Who's Afraid of Universal Banks? Bank Affiliations and Corporate Dividend Policy in Pre-World War I Belgium

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Abstract

There are two views about the economic role of universal banks. On the one hand, it has been argued that universal banks are efficient institutions that overcome problems of asymmetric information. A more pessimistic view holds that the multiple relations between a universal bank and affiliated companies allow the bank to loot these companies at the expense of other investors, especially in emerging economies which are characterized by weak legal systems and poor investor protection.

We find that in pre-World War 1 Belgium, which was characterized by weak investor protection, strong stock markets, and dominant universal banks, companies with a bank director on their board paid higher dividends and were less likely to cut dividends than other companies. Moreover, companies with a universal bank director paid higher dividends if they had greater investment opportunities. We also find that the positive effect of a universal bank on dividends exists even if the bank has no equity stake in the company. These results confirm the hypothesis that companies affiliated to a universal bank use dividends as a tool to convince investors of their honesty and reliability. They are consistent with the thesis of Franks et al. (2005), that in the early 20th century equity markets developed on the basis of informal relations of trust, rather than formal systems of regulation, and that in some countries such as Germany, universal banks played a central role in this respect.

However, we also find that companies with several bank directors and companies in which the bank had an equity stake tended to pay lower dividends. We therefore cannot reject the hypothesis that banks extracted rents from companies they controlled.

JEL classification: G21, G35, N23

Keywords: Dividend policy, universal banks, bank directors, investor protection, pre-World War I Belgium

1. Introduction

Universal banks play an important role in many countries. They commonly have the ability to mobilize large amounts of capital, and act as long-term investors, supporting companies in different ways. They take equity stakes, provide loans, assist companies in the issuance of securities, and are often involved in the management of affiliated companies. Regarding the economic effects of universal banks, there are two different views (e.g., Benston, 1994). The first view holds that universal banks are efficient institutions that overcome problems of asymmetric information, inevitably associated with external finance: universal bank relations are characterized by a multitude of links which allow the bank to reuse costly information and to build up technical expertise. The second view holds that universal banks are bad. Multiple relations between the bank and an affiliated company give rise to conflicts of interest. These relations allow the bank to loot the company at the expense of other investors, especially in emerging economies which are characterized by weak legal systems and poor investor protection.

In this paper, we investigate the role of universal banks by focusing on corporate dividend policy. Dividends play a central role in the relation between insiders and outside investors. They limit the scope for insiders to expropriate value from outside investors, because they reduce the inside cash in the firm, and they guarantee a pro-rata payout to all shareholders (e.g., Easterbrook, 1984; Jensen, 1986; Gomes, 2000; Myers, 2000). From an agency perspective, universal banks may affect the dividend policy of affiliated companies in different ways. First, it can be argued that companies affiliated to a universal bank will pay lower dividends than stand-alone companies. Monitoring by the bank reduces the likelihood that management will engage in behaviour that is contrary to the objectives of the

shareholders, thereby reducing the need for dividends (Dewenter and Warther, 1998). On the other hand, if the bank has no equity stake or only a limited equity stake in the company, it may abuse its power to expropriate value from the shareholders. Rent extraction by the bank may be limited by dividends, because they guarantee a pro-rata payout for all shareholders. When legal protection of investors is weak, the bank may force affiliated companies to pay lower dividends, in order to be able to extract rents (e.g., La Porta et al., 2000; Faccio et al., 2001).

When legal protection is weak, affiliated companies may also pay *higher* dividends than stand-alone companies, as dividends may be a substitute for legal protection. By paying dividends, companies can establish a reputation for moderation in expropriating shareholders, which gives them the option to raise external funds on attractive terms (La Porta et al., 2000). A reputation of good treatment of shareholders is especially valuable in countries with weak legal protection because investors have little else to rely on. A number of authors have argued that during the late 19th and early 20th century, banks in the U.S. and Germany played a central role in establishing a reputation of honesty and reliability, by affixing their seal of approval to investment-worthy companies (e.g., Carosso, 1970; De Long, 1991; Baskin and Mirante, 1997; Franks et al., 2006). According to Cheffins (2006), merchant banks in the UK pressured companies going public to pay high and stable dividends, in order to constrain corporate insiders and to provide investors with information flow.

We investigate the effects of universal bank affiliation on dividend policy of 428 Belgian companies listed on the Brussels Stock Exchange in the period 1905-1909. Belgium in this period provides a particularly interesting environment to study universal banks and corporate dividend policy, for several reasons. By modern standards, institutions were weak, investors

were poorly protected, and they faced severe information problems. As such, Belgium at the turn of the 20th century arguably bears resemblance to the current situation in many developing countries. Notwithstanding weak institutions and strong information problems, Belgium combined an active stock market with a strongly developed banking sector. It was the first country in continental Europe where the industrial revolution took off. Rajan and Zingales (2003) find that in 1913, Belgium had the second largest fraction of gross fixed capital formation raised through equity and the largest number of publicly traded domestic firms per capita. Moreover, the ratio of stock market capitalization over GDP in Belgium (0.99) was similar to the ratio in the U.K. (1.09) and much higher than in the United States (0.39), Germany (0.44) or Japan (0.49). At the same time, the ratio of commercial and savings deposits over GDP indicates that the banking sector was more developed in Belgium (0.68) than in Germany (0.53), the U.S. (0.33), Japan (0.13) or the U.K. (0.10). Belgian universal banks played a pivotal role in the underwriting of securities (Durviaux, 1947). Moreover, the period before World War I is widely regarded as the first great age of globalization, and there are close parallels between world finance 100 years ago and world finance today (e.g., Goodhart and Delargy, 1998; Goetzmann, 2004; Bordo and Meissner, 2005). Finally, there were no dividend taxes nor corporate income taxes in Belgium, which makes tax based dividend theories irrelevant. Our sample thus allows us to study corporate dividend policy and the relationship between universal banks and affiliated companies from a unique perspective.

We define affiliated companies as those companies that had at least one director interlock with one of the five main universal banks at that time in Belgium, and we measure the extent of affiliation by the number of interlocks. We also take into account the equity stakes of

universal banks. Universal banks holding significant equity stakes in companies may protect their interests as outside equity investors by demanding high dividends.

Our results confirm the hypothesis that companies with a bank director used dividends to establish a good reputation. We find that these companies paid higher dividends and were less likely to cut or omit dividends. Moreover, dividends were significantly related to investment opportunities, measured by the market-to-book ratio: companies with a higher market-to-book paid significantly higher dividends. Consistent with the findings of Franks et al. (2006) for German universal banks, these results suggest that universal banks in Belgium helped companies in overcoming asymmetric information *vis-à-vis* outside investors, by certifying the quality of affiliated companies. However, we also find that companies with several bank directors and companies in which the bank had an equity stake paid lower dividends. We therefore cannot reject the hypothesis that banks extracted rents from companies they controlled.

The rest of the paper is organized as follows. Section 2 briefly discusses universal banks in pre-World War I Belgium. Section 3 provides a discussion of how affiliation with a universal bank may affect dividend policy. Section 4 discusses the construction of the sample and the variables. The empirical results are presented in section 5. Section 6 concludes.

2. Universal Banks in Pre-World War I Belgium[1]

The history of universal banks in Belgium goes back to 1822, when King William I of the Netherlands established the "Société Générale pour Favoriser l'Industrie Nationale" (known as the "Société Générale"), the world's first joint-stock investment bank (Cameron, 1967). At that time, Belgium was a part of the Netherlands. The Société Générale became active in industrial finance only after Belgium gained independence in 1830. Because of the revolutionary uprising and the preceding economic crisis, many companies were unable to fulfil their financial obligations, and the Société Générale was forced to convert debt into shares, *thus becoming the first universal bank in history*. According to Kurgan-Van Hentenryk (1991), the bank played an active role in the companies it controlled. The Société Générale transformed family businesses and partnerships into limited liability corporations, subscribed to the shares and provided long-term lending. In addition, the bank organized horizontal and vertical integration and coordinated the affiliated companies. For example, in 1844, the bank established an engineering committee ("comité des ingénieurs") to advise mining companies in technical matters. In addition, the Société Générale established a common shipping office and a distribution network abroad. The Société Générale also influenced the corporate administration by professionalizing accounting and taking up mandates in the board of directors.

The Société Générale became the dominant universal bank in Belgium, but from 1873 onwards, when the legal establishment of joint stock companies was made easier, new competitors emerged. While there were only 20 banks in 1870, their number increased to 46

[1] Chlepner (1930, Chapter IV – Section 5) and Durviaux (1947, chapter IV) provide a more detailed overview of the Belgian Banking sector from 1875 to 1914.

in 1875. From 1880 onwards the expansion of the Belgian industry abroad led to the creation of several universal banks. According to Durviaux (1947), the number of universal banks increased from 8 in 1880 to over 25 in 1900.

Insert Table I about here

Table I gives an overview of the structure of Belgian banking at the end of 1913. The table illustrates the dominance of the Société Générale over the other Belgian universal banks. The Crédit Général Liégeois was the most important competitor of the Société Générale. The other important universal banks in terms of the industrial portfolio were Banque d'Outremer, Banque Liègeoise, Banque de Bruxelles and Banque Internationale de Bruxelles. However, the value of the industrial portfolios of the five major competing universal banks was 112.4 million francs while the value of the industrial portfolio of the Société Générale alone was 190.7 million francs despite the fact that the Société Générale used conservative valuations of its industrial portfolio. Furthermore, the sum of the assets the five major competitors equaled 553.8 million francs while the assets of the Société Générale alone amounted to 482.3 million francs.

3. Universal Banks, Agency-Conflicts and Dividends

The dividend literature primarily relies on two lines of reasoning to explain dividend behavior: agency-conflicts and signaling. *Agency theories* of dividends argue that cash inside the firm can be wasted by insiders in unproductive investments and for their private benefits,

and dividends reduce the inside cash in the firm (e.g., Easterbrook, 1984; Jensen, 1986; Myers, 2000; Gomes, 2000). As La Porta et al. (2000, p.4) put it: "Dividends (a bird in the hand) are better than retained earnings (a bird in the bush) because the latter might never materialize as future dividends (can fly away)". *Signaling theories* are based on the idea that managers know more than outside investors about the company's growth opportunities. Dividends are explicit signals about these growth opportunities, sent at some cost by the management to the outside investors. Signaling needs to be costly in order to be credible. The cost of signaling can arise from a higher tax rate on dividends than on capital gains (e.g., Batthacharya, 1979; John and Williams, 1985), from underinvestment (e.g., Miller and Rock, 1985), or from high costs of external finance (Ofer and Thakor, 1987). In this paper, we investigate how universal banks may affect dividend behavior from an agency perspective. As there were no dividend taxes nor corporate income taxes in Belgium in the period considered in this study, tax based explanations of dividend behavior are irrelevant for our study[2].

From an agency perspective, companies affiliated with a universal bank may pay *lower* dividends than stand-alone companies, for two reasons. First, monitoring by the universal bank may reduce the agency-conflict between the management and the shareholders of affiliated companies (*Monitoring Hypothesis*). Second, when investors are weakly protected, universal banks may induce affiliated companies to pay lower dividends, in order to be able to extract more rents from the company (*Expropriation Hypothesis*). Affiliated companies

[2] Personal taxes on dividends were introduced only in 1920 (De Visschere, 1935; Janssens et al., 1990). In the period considered in this study, companies only had to pay a 2% "patent tax" on revenues to the financiers: interests, capital gains and dividends (Belgian Law of 22 January 1849, Art. 3 and Belgian Law of 5 July 1871, Art. 12).

may also pay *higher* dividends than stand-alone companies, because universal banks play a central role in establishing a reputation of honesty and reliability (*Certification Hypothesis*)

3.1 MONITORING BY UNIVERSAL BANKS

Universal banks may reduce agency-conflicts between the management and the shareholders of affiliated companies, because monitoring by the bank reduces the likelihood that management will engage in behavior that is contrary to the objectives of the shareholders. From this perspective, it can be expected that dividend policy of affiliated companies will be more flexible than that of stand-alone companies. Consistent with this argument, Goergen et al. (2005) find that German companies with a bank as their major shareholder are more willing to omit their dividend than companies controlled by other shareholders. Dewenter and Warther (1998) find that Japanese firms, who often belong to a keiretsu group, are less reluctant to omit or cut dividends than U.S. firms. Japanese firms also experience smaller stock price reactions to dividend omissions and initiations, and their dividends are more responsive to earnings changes.

If universal banks reduce the agency-conflict between the management and the shareholders of affiliated companies because they are efficient monitors, we expect that dividend policy will be less relevant for affiliated companies than for stand-alone companies. Affiliated companies should have less need to pay high dividends and should be less reluctant to cut or omit dividends. Moreover, it can be expected that dividends of affiliated companies are negatively related to investment opportunities: monitoring by a universal bank ensures that affiliated companies pay out free cash flows. In the remainder of the paper, we will refer to this view as the *Monitoring Hypothesis*.

3.2 EXPROPRIATION BY UNIVERSAL BANKS

While monitoring by a universal bank may reduce the likelihood that the management of affiliated companies misbehave, the bank may abuse its power to expropriate value from the shareholders. Rent extraction by the bank may be limited by dividends, because they guarantee a pro-rata payout for all shareholders. According to La Porta et al. (2000), the extent to which dividends are used as a tool to constrain expropriation by controlling shareholders will depend on the legal protection of minority shareholders. They argue that dividend payout ratios will be higher in countries with good shareholder protection because minority shareholders can use their legal powers to force companies to disgorge cash, thus preventing insiders from using company earnings to benefit themselves. Moreover, shareholders who feel protected will accept low dividend payout ratios from companies with good investment opportunities because they know that when the company's investments pay off, they will be able to extract high dividends. The empirical results of La Porta et al., based on for a sample of 4,000 companies from 33 countries, support the hypothesis that minority shareholders can force controlling shareholders to pay dividends only in countries with strong legal protection. Findings of Faccio et al. (2001) for a large sample of companies in Western Europe and East-Asia[3], Gugler and Yurtoglu (2003) for Germany, Renneboog and

[3] Faccio et al. (2001) find that group affiliated companies pay higher dividend rates in countries which are characterized by stronger investor protection. Moreover, the presence of multiple large shareholders increases dividend rates in Western Europe, but reduces them in East-Asia. According to Faccio et al., in Europe large shareholders help contain the controlling shareholder, while they collude with the controlling shareholder in East-Asia. They also find that companies pay higher dividend rates if they are tightly affiliated to a business group, but pay lower dividend rates if they are loosely affiliated to a business group. A higher separation of ownership and control leads to higher dividends for tightly affiliated companies but to lower dividends for

Trojanowski (2005) for the U.K., and Bena and Hanousek (2006) for the Czech Republic are also consistent with the hypothesis that controlling shareholders pay high dividends only when they can be forced to do so. These results suggest that in an environment where shareholders are weakly protected, universal banks may abuse their power to expropriate value from affiliated companies. They may use their information monopoly by squeezing higher loan rates out of affiliated companies, or they may fool investors by issuing additional securities to recoup loans that turned sour. If the universal bank is a lender to the company, it may protect its interests as a lender by limiting dividends of affiliated companies[4].

This leads us to posit the *Expropriation Hypothesis*: companies affiliated to a universal bank pay lower dividends, thereby providing more room for rent extraction by the universal bank, or protection of the interests of the bank as a lender. Moreover, if universal banks expropriate value from affiliated companies, we would not necessarily expect a relation between dividends and investment opportunities for affiliated companies, since the bank may try to get what she can as fast as possible (cf., La Porta et al., 2000).

3.3 CERTIFICATION BY UNIVERSAL BANKS

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loosely affiliated companies. Faccio et al. argue that minority shareholders of tightly affiliated companies demand higher dividends because they fear expropriation, while minority shareholders of loosely affiliated companies are less alert to expropriation, which allows insiders latitude to pay lower dividends.

[4] For a sample of contemporary U.S. firms, Byrd and Mizruchi (2005) find that lending bankers on a firm's board exercise downward pressure on the debt ratio, which suggests that they influence debt ratios in a manner consistent with their own interests, which may be at odds with shareholder interests. Fohlin (2000) on the other hand, who investigates the influence of bank interlocks on capital structure of German banks in 1904, finds that neither leverage nor debt maturity structure changes markedly in the presence of formal bank relationships.

The expropriation hypothesis rests on the assumption that universal banks will expropriate investors when legal protection of investors is weak. However, when legal protection is weak, dividends may be a *substitute* for legal protection. By paying dividends, companies can establish a reputation for moderation in expropriating shareholders, which should allow them to raise external funds on attractive terms (La Porta et al, 2000). A reputation of good treatment of shareholders is more valuable in countries with weak legal protection because investors have little else to rely on. The implication is that when investors are weakly protected, such as was the case in pre-World War I Belgium, dividends generally will be high. Consistent with this view, Fohlin (2006) reports that average dividends of German corporations in the late 19th and early 20th centuries far exceeded modern rates. La Porta et al. (1998) find that mandatory dividends are used only in French civil-law countries, which are characterized by weaker investor protection than common-law countries. Cheffins (2006) argues that even in the UK during the 20th century, dividends mimicked the role that the "law matters" literature attributes to corporate and securities laws: high and stable dividends constrained corporate insiders, and provided investors with information about the companies.

Universal banks may play a central role in establishing a reputation of honesty and reliability. A prerequisite for the formation of active capital markets is the need to develop procedures enabling investors to reliably evaluate the value of traded securities (e.g., Baskin and Mirante, 1997). Franks et al. (2005) and Franks et al. (2006) report that in the early 20th century, capital markets in the U.K. and Germany were flourishing, even though investor protection was very weak. At that time, Belgium also had surprisingly active stock markets. Rajan and Zingales (2003) find that in 1913 Belgium had the second largest fraction of gross fixed capital formation raised through equity in the world. It also had the largest number of

publicly traded domestic companies per million people. Moreover, the ratio of stock market capitalization over GDP was much higher for Belgium (0.99) than it was for the U.S. (0.39).

According to Franks et al., equity markets developed in the early 20th century on the basis of informal relations of trust rather than formal systems of regulation. They argue that in the U.K. local stock markets played an important role in creating trust, while in Germany it was banks that created trust, as promoters of new equity issues, custodians of individual shareholdings and voters of proxies on behalf of individual investors. Indeed, an affiliated bank with access to more timely information and with incentives to produce more durable information can better certify offer prices in securities issues[5]. Fohlin (2006) also stresses the role of German universal banks in marketing company securities to the public in the late 19th and early 20th centuries. According to Carosso (1970) and Baskin and Mirante (1997), in the U.S. during the second half of the 19th century specialized railroad underwriters – banks with reputations for honesty and competency – mitigated the uncertainties associated with railroad finance. Wealthy investors in both the U.S. and Europe relied on the professional counsel of J.P. Morgan & Company and Kuhn-Loeb & Company in deciding where to commit their capital. The banker's presence on the board of railroad companies as the "financial watchdog" gave investors confidence that their interests were being better served, and it constituted an endorsement of the issue's "investment quality" (Carosso, 1970). The bankers demanded board representation in order to safeguard their own reputation. Carosso (1970) points out that the advantages of banking representation were apparently so important that many railroads included the names of the investment bankers on their boards in newspaper

[5] Moreover, a good reputation may be more valuable to universal banks than to other company controllers, because universal banks invest on a much larger scale than most other investors, and they take a long-term view to their investments.

advertisements and prospectuses announcing new offerings. Ramirez (1995) finds that companies affiliated with J. P. Morgan in the early 20th century were indeed less liquidity constrained, and DeLong (2001) shows that the presence of directors affiliated with J.P. Morgan was associated with higher firm value. Jagannathan and Krishnamurthy (2004) find that even today, U.S. firms with investment banker directors are more likely to pay dividends, to have a credit rating and to issue commercial paper, and they pay out a larger fraction of their earnings. Moreover, they are able to raise larger amounts of external equity capital, with smaller underpricing and lower underwriting fees.

De Long (1991) suggests that high concentration in investment banking in the U.S. may have played a role in the "reputation role" of banks such as J.P. Morgan. If reputations as honest brokers are sufficiently fragile, an investment bank with a large market share will not imperil its reputation for the sake of higher short-run profits in a deal, as long as the bank's future appears secure. For a bank with a small market share on the other hand, the future returns expected from a reputation as an honest broker might be less than the present benefits of "cashing in" its reputation by luring investors into a profitable deal that is unsound.

Historical evidence suggests that universal banks in Belgium played a similar role as U.S. banks and German banks in the era considered in this study. According to Durviaux (1947, pp. 86-93), at the beginning of the 20th century universal banks contributed most of the money for the financing of new securities issued by Belgian companies, either by investing in securities themselves, or by selling securities to the public. He notes that the role of the banks in selling bonds and stocks to the public became very important at the end of the 19th century. The historical evidence on the role of banks in creating trust among investors leads us to posit the *certification hypothesis*: because of the role universal banks play in establishing a

reputation of honesty and reliability, companies affiliated to a universal bank pay higher dividends. Related to his hypothesis, Cheffins (2006) argues that in the UK, merchant banks organizing public offerings of shares pressured companies to pay sufficiently high dividends in order to create trust[6].

In an environment with weak investor protection, companies with good investment opportunities may even pay higher dividends than companies with poor investment opportunities, even though companies with good investment opportunities have a better use of funds. Companies with better investment opportunities have a stronger incentive to establish a reputation since they have a greater potential need for external finance. If universal banks play a central role in establishing a reputation of honesty and reliability, and dividends signal good investment opportunities, it can be expected that a positive relationship between dividends and investment opportunities will be stronger for affiliated companies than for stand-alone companies. Affiliation with a universal bank may also reduce finance constraints, thereby making it easier for affiliated companies with good investment opportunities to pay higher dividends.

3.4 OTHER REASONS WHY AFFILIATED COMPANIES MAY PAY HIGHER DIVIDENDS

The certification hypothesis leads us to expect that affiliated companies pay higher dividends. An alternative explanation for this positive relationship would be that affiliated companies need to put more effort in "seducing" investors, because investors fear expropriation by

[6] Interestingly, Braggion (2006) finds that in late Victorian Britain, new technologies companies with a titled director on their board also had a significantly higher dividend payout.

universal banks. From this point of view, it can be expected that dividends will be positively related to the degree of bank control: the stronger the control of the bank over the company, the more investors should fear expropriation by the bank. If it is the role of universal banks to affix their seal of approval to investment-worthy companies, as implied by the certification hypothesis, we do not expect a positive relationship between dividends and the extent of bank control. On the contrary, it could be argued that banks are likely to demand the closest oversight for the weakest or riskiest companies, which are less likely to pay dividends (Fohlin, 1999).

We also consider the possibility that universal banks in pre-World War I Belgium were basically outside equity investors, demanding *high* levels of dividends, in order to force companies to go to the capital market for external financing, and be subject to monitoring by the external market (cf.., Faccio et al., 2001; Short et al., 2002, Gugler and Yurtoglu, 2003; Renneboog and Trojanowski, 2005; Bena and Hanousek, 2006). The implication is that affiliated companies in which the bank has an equity stake will pay higher dividends. From this perspective, there is no reason to expect that companies which have a bank director but in which the bank does not have an equity stake pay higher dividends.

3.5 SUMMARY OF PREDICTIONS

Our predictions can be summarized as follows. The monitoring hypothesis and the expropriation hypothesis suggests a negative effect of universal bank affiliation on dividends, while according to the certification hypothesis, affiliated companies pay higher dividends. The monitoring hypothesis implies a negative relationship between dividends and investment opportunities for affiliated companies. If universal banks expropriate affiliated companies, we

would not necessarily expect a relation between dividends and investment opportunities for affiliated companies. The certification hypothesis suggests a positive relationship between dividends and investment opportunities.

The certification hypothesis also implies that not only companies in which the bank has an equity stake, but also companies with a bank director but without a bank equity stake will tend to pay higher dividends. Finally, if investors demand higher dividends because they fear expropriation by the bank, we expect a positive relation between bank control and dividends.

While the expropriation hypothesis implies that universal banks are bad because they expropriate minority shareholders, the monitoring hypothesis and the certification hypothesis assume that universal banks are basically good. According to the monitoring hypothesis, shareholders of affiliated companies do not need high dividends because monitoring by the bank ensures they will get what they are entitled to. The certification hypothesis on the other hand implies that shareholders get what they are entitled because the bank makes the company pay high dividends. In other words, the monitoring hypothesis assumes that dividends are a substitute for bank monitoring, while the certification hypothesis assumes that dividends are an instrument to constrain corporate insiders and to provide investors with information flow.

4. Sample and Variables

4.1. SAMPLE

In a first step, we constructed a sample of all Belgian companies listed on the Brussels Stock Exchange in the period 1905-1909, for which stock market data are available. Stock market data on all Belgian companies listed on the Brussels Stock Exchange were collected from a database constructed at the University of Antwerp by the "StudieCentrum Onderneming en Beurs" (SCOB). The primary source of this database is the archive of the Brussels Stock Exchange. The data were hand-collected and double checked from various sources including the official quotation list and companies' correspondence with the exchange. The database includes all listed companies, contains share prices, dividends, number of stocks outstanding and goes back as far as 1832 (Annaert et al., 1998). In addition, a sector classification code, based on the primary activity of the company, and a geographical code which identifies the "location" of the company's activity, based on the nationality of the owners and the geographical location of the principal production facilities, was assigned to each company.

Some companies had different types of stock listed on the Brussels Stock Exchange. For these companies we considered each type of stock and its dividends separately. To be included in the sample, we required that a stock had a listing for at least one year. Stocks listed or delisted in a particular year are not considered in the year of listing or delisting. For each stock we consider dividends paid in the years of listing in the period 1905-1909. The full sample consists of 2,952 observations for 663 stocks, issued by 428 companies.

We also constructed a subsample of companies for which financial statement data were collected. The subsample includes companies in the four largest industries in terms of (i) number of companies in the industry and (ii) the number of companies affiliated with a

universal bank[7]. This approach guarantees that the samples of affiliated and stand-alone companies are as large as possible. The industries under study are Coal Mining, Trams, Railways and Textiles. The financial statement data were hand-collected data from the appendices to the Official Gazette ("Annexes au Moniteur Belge: Receuil Spécial des Actes des Sociétés"). This is the most reliable source of Belgian financial statement data for that period since all companies constituted under Belgian corporate law were legally required to publish their balance sheets and income statements in the Official Gazette no later than two weeks after the approval by the general meeting (Théate, 1905). At least one month before the annual meeting, the executive board of the company had to deliver a (non-public) report ("inventaire") to the supervisory board ("commissaires") for approval. Companies also had to deposit an annual report containing the balance sheet and the income statement at the head office of the company and send it to all nominal shareholders at least two weeks before the general meeting. The general meeting had to approve the annual report. For a number of companies we were able to obtain the annual report presented at the general meeting, and we found that the balance sheet and income statement presented in the annual report were the same as the ones reported in the appendices of the Official Gazette.

Since the discretionary power of management to design the financial statement was high, there is substantial heterogeneity in the structure of financial statements reported in the Official Gazette, and we had to reformat the financial statements into a uniform structure. Fortunately, the law provided guidelines about the depreciation of assets and the distribution of profits (Resteau, 1913a and 1913b) and we were able to check practitioners' guides to get

[7] An additional restriction for the subsample is that it includes only (Belgian) companies with main activities in Belgium (as defined by the SCOB database).

a better understanding of the accounting principles at the turn of the century (François, 1901 and 1907).

After removing eight observations with extreme outliers[8] for the dividend payout ratio, which is one of the key variables in our analysis, and after removing observations with missing values for the variables considered in the multivariate analysis, the subsample of coal mining, trams, railways and textiles companies consists of 698 observations for 151 stocks, issued by 109 companies.

4.2. AFFILIATED COMPANIES

The identification of affiliated companies is a crucial matter, since the object of this study is to compare companies affiliated with universal banks to non-affiliated companies. We use interlocking directors and equity stakes of banks as measures of bank affiliation.

4.2.1 Director Interlocks

As in Germany, the boards of Belgian companies in the early 20th century had a dual structure, consisting of an executive board ("administrateurs") and a supervisory board ("commissaires"). The executive board members acted on behalf of and for the account of the company, they were appointed by the articles of incorporation or by the general meeting of shareholders, and their responsibilities were limited by the company's articles of incorporation. The minimum number of executive board members was legally set at three and their mandate could not exceed six years, but they were eligible for re-election. Supervisory

[8] Extreme outliers are the values beyond the third quartile + three times the interquartile range.

board members were charged with the supervision of the executive board members and they had to approve the company's annual accounts. Like the executive board members, they were appointed by the general meeting of shareholders.

We collected data on the board of directors from the "Recueil Financier", a financial annual containing a variety of company-specific information, including the members of the board as well as their mandate (executive board or supervisory board) and sometimes their domicile. To check the accuracy of the "Recueil Financier", we compared the information in the "Receuil Financier" with the entries in the appendices of the Official Gazette for a sub-sample of companies but we found no differences. To avoid selection problems (companies that are successful may attract more interlocks), we use board interlocks based on the boards of 1905[10].

We consider board interlocks with five different universal banks: *(i)* The Société Générale; *(ii)* the Crédit Général Liègeois; *(iii)* the Banque Internationale de Bruxelles; *(iv)* the Banque de Bruxelles and *(v)* the Banque d'Outremer. These were the most important listed universal banks in terms of the value of the industrial portfolio (Durviaux, 1947)[11]. As a consequence of the two-tier board structure, four different types of board interlocks can be considered: bank executive board – company executive board; bank executive board - company supervisory board; bank supervisory board - company executive board; and bank supervisory

[10] For some companies that went public after 1905, we also used the 1905 board if it was available in the Recueil Financier. If it was not available, we used the board from the year the listing started.

[11] We do not consider the Banque Liègeoise in this study because it not a listed bank.

board – company supervisory board. While executive board members of universal bank generally held a significant number of directorships in other companies, their supervisory peers rarely held directorships in other companies[12]. We therefore define a company as affiliated with a universal bank if an executive board member of the bank is on the executive board or the supervisory board of that company.

Insert Table II about here

Panel A of Table II depicts the number of bank interlocks and the number of banks interlocked with the 109 companies in the coal mining, trams, railways and textiles industries in 1905. 45 companies had an interlock with a bank. The highest number of bank interlocks for a company was four, but most companies either had one interlock (19 companies) or two interlocks (13 companies). 33 companies were interlocked with only one bank, 10 companies were interlocked with two banks, and two companies was interlocked with three banks.

Panel B of Table II shows the number of companies interlocked with each universal bank. The Société Générale (21) and the Crédit Générale Liègeois bank (18) had the largest number of company interlocks, which is consistent with the fact that these two banks at the time had a

[12] Interestingly, Fohlin (2006) finds that in contrast to Belgium, bank directors in Germany mainly had seats in the company supervisory board (Aufsichtsrat). An explanation for this difference between Belgium and Germany could be that the supervisory board was more powerful in Germany than in Belgium: the German supervisory boards appointed the executive board members, while in Belgium executive board members were appointed at the annual shareholder meeting.

larger industrial portfolio than any other Belgian universal bank (see Table I). Interestingly, the Société Générale had on average 2 company interlocks, the Crédit Générale Liègeois had 1.56 interlocks, while the Banque de Bruxelles and the Banque d'Outremer never had more than one interlock with a company. This suggests that the Société Générale and the Crédit Générale Liègeois (the two largest universal banks) were more involved in the management of the companies to which they were affiliated, than other banks.

4.2.2 Equity Stakes

Panel B of Table II also reports the equity stakes the banks had in the coal mining, trams, railways and textiles industries. It could be argued that equity stakes are a better indicator of bank involvement in the company than interlocks, since underperformance of the company has direct pecuniary implications on the value of the equity holdings. However, the universal banks provided services to companies which are not necessarily related to equity stakes, such as the provision of loans and the underwriting of new securities.

The data on the equity stakes were collected from "Recueil Financier", which listed the industrial portfolio of the banks considered in this study. We are able to identify only 14 companies in which a bank had an equity stake, of which 11 coal mining companies in which the Société Générale had a stake[13]. Not surprisingly, all companies with a bank equity stake

[13] We cannot rule out the possibility that the banks also had some indirect stakes in the companies considered in this study through holding companies, even though the use of holding companies in the period considered was rather limited, compared to the post World War I era. For some of these holding companies the portfolio of equity stakes is not fully available. In those cases where we did find information on indirect equity stakes of the banks considered, none of these stakes applied to the companies considered in this study.

had at least one bank director. The limited number of bank equity stakes we find is remarkable, as studies on the history of Belgian universal banks tend to stress the role of these banks as equity investors (e.g., Kurgan-Van Hentenryk, 1991). However, our results are consistent with the conclusion of Fohlin (2006) that German banks in the late 19th century owned few equity stakes in non-financial companies. While the literature on Belgian universal banks tends to focus almost exclusively on the Société Générale, which was by far the most important Belgian universal bank, our results suggest that the strategy of other Belgian universal banks may have been quite different from that of the Société Générale.

For the companies in which the Société Générale had an equity stake, the average percentage of shares held by the bank was 21.67%, with a maximum of 47.62%[14]. Although there were no legal restrictions on the percentage of shares a single shareholder could buy, the relatively small percentage of direct stakes can be traced to institutional reasons: in order to prevent large shareholders from dominating the general meeting, the law stipulated that a single shareholder could not vote for more than twenty percent of the issued stocks or for more than forty percent of the capital represented at the general meeting (Resteau, 1913b).

4.3. VARIABLES

Any investigation of corporate dividend policies in the period considered is complicated by the fact that some companies issued different types of stock, which were not all listed on the stock exchange. We use five different measures of dividend policy, three of which consider

[14] Not surprisingly, the average number of interlocks of the Société Générale with the companies in which it had an equity stake is rather high at 2.36. For only one company in which the bank had an equity stake, the bank has one interlock.

the dividends for each type of stock separately, and two which are based on the total dividends paid per company.

Dividend cut is a dummy variable which equals one if the dividend paid on a stock in year t-1 was cut in year t (including omissions), and zero otherwise. *Dividend Payer* is a dummy variable which equals one if a dividend was paid on a stock in year t, and zero otherwise. The *Dividend Yield* is the dividend paid on a stock in year t, divided by the stock price at the start of year t. We define the *Dividend Payout Ratio* as the total amount of dividends paid by a company in year t, divided by its operating cash flow over year t-1. Operating cash flow is the only income measure we can estimate for all companies with the available information in the income statements. We also consider *Dividend / Total Assets*, which is the total amount of dividends paid by a company in year t, divided by the book value of its total assets at the start of the year. Both the Dividend Payout Ratio and Dividends / Total Assets, which are based on total dividends per company, can only be determined for companies in the coal mining, trams, railways and textiles industries, for which we have financial statement data.

Some companies had stock types which were not listed on the stock exchange, and for which we do not know the dividends. For these stocks, we assumed that the dividend is the average of dividends paid on the other stocks of the same company. An alternative approach would be to delete these companies from our sample. However, deleting these companies has no qualitative effects on the results reported in this paper (results available from the authors upon request).

For the subsample of companies in the coal mining, trams, sector and textiles industries, we use multiple regression analysis to investigate the relationship between dividends and

universal bank affiliation. As for the explanatory variables, *Bank Interlock* is a dummy variable which equals one if an executive director of a universal bank was a member of the executive board or the supervisory board of the company, and zero otherwise. *Bank Equity Stake* is a dummy which equals one if a universal bank has a direct equity stake in the company, and zero otherwise. *Number of Interlocks* is the number of board interlocks between the company and universal banks, and measures the degree of bank control over the company.

We also include a number of control variables in the regression models. Our measure of investment opportunities is *Market-to-Book*, which is the sum of the market value of equity and the book value of debt, divided by the book value of the company. Dividends are likely to depend on cash flows. We therefore consider *Cash Flow / Total Assets*, which is the operating cash flow in the year t-1 divided by total assets at the start of year t. Large, mature companies with low growth potential can be expected to pay higher dividends. We use company size and company age to proxy for the maturity of the company. *Size* is measured by the natural logarithm of total assets at the beginning of year t. *Age* is calculated as the difference between the current year and the year the company transformed to a limited liability company. We also control for the leverage of the company. Highly leveraged companies may have paid lower dividends, for several reasons. Creditors may have prevented companies to pay high dividends in order to protect their own interests in the company. In line with the free cash flow hypothesis of Jensen (1986), it could be argued that large debt holders monitored the behavior of the management, which reduced the necessity of dividends as a monitoring mechanism. Moreover, highly leveraged companies were less likely to have free cash flow available for the managers to exploit. *Debt / Total Assets* is total debt divided by total assets at the start of year t.

We also include *Year Dummies* and *Industry Dummies* for the trams sector, the railways sector and the textiles sector. For the coal mining sector, we consider geographical dummies which indicate the location where the coal mining company operates and refer to geological conditions. They measure differences in the quality of extracted coal or the difficulty to extract coal in a particular region (Wautelet, 1976).

Insert Table III about here

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5. Empirical Results

5.1. UNIVARIATE ANALYSIS

Table III presents univariate results for differences in dividend policies between affiliated companies (companies which have a director interlock with a bank), and stand-alone companies (all other companies). All results suggest that affiliated companies paid higher dividends than stand-alone companies, and affiliated companies were less likely to reduce dividends. A chi-square test of independence reveals that dividend policies of affiliated companies were significantly different from dividend policies of stand-alone companies. Affiliated companies were not only more likely to pay dividends, they were also less likely to cut or omit dividends, and they were more likely to pay the same dividend as in the previous year. All results are significant at the 1% level. Moreover, both the mean and the median

dividend yield were significantly greater (at the 1% level) for affiliated companies than for stand-alone companies. For the subsample of companies in the coal mining, trams, railways and textiles industries, we find that the mean and median dividend payout ratio and dividends / total assets were also significantly greater (at the 1% level) for affiliated companies than for stand-alone companies. These results are consistent with the certification hypothesis, not with the monitoring hypothesis and the expropriation hypothesis.

Insert Table IV about here

5.2. MULTIVARIATE ANALYSIS

Next we investigate how affiliation with a universal bank affected the likelihood that a company cut its dividend in a multivariate setting. The explanatory variables in regression 1 (Table IV) are the Bank Interlock dummy, stock market returns in year t, year t-1 and year t-2, and variables measuring the interaction between the Bank Interlock dummy and stock market returns. This approach allows us to asses how far back companies looked when they set dividend policy, and whether there was a difference between affiliated companies and stand-alone companies. The sample includes all 1,312 listed stock-year observations in the period 1906-1909 for which a dividend was paid in the previous year. The regression is estimated with the Random Effects Probit Model[15]. The results in Table IV suggest that

[15] All regressions reported in this paper were also estimated without assuming random effects (intercepts are drawn from a common distribution). The results (available from the authors) are very similar to the ones

affiliated companies were more reluctant to cut dividends than stand-alone companies. For stand-alone companies the probability of a dividend cut in year t was negatively affected by stock market returns in year t and t-1, while for affiliated companies it was also affected by the stock market return in year t-2. This implies that stand-alone companies were responding to current performance when cutting dividends, while affiliated companies were also looking back.

Insert Table V about here

We analyze the determinants of dividend payments for the subsample of companies in the coal mining, trams, railways and textiles industries. Table V presents descriptive statistics for the companies in these industries. Affiliated companies not only paid significantly higher dividends than stand-alone companies, but they also tended to have a higher debt / total assets ratio and a higher market-to-book ratio. Moreover, they were generally larger and older than stand-alone companies. It is therefore important to control for these factors.

Insert Table VI about here

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reported in the paper. As the affiliation measures considered in the regressions are almost completely time invariant, we could not estimate fixed effect models.

Table VI reports regression results on the determinants of dividend policy, including the "Bank Interlock" dummy. Four different measures of dividend policy are considered: the dividend payer dummy (regression 2), the dividend payout ratio (regression 3), the dividends / total assets ratio (regression 4), and the dividend yield (regression 5). Regressions 3, 4 and 5 are estimated with the Random Effects Model, while regression 2 is estimated with the Random Probit Model. For the regressions in which the dividend payer dummy or the dividend yield is the dependent variable, the sample consists of 698 observations (151 stocks). When the dividend payout ratio or the dividend / total assets variable is the dependent variable, the sample consists of 515 observations (109 companies).

In the random effects regressions, we use clustered standard errors to asses the significance of the estimated coefficients. Standard errors clustered by firm account for the fact that standard errors of regression coefficients are downward biased if residuals are correlated across time for a given firm. When both a firm and a time effect are present in the data, the time effect can be addressed by including time dummies and then estimate standard errors clustered on the other dimension (Petersen, 2006).

Again we find that companies with a bank interlock were more likely to pay a dividend (regression 2), they had a higher payout ratio (regression 3) and a higher dividend / total assets ratio (regression 4). However, the bank interlock coefficient is only significant at the 10% level in regression 3. The finding in regression 5 that companies with a bank interlock did not have a higher dividend yield suggests that affiliated companies did not have to pay a higher dividend in order to satisfy investors: higher dividends of affiliated companies resulted in higher stock prices. This result is consistent with the findings of Van Overfelt et al. (2006)

for a similar sample, that affiliated companies in the period considered *ceteris paribus* had a higher stock market value than stand-alone companies.

The results for the control variables are generally as expected. A higher Cash Flow / Total Assets ratio increased the likelihood that a dividend was paid (regression 2), and it was positively related to Dividend / Total Assets (regression 4) and the Dividend Yield (regression 5). Larger companies were more likely to pay (higher) dividends, and leverage was negatively related to dividends. The age coefficient is never significant. We do find some intriguing results for the market-to-book ratio, which measures investment opportunities. Companies with a higher market-to-book ratio had a higher dividend payout ratio and a higher dividend / total assets ratio. The finding that higher market valuations were associated with higher dividends is again consistent with the certification hypothesis, but contradicts the monitoring hypothesis.

Insert Table VII about here

It could be argued that the effect of universal banks on corporate dividend policy depended on bank equity stakes, and not on a bank director on the company board. Banks may have pressed affiliated companies to pay higher dividends in order to maximize the value of the bank equity stake. In Table VII, we include in the regressions a dummy variable “Bank Equity Stake”, which equals one if a universal bank had an equity stake in the company, and zero otherwise. The results suggest that universal banks increased dividends through bank directors, irrespective of whether the bank had an equity stake in the company or not. The

bank interlock coefficient is significantly positive in regression 6 (dividend payer, p = 0.090), regression 7 (dividend payout ratio, p = 0.034) and regression 8 (dividend / total assets, p = 0.040). The bank equity stake coefficient on the other hand is negative in all regressions (significant in regression 8), suggesting that companies in which a universal bank had an equity stake had a *lower* dividend payout than other companies.

Insert Table VIII about here

The certification hypothesis suggests a positive relationship between dividends and investment opportunities. This is indeed what we found in the regressions in Table VI and Table VII. In order to investigate whether the relation between investment opportunities and dividends was different for affiliated companies and stand-alone companies, we include an Bank Interlock x Market-to-Book interaction variable in the regressions. The results are reported in Table VIII. The market-to-book does not seem to affect the likelihood of paying a dividend, irrespective of whether the company has a bank director or not (regression 10). However, the results for regression 12 suggest that companies with a higher market-to-book had a significantly higher dividend/total assets ratio (p = 0.029), and that the relationship between dividends and investment opportunities was stronger for affiliated companies than for stand-alone companies: the Bank Interlock x Market-to-Book interaction variable is positive and significant at the 10% level. The coefficients of Market-to-Book and the Bank Interlock x Market-to-Book interaction variable are also positive in regression 11 (Dividend Payout Ratio), but they are not significant. When the interaction variable is included in the regressions, the Bank Interlock dummy is insignificant in all regressions, which suggests that

banks affiliation led to higher dividends only when companies had good investment opportunities.

Insert Table IX about here

According to the certification hypothesis, universal banks induced affiliated companies to pay higher dividends, in order to establish a reputation of honesty and reliability, which should have made it easier to attract external financing. An alternative explanation would be that affiliated companies needed to put more effort in "seducing" investors, because investors feared expropriation by universal banks. In that case, we expect a positive relation between dividends and the degree of bank control: the higher the degree of bank control, the more investors should have feared expropriation by the bank. The results reported in Table IX contradict the hypothesis that dividends were paid in order to diminish the fear of investors for expropriation by the bank: it seems that a higher degree of bank control *reduced* the need to pay high dividends. The positive effect of bank affiliation on dividends tended to be smaller if a company had more bank interlocks: the coefficient of the "Number of Bank Interlocks" variable is negative but insignificant in regression 15 (dividend payout ratio, $p = 0.144$) and it is negative and significant in regression 16 (dividend / total assets, $p = 0.023$), while the coefficient of the "Bank Interlock" dummy remains significantly positive in both regressions.

It could be argued that the number of bank interlocks is not a good measure of bank control, as the number of bank interlocks is related to the number of banks interlocked with the

company (cf. Table II). As a robustness check, we split the total number of bank interlocks in (a) the number of interlocked banks, and (b) the total number of bank interlocks minus the number of interlocked banks. Variable (b) reflects the number of bank interlocks, additional to the first interlock with a bank. The results (not reported, available from the authors) confirm that a higher degree of bank control *reduced* dividends: the coefficients of "No. of Bank Interlocks – No. of Interlocked Banks" are negative and significant at the 1% level.

Conclusions

There are two views about the economic role of universal banks. On the one hand, it has been argued that universal banks are efficient institutions that overcome problems of asymmetric information. A more pessimistic view holds that the multiple relations between a universal bank and affiliated companies allow the bank to loot these companies at the expense of other investors, especially in emerging economies which are characterized by weak legal systems and poor investor protection.

We find that in pre-World War 1 Belgium, which was characterized by weak investor protection, strong stock markets, and dominant universal banks, companies with a bank director on their board paid higher dividends and were less likely to cut dividends than other companies. Moreover, companies with a universal bank director paid higher dividends if they had greater investment opportunities. We also find that the positive effect of a universal bank on dividends exists even if the bank has no equity stake in the company. These results confirm the hypothesis that companies affiliated to a universal bank use dividends as a tool to convince investors of their honesty and reliability. They are consistent with the thesis of Franks et al. (2005), that in the early 20th century equity markets developed on the basis of

informal relations of trust, rather than formal systems of regulation, and that in some countries such as Germany, universal banks played a central role in this respect.

However, we also find that companies with several bank directors and companies in which the bank had an equity stake tended to pay lower dividends. We therefore cannot reject the hypothesis that banks extracted rents from companies they controlled. Of course, it should be taken into account that of the universal banks considered in this study, it was mainly the Société Générale which held equity stakes in affiliated companies. The results on the impact of bank equity stakes may therefore to some extent be driven by the idiosyncratic nature of the Société Générale, although it should be noted that in the period considered it was be far the most important universal bank in Belgium.

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Table I. Industrial Portfolio and Total Assets of Belgian Universal Banks on 31 December 1913 (expressed in million Belgian Francs).

Société Générale Group	Industrial Portfolio	Total Assets
Société Générale	185.5	482.3
Banque Belge pour l'étranger (*)	n.a.	166.3
Banque d'Anvers	3.3	157.0
Banque Italo-Belge (*)	1.9	89.3
Other banks affiliated to the Société Générale (18)	n.a.	534.8
Total	190.7	1,429.7

Other Universal Banks	Industrial Portfolio	Total Assets
Crédit Général Liégeois	45.0	149.2
Banque d'Outremer	26.0	99.6
Banque Liégeoise	21.0	56.1
Banque de Bruxelles	10.5	100.9
Banque Internationale de Bruxelles	9.9	100.0
Crédit Général de Belgique	8.3	19.6
Crédit National Industriel	4.8	16.8
Banque Générale Belge	2.4	104.1
Comptoir d'escompte de Bruxelles	0.6	22.3
Total	128.5	668.6

(*) The "Banque Belge pour l'Étranger" and The "Banque Italo-Belge" are two banks set up to support exports. The former towards China and the latter towards South-America *(Source: Durviaux, 1947, pp 82-83 and Annexe V).*

Table II. Universal Bank Affiliation: Number of Bank Interlocks, Number of Banks Interlocked, and Equity Stakes Held by Universal Banks

For a sample of 109 listed Belgian companies in the coal mining, trams, railways and textiles industries , this table reports the number of interlocks with a universal bank and the number of banks interlocked (Panel A), and the company interlocks and equity stakes for each universal bank (Panel B) in 1905. A company is interlocked with a bank if an executive director of the bank is either a member of the executive board or the supervisory board of the company

Panel A: Number of Bank Interlocks and Number of Banks Interlocked

Number of Bank Interlocks	Number of Banks Interlocked →			
↓	1	2	3	Total
1	19			19
2	10	3		13
3	3	4	1	8
4	1	3	1	5
Total	33	10	2	45

Panel B: Company Interlocks and Equity Stakes for each Universal Bank

Universal Bank	Number of companies interlocked	Average number of interlocks	Number of equity stakes	Average percentage of shares held
Société Générale	21	2.00	11	21.67% (*)
Crédit Général Liégeois	18	1.56	2	19.24%
Banque d'Outremer	10	1.00	0	
Banque de Bruxelles	6	1.00	1	3.74%
Banque Internationale de Bruxelles	4	1.25	0	

(*) The maximum percentage of shares held by the Société Générale is 47.62%

Table III. Univariate Analysis

Values reported in this table are based on a sample of 2,952 observations for 663 stocks of 428 Belgian companies, listed on the Brussels Stock Exchange in the period 1905-1909. Companies are categorized as affiliated if an executive director of a universal bank is a member of the executive board or the supervisory board of the company, and as stand-alone if not.

	Affiliated companies	Stand-alone companies	Significance of difference
For all observations:	(905 observations)	(2,047 observations)	
Dividend cut (excluding dividend omissions)	13.3%	10.2%	
Dividend omission	1.9%	4.5%	
Dividend continuation	30.3%	16.7%	
Dividend increase (excluding dividend initations)	28.4%	17.7%	
Dividend initiation	6.1%	8.2%	
No dividend in year t and year t-1	20.1%	42.7%	
Chi-Square Test of Independence			***
For all observations:	(905 observations)	(2,047 observations)	
Dividend Payer	78%	52.9%	*** (a)
For dividend payers in year t-1:	(668 observations)	(1,005 observations)	
Cut or omission	20.5%	29.9%	*** (a)
Continuation	41.0%	34.0%	*** (a)
Increase	38.5%	36.1%	n.s. (a)
For all available observations:	(889 observations)	(2,023 observations)	
Mean dividend yield	3.51%	2.63%	*** (a)
Median dividend yield	3.95%	2.54%	*** (b)
For Coal Mining, Trams, Railways and Textiles Industries:	(208 observations)	(307 observations)	
Mean dividend payout ratio	57.25%	46.38%	*** (a)
Median dividend payout ratio	59.14%	48.20%	*** (b)
Mean dividends / total assets	8.76%	6.89%	*** (a)
Median dividends / total assets	6.05%	4.82%	*** (b)

***, **, *: denote significance at the 1%, 5%, 10% level respectively; n.s.: not significant.
(a) significance level based on the Z-test; (b) significance level based on the Mann Whitney-test

Table IV. Universal Bank Affiliation and the Effect of Stock Return Performance on the Decision to Cut Dividends

The regression is based on a sample of 663 stocks of 428 Belgian companies, listed on the Brussels Stock Exchange. The sample includes stock-year observations in the period 1906-1909 for which a dividend was paid in the previous year. Dividend Cut is a dummy which equals one if a dividend paid in the previous year is cut (including omissions); Bank Interlock is a dummy which equals one if an executive director of a universal bank is a member of the executive board or the supervisory board of the company; Stand-Alone is a dummy which equals one if none of the members of the executive board or the supervisory board of the company is an executive director of a universal bank; Stock Market Return (t) is the stock market return in year t (the year in which the dividend is paid); Stock Market Return (t-1) is the stock market return in year t-1; Stock Market Return (t-2) is the stock market return in year t-2. P-values (robust for heteroscedasticity) are in parentheses below each coefficient. ***: denotes significance at the 1% level; **: denotes significance at the 5% level; *: denotes significance at the 10% level.

	(1)
Dependent Variable:	Dividend Cut
Estimation method:	Random Probit
Sample:	663 stocks
Constant	-0.470***
	(0.000)
Bank Interlock	-0.108
	(0.428)
Stock Market Return (t) x Bank Interlock	-0.898
	(0.109)
Stock Market Return (t) x Stand-Alone	-0.770
	(0.101)
Stock Market Return (t-1) x Bank Interlock	-2.382**
	(0.012)
Stock Market Return (t-1) x Stand-Alone	-3.212***
	(0.000)
Stock Market Return (t-2) x Bank Interlock	-1.056**
	(0.023)
Stock Market Return (t-2) x Stand-Alone	-0.043
	(0.932)
Number of Observations	1,312

Table V. Descriptive statistics

This table reports descriptive statistics for a sample of 109 listed Belgian companies in the coal mining, trams, railways and textiles industries for the period 1905-1909. Companies are categorized as affiliated if an executive director of a universal bank is a member of the executive board or the supervisory board of the company, and as stand-alone otherwise. Dividend Payout Ratio is total dividends over operating cash flow; Dividend / Total Assets is total dividends over total assets; Dividend Yield is dividend per stock over stock market price; Market-to-Book is the market-to-book ratio; Cash flow / Total Assets is the operating cash flow over total assets; Ln(Total Assets) is the natural log of total assets; Age is the number of years since the company is a limited liability company; Debt / Total Assets is total debt over total assets.

Panel A: All Companies – 515 company-year observations

	Mean	Median	Standard Deviation	Minimum	Maximum
Dividend Payout Ratio	0.51	0.52	0.33	0.00	2.01
Dividend / Total Assets	0.08	0.05	0.07	0.00	0.36
Dividend Yield ([a])	0.04	0.04	0.02	0.00	0.11
Market-to-Book	2.03	1.49	1.57	0.38	16.57
Cash Flow / Total Assets	0.13	0.11	0.11	-0.14	0.81
Ln (Total Assets)	15.39	15.31	0.95	11.05	18.74
Age	30.75	25.00	19.25	0.00	81.00
Debt / Total Assets	0.27	0.18	0.24	0.00	1.08

([a]) descriptive statistics for the dividend yield are based on 698 stock-year observations

Panel B: Affiliated Companies – 208 company-year observations

Dividend Payout Ratio	0.57 ***	0.59 ***	0.34	0.00	2.01
Dividend / Total Assets	0.09 ***	0.06 ***	0.08	0.00	0.28
Dividend Yield ([b])	0.04 ***	0.04 n.s.	0.02	0.00	0.10
Market-to-Book	2.23 **	1.87 ***	1.33	0.63	6.20
Cash Flow / Total Assets	0.14 n.s.	0.12 *	0.09	-0.02	0.38
Ln (Total Assets)	15.71 ***	15.81 ***	0.75	13.98	17.85
Age	36.36 ***	32.00 ***	19.18	0.00	74.00
Debt / Total Assets	0.31 ***	0.24 ***	0.24	0.00	0.90

([b]) descriptive statistics for the dividend yield are based on 314 stock-year observations; ***, **, * indicate that the mean (median) for affiliated companies is significantly different from the mean (median) for stand-alone companies, based a two-tailed Z-test (Mann-Whitney test); *** : $p < 0.01$, ** : $p < 0.05$, * : $p < 0.10$.

Panel C: Stand-Alone Companies – 307 company-year observations

Dividend Payout Ratio	0.46	0.48	0.32	0.00	1.27
Dividend / Total Assets	0.07	0.05	0.07	0.00	0.36
Dividend Yield ([c])	0.03	0.04	0.03	0.00	0.11
Market-to-Book	1.90	1.41	1.70	0.38	16.57
Cash Flow / Total Assets	0.13	0.10	0.13	-0.14	0.81
Ln (Total Assets)	15.18	15.10	1.00	11.05	18.74
Age	26.94	21.00	18.38	1.00	81.00
Debt / Total Assets	0.23	0.15	0.23	0.00	1.08

([c]) descriptive statistics for the dividend yield are based on 384 stock-year observations

Table VI. Determinants of Dividend Policy – Bank Interlocks

Regressions are based on a sample of 109 listed Belgian companies in the coal mining, tram, railways and textiles industries over the period 1905-1909. Dividend Payer is a dummy which equals one if a dividend is paid; Dividend Payout Ratio is total dividends over operating cash flow; Dividend / Total Assets is total dividends over total assets; Dividend Yield is dividend per stock over stock market price; Dividend Cut is a dummy which equals one if a dividend paid in the previous year is cut (including omissions); Bank Interlock is a dummy which equals one if an executive director of a universal bank is a member of the executive board or the supervisory board of the company; Market-to-Book is the market-to-book ratio; Cash flow / Total Assets is the operating cash flow over total assets; Ln(Total Assets) is the natural log of total assets; Age is the number of years since the company is a limited liability company; Debt / Total Assets is total debt over total assets. All regressions include year dummies and industry dummies. P-values (robust for heteroscedasticity) are in parentheses below each coefficient. P-values for random effects estimations are based on clustered standard errors. ***: denotes significance at the 1% level; **: denotes significance at the 5% level; *: denotes significance at the 10% level.

	(2)	(3)	(4)	(5)
Dependent Variable:	Dividend Payer	Dividend Payout Ratio	Dividend / Total Assets	Dividend Yield
Estimation method:	Random Probit	Random Effects	Random Effects	Random Effects
Sample:	151 stocks	109 companies	109 companies	151 stocks
Bank Interlock	0.957	0.096*	0.010	0.002
	(0.184)	(0.091)	(0.194)	(0.438)
Market-to-Book	0.269	0.062*	0.019***	0.000
	(0.588)	(0.055)	(0.003)	(0.572)
Cash Flow / Total Assets	15.986***	-0.588**	0.311***	0.111***
	(0.004)	(0.039)	(0.000)	(0.000)
Ln(Total Assets)	1.596***	0.114***	0.014**	0.005***
	(0.000)	(0.001)	(0.039)	(0.000)
Age	-0.016	0.001	0.000	0.000
	(0.546)	(0.508)	(0.250)	(0.546)
Debt / Total Assets	-7.317***	-0.696***	-0.057**	-0.030***
	(0.000)	(0.000)	(0.018)	(0.000)
R^2		0.26	0.73	0.40
Number of Observations	698	515	515	698

Table VII. Determinants of Dividend Policy- Bank Interlocks and Bank Equity Stakes

Regressions are based on a sample of 109 listed Belgian companies in the coal mining, trams, railways and textiles industries for the period 1905-1909. Dividend Payer is a dummy which equals one if a dividend is paid; Dividend Payout Ratio is total dividends over total assets; Dividend Yield is dividend per stock over stock market price; Dividend Cut is a dummy which equals one if a dividend paid in the previous year is cut (including omissions); Bank Interlock is a dummy which equals one if an executive director of a universal bank is either a member of the executive board or the supervisory board of the company; Bank Equity Stake is a dummy which equals one if a universal bank has a direct equity stake in the company; Market-to-Book is the market-to-book ratio; Cash flow / Total Assets is the operating cash flow over total assets; Ln(Total Assets) is the natural log of total assets; Age is the number of years that the company is a limited liability company; Debt / total Assets is total debt over total assets; all regressions include year dummies and industry dummies. P-values (robust for heteroscedasticity) are in parentheses below each coefficient. P-values for random effects estimations are based on clustered standard errors. ***: denotes significance at the 1% level; **: denotes significance at the 5% level; *: denotes significance at the 10% level.

	(6)	(7)	(8)	(9)
Dependent Variable:	Dividend Payer	Dividend Payout Ratio	Dividend / Total Assets	Dividend Yield
Estimation method:	Random Probit	Random Effects	Random Effects	Random Effects
Sample:	151 stocks	109 companies	109 companies	151 stocks
Bank Interlock	1.253*	0.132**	0.019**	0.002
	(0.090)	(0.034)	(0.040)	(0.496)
Bank Equity Stake	-0.931	-0.120	-0.030**	0.000
	(0.343)	(0.249)	(0.016)	(0.949)
Market-to-Book	0.274	0.062*	0.019***	0.000
	(0.518)	(0.052)	(0.003)	(0.572)
Cash Flow / Total Assets	16.410***	-0.578**	0.314***	0.111***
	(0.006)	(0.042)	(0.000)	(0.000)
Ln(Total Assets)	1.631***	0.116***	0.014**	0.005***
	(0.000)	(0.001)	(0.031)	(0.000)
Age	-0.014	0.001	0.000	0.000
	(0.496)	(0.416)	(0.116)	(0.551)
Debt / Total Assets	-7.485***	-0.698***	-0.057**	-0.030***
	(0.000)	(0.000)	(0.017)	(0.000)
R^2		0.27	0.74	0.40
Number of Observations	698	515	515	698

Table VIII. Determinants of Dividend Policy- Bank Interlocks and Investment Opportunities

Regressions are based on a sample of 109 listed Belgian companies in the coal mining, trams, railways and textiles industries in the period 1905-1909. Dividend Payer is a dummy which equals one if a dividend is paid; Dividend Payout Ratio is total dividends over total assets; Dividend Yield is dividend per stock over stock market price; Dividend Cut is a dummy which equals one if a dividend paid in the previous year is cut (including omissions); Bank Interlock is a dummy which equals one if an executive director of a universal bank is a member of the executive board or the supervisory board of the company; Market-to-Book is the market-to-book ratio; Cash flow / Total Assets is the operating cash flow over total assets; Ln(Total Assets) is the natural log of total assets; Age is the number of years that the company is a limited liability company; Debt / total Assets is total debt over total assets; all regressions include year dummies and industry dummies. P-values (robust for heteroscedasticity) are in parentheses below each coefficient. P-values for random effects estimations are based on clustered standard errors. ***: denotes significance at the 1% level; **: denotes significance at the 5% level; *: denotes significance at the 10% level.

	(10)	(11)	(12)	(13)
Dependent Variable:	Dividend Payer	Dividend Payout Ratio	Dividend / Total Assets	Dividend Yield
Estimation method:	Random Probit	Random Effects	Random Effects	Random Effects
Sample:	151 stocks	109 companies	109 companies	151 stocks
Bank Interlock	-1.096	-0.004	-0.016	0.002
	(0.613)	(0.970)	(0.222)	(0.684)
Bank Interlock x Market-to-Book	1.435	0.048	0.013*	0.000
	(0.475)	(0.186)	(0.079)	(0.946)
Market-to-Book	0.214	0.051	0.015**	0.000
	(0.505)	(0.140)	(0.029)	(0.576)
Cash Flow / Total Assets	14.578**	-0.565**	0.321***	0.111***
	(0.024)	(0.042)	(0.000)	(0.000)
Ln(Total Assets)	1.630***	0.111***	0.012**	0.005***
	(0.000)	(0.001)	(0.028)	(0.000)
Age	-0.033*	0.001	0.000	0.000
	(0.075)	(0.607)	(0.299)	(0.557)
Debt / Total Assets	-7.213***	-0.700***	-0.056**	-0.030***
	(0.000)	(0.000)	(0.013)	(0.000)
R^2		0.29	0.76	0.41
Number of Observations	698	515	515	698

Table IX. Determinants of Dividend Policy- Number of Bank Interlocks

Regressions are based on a sample of 109 listed Belgian companies in the coal mining, trams, railways and textiles industries for the period 1905-1909. Dividend Payer is a dummy which equals one if a dividend is paid; Dividend Payout Ratio is total dividends over total assets; Dividend Yield is dividend per stock over stock market price; Dividend Cut is a dummy which equals one if a dividend paid in the previous year is cut (including omissions); Bank Interlock is a dummy which equals one if an executive director of a universal bank is either a member of the executive board or the supervisory board of the company; Number of Bank Interlocks is the number of executive directors in a universal bank which are a member of the executive board or the supervisory board of the company; Market-to-Book is the market-to-book ratio; Cash flow / Total Assets is the operating cash flow over total assets; Ln(Total Assets) is the natural log of total assets; Age is the number of years that the company is a limited liability company; Debt / total Assets is total debt over total assets; all regressions include year dummies and industry dummies. P-values (robust for heteroscedasticity) are in parentheses below each coefficient. P-values for random effects estimations are based on clustered standard errors. ***: denotes significance at the 1% level; **: denotes significance at the 5% level; *: denotes significance at the 10% level.

	(14)	(15)	(16)	(17)
Dependent Variable:	Dividend Payer	Dividend Payout Ratio	Dividend / Total Assets	Dividend Yield
Estimation method:	Random Probit	Random Effects	Random Effects	Random Effects
Sample:	151 stocks	109 companies	109 companies	151 stocks
Bank Interlock	0.991	0.211**	0.032**	0.005
	(0.333)	(0.042)	(0.020)	(0.274)
Number of Bank Interlocks	-0.018	-0.062	-0.012**	-0.002
	(0.968)	(0.144)	(0.023)	(0.352)
Market-to-Book	0.270	0.064**	0.019***	0.000
	(0.562)	(0.045)	(0.002)	(0.653)
Cash Flow / Total Assets	15.993**	-0.584**	0.312***	0.111***
	(0.021)	(0.041)	(0.000)	(0.000)
Ln(Total Assets)	1.600***	0.122***	0.016**	0.005***
	(0.000)	(0.001)	(0.021)	(0.000)
Age	-0.016	0.002	0.000	0.000
	(0.442)	(0.384)	(0.126)	(0.476)
Debt / Total Assets	-7.323***	-0.693***	-0.056**	-0.030***
	(0.000)	(0.000)	(0.018)	(0.000)
R^2		0.26	0.73	0.41
Number of Observations	698	515	515	698