a firm's financial position and ability to repay its debt, whereas dividend cuts convey negative information about the firm's financial state. In contrast, the wealth redistribution hypothesis predicts a negative loan price effect around a dividend increase and a positive effect around dividend cuts; therefore, stock and loan returns are negatively correlated. This hypothesis implies that the market value changes in equity and debt result from the transfer of wealth between market participants; therefore,

the firm's future performance is not affected after a dividend change. Since the two hypotheses are not mutually exclusive, the effect of one hypothesis can possibly offset that of the other.

Previous studies have examined the impact of dividend announcements on bond prices, obtaining mixed results. These studies have attempted to ascertain whether dividend changes represent a signal to bondholders or transfer wealth from bondholders to stockholders. Some researchers find that the information content effect dominates the wealth transfer effect in the bond market. Woolridge (1983) demonstrates that unexpected dividend increases are associated with an increase in bond prices, whereas dividend decreases are linked to a reduction in bond prices. Handjinicolaou and Kalay (1984) report an asymmetrical reaction of bond prices to unexpected dividend change announcements. They find that unexpected dividend increases have no effect on bond prices, but dividend reductions negatively affect them. Tsai and Wu's (2015) research results show that abnormal stock and bond returns are positively related to unexpected dividend changes. Zhao (2016) reports the same asymmetrical reaction as that noted by Handjinicolaou and Kalay (1984), where bonds of companies with a dividend decrease have significantly negative abnormal returns, whereas bonds of companies that announce a dividend increase do not experience statistically significant results.

The wealth transfer effect has also been documented in the bond market surrounding dividend changes. Dhillon and Johnson (1994) report a negative bond price reaction to large dividend increases and a positive bond price reaction to large dividend decreases. Furthermore, they find a negative correlation between bond and stock price reactions. Mathur, Singh, Nejadmalayeri, and Jiraporn (2013) even find a set of results supporting both hypotheses as a function of the size of the event. In their study, bondholders negatively react to a dividend cut, and while bondholders view dividend increases in small amounts as positive signals, large dividend payouts are viewed negatively.

Secondary market loans differ from public bonds in many ways. Banks have a comparative advantage in information production and monitoring, whereas bondholders have a smaller incentive to monitor the firm (Parlour & Plantin, 2008). Consistent with the monitoring advantage of loans over bonds, Altman, Gande, and Saunders (2010) find that the secondary loan market is informationally more efficient than the secondary bond market prior to a loan default. Additionally, lead lenders generate proprietary information through periodic evaluations compared with bondholders who mostly rely on publicly available information (Altman et al., 2010; Parlour & Plantin, 2008). Regarding liquidity, Bhasin and Carey (1999) note the resemblance of bonds to equities in the sense that safer bonds are more liquid; however, this is not the case in the secondary loan market where riskier loans are more liquid. Moreover, Gande and Saunders' (2012) study shows that firms announcing loan sales attract positive abnormal stock returns, whereas firms declaring bond placements accumulate negative abnormal stock returns. These results suggest a difference between the bond and the secondary loan markets.

Given the empirical evidence on the difference between bonds and loans, two theoretical perspectives would provide some direction on how loan prices might react to dividend changes. The first one is that banks generate propriety information and are more knowledgeable about firms than bondholders; therefore, an announcement of dividend changes would be less surprising to loanholders and would have a smaller impact on loan prices compared with bond prices. The second one is that banks have greater monitoring incentives compared with bondholders; therefore, if a wealth transfer effect occurs around dividend changes, it would be smaller in the secondary loan market than in the bond market.

To examine the loan price reaction to dividend announcements, I perform four tests: an event study with mean tests to measure abnormal stock and loan returns, a panel ordinary least squares (OLS) regression with slope tests, a correlation test, and wealth transfer regressions. I

examine a sample of 153 US firms with 45 dividend cuts, and 581 dividend increases from 2000 to 2016.

The mean tests indicate that loan prices react to dividend changes according to the information content of dividends hypothesis, where an increase in dividends is followed by an increase in loan prices, and a dividend cut is followed by a reduction in loan prices. However, after controlling for firm and loan characteristics, the slope test reflects an asymmetrical loan price reaction to dividend changes, where a dividend increase has no effect. The correlation test suggests a possible transfer of wealth from loanholders to stockholders in the short term, when firms have an increase in dividends.

Lastly, the regressions of abnormal loan and stock dollar returns provide direct evidence that in some cases, loanholders react according to the information content hypothesis, whereas in others, a significant portion of the stock reaction to a dividend increase is explained by the transfer of wealth from loanholders to stockholders. Loanholders negatively react to a dividend increase when their claim on the firm's assets is high and their monitoring incentives are low; therefore, they rely more on covenants as cheap forms of monitoring and negatively react to the dividend covenant's failure to prevent future cash distributions.

Studying debt is important because bank loans are expected to be insulated from corporate events due to their high priority, short maturity, security, constant monitoring, and covenant restrictions (Billett, Elkamhi, Mauer, & Pungaliya, 2015). Clearly, dividend changes are positively related to stock prices; however, the effect of such announcements on secondary loan prices has not been investigated. To the best of my knowledge, my study is the first to examine the impact of dividend announcements on loan prices. Furthermore, this thesis contributes to the literature examining the interaction between debt and equity markets, studies debt instruments' reactions to corporate events, and improves the understanding of the role of dividends in corporate finance.

I have organized the rest of the thesis as follows: In Chapter 2, I present an overview of the literature about the secondary loan market and dividend policies. The results of studies examining the bond price reaction to dividend announcements and repurchases are included as well. In Chapter 3, I develop the hypotheses. In Chapter 4, I describe the sample selection and the research methodology. In Chapter 5, I report about the descriptive statistics and the results, which are discussed in Chapter 6. Finally, in Chapter 7, I provide the conclusions and the study's limitations, as well as areas for future research.

Chapter 2: Literature Review

2.1 Overview of the loan market

The US loan market typically includes two broad categories: a primary loan market, where syndicated loans are originated, and a secondary loan market, where entire loans or parts of them are subsequently traded after syndication (Gande & Saunders, 2012; Wittenberg-Moerman, 2008). "A syndicated loan is one that is provided by a group of lenders and is structured, arranged, and administered by one or several commercial or investment banks known as arrangers" (Miller & Chew, 2011, p. 7).[1] The lead arranger or agent establishes the main relationship with the firm and states the terms of the contract (Sufi, 2007). Despite a single loan contract agreement, each member of the syndicate is a direct lender to the borrower (Dennis & Mullineaux, 2000). For a brief description of the loan syndication process, see Appendix A.

The secondary market for syndicated loans has quickly grown over the past three decades. This market developed slowly until the early 1980s, after which it entered a period of rapid growth, largely due to highly leveraged transactions to finance leveraged buyouts, stock repurchases, and mergers and acquisitions (Gande & Saunders, 2012). As the 1990s progressed, banks and institutional investors increasingly started using the market to buy and sell seasoned loans (Bhasin & Carey, 1999). During that decade, the US loan market expanded in volume. See Appendix B for a timeline of events that promoted secondary trading in the syndicated loan market.

Figure 1 displays the US annual secondary trading volume in billions of dollars from the mid-1990s through 2016.

[1] Standard & Poor's (S&P) guide to the loan market provides an excellent primer on the syndicated loan market.

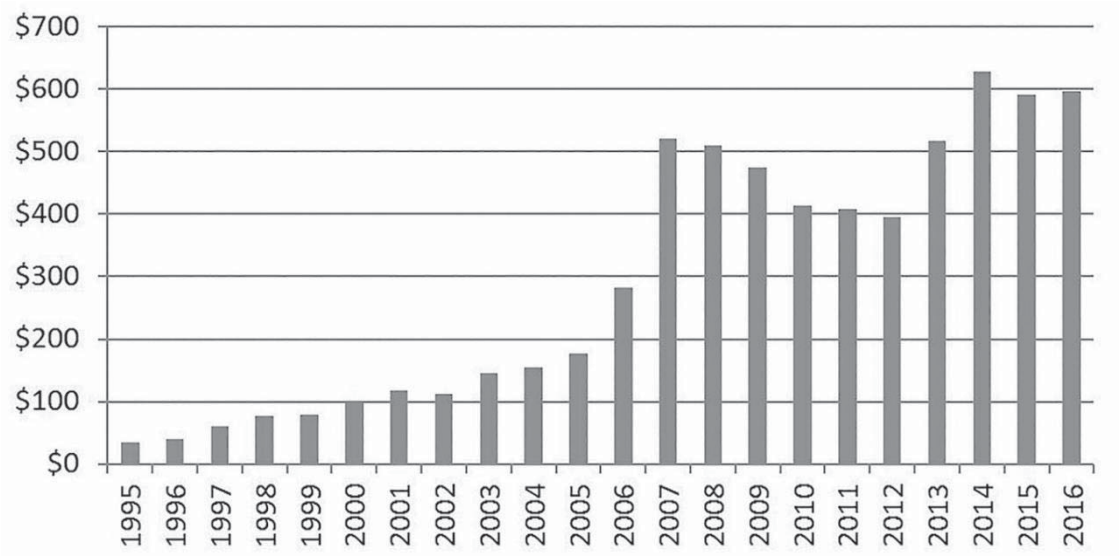

Figure 1. Annual loan trading volume from 1995 to 2016
Source: Marsh and Basta (2017)

The secondary loan market is an over-the-counter market, which includes both investment-grade and non-investment grade loans. The literature shows that non-investment-grade borrowers have more liquid loans with higher spreads compared with investment-grade borrowers (Gupta, Singh, & Zebedee, 2008; Santos & Nigro, 2009). Additionally, approximately 90% of sold loans involve borrowers with a credit rating; credit ratings decrease information asymmetry and lower the loan spreads (Drucker & Puri, 2009; Santos & Nigro, 2009; Wittenberg-Moerman, 2008). Loans are typically term loans with longer maturities, back-end-loaded repayment schedules, restructuring purposes, and higher interest rates (Bhasin & Carey, 1999; Drucker & Puri, 2009; Jiang, Li, & Shao, 2010; Lim, Minton, & Weisbach, 2014; Wittenberg-Moerman, 2008).

The demand of the secondary loan market has been driven almost exclusively by non-bank institutional investors, such as hedge funds, private equity funds, mutual funds, pension funds, insurance companies, and finance companies (Ivashina & Sun, 2011a; Wittenberg-Moerman, 2008). Loans with institutional investor participation are more likely to be resold on the secondary market as these investors have a higher demand for liquidity (Ivashina & Sun, 2011a; Massoud, Nandy,

Saunders, & Song, 2011). Some institutional investors simultaneously hold both equity and debt in the same firms (e.g., Jiang et al., 2010). Institutional investors that participate in a loan syndicate generate private information and can profit by short-selling a firm's equity. There is some evidence that following loan amendments, institutional investors have superior information and outperform other investors when trading equities (Ivashina & Sun, 2011b; Massoud et al., 2011). In contrast, when institutional investors hold equity positions in a firm, abnormal spreads are higher when they purchase a larger portion of the loan facility (Lim et al., 2014).

2.2 Costs and benefits of loan sales

Investors are interested in selling/buying loans in the secondary market to comply with risk-based capital requirements, maintain a diversified portfolio, enhance their fee-based income or return, and even trade on private information (Dennis & Mullineaux, 2000; Drucker & Puri, 2009; Gupta et al., 2008; Ivashina & Sun, 2011b; Parlour & Plantin, 2008; Santos & Nigro, 2009). Although the secondary loan market benefits investors, it ultimately benefits borrowers through easier and cheaper access to credit in the primary market, as well as additional bank funding (Drucker & Puri, 2009; Gande & Saunders, 2012; Kamstra, Roberts, & Shao, 2014; Santos & Nigro, 2009). Bank loan sales are perceived as costly to borrowers because they lead to a decline in bank monitoring incentives, higher fees payable to the lead arranger, and more restrictive covenants (Bhasin & Carey, 1999; Drucker & Puri, 2009). Loan sales may also increase the number of syndicate members, making future renegotiations more difficult (Kamstra et al., 2014; Santos & Nigro, 2009). See Appendix C for more details on the benefits and the costs of loan sales.

2.3 Agency and information problems in loan sales

The secondary loan market brings up potential agency problems involving both adverse selection[2] and moral hazard.[3] According to the literature, four contractual features could mitigate agency problems: the lead lender retaining a portion of the loan, issuing a repurchase guarantee, the use of covenants, and cash distributions to stakeholders. The proportion of the loan that the lead lender needs to retain mainly depends on its reputation and the borrower's credit rating and transparency; borrowers with a poor reputation might need to issue a repurchase guarantee, in case the loan underperforms, to make the loan more attractive to investors (Dennis & Mullineaux, 2000; Gorton & Pennacchi, 1995; Sufi, 2007; Winton & Yerramilli, 2015; Wittenberg-Moerman, 2008). Covenants constitute a cheaper form of monitoring that allows lenders to take legal action in a timely manner before severe losses are incurred; covenants can also constrain managers' opportunistic behaviour (Drucker & Puri, 2009; Wittenberg-Moerman, 2008). Lastly, John, Knyazeva, and Knyazeva (2015) argue that firms can precommit to cash distributions to debtholders or shareholders to address managerial agency conflicts. Debt payments reduce free cash flow and expose managers to additional oversight from external financing markets. Additionally, managers with substantial free cash flow can distribute cash to shareholders by increasing dividends or repurchasing stocks. Dividend payouts and repurchases reduce the resources under managers' control that would otherwise be invested in low-return projects or wasted (Farooq & Jabbouri, 2015; Jensen, 1986).

[2] Arrangers have the incentive to sell loans that they privately know will likely perform poorly; as a result, a loan sale could convey negative information about the borrower (Dennis & Mullineaux, 2000; Drucker & Puri, 2009; Kamstra, Roberts, & Shao, 2014).

[3] After the loan is removed from the balance sheet, banks would lack the incentive to produce costly credit information and monitor the borrower (Dennis & Mullineaux, 2000; Gorton & Pennacchi, 1995; Sufi, 2007).

Loan selling separates loan origination, monitoring, and funding, which also introduces information asymmetry.[4] Increasing the amount and the quality of information available to participant lenders, as well as choosing participant lenders that are geographically closer to the firm and have previously been on a syndicated loan with the arranger can help reduce information asymmetries (Sufi, 2007; Wittenberg-Moerman, 2008). For more details about the empirical findings on agency and information asymmetry problems, refer to Appendix D.

Even when agency and information problems are evident in the secondary loan market, lenders do not simply sell non-performing loans because most loans are sold at close to par value (Drucker & Puri, 2009). The secondary loan market has transformed banks into underwriter-like financial intermediaries and has allowed them to convert their illiquid assets into liquid assets (Gande & Saunders, 2012; Ivashina & Sun, 2011b; Kamstra et al., 2014).

2.4 Dividend changes and the equity market

The abnormal stock price response to dividend changes has been the subject of extensive theoretical and empirical research. Since earnings and dividend figures are two of the most important signalling devices used by the management to convey information to stockholders, early research has focused on examining whether dividend changes transmit information beyond that disseminated in earnings. Pettit (1972) finds support for the proposition that the market uses announcements of changes in dividend payments to assess the value of a security, while Watts (1973) concludes that the information conveyed by dividend changes could only be trivial. Laub (1976) reports that dividends do convey information in addition to that transmitted by earnings.

[4] As delegated monitors, lead lenders hold more private information than loan participants. These informed lenders receive an extensive information set based on multiple credit reviews, allowing them to obtain a more precise evaluation about the borrower (Wittenberg-Moerman, 2008).

To isolate the information contained in earnings announcements, Aharony and Swary (1980) examine quarterly dividend changes that precede or follow quarterly earnings announcements by at least 10 days. Their study has three main results: (1) Stockholders of companies that increase their dividends earn, on average, positive abnormal returns. (2) Stockholders of companies that decrease their dividends earn, on average, negative abnormal returns. (3) Stockholders of companies that do not change their dividends earn, on average, only normal returns. Their study's results strongly support the hypothesis that dividends contain useful information beyond that already provided by earnings figures.

These studies have left unanswered the question of whether investors evaluate dividends and earnings announcements in relation to each other. In investigating this issue, Kane, Lee, and Marcus (1984) discover a statistically significant interaction effect. They conclude that earnings and dividend surprises can, by themselves, induce abnormal stock returns; however, unanticipated dividend increases (decreases) are more relevant when earnings are also above (below) expectations.

Collectively, empirical studies commonly report positive (negative) abnormal stock returns after announcements of dividend increases (decreases). The following cited studies have focused on examining the information driving this price change. Several hypotheses, including the information content of dividends, free cash flow, and wealth redistribution, have been formulated to explain such market responses.

The information content hypothesis states that managers are more informed than external stakeholders about company performance; therefore, unexpected dividend changes are viewed as signals containing information about future earnings (Miller & Modigliani, 1961). The evidence suggesting that announcements of unexpected dividends contain information about future earnings is mixed and thus inconclusive. While some researchers find a positive and significant relation

between dividend changes and future earnings (e.g., Aharony & Dotan, 1994), others note that dividend changes do not signal changes in future profitability (Benartzi, Michaely, & Thaler, 1997; Grullon, Michaely, Benartzi, & Thaler, 2005; Nissim & Ziv, 2001).

An alternative explanation about the information contained in dividends is that dividends function as signals of free cash flows (Bhattacharya, 1979; Denis, Denis, & Sarin, 1994). Both signalling hypotheses suggest that dividend changes are positively related to a firm's financial strength. In contrast, the wealth redistribution hypothesis states that the stock price reaction results from the transfer of wealth from debtholders to equity holders (Dhillon & Johnson, 1994; Woolridge, 1983); therefore, a dividend change does not reflect a change in a firm's financial performance. Although the effect of a dividend change has been proven to be positively related to the equity market, the effect of dividend changes on the loan market has received little attention.

2.5 Dividend changes and the debt market

Most research on dividends and debts is found in the corporate finance literature that examines the agency relationship. In an agency relationship, a principal engages an agent's service on his/her behalf, delegating decision-making authority to the agent (Jensen & Meckling, 1976). Managers are thereby the agents of shareholders, a relationship fraught with agency problems (Jensen, 1986). Appendix E describes corporate governance alternatives involving debt and equity instruments that can address agency problems between managers and shareholders.

Jiang et al. (2010) propose two hypotheses regarding the conflicts between shareholders and creditors. First, the incentive alignment hypothesis suggests that shareholders who are also creditors have an incentive to monitor and prevent managers and other shareholders from expropriating wealth from creditors. Second, the information hypothesis proposes that dual holders have an informational advantage that allows them to select companies with lower default risks and

that are able to predict the future evolution of a borrower's credit quality. Jiang et al. find that dual holders alleviate the conflicts of interest between creditors and shareholders, leading to lower loan yield spreads without increasing covenants.

Research on emerging markets has found that high dividend payout ratios reduce information asymmetry; consequently, creditors demand lower returns of their capital provided to firms (Farooq & Jabbouri, 2015). Billett et al. (2015) find that financial contracting and debt priority structure can help mitigate the costs arising from stockholder and bondholder conflicts. Researchers have also studied the impact of covenants that restrict the payment of dividends in loan contracts. Almost 60% of the loans in Billett et al. (2015) study sample have covenants restricting dividends to equity holders. Dividend restricting covenants and dividend payouts are negatively related, suggesting loan contracting as an effective tool that minimizes dividend payments (Allen, Gottesman, Saunders, & Tang, 2012). However, dividend restrictions come with a cost for the firm since borrowers receive a higher interest rate (Gupta et al., 2008).

In their study about the role of banks in dividend policy, Allen et al. (2012) address the bank–stockholder incentive conflict rather than the bondholder–stockholder agency problem. They hypothesize that dividend payouts should decline in the presence of substantial bank lending, for two reasons. First, as delegated monitors, banks acts as an effective governance mechanism that reduces the cost of precommitting to a dividend policy. Second, banks limit dividend payouts to protect the integrity of its senior claim on a firm's assets. Allen et al. find evidence of both corporate governance and cash flow protection motivations, documenting a negative relationship between bank lending intensity and dividend payout policy. Their study also shows that covenants and having large institutional shareholders in the loan syndicate, that monitor the management's activities, effectively reduce dividends.

Despite extensive empirical research about the secondary loan market and dividend policy, researchers have paid little attention to the impact of dividend change announcements on loan prices. Previous studies have only examined the impact of open market repurchases (OMRs) and dividend announcements on bond prices. Wealth redistribution and information content are the two hypotheses emerging from investigations on bond reaction to corporate events. The information content hypothesis predicts that dividend changes would be positively related to stock and loan returns; consequently, stock and loan returns should be positively correlated. Alternatively, the wealth redistribution hypothesis suggests that dividend changes would be positively related to stock returns but negatively related to loan returns; therefore, stock and loan returns should be negatively correlated.

Several studies have attempted to ascertain whether a dividend change represents a signal to bondholders or a transfer of wealth between shareholders and bondholders. Some researchers find that the information content effect dominates the wealth transfer effect in the bond market. Woolridge (1983) demonstrates that unexpected dividend increases (decreases) are associated with positive (negative) debt and preferred stock returns, indicating the information content of dividends theory as the primary factor influencing security prices. Handjinicolaou and Kalay (1984) are the first scholars to develop a methodology to control for infrequent trading and changes in the term structure of interest rates while examining the impact of a change in dividends on the price of bonds. Their methodology has been followed by several researchers, who report an asymmetrical reaction of bond prices to unexpected dividend change announcements. In particular, they find that unexpected dividend increases have no effect on bond prices, while dividend reductions negatively affect bond prices. Their results support the information content hypothesis, indicating that gains from dividend increases are captured only by stockholders. Thus, stockholders prevent bondholders from participating in a firm's increased profitability. In contrast, when a dividend reduction occurs,

stockholders let bondholders share the loss. For a highly leveraged firm, bondholders are the main losers since their losses are greater, the higher the firm's financial leverage is.

Tsai and Wu (2015) also find results consistent with the information content of dividends hypothesis. They divide their sample into six groups: positive, negative, and neutral changes in speculative and investment-grade bonds. Their results show that abnormal stock and bond returns are positively related to unexpected dividend changes. The magnitude of dividend changes is also weakly related to future profitability, and speculative-grade bonds are more informative than investment-grade bonds. Zhao (2016) investigates stocks and bonds from 1995 to 2008, using a dummy variable to distinguish any intercept or slope change to the corporate bond yield following a dividend change. She reports the same asymmetrical reaction as noted by Handjinicolaou and Kalay (1984), where bonds of companies with a dividend decrease have significantly negative abnormal returns, whereas bonds of companies that announce a dividend increase do not obtain statistically significant results.

In contrast, Dhillon and Johnson (1994) report a negative bond price reaction to large dividend increases and a positive bond price reaction to large dividend decreases. Their subsamples include dividend initiations, omissions, large dividend increases (exceeding 30%), large dividend decreases (exceeding 30%), and small dividend decreases. Furthermore, they find a negative correlation between bond and stock price reactions, consistent with the wealth redistribution hypothesis. Mathur et al. (2013) research results support both information content and wealth redistribution hypotheses. In their study, bondholders react negatively to a dividend cut, and while bondholders view dividend increases in small amounts as positive signals, large dividend payouts are perceived negatively.

Other researchers have examined the bond market reaction to repurchases, using both hypotheses and obtaining mixed results. Dann (1981) examines the effects of OMR on the values

of common stocks, bonds, and preferred stocks. He concludes that the returns are consistent with the information signal hypothesis,[5] where common stockholders are the main beneficiaries of value increments, but no examined securities decline in value as a result of a repurchase. In contrast, Nishikawa, Prevost, and Rao (2011) do not detect any transfer of wealth from bondholders to shareholders surrounding an OMR. Furthermore, they find no significant correlations between bond and stock returns, an important implication of the wealth transfer hypothesis. Maxwell and Stephens (2003) present evidence consistent with both hypotheses, concluding that the loss to bondholders is a function of the size of the repurchase and the firm's financial risk.

In contrast to these papers, I investigate bank loan prices instead of bonds. The loan market differs from the bond market in many ways. Banks have a comparative cost advantage in information production (Altman et al., 2010); through periodic evaluations, they generate proprietary information compared with bondholders who must mostly rely on publicly available information (Altman et al., 2010; Parlour & Plantin, 2008). Additionally, lead lenders are able to monitor firms better than the bond market; bondholders typically have a smaller incentive to monitor firms (Parlour & Plantin, 2008). Regarding liquidity, Bhasin and Carey (1999) find that bonds resemble equities in the sense that safer bonds are more liquid; however, this is not the case in the secondary loan market where riskier loans are more liquid. Some evidence also shows that syndicated loans provide higher returns than traditional bonds (Thomas & Wang, 2004) and that the secondary loan market is informationally more efficient than the bond market prior to a loan default (Altman et al., 2010).

The empirical evidence on bond price reaction to corporate events is inconclusive. The loan market has received little attention compared with the bond market. Billett et al. (2015) are the first

[5] The information content hypothesis is also referred to as the information signal hypothesis or signalling hypothesis in other research papers.

researchers to examine secondary loan market prices' response to corporate events. They study the influence of financial contracting on agency conflicts between equity holders and creditors by examining the impacts of announcements of OMRs and seasoned equity offerings (SEOs). They find that stockholders earn a significantly positive excess return and loanholders earn a significantly negative excess return around an OMR announcement. Furthermore, they document a negative correlation between the loan announcement effect and the equity announcement effect, suggesting the transfer of wealth from loanholders to stockholders. This effect is attenuated when the ratio of bank debt to total debt is small, the loan is backed by more collateral, and the bank has a long-term relationship with the borrower. In contrast, the loan reacts negatively to the dividend covenant's failure to prevent a share repurchase. Billett et al. (2015) demonstrate that agency conflicts are significant in loan agreements. The transfer of wealth from stockholders to loanholders is also inversely related in SEO announcements.

Not all corporate events where managers distribute cash to shareholders are similar. Compared with OMRs, dividend commitments are more effective in remedying manager–shareholder agency conflicts. According to John and colleagues (2015), a repurchase is less effective as a precommitment device where managers distribute cash to shareholders in a more discretionary and irregular manner than in the case of regular cash dividends. A cash dividend represents a strong commitment and is perceived as a "permanent" change by the market (Jensen, 1986). Thus, the capital markets penalize firms for reducing dividends with a significantly negative stock price reduction (e.g., Aharony & Swary, 1980). In contrast, managers can vary the level of an OMR, depending on the firms' needs and the market conditions. Deviations from announced repurchases are frequent and are not followed by a negative market reaction (John et al., 2015).

Hausch and Seward (1993) propose a cash dividend payment as an example of a deterministic cash disbursement and a share repurchase as an example of a stochastic cash

disbursement. In a deterministic disbursement policy, a firm will certainly distribute a known, declared amount of cash to its shareholders. Under a stochastic disbursement policy, the firm precommits to a range of possible cash distributions. Studies have shown that firms are more likely to announce OMR as an alternative to paying dividends when they have high performance (Billett et al., 2015), strong corporate governance (John et al., 2015), and enough cash flow to finance their investments (Hausch & Seward, 1993).

Chapter 3: Hypothesis Development

3.1 Theoretical background

Although the effect of OMR announcements on bond and loan prices and the effect of dividend announcements on the bond market have been researched with mixed results, the effect of dividend changes on the secondary loan market has not yet been examined. In this thesis, I examine the information content and the wealth redistribution hypotheses around dividend changes by using a sample of loans covering the period from 2000 to 2016.

These two main theoretical arguments (the information content of dividends and the wealth redistribution hypotheses) can explain how the secondary loan market prices react to dividend changes. Both hypotheses predict that stock prices will react favourably to announcements of unexpected dividend increases and unfavourably to unexpected dividend cuts. However, the two hypotheses offer different predictions for loan price behaviour around dividend announcements. Figure 2 depicts the loan price reaction to each dividend announcement as predicted by the two hypotheses.

Announcement	Information content	Wealth redistribution
Dividend increase	Positive	Negative
Dividend cut	Negative	Positive

Figure 2. Loan price reaction to a dividend increase and a dividend cut
As predicted by the two hypotheses, adapted from Handjinicolaou and Kalay (1984)

3.2 Information content hypothesis

The information content hypothesis predicts that unexpected dividend changes positively affect a firm's market value, including both equity and debt. Consequently, the market values of equity and debt will increase following a rise in dividends and will decrease following a reduction in dividends. This hypothesis also suggests that dividend changes convey information about the

firm's future performance; an increase (a cut) in dividends will lead to an increase (a reduction) in the firm's future profitability. Therefore, an increase in dividends conveys positive information about the firm's financial position and ability to repay its debt, resulting in a positive loan price reaction, while dividend cuts convey negative information about the firm's financial state.

Loanholders view firms that pay large dividends as less risky and thus require a lower rate of return (Mathur et al., 2013). According to the literature, managers will avoid increasing dividends that may have to be reversed in the short term (Lintner, 1956) since the market severely punishes dividend decreases (Aharony & Swary, 1980). Consequently, a dividend increase represents a strong commitment and is perceived as a permanent change (Jensen, 1986).

Past studies on the information content of dividends hypothesis have focused almost exclusively on stock price behaviour around dividend announcements and provide evidence that is consistent with this hypothesis (e.g., Aharony & Swary, 1980; Laub, 1976; Pettit, 1972). The predicted hypothesis effect has also been documented in bond prices and dividend changes (Handjinicolaou & Kalay, 1984; Tsai & Wu, 2015; Woolridge, 1983; Zhao, 2016), as well as bond prices and repurchases (Dann, 1981). Although the information content hypothesis has been examined on the stock and bond market, the effect of a dividend change on the loan market has not been investigated. Thus, the information hypothesis makes the following prediction:

H1a: There is a positive (negative) loan price reaction to a dividend increase (cut).

3.3 Wealth redistribution hypothesis

The wealth redistribution hypothesis predicts a negative relationship between debt and equity, where an increase (decrease) in the equity market value is accompanied by a decrease (increase) in the debt market value. Consequently, after a dividend increase, the market value of equity will increase, but the market value of debt will decrease; thus, wealth will be transferred

from debtholders to stockholders. Alternatively, after a dividend cut, the market value of equity will decrease, and the market value of debt will increase; thus, wealth will be transferred from stockholders to debtholders. While the information content hypothesis suggests that dividend changes convey information about a firm's future performance, the wealth redistribution hypothesis implies that the market value changes in the firm's equity and debt result from the transfer of wealth between market participants; therefore, the firm's future performance is not affected after a dividend change.

On one hand, the wealth redistribution hypothesis suggests that secondary loan prices will positively react to dividend cut announcements because firms will have more cash available to service their debt obligations (Allen et al., 2012). On the other hand, firms will negatively react to announcements of unexpected dividend increases because dividend payouts reduce the firms' available cash resources to service their debt obligations. Paying higher dividends also exacerbates the agency conflict between loanholders and stockholders. Moreover, because of the adverse stock market reaction associated with dividend reductions, many firms would rather borrow to avoid cutting dividends. The additional leverage increases the firms' risk, with a consequent decrease in loan prices (Mathur et al., 2013). According to Handjinicolaou and Kalay (1984), this hypothesis stems from the conflicts of interest between debtholders and stockholders in two specific wealth redistribution mechanisms: when dividend increases are financed by either issuing new debt or reducing investment outlays. Therefore, if a firm finances a dividend increase, wealth is redistributed from debtholders to stockholders. To avoid this possibility, security holders shield themselves with protective covenants or me-first rules (Woolridge, 1983).

The predicted wealth transfer effect has been documented in secondary loan prices around OMR announcements (Billett et al., 2015) and in the bond market surrounding dividend changes (Dhillon & Johnson, 1994). Additionally, Gande and Saunders (2012) find a positive abnormal

stock return and a negative abnormal bond return around the first day of trading of the borrower's loans in the secondary market. They propose that wealth is redistributed from bondholders to stockholders due to the higher financial leverage of traded borrowers and an expected decrease in the bank's monitoring incentives after the loan sale. Hence, the wealth transfer hypothesis suggests the following:

H1b: There is a negative (positive) loan price reaction to a dividend increase (cut).

3.4 Overall effect

For information purposes, the null hypothesis states that there is no change in a firm's market value at the announcement of unexpected dividends. It is unclear if the loan pricing market will react to dividend announcements since loans are thought to be secured and typically include closely monitored covenants. However, loans have these contractual features because borrowers face high agency costs due to information asymmetry and moral hazard (Billett et al., 2015). It is possible that loan prices will not react to dividend announcements because loan investors hold private information about the firm's future earnings, and loanholders might protect the integrity of their senior claim with covenants. Since the two hypotheses are not mutually exclusive, the effect of the wealth redistribution might be offset by the information contained in dividends. Some researchers have found results supporting both hypotheses as functions of the size of the event and the risk of the firm's debt (Mathur et al., 2013; Maxwell & Stephens, 2003).

Chapter 4: Research Methodology

4.1 Sample selection

The loan, accounting, and stock return data covering the period between 2000 and 2016 is retrieved to empirically test how changes in dividends impact the secondary loan market. Each loan in the sample must meet the following criteria:

1. Firms must have at least one loan with valid data from the Reuters Loan Pricing Corporation's (LPC) DealScan[6] syndicated loan database.
2. Firms must have announced at least two dividend payments to calculate dividend changes. Dividend announcements and stock pricing information must be available on the tapes constructed by the Center for Research in Security Prices (CRSP).
3. Borrowers' accounting information must be available in the Compustat database.

The sample selection process starts by creating a dataset with dividend information from the CRSP tapes, which is later merged with the secondary loan market data. Firms must be listed in the New York Stock Exchange (NYSE), NYSE American,[7] and the National Association of Securities Dealers Automated Quotation (NASDAQ). Only common shares (Share codes 10 and 11) with regular monthly, quarterly, semi-annual, and annual dividends (Distribution codes 1222, 1232, 1242, and 1252) are kept in the sample. Firms in the financial services (SIC codes 6000–6999) and utilities (SIC codes 4900–4949) sectors are excluded from the sample since both are highly regulated. Furthermore, dividend announcements with a missing announcement date or duplicates are dropped from the sample. The CRSP initial sample contains 10,301 events from 1,944 firms, including 1,110 dividend cuts and 9,173 dividend increases.

[6] LPC Dealscan has been assembling loan daily prices and information about large US corporations mainly through lenders' self-reporting and Securities and Exchange Commission filings. The database uses a unique loan identification number identifier to track individual loans.

[7] NYSE American is formerly known as the American Stock Exchange (AMEX) and NYSE MKT.

The procedure used to obtain the final sample comprises two approaches. The first one involves merging the dividend and the loan trading datasets by company name. Duplicates are dropped from the sample; only the loan trading data surrounding the dividend announcement date is kept, meaning that if the first day of trading occurred long before or after the announcement date, the observation is dropped. The second approach uses the CRSP-Compustat Merged (CCM) link file to further merge the dividend and the loan trading datasets. The datasets are joined by the PERMNO[8] (CRSP) and the Global Company Key (GVKEY)[9] (Compustat) for the duration of the link. If the GVKEY is missing, the observation is deleted. Duplicates are dropped from the sample; only the loan trading data surrounding the dividend announcement date is kept.

Finally, the datasets resulting from both approaches are merged, and the duplicates are dropped. The resulting sample contains 810 events from 273 US public firms, of which 708 are dividend increases and 102 are dividend cuts. Given the infrequent trading nature of the secondary loan market, I drop the observations that show missing loan trading days within a 16-day window around the dividend announcement date. The sample window ranges from a minimum of 16 days (e.g., -1 to +14) to a maximum of 106 days (-90 to +15). Distressed loans[10] are dropped from the sample; to address the issue of confounding events, I eliminate the event if there is another type of distribution within the period of 15 days before to 15 days after the announcement date.

The final sample includes 153 companies, covering the period from 2000 to 2016. These firms have 354 unique loan facilities trading on the secondary loan market, for which I have daily

[8] PERMNO is a unique permanent security identification number assigned by the CRSP to each security.

[9] The GVKEY is a unique six-digit number key assigned to each company (issue, currency, and index) in the Compustat database.

[10] Distressed loans are traded at a bid price below 90% of the par value (e.g., Altman et al., 2010; Gande & Saunders, 2012; Wittenberg-Moerman, 2008).

prices from 90 days before to 15 days after the dividend announcement date. The sample comprises 626 different events, including 45 dividend cuts, 581 dividend increases.

4.2 Methodology

4.2.1 Dividend expectation model

The two hypotheses in this study predict a price reaction only to dividend change announcements. Quantifying these changes requires a dividend expectation model. In this study, I use a naïve model, which forecasts no change in dividends from one period to another, as in Aharony and Swary's (1980) study. The model is consistent with the hypothesis that managers are reluctant to change dividends unless they have reason to believe that their firms' prospects for improvement/deterioration are permanent.

4.2.2 Measurement of abnormal loan returns

The market model is widely accepted as the standard for measuring expected returns. In the model, a benchmark return is subtracted from a security's raw return and follows the underlying assumption that the market processes information about the event in an efficient and unbiased manner. The following equations are used to calculate the loan return and the benchmark return:

$$R_{it} = \frac{P_{it}}{P_{i(t-1)}} - 1, and\ R_{bt} = \frac{P_{bt}}{P_{b(t-1)}} - 1, \quad (1)$$

where
R_{it} = daily rates of return of loan *i* on day *t*,
P_{it} = daily price of loan *i* on day *t*,
$P_{i(t-1)}$ = daily price of loan *i* on day *t-1*,
and
R_{bt} = daily rates of return of the loan benchmark on day *t*,
P_{bt} = daily price of the loan benchmark on day *t*,
$P_{b(t-1)}$ = daily price of the loan benchmark on day *t-1*.

The daily rates of return on the loans in the sample are calculated using the loans' daily prices obtained from the LPC database. The LPC defines the daily price of a loan as the average of the bid and ask prices. I use the S&P leveraged loan index (LLI)[11] as the benchmark for the secondary loan market. The market model is then used to determine whether loanholders realized abnormal returns in the days surrounding the dividend announcements. Abnormal return AR_{it} for loan i on day t is estimated as the difference between the loan return and the benchmark return:

$$AR_{it} = R_{it} - R_{bt} \tag{2}$$

4.2.3 Cumulative abnormal loan returns

Cumulative abnormal loan returns (CARs) in the days surrounding the dividend announcement (day 0) are obtained by summing AR, over the event time (-t1, …, 0, …, + t2):

$$CAR_{i(t1,t2)} = \sum_{t1}^{t2} AR_{i,t} \tag{3}$$

To mitigate the problem of infrequent trading in the secondary loan market, I test the event window used by Handjinicolaou and Kalay (1984) from 60 days before to 15 days after (-60 to +15) and Billett et al. (2015) event window of 13 days from 2 days before to 10 days after the announcement day (-2 to +10). The reason for Billett et al. choice of a 10-day post announcement window is that in their study, a randomly selected loan has an average of one non-stale quote every 10 days. I also test a shorter event window (-2 to +2) since the effect of dividend changes on the equity market concentrates on this window. Abnormal stock returns are calculated using the market model with the CRSP value weighted index as the market's benchmark. The event windows are the same as those in the measurement of abnormal loan returns for comparability purposes.

[11] The S&P LLI is market-value weighted.

4.2.4 Multivariate test

I test the relationship between abnormal loan returns and firm, loan, and contractual features, similar to Billett et al.' (2015) test. A panel OLS regression, with industry and year fixed effects, is calculated as follows:

$$CAR_{i(t1,t2)} = \alpha + \beta_1\, cut + \beta_2\, increase + X'\gamma + Y'\omega + Z'\varphi + \in, \quad (4)$$

where the dependent variable $CAR_{i(t1,t2)}$ is the CAR from day t_1 to day t_2 around the dividend announcement date (day 0). The variables *cut* and *increase* denote the absolute percentage changes in dividends from one period to the other. These variables are used to perform slope tests. Based on prior literature, the vectors of controls X, Y, and Z comprise a set of firm characteristics, loan characteristics, and contractual terms, respectively, which have been proven to influence loan returns.

Following Billett et al. (2015) study, the firm-specific controls include (1) the ratio of total debt to total debt plus market value of equity (*leverage*); (2) the ratio of net property, plant, and equipment to total assets (*tangibility*); (3) the ratio of bank debt to total debt (*bankdebt*); Additionally, I test (4) the firm's cash and equivalents (*cash*) because if the firm has enough cash to serve its debt obligations after a dividend cut or enough cash to pay for the dividend increase, the market will not view the dividend announcement as bad news.

Following Billett et al. (2015) study, the loan controls consist of (1) a dummy variable equal to one if the loan facility is a Term Loan B and above, designed for institutional investors, and zero if it is a bank facility (*institutional*). Based on Wittenberg-Moerman's (2008) study, the following loan control is examined: (2) a dummy variable equal to one if the loan facility is a revolver and zero if it is a term loan (*revolver*).

Finally, to determine if financial contracting can reduce the effect of dividend changes on loan prices, I examine the following variables (following the study of Billett et al., 2015): (1) the sum of five dummy variables with covenant indicators: dividend restriction, at least two financial covenants, asset sales sweep, debt issuance sweep, and equity issuance sweep[12] (*intensity*); (2) the sum of four dummy variables with incurrence covenants: dividend restriction, asset sales sweep, debt issuance sweep, and equity issuance sweep (*incurrence*); and (3) a dummy variable equal to one if the loan has an equity payout restriction and zero otherwise (*dividend*). See appendix F for variable definitions.

[12] The sweeps require a borrower to prepay the loan with proceeds of asset sales, debt issuance, or equity issuance, respectively.

Chapter 5: Results

5.1 Descriptive statistics

Panel A of Table 1 provides descriptive statistics for the loans with dividend announcements over the sample period from 2000 to 2016. The average dividend change is an increase of 2.4%, and the average loan price is 99.00 (par = 100). Panel B reports descriptive statistics by dividend announcement type (decrease or increase). The average dividend cut is -58.31% with a loan price of 98.51, and the average dividend increase is 24% with a loan price of 99.41. Table 2 presents the frequency distributions of events by type of dividend announcement (decrease or increase) and by calendar year. The first year of the sample shows a few dividend cuts and no events with dividend increases. After 2003, the numbers of dividend increases and dividend cuts seem more constant, with an annual average of 3 dividend cuts and 41 dividend increases. The numbers of dividend cuts and dividend increases in 2008 and 2009 (financial crisis period) are considerably smaller.

Table 3 provides descriptive statistics for key borrower and loan characteristics by announcement type. As shown in Panel A, firms announcing a dividend cut are smaller, more leveraged, less profitable, and have lower credit ratings and less cash in their balance sheets than those announcing a dividend increase. Furthermore, firms announcing a dividend cut have an average loan of US$1.47 billion and a spread over LIBOR of 307 basis points. Panel B describes the loans of firms announcing a dividend increase. Their loans have an average of US$1.98 billion and an average spread over LIBOR of 204 basis points. Additionally, the loans of firms announcing a dividend cut are less likely to be revolvers and more likely to be tranche loans destined for institutional investors than the loans of firms announcing a dividend increase.

Lastly, since borrowers announcing a dividend cut seem to have a higher financial risk due to their higher leverage and lower credit ratings than firms announcing a dividend increase, their contracts include more terms to mitigate the risk. About 64% of the loans of firms with a dividend

cut are secured by collateral, in contrast to 46% of the loans of firms with a dividend increase. Additionally, loans of firms with a dividend cut have more incurrence covenants and a higher probability of having a covenant restricting dividend payments than loans of firms with a dividend increase do.

5.2 Loan price reaction to dividend announcements

In this section, I present the loan price reaction around announcements of dividend cuts, and dividend increases. Table 4 details the behaviour of loan prices from day -15 to day +15 around the dividend announcement date (day 0). As shown in the table, the CAR around dividend cuts is negative and highly significant during most of the window. In contrast, the CAR around dividend increases, although positive during the entire window, has an inconstant significance level. The loan CAR is significant at the 5% level on days 1 and 2 after the dividend announcement date, when the largest effect of a dividend increase in stock prices is regularly observed. Loan prices return to the same significant level in a longer event window after day 12. The average CAR for loans of firms announcing a dividend cut has a negative value (-0.34%), while for loans of firms announcing a dividend increase, the average CAR as a positive value (0.06%).

Panel A of Table 5 presents mean tests for the CARs over eight different event windows for the 626 events in the sample. I only discuss a long event window from days -60 to +15, a medium event window from days -2 to +10, and a short event window from days -2 to +2. The mean CAR from days -60 to +15 for the loans of firms with dividend cuts is -0.86% and significant at the 1% level. The CAR is smaller in shorter event windows. The 13-day event window (-2 to +10) generates an excess mean return[13] of -0.32%, and the short (-2 to +2) event window accrues a

[13] The terms *excess return* and *cumulative abnormal return* are used interchangeably.

cumulative mean return of -0.28%, both significant at the 5% level. Loans of firms with dividend increase announcements report positive and significant mean abnormal returns. The excess mean return from days -60 to +15 is 0.27% and significant at the 1% level; the abnormal mean return from days -2 to +10, although it has a positive return, is insignificant. In a shorter event window from days -2 to +2, loans of firms with dividend increases obtain a highly significant cumulative mean abnormal return of 0.06%.

Panel B of Table 5 presents cumulative mean abnormal returns for a sample where only one loan per firm per type of announcement is selected to avoid interdependence among realized returns. The selected loan is the most liquid one, with the least number of stale quotes, as reported by Handjinicolaou and Kalay (1984). The reduced sample contains 24 dividend cuts, and 140 dividend increases. The results are similar to those of the full sample. Consistent with the literature, stockholders earn a negative excess mean return around dividend cut announcements and a positive excess mean return around dividend increase announcements. As shown in Panel C, the cumulative mean abnormal stock return is significantly negative (-16.06%) from days -60 to +15 around dividend cuts and significantly positive (2.58%) around dividend increases. In a shorter event window (-2 to +2), the stock excess mean return is -1.87% around dividend cuts and a significant 1.07% around dividend increases. The evidence indicates that loan and stock prices earn a negative excess mean return around dividend cuts and a positive excess mean return around dividend increases. Therefore, the mean test's results are consistent with the information content of dividends hypothesis. Figure 3 illustrates the loan excess returns in the three main event windows for dividend cuts and increases.

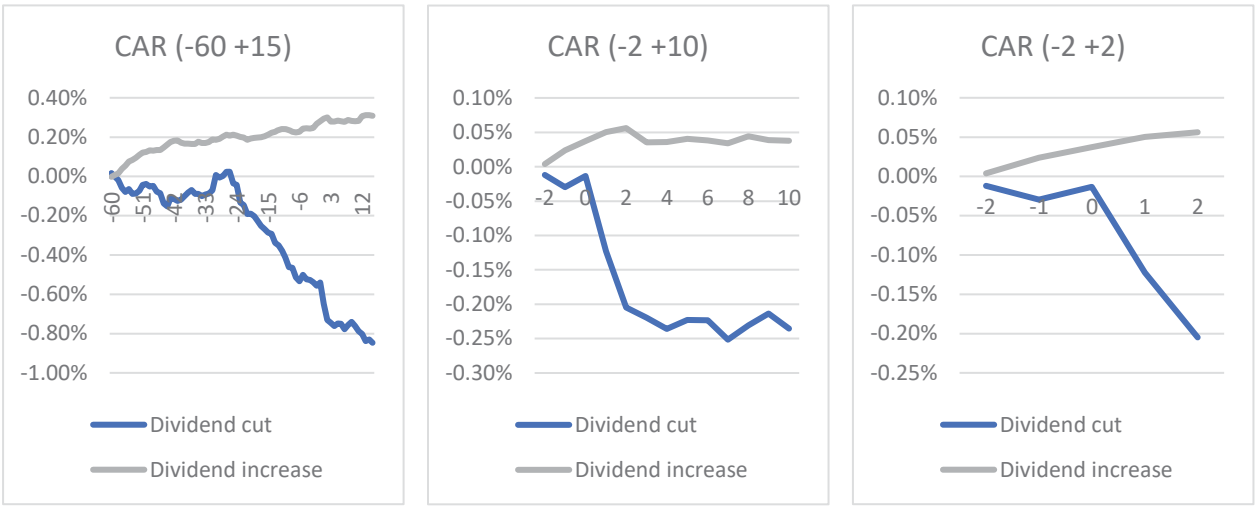

Figure 3. Cumulative abnormal loan returns
Three event windows from days -60 to +15, -2 to +10, and -2 to +2 around dividend increases and cuts

5.3 Relationship between loan excess return, firm, and loan characteristics

Table 6 presents the correlations between loan returns, stock returns, firm characteristics, loan characteristics, and contractual features. The correlation between the stock excess return and the loan excess return is positive although insignificant, indicating that both events react similarly to dividend announcements. I further examine the relation between the stock and the loan excess returns in the next section. The correlation between a dividend cut and the cumulative abnormal stock return is negative and highly significant; a similar negative and highly significant relationship is observed between dividend cuts and cumulative abnormal loan returns. A positive and significant relationship is also noted between a dividend increase and the stock excess return. A positive but insignificant relationship exists between a dividend increase and the loan excess return.

The correlation matrix indicates that leveraged firms with a high ratio of bank debt to total debt are negatively related to abnormal loan returns around dividend announcements; however, cash holdings and the use of covenants mitigate this negative effect. Firms are more likely to announce a dividend increase when they have less debt, more cash, and fewer covenants. The dividend restriction covenant proves to be an effective mechanism, preventing dividend increases

and reducing dividend payments. Consistent with previous research results (e.g., Allen et al., 2012), this study's findings show a negative relationship between bank lending and dividend payout policy since banks limit dividends to protect the integrity of their senior claim on firms' assets. The intensity of bank lending increases the use of covenants as a monitoring device.

Table 7 reports on panel OLS regressions of CARs on borrower and loan characteristics. The dependent variable is the CAR in three event windows: short (-2 to +2), medium (-2 to +10), and long (-60 to +15). Regression models 1–3 examine these three event windows in the entire sample of dividend increases and cuts. Models 4–6 reduce the impact of outliers by winsorizing the dependent variable at 10% at the firm level. Models 7–9 test the event windows on the reduced sample of one loan per borrower per announcement type. In model 10, a new variable is introduced to the regression *cut dummy*, which is equal to one if the announcement is a dividend cut and zero if the announcement corresponds to a dividend increase.

The results are consistent across the models; thus, in the following discussion, I focus on the models with the complete sample. First, it should be noted that the loan price reaction to a dividend cut is negative and highly significant, meaning that the larger the dividend cut, the more negative the loan excess return. The loan price reaction to a dividend increase is insignificant in any of the models. Although the mean test and the correlation matrix show a significantly positive loan reaction to a dividend increase, the regression does not indicate the same result. The asymmetrical reaction to dividend changes is also reported in bond prices by Handjinicolaou and Kalay (1984) and Zhao (2016), who find that firms announcing a dividend cut have a significantly negative bond price reaction, while the bonds of companies that announce a dividend increase have no statistically significant results, partially supporting the information content of dividends hypothesis.

The proportion of bank debt to total debt is negatively related to the loan price reaction: the larger the proportion of the bank debt in a firm's capital structure, the more negative the loan excess return. This relationship implies that loan losses at the announcement of a dividend change are mitigated when the loan has less bank debt presence. Billett et al. (2015) find a similar negative relation between the bank–debt ratio and the loan price reaction to an OMR; they explain this negative relationship in terms of Park's (2000) model[14].

Notably, cash[15] is positively and significantly related to loan returns. This means that even if a firm announces a dividend increase or a dividend cut, if it has enough cash, this would be an indicator of financial strength, and investors will not interpret the dividend announcement as bad news. Revolver loans have a positive and significant effect on loan prices during short windows, whereas institutional tranches have a negative effect on loan returns during long windows. Intensity, the sum of the five covenant indicators, is positively related to the loan price reaction around a dividend announcement. It means that having covenants to protect loanholders offsets the negative reaction to a dividend cut or to a dividend increase financed by either issuing new debt or reducing investments. Billett et al. (2015) find that having more covenant restrictions is associated with a more negative reaction to an OMR.

In models 8 and 9, leverage has a significantly negative coefficient, meaning that loanholders' losses are greater, the higher the firm's financial leverage. Handjinicolaou and Kalay

[14] In Park's (2000) model, moral hazard is very high and, hence, lending takes place only when a lender has a motivation to monitor the firm. Since senior (bank) debts have priority claims on the firm's assets over junior (public) debts, the public debtholders have no incentive to monitor but the banks will do so as long as liquidation impairs their debt. An impaired bank will get less the larger the bank loan. Thus, a small piece of bad news may prompt a bank with a small loan to force a liquidation, while is will take far worse information to induce a bank with a large loan to force a liquidation. This means a small bad news is informational when bank loan is small but not when it is large. Thus, Park (2000) argues that banks monitor more when banks loans are small since they are interested in news even when it is small.

[15] Other definitions of cash holdings, excess cash, and free cash flow have been tested; however, the results of these other variables in the OLS regression are not significant.

(1984) find a similar negative bond price reaction to an increased leverage, but Billett et al. (2015) report a more negative loan price reaction to an OMR, the higher the firm's leverage becomes.

Table 8 presents the results for models 11–13, where the dividend increase announcement is divided into small (lower than 30%) and large (equal to or higher than 30%) increases, following Dhillon and Johnson's (1994) study. During the three event windows the loan CAR around dividend cuts is negative and highly significant, whereas the loan CAR of firms that announce a dividend increase is not significant regardless of the size of the announcements, suggesting a difference between the reaction of bonds and loans to dividend changes. In Section 5.5, I examine the interaction terms between the dividend announcement and five variables: bank–debt ratio, cash, financial covenants, dividend covenant, and size of the announcement.

5.4 Correlation between loan and stock returns

An important implication of both hypotheses is the correlation between the loan and the stock returns. In the information content hypothesis, the correlation between the loan and the stock excess returns should be positive. In the wealth redistribution hypothesis, the correlation should be negative. Since these two hypotheses are not mutually exclusive, I examine stock and loan returns, as well as the correlation between them to differentiate the hypotheses better.

Table 9 presents the correlations between loan and stock returns when firms increase or cut dividends in the three main event windows. The average correlation during dividend cuts is positive and significant at 0.28, consistent with the information content hypothesis, and noting that the correlation between loan and stock returns is stronger in the longer windows. For dividend increases, the evidence is mixed. In a long event window (-60 to +15), the correlation between loan and stock returns is significantly positive at 0.108; in a short event window (-2 to +2), the correlation is significantly negative at 0.113. Due to the negative correlation between debt and

equity returns around dividend increases, a pure information content of dividends hypothesis is rejected. The different correlation signs between loan and stock returns suggest that both information content and wealth transfer effects are present around dividend increases. Figure 4 illustrates the hypotheses as supported by the results.

		Abnormal stock return	Abnormal loan return	Correlation loan and stock
Dividend increase	Pure information content	+	+	+
	Pure wealth redistribution	+	-	-
	Information content and wealth redistribution	+	+	-
	Wealth redistribution and information content	+	-	+
Dividend cut	Pure information content	-	-	+
	Pure wealth redistribution	-	+	-
	Information content and wealth redistribution	-	-	-
	Wealth redistribution and information content	-	+	+

Figure 4. Hypotheses supported by the results for both dividend increases and dividend cuts

5.5 Cross-sectional analysis

To demonstrate the non-mutually exclusive nature of the hypotheses, I perform cross-sectional analysis tests to discover under what conditions bank loan prices react positively or negatively to a dividend increase in a short event window (-2 to +2) since the wealth transfer effect has been stronger in the short term. I follow Billett et al. (2015) wealth transfer regression of the abnormal stock dollar return on the abnormal loan dollar return and other controls:

$$ASR_{f(-2,+2)} = \alpha + \beta_1 ALR_{i(-2,+2)} \times dummy_x + \beta_2 equity + \beta_3 dummy_x + \in, \quad (5)$$

where the abnormal stock dollar return (ASR) is computed as the stock CAR multiplied by the market value of the firm's equity in the year prior to the dividend increase announcement. The

abnormal loan dollar return (ALR) is calculated as the loan CAR multiplied by the firm's total debt in the year prior to the dividend increase announcement.

The cross-sectional analysis involves testing different variables that can split the sample into two distinct groups with the use of dummy variables. These dummy variables are then multiplied by the abnormal loan dollar return (interaction term). The five categories tested are the size of the dividend change, the firm's bank–debt ratio, the firm's cash holdings, the presence of a covenant restricting the payment of dividends, and the presence of at least two financial covenants.[16] The control variables include a dummy variable (intercept) equal to one if the category is large or if it contains a covenant and zero otherwise, as well as the logarithm of the equity's market value.

First, the dividend increase in the total sample of 581 events is classified into two groups: dividend increases with an equal or larger than 30% change and dividend increases with a smaller than 30% change, following Dhillon and Johnson's (1994) study. There are 146 loans of firms with a large dividend increase and a mean dividend change of 67%, while there are 435 loans of firms with a small dividend increase and a mean change of 14%. The abnormal stock dollar return is then regressed on the abnormal loan dollar return slope of both groups, on the intercept dummy variable (1 = large dividend change, 0 = small dividend change), and on the log market value of equity. Table 10 presents the results of the robustness tests. Panel A includes the results by dividend change, bank–debt ratio, and cash holdings. As shown on Panel A, both small and large dividend increases have significantly positive coefficients (0.26 and 1.2, respectively), indicating that the loan and the stock abnormal dollar returns are positively related, according to the information content of

[16] Whenever the text in this section refers to financial covenants, it implies that the loan has at least two financial covenants in its contract.

dividends hypothesis.[17] The results suggest that investors react more positively when the announced dividend increases are large. The distinction between announcements of small and large dividend increases do not explain why loanholders might react positively to some announcements but negatively to others; therefore, another explanation is required.

Second, the dividend increases are divided into (1) firms that announced dividend increases with small cash holdings and (2) firms that announced dividend increases with large cash holdings. The mean cash holdings for the first group with 291 events amount to US$62 million, and those for the second group with 290 events are valued at US$1.9 billion. The wealth transfer regression conditions the abnormal stock dollar return coefficient on the abnormal loan dollar return by the size of cash holdings, the intercept dummy (1 = large cash holdings, 0 = small cash holdings), and the log market value of equity. The results show a negative but insignificant relation between abnormal dollar returns when cash holdings are small. However, when cash holdings are large, the relation between the loan and the stock abnormal dollar returns is significantly positive at 0.26, indicating that when a firm announces a dividend increase, if it has a high level of cash to fund the disbursement, loan investors will not perceive the dividend increase announcement as bad news.

The third group classification is divided into (1) firms with a small bank–debt ratio and (2) firms with a large bank–debt ratio. The proportion of bank loans in a firm's capital structure (proxy for leverage) has also been tested by Handjinicolaou and Kalay (1984) and Billett et al. (2015). The mean bank–debt ratio for the first group is 0.17 with 302 events, and that for the large group is 0.80 with 255 events. The wealth transfer regression includes the abnormal loan dollar return slope of both groups, the intercept dummy variable (1 = large bank–debt ratio, 0 = small bank–debt ratio), and the log market value of equity. This test's results support both the information content and the

[17] Dhillon and Johnson (1994) report a negative bond price reaction to large dividend increases, consistent with the wealth transfer effect.

wealth redistribution hypotheses. At the announcement of a dividend increase, loan, and stock returns of firms with a small bank–debt ratio have a positive relationship with a highly significant coefficient of 0.30, while loan and stock returns of firms with a large bank–debt ratio have a negative relationship with a highly significant coefficient of -0.83. The results suggest that when firms have a high level of bank–debt ratio or leverage, stockholders increase their wealth at the expense of loanholders.

Handjinicolaou and Kalay (1984) find that bondholders' losses are greater at the announcement of a dividend cut, the larger the firm's financial leverage; therefore, bondholders are the main losers when their claim on the firm's assets is high. Billett et al. (2015) arrive at the same conclusion, where the abnormal loan dollar return is less negative, and the transfer of wealth from loanholders to stockholders is smaller when the ratio of bank debt to total debt is small. They propose that according to Park's (2000) model, a bank's monitoring incentives are maximized when the amount of bank debt is smaller than the amount of non-bank debt. Additionally, Gande and Saunders (2012) find evidence that is consistent with the hypothesis on the transfer of wealth between the bond and the stock markets. They propose that wealth is redistributed from bondholders to stockholders due to the higher financial leverage of traded borrowers and an expected decrease in the banks' monitoring incentives. Another explanation for the loanholders' negative reaction to a dividend increase could be that highly leveraged firms have more restrictions preventing the payment of dividends; therefore, loanholders negatively react to a firm's dividend increase announcement. The explanation for the negative loan price reaction could depend on the banks' use of covenants in their debt contracts. The fourth and the fifth group classifications help explain the effects of financial contracting on agency conflicts.

Panel B (Table 10) presents the loanholders' reaction to contractual terms, such as the presence of a dividend covenant and financial covenants. The fourth classification of the abnormal

loan dollar return around a dividend increase consists of two conditions: (1) when a loan has a covenant preventing the payment of dividends (dummy = 1) and (2) when a loan has no dividend covenant (dummy = 0). The dividend increase sample comprises 273 loans with a dividend covenant and 308 loans without a dividend covenant. I find a positively significant relation between the abnormal stock and the abnormal loan dollar returns (coefficient of 0.28) when a loan lacks a covenant preventing the payment of dividends, whereas a significantly negative relation exists between the stock and the loan returns (coefficient of -0.84) when a loan has a covenant preventing the payment of dividends. These findings indicate that when loans have a covenant in place to minimize dividend payments, but firms increase dividends, loanholders negatively react to the dividend increase news, and wealth is redistributed from loanholders to stockholders. However, if a loan lacks a dividend covenant, loanholders positively react to the dividend increase news, supporting the information content of dividends hypothesis. Billett et al. (2015) find a similar negative reaction to the failure of the dividend covenant; according to them, loanholders react negatively when the loan contract has a dividend covenant to prevent a future cash distribution to shareholders.

Lastly, the fifth classification consists of two conditions: (1) when a loan has at least two financial covenants (dummy = 1) and (2) when a loan has no financial covenants (dummy = 0). The effects of having financial covenants in a debt contract are similar to those of having a dividend covenant. The relation between the abnormal loan and the abnormal stock dollar returns when a loan has no financial covenants is positive and significant (coefficient of 0.26), consistent with the information content hypothesis. In contrast, although not significant, the relation between the loan and the stock returns is negative, and wealth is transferred from debtholders to stockholders when the loan has at least two financial covenants in its debt agreement. This result is more counterintuitive since debtors are expected to use financial covenants as cheaper forms of

monitoring that expose the firm to periodic evaluations; therefore, the use of covenants should decrease agency problems and wealth transfer. Billett et al. (2015) results show a positive loan price reaction to the presence of two or more financial covenants, decreasing the wealth transfer effect around OMR; even more, they find that the presence of financial covenants offsets the transfer of wealth effect on the failure of the dividend covenant.

Chapter 6: Discussion

I have examined a sample of 153 US firms with 45 dividend cuts, and 581 dividend increases covering the period from 2000 to 2016. In the sample, firms that announce a dividend cut tend to be smaller, more leveraged, and have lower credit ratings and less cash than those announcing a dividend increase. The loans of firms announcing a dividend cut tend to have a higher spread over LIBOR and are more likely to be tranche loans destined for institutional investors than loans of firms announcing a dividend increase; the first group also tends to have more covenants and a higher probability of having a covenant restricting the payment of dividends.

To investigate the loan price reaction to dividend announcements, I have performed four tests: an event study with mean tests, a panel OLS regression with slope tests, a correlation test, and wealth transfer regressions. First, the mean test's results are consistent with the information content of dividends hypothesis, where firms that announce a dividend increase obtain significantly positive abnormal loan returns, and firms that announce a dividend cut gain significantly negative abnormal loan returns. Consistent with the literature, stockholders earn negative excess returns around dividend cuts and positive excess returns around dividend increases.

The slope test results in the panel OLS regression reflect an asymmetrical loan price reaction to dividend announcements, where dividend cuts negatively affect loan prices, and dividend increases have no effect on loan prices, partially supporting the information content of dividends hypothesis. I have also examined how firm, loan, and contractual features affect loan excess returns. I find that loan losses at the announcement of a dividend change are mitigated when the firm has less bank debt presence and higher cash holdings, when the loan is a revolver tranche destined for bank debtors, and when the contract contains more covenants protecting loanholders.

Summarizing the results so far, the mean tests indicate that loan prices react to dividend changes, supporting the information content of dividends hypothesis. However, after controlling

for firm and loan characteristics, the slope test reflects an asymmetrical loan price reaction to dividend changes, where a dividend increase has no effect. To further examine the loan price reaction to dividend changes, I have analyzed the correlation between loan and stock returns, an important implication of both hypotheses.

The observed correlation between loan and stock returns surrounding dividend cuts is positive in all the event windows, consistent with the information content hypothesis. Around dividend increases, the evidence is mixed. In a long event window, the correlation between abnormal stock and loan returns is positive; in a short event window, the correlation is negative. Since the correlation between debt and equity returns around dividend increases is negative, the pure information content of dividends hypothesis is rejected. The correlation test suggests a possible transfer of wealth from loanholders to stockholders in the short term when firms have an increase in dividends.

Lastly, the regressions of abnormal loan and stock dollar returns provide direct evidence that in some cases, loanholders react according to the information content hypothesis, but in others, a significant portion of the stock reaction to a dividend increase is explained by the transfer of wealth from loanholders to stockholders. Loan prices positively react to a dividend increase when a firm's bank–debt ratio is small, when a firm has a high level of cash to fund the disbursement, when a loan has few or no financial covenants in its contract, and when it has no covenant preventing the payment of dividends. In contrast, loan prices negatively react to a dividend increase and wealth transfers from loanholders to stockholders when a firm's bank–debt ratio is large and when loans have a covenant preventing the payment of dividends.

Chapter 7: Conclusion

Prior researchers have been interested in examining the effect of a dividend change on debt instruments; however, the empirical evidence on bond prices is mixed, and loan price behaviour around dividend changes has not been studied. Therefore, in this thesis, I have investigated the effect of a dividend change announcement on the market value of loans in the secondary loan market. I have suggested two hypotheses, the information content of dividends and wealth redistribution, to explain loan price behaviour around dividend announcements. The information content hypothesis predicts that dividend changes will be positively related to stock and loan returns; consequently, stock and loan returns should be positively correlated. Alternatively, the wealth redistribution hypothesis suggests that dividend changes are positively related to stock returns but negatively related to loan returns; therefore, stock and loan returns should be negatively correlated.

The empirical evidence reveals that when firms announce a dividend cut, the market values of stocks and loans decrease, suggesting that dividend reductions contain negative information about firms' future performance. On the contrary, when firms announce a dividend increase, the stock market value rises for two reasons: first, dividend increases contain positive information about firms' future performance, and second, wealth is transferred from loanholders to stockholders around dividend increases. It is suggested that loanholders negatively react to a dividend increase when their claim on a firm's assets is high and their monitoring incentives are low; therefore, loanholders rely more on covenants as cheap forms of monitoring and negatively react to the dividend covenant's failure to prevent future cash distributions.

This thesis enriches the literature in two ways. First, it contributes to the research that examines debt instruments' reaction to corporate events. It sheds some light on stock and loan price responses to changes in dividends. This study's results show that the information content and the

wealth redistribution hypotheses are not mutually exclusive, and loan prices react according to a combination of both hypotheses. Additionally, this study demonstrates that bondholders and loanholders react differently to dividend change announcements. In the bond market, wealth is redistributed from bondholders to stockholders around the announcement of large dividend increases. This is not the case in the secondary loan market, where dividend increases have no effect on loan prices, and the wealth transfer effect is offset by that of the information content of dividends. These results are expected since I have posited that banks generate proprietary information, are more knowledgeable, and have greater monitoring incentives than bondholders. Therefore, a dividend increase is less surprising to loanholders, and the wealth transfer effect is less evident. Second, the results improve the understanding of the role of dividends in corporate finance. I provide empirical evidence that cash holdings, monitoring incentives, the structure of debt contracts, and financial contracting features can help mitigate the costs arising from agency conflicts.

This study has several limitations. I have obtained only a reduced sample of firms announcing dividend changes, with loans in the secondary market, which are traded infrequently. More attention should be paid to the wealth transfer mechanism in conjunction with the information content of dividends in loan prices, delving into further details of the determinants of wealth transfer around dividend increases. I have only investigated the short-term loan price response following dividend changes, not the long-term performance of loans after dividend announcements. Further time-series research on long-term performance, as well as more extensive studies controlling for other confounding events that could affect loan prices around dividend announcements, could have promising results. Finally, a comparison between bond and loan market price reactions to corporate events could provide a better explanation of the agency conflicts between debt and equity markets.

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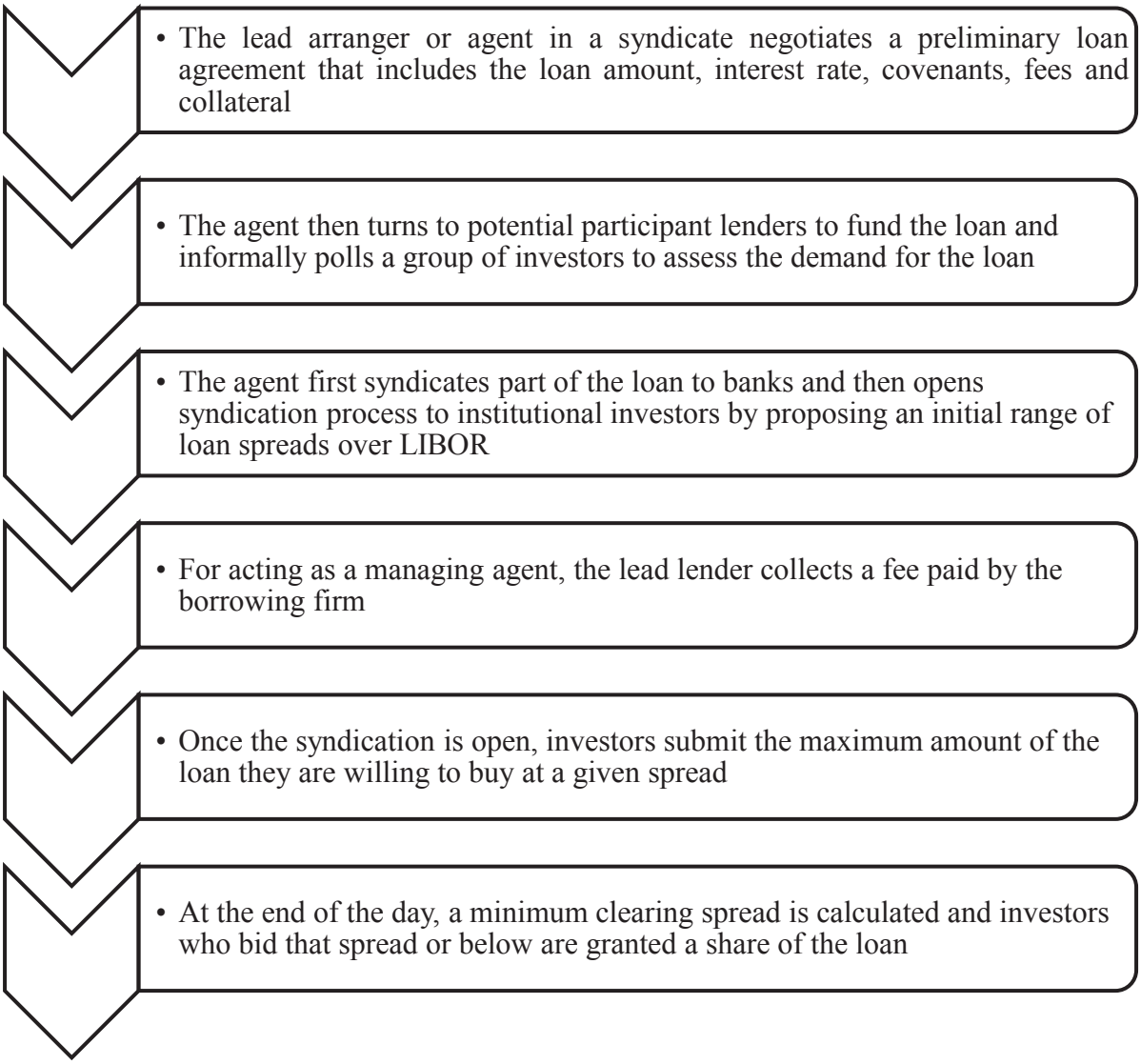
Appendices

Appendix A

The syndication process works as follows



Sources: Dennis and Mullineaux (2000), Sufi (2007), Ivashina and Sun (2011a)

Appendix B

Events promoting the growth of the secondary loan market

Date	Event
1987	The Loan Pricing Corporation (LPC) starts the publication of the "gold sheets" which contains standardized data on syndicated loan pricing
1988	The Basel Accord encouraged banks to reduce their credit risk exposure to borrowers to engage in regulatory capital arbitrage
1990	The adoption of SEC rule 144A increased the liquidity of the U.S. market for equity and debt securities by allowing institutional investors to trade more freely
1995	The Loan Syndication Trading Association (LSTA) is founded. This event promoted the standardization of loan documentation and settlement procedures
1995	Standard and Poor's, Moody's and Fitch-ICBA started rating syndicated loans
1998	The LSTA published a code of conduct that promotes integrity, fairness, efficiency, and liquidity through the adoption of common standards
1999	The LSTA and S&P created the first loan index, the S&P/LSTA Leverage Loan Index (LLI), which has become the standard benchmarking tool in the industry
2000	The Wall Street Journal began weekly coverage of the syndicated loan market publishing prices for the most widely quoted loans
2003	Leveraged lending and trading volumes increased by nearly 200% from 2003 to 2007, this growth was driven by M&A activity and large LBOs. Although institutional investors played a big role in this phase, the growth was only possible because of the emergence of collateralized loan obligations (CLOs)
2008	The financial crisis led to a recession in the USA with record levels of default rates
2013	Investment grade asset classes' (senior secured, floating rate) along with the standardization of legal and market practices helped the market expand after the crisis
2015	As the price of oil plummeted and global economies weakened, loan sales declined
2016	Risk assets and commodities rallied, lifting loan sales volumes, and pushing the loan price back above par to 100.25

Sources: LSTA, Marsh and Basta (2017), Thomas and Wang (2004), Gupta et al. (2008)

Appendix C

Benefits and costs of loan sales by author

Benefits for lenders

Dennis and Mullineaux (2000)
- Strategy for enhancing fee income
- Manage interest rate risk
- Limit the maximum size of any single loan to a portion of the bank's equity capital
- Voluntary diversification motive

Drucker and Puri (2009)
- Diversify loan portfolios
- Comply with risk-adequacy regulations
- Continue to fund profitable projects when capital is constrained or when facing internal lending costs
- Reduce exposure to individual borrowers

Gupta et al. (2008)
- Avoid excessive risk concentration to a particular obligor or industry
- Move on to higher return opportunities
- Strategic shifts in lending strategies
- Regulatory constraints under the Basel Accord

Gande and Saunders (2012)
- Better risk-management tools
- Allows banks to convert their illiquid assets into liquid assets

Santos and Nigro (2009)
- Free up capital
- Generate fee-based income
- Facilitate risk management

Parlour and Plantin (2008)
- Recycle their funds
- Trade on private information
- Obtain a socially desirable risk-based capital requirement

Benefits for borrowers

Drucker and Puri (2009)
- Borrowers are more likely to receive loans in the future
- Lending relationships involving high risk-borrowers are more durable

Santos and Nigro (2009)
- Borrowers of liquid trading loans can borrow at lower interest rates

Gande and Saunders (2012)
- Alleviate a firm's financial constraints
- A sale for the first time elicits a positive stock price effect
- Borrowers receive larger amount of loans post loan sale
- Firms can invest new funds in additional NPV projects

Kamstra et al. (2014)
- Reduced borrowing costs are largely enjoyed by firms with noninvestment grade debt
- Increased liquidity
- Facilitates portfolio and risk management

Costs for borrowers

Kamstra et al. (2014)
- A sale conveys negative information about the borrowers' financial situation
- Higher costs if renegotiation becomes necessary
- The cost of borrowing appears to rise for firms with investment grade debt

Santos and Nigro (2009)
- Decline in bank monitoring incentives
- The number of creditors increases, making future renegotiations more difficult

Bhasin and Carey (1999)
- High fixed dollar assignment fees, payable to the lead lender

Drucker and Puri (2009)
- Reduced monitoring
- Borrowers incur additional costs in the form of more restrictive loan covenants
- Exacerbates agency problems between lenders and borrowers

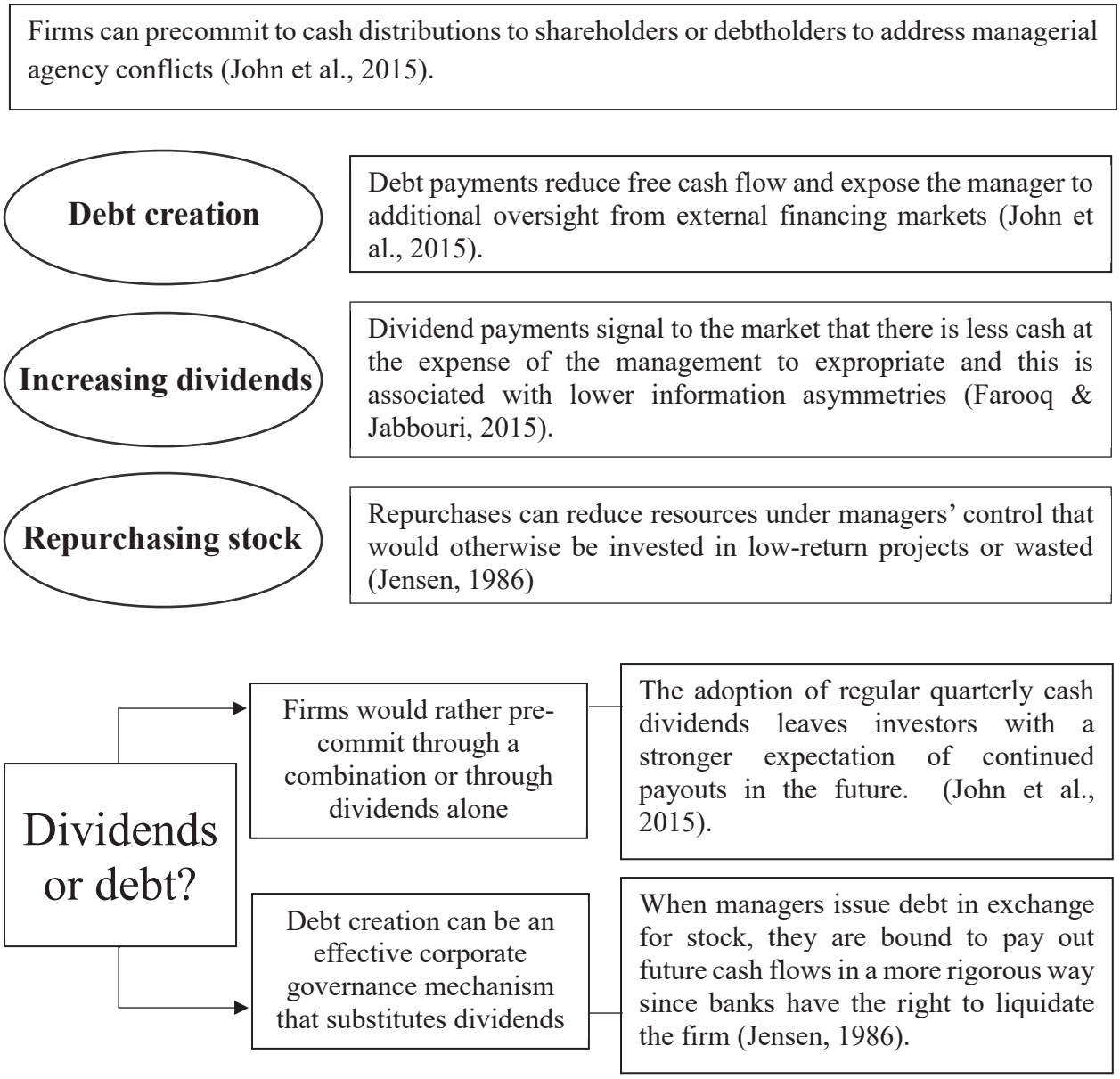
Appendix D

Agency problems and information asymmetry in loan sales

Author/s	Year	Key Findings
Dennis and Mullineaux	2000	· The reputation of the lead agent, as reflected in the volume of repeat business or in the agent's own credit rating, can attenuate some of the agency problems
Drucker and Puri	2009	· Participant lenders are likely to have less information and ability to monitor · Loan contracting is a mechanism to mitigate agency and information problems · Covenants are a cheaper form of monitoring and allow the lender to intervene before severe losses are realized · More restrictive covenants have a larger effect when credit rating agencies disagree on the credit of the borrower and when lenders are not as reputable
Gorton and Pennacchi	1995	· Loans are nonmarketable assets because of their moral hazard problem · There are two contractual features that could mitigate the moral hazard problem: A guarantee by the lead bank to repurchase the loan if it underperforms and retaining a portion of the loan · The greater the portion of the loan held by the bank, the greater its incentive to monitor and evaluate the borrower · Banks sell a larger portion of the loan if they face a greater internal funding cost · Banks will retain a larger proportion of more risky loans · Banks retain a smaller share of the loan, the greater the quality of their guarantee
Sufi	2007	· More reputable lead arrangers retain less of the loan · The lead arranger retains a smaller share of the loan with relatively transparent borrowers and when there is a previous relationship between them · Lead arrangers retain a larger share of unsecured loans or when the borrower is new in the syndicated loan market, private or unrated · A lead arranger retains a larger share of the loan when the borrower requires more due diligence and monitoring When information asymmetry is severe, lead arrangers choose participant lenders that are geographically closer to the firm and that have previously been on a syndicated loan with either the borrower or the leader itself
Winton and Yerramilli	2015	· Market participants can use the history of defaults on the bank's past loans to form their beliefs about the bank's "reputation" · The bank can maintain its incentives to monitor out of concern for its reputation, which is endogenously determined · Loan retention and reputation are substitutes; that is, if the bank's reputation is damaged, then it must retain a higher proportion of the loan · A bank with a bad reputation obtains a lower secondary loan market price
Wittenberg-Moerman	2008	· Information asymmetry is more substantial in private borrowers · The longer maturity of institutional loans causes higher information asymmetry · Loan syndicated by more reputable arrangers are traded at lower spreads · Public reporting and the availability of a credit rating decrease information asymmetry · Conservative financial reporting eases monitoring and reduces agency costs · The timely incorporation of economic losses in a borrower's financial statements triggered by covenants violations enhances corporate governance and decreases information asymmetry

Appendix E

Alternatives to address agency problems between managers and shareholders



Large creditors can also reduce agency problems with the variety of control rights they receive and ability to interfere in the major decisions of the firm. These might include the threat of bankruptcy, oversight of debt covenants, the reduction of overinvestment, and the right to remove managers or to grab assets that serve as collateral for loans (Jensen, 1986; John et al., 2015; Shleifer & Vishny, 1997).

Appendix F

Variable Definitions

Variable	Definition (source)
A. Main variables	
Cumulative abnormal loan return	Loan CAR from day t_1 to day t_2 around the dividend announcement date calculated using the market model with the S&P leveraged loan index as the benchmark return for the secondary loan market. (Dealscan)
Cumulative abnormal stock return	Stock CAR from day t_1 to day t_2 around the dividend announcement date calculated using the market model with the CRSP value weighted index as the market's benchmark. (CRSP)
Abnormal loan dollar return	Loan CAR multiplied by the firm's total debt in the year prior to the dividend increase announcement. (Dealscan)
Abnormal stock dollar return	Stock CAR multiplied by the market value of the firm's equity in the year prior to the dividend increase announcement. (CRSP)
Cut	Absolute percentage change in dividend cuts from one period to the other (CRSP)
Increase	Absolute percentage change in dividend increases from one period to the other (CRSP)
Market value of equity	Number of common shares outstanding times the closing share price. (CRSP)
Dividend change	Dummy variable equal to one if the dividend change is large (above 30%) and zero if the dividend change is small (below 30%). (CRSP)
B. Firm characteristics	
Market value of equity	Logarithm of the number of common shares outstanding times the closing share price. (CRSP)
Market leverage ratio	Ratio of total debt (long-term debt plus debt in current liabilities) to total debt plus market value of equity. (Compustat)
Asset Tangibility	Ratio of net property, plant, and equipment to total assets. (Compustat)
Bank debt ratio	Ratio of bank debt to total debt, where bank debt is imputed from Compustat as the category other long-term debt (DLTO) minus commercial paper (CMP) and total debt is long-term debt (DLTT) plus debt in current liabilities (DLC). Note that other long-term debt is included in long-term debt. (Compustat)
Bank debt	Dummy variable equal to one if the firm's bank debt ratio is large and zero if the firm's bank debt ratio is small. (Compustat)

Cash	Logarithm of the firm's cash and equivalents. (Compustat)
Cash holdings	Dummy variable equal to one if the firm has large cash holdings and zero if the firm has small cash holdings. (Compustat)
C. Loan characteristics	
Institutional loan	Dummy variable equal to one if the loan facility is designed for institutional investors, and zero otherwise. Loans designed for institutional investors are classified as Term Loan B's and have payout schedules similar to bonds (e.g., bullet payment at maturity). (Dealscan)
Revolver	A dummy variable equal to one if the loan facility is a revolver and zero if it is a term loan (Dealscan)
D. Contractual terms	
Covenant intensity index	Sum of five covenant indicators: dividend restriction (typically covering all payouts to equity); at least two financial covenants (e.g., debt issuance restrictions); asset sales sweep; debt issuance sweep; and equity issuance sweep. Note that sweeps require a borrower to prepay the loan with proceeds of assets sales, debt issuance, or equity issuance, respectively. (Dealscan)
Incurrence covenant index	Sum of four incurrence covenant indicators: dividend restriction; asset sales sweep; debt issuance sweep; and equity issuance sweep. (Dealscan)
Dividend restriction covenant	Dummy variable equal to one if the loan has an equity payout restriction, and zero otherwise. (Dealscan)
Financial covenants	Dummy variable equal to one if the loan has at least two financial covenants, and zero otherwise. (Dealscan)

Table 1 Sample descriptive statistics

Panel A. Descriptive statistics

	Mean	Std. Dev.	Min	Max
Dividend change	0.02	0.13	-0.92	1.5
Loan price	99.00	2.10	90.00	105.42
Bid	98.59	2.29	89.00	105.04
Ask	99.41	1.94	90.55	105.79
Number of events	626			

Panel B. Descriptive statistics by announcement type

	Measurement	Cut	Increase
Event	Frequency	45	581
Dividend change	Mean	-0.58	0.24
	Median	-0.60	0.16
	Std. Dev.	0.23	0.23
Loan price	Mean	98.51	99.41
	Std. Dev.	2.90	1.64
Bid	Mean	98.06	99.02
	Std. Dev.	3.19	1.78
Ask	Mean	98.96	99.79
	Std. Dev.	2.63	1.53

Note: Panel A provides descriptive statistics for the loans with dividend announcements over the sample period from 2000 to 2016. Panel B reports descriptive statistics by dividend announcement type (cuts and increases).

Table 2 Frequency distributions of loans involved in dividend announcements

Loan level				
Year	Cut	Increase	Total	%
2000	6	0	6	2.01
2001	0	6	6	2.14
2002	0	8	8	2.46
2003	0	30	30	4.32
2004	4	35	39	5.58
2005	4	54	58	6.99
2006	3	38	41	7.96
2007	4	48	52	9.50
2008	0	21	21	4.32
2009	0	9	9	3.02
2010	3	24	27	5.05
2011	1	39	40	6.09
2012	3	41	44	6.97
2013	7	74	81	9.45
2014	3	75	78	9.26
2015	3	40	43	7.42
2016	4	39	43	6.44
Total	**45**	**581**	**626**	**100**

Note: The table at the loan level reports frequency distributions of events by type of announcement (decrease or increase) and by calendar year.

Table 3 Descriptive statistics for key borrower and loan characteristics

Panel A. Descriptive statistics for key borrower and loan characteristics for dividend cuts					
Variables	**N**	**Mean**	**Std. Dev.**	**Min**	**Max**
Equity	45	13.60	1.29	10.91	16.47
Leverage	45	0.25	0.23	0	0.99
Cash and equivalents	45	2.81	5.11	0	22.57
S&P Rating	22	3.50	0.71	3	4
ROE	31	0.07	0.56	1.04	1.70
Market to book ratio	43	3.92	4.83	0.84	20.15
Bank debt ratio	43	0.50	0.36	0	1.00
Loan determinants					
Loan size	39	1.47	1.33	0.13	4.03
Spread	34	3.07%	0.01	1.38%	6.75%
Revolver	45	0.22	0.42	0	1
Institutional	45	0.53	0.50	0	1
Secured	45	0.64	0.48	0	1
Financial covenants	45	1.60	1.21	0	4
Dividend restriction	45	0.64	0.48	0	1
Intensity	45	2.18	1.93	0	5

Panel B. Descriptive statistics for key borrower and loan characteristics for dividend increases					
Variables	**N**	**Mean**	**Std. Dev.**	**Min**	**Max**
Equity	581	15.32	1.50	11.82	19.37
Leverage	560	0.07	0.13	0	1.88
Cash and equivalents	560	10.34	25.13	0	313.82
S&P Rating	310	2.56	0.71	1	4
ROE	445	0.21	0.98	-3.89	8.12
Market to book ratio	558	10.31	8.01	0.44	63.73
Bank debt ratio	557	0.46	0.36	0	1.00
Loan determinants					
Loan size	490	1.98	2.28	0.04	12.70
Spread	464	2.04%	0.00	0.15%	8.75%
Revolver	581	0.28	0.45	0	1
Institutional	581	0.38	0.49	0	1
Secured	581	0.46	0.50	0	1
Financial covenants	581	1.35	1.30	0	6
Dividend restriction	581	0.47	0.50	0	1
Intensity	581	1.49	1.76	0	5

Note: Panel A provides descriptive statistics for borrower and loans with dividend cuts over the sample period. Panel B provides descriptive statistics for the group with dividend increases.

Table 4 Abnormal and cumulative abnormal loan returns for dividend cuts and increases

	Dividend cut			Dividend increase		
Day	AR (%)	CAR (%)	N	AR (%)	CAR (%)	N
-15	-0.02	-0.02	48	0.01	0.01	550
-14	-0.01	-0.02	48	0.01	0.02 *	550
-13	-0.05	-0.07 *	48	0.00	0.02 *	550
-12	-0.01	-0.08 **	50	0.01	0.03 **	550
-11	-0.03	-0.11 **	50	0.00	0.04 *	551
-10	-0.04	-0.15 ***	51	0.00	0.04 *	554
-9	-0.05	-0.19 ***	54	-0.01	0.03	555
-8	0.00	-0.20 **	54	-0.01	0.02	556
-7	-0.05	-0.25 ***	55	0.00	0.02	557
-6	-0.02	-0.27 ***	55	0.00	0.02	559
-5	0.03	-0.23 **	55	0.02	0.04	562
-4	-0.02	-0.26 **	55	0.00	0.04	564
-3	0.00	-0.26 **	55	0.00	0.04	566
-2	-0.01	-0.27 **	55	0.00	0.04	568
-1	-0.02	-0.29 ***	57	0.02	0.06	568
0	0.02	-0.27 **	58	0.01	0.08 *	568
1	-0.11	-0.38 ***	58	0.01	0.09 **	567
2	-0.08	-0.46 ***	58	0.01	0.10 **	567
3	-0.01	-0.48 ***	58	-0.02	0.07 *	566
4	-0.02	-0.49 ***	58	0.00	0.08 *	565
5	0.01	-0.48 ***	58	0.00	0.08 *	565
6	0.00	-0.48 ***	58	0.00	0.08 *	565
7	-0.03	-0.51 ***	58	0.00	0.07	565
8	0.02	-0.49 ***	58	0.01	0.08 *	565
9	0.02	-0.47 ***	58	-0.01	0.08	565
10	-0.02	-0.49 ***	57	0.00	0.08	559
11	-0.03	-0.52 ***	57	0.00	0.08	559
12	-0.02	-0.53 ***	57	0.02	0.10 **	557
13	-0.04	-0.57 ***	57	0.00	0.11 **	557
14	0.01	-0.56 ***	56	0.00	0.11 **	556
15	-0.02	-0.58 ***	53	0.00	0.10 **	555

Note: The table shows the abnormal loan return, cumulative abnormal loan return and event frequency of dividend cuts and increases from day -15 to +15 around the dividend announcement date (day 0). I use ***, **, and * to denote significance at the 1% level, 5% level and 10% level, respectively.

Table 5 Cumulative abnormal loan return over different event windows

Panel A. Loan CAR by type of announcement						
	Dividend cut			Dividend increase		
Event window	**CAR (%)**		**t-stat**	**CAR (%)**		**t-stat**
Day -90 to +15	-0.879	***	-3.08	0.283	**	2.33
Day -60 to +15	-0.861	***	-3.20	0.271	***	3.15
Day -30 to +15	-0.802	***	-3.25	0.062	*	1.75
Day -15 to +15	-0.627	***	-3.05	0.095	**	1.93
Day -2+10	-0.323	**	-2.21	0.038		1.21
Day -5 to +5	-0.272	**	-2.18	0.056	**	1.90
Day -2 to +2	-0.276	**	-2.00	0.056	***	3.03
Day -1 to +1	-0.147		-1.27	0.046	***	3.68
Panel B. Loan CAR one loan per firm						
	Dividend cut			Dividend increase		
Event window	**CAR (%)**		**t-stat**	**CAR (%)**		**t-stat**
Day -90 to +15	-0.809	*	-1.93	0.809	***	3.71
Day -60 to +15	-0.810	**	-2.16	0.596	***	3.14
Day -30 to +15	-0.741	**	-2.26	0.231		1.44
Day -15 to +15	-0.603	**	-2.39	0.241	**	1.91
Day -2+10	-0.289	*	-1.71	0.105		1.22
Day -5 to +5	-0.227	*	-1.75	0.126	*	1.84
Day -2 to +2	-0.280	*	-1.71	0.099	**	2.30
Day -1 to +1	-0.115		-1.15	0.081	***	2.71
Panel C. Stock CAR by type of announcement						
	Dividend cut			Dividend increase		
Event window	**CAR (%)**		**t-stat**	**CAR (%)**		**t-stat**
Day -90 to +15	-20.590	***	-4.25	3.457	***	5.18
Day -60 to +15	-16.060	***	-4.22	2.583	***	4.42
Day -30 to +15	-8.848	***	-2.74	1.441	***	3.12
Day -15 to +15	-3.199		-1.13	1.429	***	3.34
Day -2+10	-2.509		-0.94	0.806	***	2.65
Day -5 to +5	-2.790		-1.19	1.237	***	4.45
Day -2 to +2	-1.871		-0.86	1.067	***	4.73
Day -1 to +1	-1.120		-0.75	1.063	***	6.22

Note: The table reports cumulative abnormal loan returns by event type. I use ***, **, and * to denote significance at the 1% level, 5% level and 10% level, respectively.

Table 6 Correlation matrix for the dividend announcements sample

		1	2	3	4	5	6	7	8
1	Stock CAR	1.00							
2	Loan CAR	0.02	1.00						
3	Cut	-0.14 ***	-0.17 ***	1.00					
4	Increase	0.09 **	0.02	-0.25 ***	1.00				
5	Leverage	0.07 *	-0.08 **	0.34 ***	-0.08 **	1.00			
6	Tangibility	0.14 ***	-0.12 ***	0.07 *	0.04	0.10 ***	1.00		
7	Bank debt	0.17 ***	-0.06	0.01	-0.07 *	0.00	0.02	1.00	
8	1st_quartile	-0.03	-0.03	-0.03	0.00	0.03	0.03	-0.67 ***	1.00
9	2nd_quartile	0.01	-0.05	0.02	0.04	0.06	0.05	-0.20 ***	-0.35 ***
10	3rd_quartile	0.02	-0.10 ***	0.05	-0.01	0.00	0.10 ***	0.17 ***	-0.27 ***
11	Cash	0.03	0.07 *	-0.07 *	0.02	-0.12 ***	0.03	-0.08 **	0.19 ***
12	Institutional	-0.02	-0.05	0.06	-0.03	0.08 **	-0.11 ***	0.26 ***	-0.20 ***
13	Revolver	0.00	0.06	-0.03	0.00	-0.11 ***	0.11 ***	-0.27 ***	0.28 ***
14	Intensity	-0.02	0.08 **	0.10 ***	-0.02	0.01	-0.01	0.12 ***	-0.14 ***
15	Incurrence	-0.03	0.08 **	0.12 ***	-0.02	0.02	-0.05	0.13 ***	-0.15 ***
16	Dividend	0.00	0.07 **	0.10 ***	-0.02	0.02	0.05	0.10 ***	-0.14 ***

Table 6 - continued

		9	10	11	12	13	14	15	16
9	2nd_quartile	1.00							
10	3rd_quartile	-0.27 ***	1.00						
11	Cash	-0.06 *	-0.13 ***	1.00					
12	Institutional	-0.12 ***	0.14 ***	-0.18 ***	1.00				
13	Revolver	-0.03	-0.13 ***	0.08 **	-0.49 ***	1.00			
14	Intensity	-0.12 ***	0.11 ***	-0.19 ***	0.14 ***	-0.03	1.00		
15	Incurrence	-0.12 ***	0.10 ***	-0.18 ***	0.15 ***	-0.04	0.98 ***	1.00	
16	Dividend	-0.10 ***	0.13 ***	-0.17 ***	0.09 **	0.04	0.83 ***	0.83 ***	1.00

Note: Correlations between cumulative abnormal stock returns (Stock CAR), cumulative abnormal loan returns (Loan CAR), and firm, loan characteristics and contractual features. I use ***, **, and * to denote significance at the 1% level, 5% level and 10% level, respectively.

Table 7 Determinants of loan returns at dividend announcements

	Entire sample			Reduced outliers			One loan per borrower			Cut dummy
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Event window	(-2+2)	(-2+10)	(-60+15)	(-2+2)	(-2+10)	(-60+15)	(-2+2)	(-2+10)	(-60+15)	(-2+2)
Cut	-0.639 ***	-0.733 ***	-1.860 ***	-0.147 **	-0.283 **	-1.251 ***	-0.599 ***	-0.684	-1.547 **	-0.550 *
	(-4.5)	(-3.08)	(-3.36)	(-2.32)	(-2.26)	(-2.95)	(-2.71)	(-1.60)	(-2.11)	(-1.66)
Increase	0.061	0.061	-0.289	0.031	0.031	-0.214	-0.069	-0.131	-0.467	0.058
	(0.69)	(0.41)	(-0.84)	(0.79)	(0.40)	(-0.81)	(-0.43)	(-0.42)	(-0.89)	(0.65)
Leverage	0.091	0.000	-0.720	0.089	0.089	-0.449	-0.161	-0.895 *	-1.619 *	0.090
	(0.61)	(0.00)	(-1.24)	(1.34)	(0.67)	(-1.01)	(-0.63)	(-1.81)	(-1.91)	(0.60)
Tangibility	-0.128	-0.167	0.135	-0.067	-0.029	0.087	-0.277	-0.400	-0.607	-0.130
	(-1.27)	(-0.98)	(0.34)	(-1.49)	(-0.33)	(0.29)	(-1.22)	(-0.91)	(-0.81)	(-1.28)
Bank debt	-0.673 ***	-0.849 ***	-1.343 ***	-0.333 ***	-0.493 ***	-1.073 ***	-0.132	-0.658	-0.630	-0.670 ***
	(-5.85)	(-4.40)	(-3.00)	(-6.49)	(-4.86)	(-3.12)	(-0.52)	(-1.33)	(-0.75)	(-5.78)
Cash	0.017 **	0.018	0.024	0.012 ***	0.015 **	0.023	0.012	0.023	0.050	0.017 **
	(2.02)	(1.30)	(0.75)	(3.36)	(2.06)	(0.92)	(0.77)	(0.77)	(0.96)	(2.02)
Institutional	0.004	-0.068	-0.345 *	0.020	0.007	-0.239 *	0.103	-0.020	-0.227	0.004
	(0.09)	(-0.88)	(-1.92)	(0.96)	(0.18)	(-1.74)	(0.87)	(-0.09)	(-0.58)	(0.09)
Revolver	0.112 **	0.120	-0.038	0.051 **	0.126 ***	-0.021	0.208 *	-0.128	0.019	0.112 **
	(2.17)	(1.39)	(-0.19)	(2.24)	(2.79)	(-0.14)	(1.66)	(-0.53)	(0.05)	(2.17)
Intensity	0.104 *	0.066	0.403 *	0.009	0.041	0.161	0.231 *	-0.037	0.288	0.106 *
	(1.73)	(0.65)	(1.71)	(0.34)	(0.77)	(0.89)	(1.73)	(-0.14)	(0.65)	(1.74)
Incurrence	-0.113	-0.041	-0.323	0.001	-0.009	-0.131	-0.254	0.034	-0.243	-0.115
	(-1.57)	(-0.34)	(-1.15)	(0.04)	(-0.14)	(-0.61)	(-1.62)	(0.11)	(-0.47)	(-1.59)

Table 7 - continued

	Entire sample			Reduced outliers			One loan per borrower			Cut dummy
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Event window	(-2+2)	(-2+10)	(-60+15)	(-2+2)	(-2+10)	(-60+15)	(-2+2)	(-2+10)	(-60+15)	(-2+2)
Dividend	0.005	-0.017	-0.330	-0.018	-0.052	-0.161	-0.052	-0.146	-0.008	0.006
	(0.07)	(-0.14)	(-1.19)	(-0.58)	(-0.83)	(-0.76)	(-0.37)	(-0.54)	(-0.02)	(0.09)
Cut dummy										-0.059
										(-0.30)
Constant	1.449 ***	1.307 ***	3.159 ***	0.624 ***	0.666 ***	2.356 ***	0.926 **	1.096	1.869	1.435 ***
	(5.62)	(3.02)	(3.14)	(5.43)	(2.93)	(3.06)	(1.95)	(1.19)	(1.19)	(5.47)
R-squared	0.2615	0.1555	0.3429	0.2479	0.1833	0.3242	0.4673	0.3329	0.6141	0.2616
Adj. R-squared	0.2124	0.0993	0.2992	0.1979	0.1290	0.2792	0.2998	0.1231	0.4934	0.2111
Observations	626	626	626	626	626	626	164	164	164	626

Note: The table reports determinants of loan returns at dividend announcements. The dependent variable is the cumulative abnormal loan return in three event windows. A short event window from day -2 to +2, a medium event window from day -2 to +10, and a long event window from day -60 to +15. The variables *cut* and *increase* denote the absolute percentage changes in dividends from one period to the other. Regression models 1-3 examine the entire sample of dividend increases and cuts. Models 4-6 reduce the impact of outliers by winsorizing the dependent variable at 10% at the firm level. Models 7-9 test the event windows on the reduced sample of one loan per borrower per announcement type. Model 10 introduces a variable equal to one if the announcement is a dividend cut and zero if it is a dividend increase. I use ***, **, and * to denote significance at the 1% level, 5% level and 10% level, respectively.

Table 8 Determinants of loan returns of small and large dividend announcements

Model	(11)		(12)		(13)	
Event window	(-2+2)		(-2+10)		(-60+15)	
Cut	-0.319	***	-0.326	**	-0.794	***
	(-3.45)		(-2.10)		(-2.70)	
Small increase	0.358		0.690		0.447	
	(0.23)		(1.37)		(0.83)	
Large increase	0.098		0.141		-0.207	
	(0.31)		(0.87)		(-0.55)	
Leverage	0.065		-0.019		-0.784	
	(0.66)		(-0.08)		(-1.36)	
Tangibility	-0.139		-0.175		0.104	
	(0.17)		(-1.03)		(0.26)	
Bank debt	-0.635	***	-0.797	***	-1.238	***
	(-5.51)		(-4.13)		(-2.76)	
1st_quartile	-0.600	***	-0.709	***	-0.842	**
	(-5.72)		(-4.04)		(-2.06)	
2nd_quartile	-0.446	***	-0.513	***	-0.838	***
	(-5.65)		(-3.89)		(-2.73)	
3rd_quartile	-0.319	***	-0.369	***	-0.589	**
	(-4.70)		(-3.25)		(-2.23)	
Cash	0.016	**	0.017		0.023	
	(1.97)		(1.24)		(0.72)	
Institutional	0.005		-0.065		-0.341	**
	(0.12)		(-0.84)		(-1.90)	
Revolver	0.114	**	0.126		-0.032	
	(2.20)		(1.45)		(-0.16)	
Intensity	0.111	*	0.070		0.423	*
	(1.82)		(0.68)		(1.79)	
Incurrence	-0.122	*	-0.050		-0.352	
	(-1.69)		(-0.41)		(-1.25)	
Dividend	0.011		-0.009		-0.313	
	(0.15)		(-0.08)		(-1.13)	
Constant	1.258	***	1.053	***	2.642	***
	(5.04)		(2.52)		(2.72)	
R-squared	0.2595		0.1559		0.3424	
Adj. R-squared	0.2089		0.0982		0.2975	
Observations	626		626		626	
Industry FE	YES		YES		YES	
Time FE	YES		YES		YES	

Note: The table reports determinants of loan returns of dividend cuts and small and large dividend increases (above 30%), the variables denote the absolute percentage change from one period to the other. The dependent variable is the cumulative abnormal loan return in three event windows. I use ***, **, and * to denote significance at the 1% level, 5% level and 10% level, respectively.

Table 9 Correlations between loan and stock returns

Correlations between loan and stock returns around dividend cuts and dividend increases				
	Dividend cut		**Dividend increase**	
Days -60 to +15	0.2972	**	0.1085	***
Days -2 to +10	0.2609	*	- 0.0435	
Days -2 to +2	0.2822	*	- 0.1126	***

Note: The table reports correlations between loan and stock returns when firms increase or cut dividends in different event windows. I use ***, **, and * to denote significance at the 1% level, 5% level and 10% level, respectively.

Table 10 Wealth transfer regressions from day -2 to +2 around dividend increases

Regressions of the abnormal stock dollar return (ASR) on the abnormal loan dollar return (ALR)			
Panel A. Abnormal loan dollar return by small or large dividend change, bank-debt ratio, and cash holdings			
	Dividend change	**Cash holdings**	**Bank-debt**
ALR x small size dummy	0.259 ***	-0.161	0.302 ***
	(5.57)	(-0.24)	(6.55)
ALR x large size dummy	1.205 ***	0.262 ***	-0.827 ***
	(2.64)	(5.55)	(-3.39)
Large size dummy	0.281 ***	0.016	0.319 ***
	(4.00)	(0.21)	(5.20)
Log market value of equity	16.669 ***	16.964 ***	19.466 ***
	(8.11)	(6.69)	(9.48)
Constant	-2.458 ***	-2.438 ***	-2.951 ***
	(-7.78)	(-6.61)	(-9.16)
Adj. R-squared	0.1948	0.1650	0.2261
Observations	581	581	581
Panel B. Abnormal loan dollar return with or without a dividend and financial covenants			
	Dividend covenant	**Financial covenants**	
ALR x no covenant dummy	0.279 ***	0.262 ***	
	(5.93)	(5.56)	
ALR x covenant dummy	-0.840 ***	-0.546	
	(-2.52)	(-0.69)	
Covenant dummy	-0.059	0.021	
	(-0.93)	(0.26)	
Log market value of equity	17.092 ***	17.544 ***	
	(8.09)	(8.20)	
Constant	-2.420 ***	-2.522 ***	
	(-7.29)	(-7.59)	
Adj. R-squared	0.1818	0.1659	
Observations	581	581	

Note: The table reports regressions of the abnormal stock dollar return on the interaction between the abnormal loan dollar return and a size dummy or covenant dummy. There are five dummy variables or categories: the size of the dividend change, the firm's bank-debt ratio, the firm's cash holdings, the presence of a dividend covenant and the presence of at least two financial covenants. The controls used are: a dummy variable equal to one if the category is large or if it contains a covenant, and zero otherwise, and the logarithm of the market value of equity. I use ***, **, and * to denote significance at the 1% level, 5% level and 10% level, respectively.