

DOES RELATIONSHIP BANKING CREATE VALUE? THE ROLE OF  
UNIVERSAL BANKS IN BELGIUM AT THE BEGINNING OF THE 20<sup>TH</sup>  
CENTURY

**-VERY PRELIMINARY AND INCOMPLETE VERSION –**

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**- Very Preliminary and Incomplete Version -**

**Abstract:**

*This paper examines the impact of universal banks on the performance of affiliated firms in Belgium during the period 1905-1909. Performance is measured by the return-on-assets and the market-to-book ratio. Affiliated companies are defined through direct equity stakes and interlocking directorates. We pay special attention to the Société Générale de Belgique, which was the dominant universal bank in Belgium. We find that affiliation with the Société Générale had a significant positive impact during and after the 1907 crisis for firms in which the Société Générale had a significant equity stake and for firms in which more than one executive board member of the Société Générale was present. On the other hand, for firms in which the Société Générale was present with one executive board member, we find a significantly negative impact. Finally, our results suggest that affiliation with other universal banks is mostly insignificant, even though the impact seems to be larger if a company has more bank directors on its board.*

## 1. **Introduction**

As early as 1911, Schumpeter argued that financial intermediary services' – mobilizing savings, evaluating projects, sharing risks, monitoring managers and facilitating transactions – are vital for technological innovation and economic growth. One type of intermediary that received special attention are banks (e.g. King and Levine, 1993; Levine, 1997; and Rajan and Zingales, 1998). This is not surprising given the fact that the bulk of companies' external finance is indeed bank finance. Furthermore, the debate on the ability of universal banks<sup>1</sup> to foster economic growth has a long history at least going back to the early years of the 20<sup>th</sup> century. Not surprising, the debate has known proponents as well as adversaries of bank involvement. Jeidels (1905) and Riesser (1910) are often cited as early advocates of strong banks in Germany while Gerschenkron (1962) revived the debate when he attributed a central role to universal banks in the development in relatively backward economies<sup>2</sup>.

According to the proponents, universal banks are the most efficient institutions to overcome problems of asymmetric information, inevitably associated with external finance. They have the ability to mobilize large amounts of capital and act as long term investors that assist companies from the cradle to the grave. Universal banks organize internal capital markets, take equity participations, are represented on boards of affiliated companies and engage in proxy voting. In sum, universal bank-firm relationships are characterized by a multitude of links which allow universal banks to reuse costly information and to build up technical expertise.

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<sup>1</sup> Benston (1994) provides the following definition of universal banks: “[universal banks are] financial institutions that may offer the entire range of financial services. They may sell insurances, underwrite securities and carry out transactions on behalf of others. They may own equity interests in firms, including non financial firms.” A similar definition is found in historical work. Sayous, (1901) writes: “Les Banques mixtes remplissent tour à tour les fonctions des banques de dépôt, des banques de crédit et des sociétés financières; et elles le font d’une manière concomitante: elles mettent en contact les éléments les plus divers; elles endiguent les capitaux d’origines très différentes et les canalisent dans telle ou telle direction. Elles utilisent les sommes momentanément disponibles, portent l’aide le plus puissant au commerce et à l’industrie, réalisent elles-mêmes les découvertes et font appel à l’épargne, tout en penchant répétons-le, vers telle ou telle fonctions plus ou moins particulière”

<sup>2</sup> According to Gerschenkron, relatively backward economies could industrialize faster than their more advanced counterparts because universal banks supported Joint Stock companies by enabling them to take over the modern, capital intensive technologies. Franks, Mayer and Wagner (2004), indicate that in many countries it was the arrival of the railroads with their substantial external financing requirements that provided the real impetus for the development of the Joint-Stock corporation.

The adversaries of strong universal banks on the other hand call into question the rosy picture drawn by the adherents<sup>3</sup>. They stress that the bank-firm relation eulogized by the proponents may give rise to conflicts of interest and may even undermine the stability of the financial system. For example, a universal bank may restrict the supply of credit to competitors of its affiliate while showing preferential credit treatment towards affiliated firms (Saunders, 1994). A related problem is the soft budget constraint. This refers to the lack of toughness on the part of the bank to deny additional credit when an affiliated corporation faces distress. In a related way, universal banks may fool investors if it issues additional securities to recoup loans which turned sour<sup>4</sup>. Finally, contrary to offering affiliated companies preferential loans, universal banks may charge high loan rates if they can obtain an information monopoly. This problem is known as the hold-up problem and may lead firms to forgo valuable investments if they have to borrow.

While it is true that we have a good understanding of what the benefits and the costs of universal banks might be, we have little insight in their relative magnitude. This is partly due to the fact that the early debate has been clouded by ideological biases<sup>5</sup>. Moreover, quantitative evidence on the role of universal banks is relatively scarce<sup>6</sup>. However, the abolition of the separation of commercial and investment banking in the United States and the efforts to industrialize former Communist and currently developing countries recently provided an impetus for empirical inquiries into universal banking and the role of business groups.

A first strand of research measures the net certification effect of universal banks at ex-ante similar security issues (e.g. Puri, 1996; Kroszner and Rajan, 1997 and Gande,

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<sup>3</sup>Boot (1999) provides an excellent review of the contemporary literature on relationship banking. Benston (1994) looks into the costs and benefits of universal banking in general while Rajan (1996) surveys the entry of commercial banks into the security business. Finally, Saunders (1994) reviews the public policy issues in the United States.

<sup>4</sup>Rajan (1996) argues that if investors are moderately rational, they will take the bank's incentives into account when pricing the issue and impose a "lemon's" market discount.

<sup>5</sup>Fohlin, 1999, indicates that the early discussion in Germany was led by Riesser (1910), Hilferding (1910) and Jeidels (1905). She indicates that Jakob Riesser was a director of one of the largest Universal banks and Otto Jeidels was an employee of another such bank. On the other hand, Rudolf Hilferding was a well known socialist critic of capitalism and the power of the banks. Roe (1994, p 36) indicates that the passing of the Glass Steagall Act was partly the result of popular antibank sentiment. White (1986) makes a similar point. He claims that the Glass-Steagall Act was passed after extensive congressional hearings but was never carefully analyzed.

<sup>6</sup> Various authors have called for more empirical research on universal banks. See Saunders 1994, Gorton 1995 and Fohlin, 1998 among others.

Puri, Saunders and Walter, 1997 for the United States<sup>7</sup>; Hamao and Hoshi, 1997 for Japan; Ber, Yafeh and Yosha, 2001 for Israel ; and Klein and Zoeller, 2003 for Germany). In particular, this research focuses on the prices investors are willing to pay for securities underwritten by universal banks as opposed to securities underwritten by investment banks. If investors are willing to pay higher prices for securities underwritten by universal banks, this indicates that the market believes that the benefits of universal bank's better information outweigh the costs of potential conflicts of interest. Hence, this research evaluates universal banks as certifiers of value net of conflicts of interest. Together these inquiries suggest that the certification effect dominated the conflicts of interest in the United States, while conflicts of interest may be present in Japan, Israel and Germany. Related research in the United States investigates the ex-post default performance of securities underwritten by security affiliates as compared to securities underwritten by investment banks (e.g. Kroszner and Rajan, 1994; Ang and Richardson, 1994 and Puri, 1994). Remarkably, all these studies find that the ex-post default performance for security affiliates' underwritings were better, and therefore call into question the appropriateness of the Glass-Steagall Act.

Other studies investigate the ability of universal banks to provide funds to the industry during the second industrial revolution (e.g. Ramirez, 1995 for the United States; Ramirez and Becht, 1993 and Fohlin, 1998 for Germany) or ask whether bank affiliation created value for affiliated corporation (e.g. De Long, 1991 and Simon, 1998). Ramirez (1995) examines differences in the investment-cash flow relationship for firms affiliated with J. P. Morgan<sup>8</sup>. He finds firms affiliated firms were less liquidity constrained than the control firms. Ramirez and Becht (1993) estimate the cash flow investment sensitivities for firms affiliated to the German "Great Bank" and conclude that non-affiliated firms are liquidity constrained. In a similar study Fohlin (1998) finds, contrary to the study by Ramirez and Becht (1993), that investment is more sensitive to cash-flow for affiliated firms. She concludes that her evidence is consistent with the recent literature rejecting the validity of cash-flow sensitivities of

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<sup>7</sup> Following the crash in 1929, bank affiliates were quickly blamed. They were accused of putting at risk the stability of the financial system and of facing severe conflicts of interests which were perceived to have prompted them to mislead the public

<sup>8</sup> Kaplan and Zingales (1997) pose serious questions about the validity of the cash-flow investment sensitivities as a measure of liquidity constraints.

investment to measure credit constraints and that relationship banking did not provide a significant lessening of firms' liquidity sensitivity. De Long (1991) for his part looks into the effect of J.P. Morgan affiliation in the period 1911-1912. He finds that J.P. Morgan and Co. added between 6 and 30 percent to common stock equity value and about 15 percent to the total market value. However, De Long himself raises serious questions about the causality of the estimates. Similarly, Simon (1998) finds that the withdrawal of a J. P. Morgan director from a firm's board depressed firm values about 7 percent.

Quite surprising, despite the fact that the impact of universal bank involvement on performance is perhaps the best indicator of the complex interactions between various universal bank incentives, few studies related universal bank involvement directly to performance. Cable (1985); Gorton and Schmid (2000) and Chirinko and Elston (2005) are counterexamples in this respect. The results are mixed however. While Cable (1985) and Gorton and Schmid (2000) find that universal bank involvement in Germany is associated with better performance, Chirinko and Elston (2005) find that universal bank influenced firms do not demonstrate better performance.

An extensive related literature focuses on the role of business groups in developing countries. Several studies find that group affiliation is indeed associated with better performance (e.g. Chang and Choi, 1988 and Chang and Hong, 2000 for Korea; Gonenc, Kan and Karadagli, 2004 for Turkey; Keister, 1988 for China; Khanna and Palepu, 1999, 2000a, 2000b for Chile and India; Khanna and Rivkin for an international sample). On the other hand, some studies find that even in developing countries, group affiliation may reduce company value and profitability (e.g. Claessens, Fan and Lang, 2002; Claessens, Djankov, Fan and Lang, 2003; Joh, 2003 and George, Kabir and Douma, 2004)

This paper adds to the literature by looking at the impact of universal bank involvement on performance in Belgium during the period 1905-1909. Based on a comprehensive hand-collected dataset containing firm level stock market and accounting data, we find that the size of the universal bank is important. We find a

significant impact on performance for firms<sup>9</sup> related with the Société Générale, the largest universal bank in Belgium, while we do not find a significant impact from other Universal banks. Furthermore, affiliation with the Société Générale was valuable especially during economic downturns for firms in which the Société Générale had significant equity stakes. On the other hand, firms in which the Société Générale took no equity participation but with a Société Générale director on their board experienced a significantly negative impact of affiliation on performance.

The paper is organized as follows: section two documents the role of universal banks in Belgium. The third section discusses the data and the sample selection process. Section four explains how affiliated companies are defined. The fifth section contains the results<sup>10</sup>. Section six concludes the paper.

## **2. Universal Banks in Belgium**

### **2.1. Motivation**

During the period 1870-1914, Belgium played an active role in the internationalization of banking activities and industrial finance. In 1913 Belgium was one of the five major creditor nations in the world (Van der Wee and Goossens, 1991). In addition, the Belgian financial market was among the most developed in the world (Rajan and Zingales, 2003). This is of interest because Fohlin (1999) affirms that universal banks in Germany resolved capital mobilization difficulties but are also likely to have become entrenched. As a result, a potential drawback of a universal bank oriented financial system may be that universal banks manage to outlive their usefulness. In that case it is more likely that the evidence will be found in Belgium, a leading country in the industrial revolution then in Germany, a follower country in the industrial revolution. On the other hand, industrial promotion and finance was the outstanding characteristic of the Belgian banking system (Cameron, 1967). Belgian authors claimed that Universal banks assisted companies to tap foreign markets. Durviaux (1947) indicates that during the period 1875-1914, export possibilities were linked with

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<sup>9</sup> In the current version of the paper, empirical results are based on the coal mining sector.

<sup>10</sup> For the moment, the analysis is only conducted for the coal mining sector.

capital investments. Belgian companies were able to access these foreign markets because they could accept bonds (“obligations en payement de fournitures”) as a means of payment for their deliveries<sup>11</sup>. The universal banks subsequently floated these bonds on the Belgian capital market. Therefore if universal banks effectively assisted companies to access foreign markets, we expect a positive impact of universal bank involvement on performance, especially for firms in heavy industries. On the other hand, if universal banks managed to outlive their usefulness, we expect an insignificant impact of bank involvement. In addition, we expect the potential positive effects to be stronger for companies in which the affiliation with the universal banks was stronger.

Second, contrary to Germany and the United States, Belgian banking before the First World War was dominated by a single universal bank: the “Société Générale”. Fear for monopoly power of large institutions was among the motivations for the separation of investment banking from commercial banking in the United States, notwithstanding the fact that banking in the United States was historically less concentrated than other industries (e.g. Roe, 1994 and Saunders, 1994)<sup>12</sup>. In Germany, concentration in the universal banking market was not very important either. There were already nine large joint-stock universal banks incorporated in Berlin alone<sup>13</sup>. While monopoly power is desirable for the bank, it might be detrimental for the affiliated corporations if the bank manages to extract rents from the company. For example, the bank may charge excessive fees for new loans or to issue securities while the company cannot credibly turn to another universal bank after its house-bank denied services because of adverse selection problems. Therefore, if monopoly power from universal banks was a real threat for affiliated corporations, it is more likely to be present in Belgium. Moreover, we expect a negative impact on performance for firms affiliated with a single universal

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<sup>11</sup> Durviaux, (1947): “Or, avec le développement de la concurrence entre nations, les possibilités d’exportation étaient devenues de plus en plus liées aux investissements en capitaux à l’étranger, principalement dans les pays neufs. Depuis longtemps les hommes d’affaires belges avaient senti la nécessité de doubler les exportations de capitaux pour maintenir et accroître encore l’activité des industries. En 1865 déjà, ils acceptaient des obligations en payement des fournitures de rails, de voitures, de machines. ”

<sup>12</sup> De Long (1991) indicates that large corporate security floatation in the United States were dominated by a few large investment banks: J.P. Morgan and Co.; Kuhn Loeb, and Co. the First National Bank; the National City Bank; Kidder Peabody and Co.; and Lee, Higginson, and Co. Similarly, First National Bank Chairman George F Baker was “unable to name a single issue of as much as \$10,000,000 ... that had been made within ten years without the participation or cooperation of one of the members” of the small group of dominant investment banks (Pujo Committee, 1913 copied from De Long, 1991)

<sup>13</sup> These are generally and erroneously referred to as the Great Banks. Some other universal banks, known as provincial or small banks, were as large as the Great Banks (Fohlin, 1997)



bank as opposed to firms which were affiliated with more than one universal bank. On the other hand, if monopoly power was no real threat, we may observe a positive effect if a company was related to one universal bank because this bank has better incentives to overcome problems of asymmetric information.

Third, the time frame of the study is motivated partly by the fact that the decade preceding the First World War is characterized by an unprecedented globalization, increasing international competition and extended financial development. On the other hand, the world faced a severe financial crisis in 1907. This crisis provides an exogenous shock which allows assessing the role of universal banks before, during and after a crisis that was felt worldwide. In particular, it allows us to determine whether or not universal banks provided affiliated companies with an internal capital market and therefore effectively insured affiliates against external liquidity shocks<sup>14</sup>. Therefore, if internal capital markets were a real benefit of universal banks, we expect a significant positive impact of universal bank affiliation during the 1907 financial crisis for firms that were present in the portfolio before the crisis<sup>15</sup>.

Finally, Belgium is a French legal origin country. In an influential article LaPorta, Lopez-de-Silanes, Shleifer and Vishny (1998) showed that the legal origin of a country is an important determinant of investor protection<sup>16</sup> and ownership structure. They show that investor protection is generally the strongest in common law countries while it is the weakest in French civil law countries. On the other hand they find that the quality of law enforcement is the best in German civil law countries while it is again

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<sup>14</sup> The disruption was caused by the bank of England raising its discount rate from 3.5 percent to 6 percent in September 1906 (Bordo and Wheelock, 1998). The tightening of the English credit market also had repercussions for Belgium. Chlepner (1930) describes how Belgium went through a small stock exchange crisis in March 1907 followed by the last of the pre-war economic crisis in the fall of that year. Chlepner (1930, pp 92): "Puis en septembre-octobre survint la débâcle de New-York, point de départ de la dernière crise économique d'avant-guerre. Nous entrons dans une période mouvementée et inégale dont le souvenir n'est pas effacé. La dépression industrielle qui suivit la crise ne fut pas longue. La reprise se dessina dès 1909 et s'affirma en 1910."

<sup>15</sup> If adverse selection is important, i.e. only firms in financial difficulties seek affiliation with the Universal banks, it is possible that an insignificant or negative relation between universal bank involvement and performance is found while universal banks did create value for affiliated companies. However, adverse selection is no issue in the sample of firms affiliated through equity stakes.

<sup>16</sup>Franks, Mayer and Rossi (2005) doubt the validity of the law and finance theory in the United Kingdom. They assert that financial development in the United Kingdom relied more on informal relations of trust than on formal systems of regulation. Franks, Mayer and Wagner (2004) demonstrate that investor protection at the beginning of the 20<sup>th</sup> century in Germany was equally weak as in the United Kingdom. In addition they claim that the investor protection reinforced the importance of banks in the new issuance process.

the weakest in French civil law countries<sup>17</sup>. Nevertheless, despite Belgium's French legal origin, it was the first continental European country in which the industrial revolution took off. Various authors claimed that the driving engine behind the industrialization in Belgium were the universal banks (see e.g. Cameron, 1967, Van der Wee and Goossens, 1991; Kurgan-Van Hentenryk, 1991; Crombois, 1991).

## **2.2. A Short History of Belgian Banking**

The evolution of the industrial and financial coincided with the expansion of the country<sup>18</sup>. As early as 1822, King William I of the Netherlands established the “Société Générale pour Favoriser l’Industrie Nationale”, the world's first joint-stock investment bank<sup>19</sup> (Cameron, 1967). The Société Générale only became active in industrial finance after the Belgian revolution (1830) however. Because of the uprising and the preceding economic crisis, many companies were unable to fulfil their financial obligations. The Société Générale was forced to convert debt into shares and thus became the first mixed bank in history (Kurgan-Van Hentenryk, 1991)<sup>20</sup>. In 1835, the government established the Banque de Belgique to compete with the Société Générale<sup>21</sup>. Together

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<sup>17</sup> The bulk of the literature on universal banks relates to Germany (German Legal Origin) or the United States (Common Law).

<sup>18</sup> See Chlepner (1930, Chapter IV – Section 5) and Durviaux (1947, chapter IV) for detailed descriptions of the Belgian Banking sector from 1875 to 1914.

<sup>19</sup> Its corporate mission was to provide financial means to the industry by mobilizing savings, taking industrial participations and offering credit. In addition, the Société Générale had to put in order public debt and promote the use of banknotes. To accomplish its mission, the capital would amount to fifty million guilders consisting of sixty thousand shares with a value of five hundred guilders and Royal Domains with an estimated value of twenty million guilders. Despite the fact that the King guaranteed a five percent interest on the shares, however, the underwriting turned out to be a failure. Approximately thirty thousand shares were subscribed but the majority was paid with government bonds. As a result, the liquid assets of the Société were limited: the share capital amounted to 15,613,250 guilders consisting of 13,247,101 guilders represented by government bonds and 2,366,149 guilders in cash. By the start of 1823, the Société Générale became responsible for the collection of taxes, which substantially increased its operating resources (the compensation for the collection of the taxes amounted to 12.5% of tax revenues and the government account permanently contained between ten and twenty million guilders). To collect taxes more effectively, the Société Générale established sixty two branch offices throughout the country. Furthermore, because these branch offices also served to discount bills of exchange, they enabled the bank to extent its industrial credit to the industry.

<sup>20</sup> When a company came under the control of the Société Générale, it subscribed the shares and provided long-term lending. In addition, the société generale organized horizontal and vertical integration and coordinated the affiliated companies. For example, in 1844, the bank established a “comité des ingenieurs” (engineering committee) to advise mining companies in technical matters. In addition, the Société Générale established a common shipping office and a distribution network abroad. Finally, the Société Générale also influenced the corporate administration by professionalizing accounting and taking up mandates in the board of directors.

<sup>21</sup> It was not the urgent need for competition in the financial sector but the feeling that the Société Générale was a Dutch institution that induced the government to establish the “Banque de Belgique”. During the Belgian revolution, the “Société Générale” tried to stay neutral but afterwards it was

these two banks accounted for about two thirds of the capitalization of all credit banks, their industrial portfolios were valued at 111.4 million francs to a total of 154.2 million francs (Durviaux, 1947) and their assets grew at an average rate of 3.8 percent between 1834 and 1850 (Chlepner, 1926). They would purvey the lion's share of direct and indirect financing to various industries in the Belgian economy. During their development, both banks were not spared from teething troubles however. The funding of long-term investments with short-term resources became painfully apparent during the crises of 1838 and 1848. In the aftermath of the 1848 crisis, the Belgian financial system was reformed and the Belgian National Bank was inaugurated as a lender of last resort in 1850.

After the collapse of the Banque the Belgique in 1876<sup>22</sup>, the Société Générale became the dominant universal bank in Belgium, but from 1873<sup>23</sup> onwards new competitors emerged and the Belgian banking sector developed in line with the industry. With the expansion of the Belgian industry abroad, the number of mixed banks steadily increased<sup>24</sup>. The "Société Générale" started to take participations in local banks to create a branch network<sup>25</sup>. She found herself at the head of 18 affiliated banks with branches in 61 localities across the country<sup>26</sup> at the eve of the First World War. Table 1 gives an overview of the structure of Belgian banking at end of 1913. The table illustrates the dominance of the Société Générale over the other Belgian Universal banks<sup>27</sup>. The Crédit Général Liégeois is the most important competitor of the Société

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associated with the Dutch occupation. The "Banque de Belgique" was created with a share capital of twenty million francs subscribed mostly by French capitalists.

<sup>22</sup> After 1850 the Belgian banks supported the construction of trams and railways abroad in order to attract orders for the Belgian industries. To conquer markets in Italy, Spain, Central Europe and Turkey, deliveries were paid by client bonds ("obligations de fourniture de rails et de matériel"), to be issued subsequently at the Belgian stock exchange. This risky strategy eventually led to the collapse of the Banque the Belgique in 1876.

<sup>23</sup> Until 1873, the government had to approve the constitution of new joint-stock companies.

<sup>24</sup> According to Durviaux, 1947, there were 8 universal banks in 1880 and 9 in 1890 while in 1900 there were about 25 universal banks.

<sup>25</sup> In 1872 the Société Générale took control over La Banque du Hainaut and the Banque Centrale de la Sambre. In 1873 she added the Banque de Verviers, the Banque Centrale du Limbourg and the Banque de Courtrai; finally in 1874 she also controlled the Banque Centrale de Namur and the Banque Centrale de la Dyle. In 1881 and 1882 the Société Générale added the Banque de Gand, the Banque de Flandre Occidentale ; the Banque Centrale Tournaisienne; and the Banque Générale de Liège.

<sup>26</sup> The patronized banks were responsible for short-term banking functions: the collection of deposits, according short-term credit, bill discounting and the placement of securities. They were not allowed to take industrial participations or to subscribe to bonds without the consent of the Société Générale. The direct participations thus stayed in the realm of the Société Générale

<sup>27</sup> The Banque Belge pour l'Etranger" and The Banque Italo-Belge are two banks set up to support exports. The former toward China and the latter towards South-America.

Générale. The other important mixed banks are the the “Banque Générale Belge”, the “Banque internationale de Bruxelles”, the “Banque de Bruxelles” and the “Banque d’outremer”. However, the sum of the assets of the five major competing universal banks is equal to 553.8 million franks while the assets amount of the Société Générale alone amount to 482.3 million franks.

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Insert Table 1 about here  
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### **3. Sample**

Pre-World War I Belgium offers an interesting case to analyze the role of universal banks. Given the fact that quantitative research for this period is scant and focused on the United States, Germany or Japan, adding Belgium would be welcome to increase our understanding of the role of Universal banks in a different institutional setting. Combining a large variety of data sources, we are able to construct a comprehensive, hand-collected dataset. The sample consists of companies listed on the Brussels Stock Exchange in the period 1905-1909.

#### **3.1. Stock Market Data**

To construct the sample, we first selected the domestic and colonial companies with a security listing (stocks and bonds) on the Brussels Stock Exchange from a database constructed at the University of Antwerp by the “StudieCentrum voor Onderneming en Beurs” (SCOB). The primary source of this database are the archives of the Brussels Stock Exchange. These data are 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 information on share prices, dividends, number of stocks outstanding and goes back as far as 1832 (Annaert et al., 2002). In addition, a sector classification code is assigned to each company. Each sector classification code consists of a three digit sector key and a one digit geographical key. The three digit sector key identifies the primary activity of the corporation and is based on the NACE sector classification. The geographical key, on

the other hand, is added to identify the “location” of the company’s activity. On the basis of nationality of the owners and geographical location of the principal production facilities, five geographical classifications are made: (i) Belgian-owned companies having their most important production facilities in Belgium; (ii) Foreign-owned companies having their most important activity abroad; (iii) colonial companies i.e. Belgian owned companies having their most important production facilities in Congo; (iv) Belgian-owned companies having their most important production facilities abroad; and (v) Foreign owned companies having their most important production facilities in Belgium. We restrict the sample to companies having their registered office in Belgium because these companies had the obligation to publish their annual balance sheets and income statements in the Official Belgian Gazette (see below).

To be included in the sample, we required that a company had a listing on the Brussels Stock Exchange for at least one full year. The companies listing or delisting in a particular year are thus not considered in the year of listing or delisting. This selection process left us with an unbalanced panel data set containing 2428 firm year observations for 570 different firms.

Figure 1 illustrates the evolution of the value weighted total return index of sample companies over the period 1900-1913. In this figure the decline in the index during the crises of 1901-1902 and 1907 is clearly visible. The 1907 crisis is particularly important because it allows us to evaluate the impact of universal banking on performance before, during and after a financial crisis.

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Insert Figure 1 about here  
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### **3.2. Accounting data**

In a next step we collected accounting data for the four largest sectors in terms of (i) number of firms the sector and (ii) the number of affiliated firms with the Société Générale, the most important universal bank in Belgium before the First World War.

Since we compare performance within sectors to account for sector differences, this approach guarantees that the samples of affiliated and unaffiliated firms are as large as possible. The sectors under study are: coal mining – trams – railways and textile. In this version of the paper, empirical results are based on the coal mining sector only, the largest of the four sectors. Table 2 gives a year-by-year overview of the number of companies in each sector as well as the number of listed companies.

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The accounting data were hand-collected data from the appendices to the Official Gazette (“Annexes au Moniteur belge: Recueil Spécial des actes des Sociétés”). This is the most reliable source of Belgian accounting 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)<sup>28</sup>. Although few legal rules limited the discretionary power of management to dress the annual report, the administrative board had to deliver a (non-public) report (“inventaire”) at least one month before the annual meeting to the supervisory board (“commissaires”). The report contains an overview of the fixed and current assets as well as the liabilities of the company and was used to dress the annual report<sup>29</sup>. If the supervisory board refused to approve the financial statements, they had to make up a report. This report had to be sent to all shareholders at least two weeks before the general meeting which in turn decided whether or not to approve the annual report. In addition, the law provided some guidelines about the depreciation of assets and the distribution of profits (Resteau, 1913a and 1913b) and we checked practitioners’ guides to get a better understanding of the accounting profession at the turn of the century (François, 1902 and 1907). Because balance sheets

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<sup>28</sup> The reason why this was legally required was that the legislator was convinced that the publication of accounting information concerned the public interest. The public could freely consult the appendices at the registries of commercial courts or obtain copies at 0.05 Belgian francs per page. In addition the balance sheet and the profit and loss statement had to be deposit for inspection at the registered office of the company at least fifteen days before the general meeting

<sup>29</sup> For some companies we could obtain the annual report presented at the general meeting. All balance sheets and income statements were the same as the ones reported in the appendices of the Official Gazette.

differ in their timing (before or after repartition of profits), we construct uniform balance sheets from the balance sheets reported in the Official Gazette.

#### **4. *Affiliated companies***

Since the object of the research is to compare the profitability of universal bank affiliated companies with non-affiliated companies, a crucial matter is the identification of affiliated companies. We use two different measures of bank affiliation: (i) board interlocks and (ii) direct equity stakes.

As in Germany, the boards in Belgian companies had a two-tier structure consisting of an executive board (“administrateurs”) and a supervisory board (“commissaries”). The “administrateurs” 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<sup>30</sup>. The minimum number of “administrateurs” was legally set at three and their mandate could not exceed six years. However, they were eligible for re-election. In addition the “administrateurs” were legally required to deposit a number of stocks as a guarantee of good governance<sup>31</sup>. The function of the “commissaries” on the other hand was fundamentally different from the function of the “administrateurs”. They were charged with the supervision of the “administrateurs” and had to approve the company’s annual accounts<sup>32</sup>. Like the “administrateurs”, they were appointed by the general meeting of shareholders. Interestingly, until the revision of the corporate legislation in 1913, the remuneration of the “commissaires” could not be larger than one third of the compensation received by the “administrateurs”. Finally, the existence of a “conseil

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<sup>30</sup> Resteau (1913b): “les administrateurs sont des véritables mandataires de la société, mandataires dont les services sont indispensables à cause de l’impuissance de la société”.

<sup>31</sup> The administrateur was not required to be stockholder however. A third party was allowed to deposit the stock on behalf of the administrateur.

<sup>32</sup> Resteau (1913b): “Les commissaries, ..., ont un droit illimité de surveillance et de contrôle sur toutes les opérations de la société. Ils peuvent prendre connaissance, sans déplacement, des livres, de la correspondance, des procès verbaux et généralement de toutes écritures de la société ... Le législateur a créé pour les sociétés anonymes deux groupes de représentants et a fixé le rôle de chacun d’eux de manière à établir un équilibre parfait, un tout harmonique. Ce sont d’abord les administrateurs chargés de gérer, d’administrer les affaires sociales, de représenter la société dans tous les actes juridiques qu’elle est appelée à accomplir. A côté des administrateurs, il y a les commissaries, qui n’agissent pas; leur rôle consiste à surveiller les premiers, à contrôler leurs actes, et à signaler ensuite à l’assemblée générale les fautes commises par les administrateurs ainsi que les vices de leur gestion”.

général” was a particularity of Belgian corporate boards. It was a body that companies were free to establish and which united the executive and the supervisory board. The responsibilities of the “conseil general” were defined in the articles of incorporation but usually they related to exceptional decisions like the issue of bonds or the purchase of a new building. Contemporaneous commentators regretted the fact that the lawmaker did not prohibit the existence of this body because it constituted an effective way to suppress the responsibility of the supervisory board<sup>33</sup>.

As a consequence of the two-tier board structure, four different types of board interlocks can be defined: (i) a member of the executive board of a bank takes a position in the supervisory board of the company; (ii) a member of the executive board of the bank is in the supervisory board of the company; (iii) a member of the supervisory board of the bank is in the executive board of the company; and (iv) a member of the supervisory board of the bank is in the supervisory board of the company. In the current version of the paper a company is defined as affiliated with a universal bank if an executive board member of the bank is on the board of directors of that company. This means we do not distinguish between executive and supervisory boards of the affiliated corporation. We plan to look at all relations between boards and banks in future versions of the paper.

To avoid selectivity problems (companies that are very successful may attract more interlocks ), we use board interlocks based on the boards of 1905<sup>34</sup>. We collected data on the board of directors from the “Recueil Financier”, a financial annual containing a variety of company-specific information and covering the period 1893-1975 (with retrospective information that goes back to 1883). The information included in the “Recueil Financier” varied across companies but usually includes the name of the company, the date and the location of the constitution, the address of the registered office and the corporate mission. It also lists the members of the board as well as their mandate (management or supervisory board) and sometimes their domicile. To check

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<sup>33</sup> Resteau (1913b): “On peut regretter que la loi ait cru devoir permettre l’établissement de cet organisme et surtout ait laissé aux parties le soin de déterminer ses pouvoirs en tout liberté ... L’organisation du conseil général, poussée un peu loin, arrive en fait à la suppression pure et simple des commissaires dont la présence dans toute société anonyme est cependant obligatoire ”

<sup>34</sup> For firms that started listing at the Brussels Stock Exchange 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.



the accuracy of the “Recueil Financier”, we compared a sub-sample of the data with the entries in the appendices of the Official Gazette but we found no differences.

The second measure for universal bank affiliation is direct equity stakes. If a company is included in the industrial portfolio of the bank, the company is considered to be affiliated with the bank. The data on the industrial portfolio of the Société Générale is collected from the annual reports and checked with the data in the “Recueil Financier”. The information in the annual reports reveals not only the companies in which the Société Générale took equity participations but also the type of equity it held, the number and the nominal values of the shares in the company and the book value of the participation.

While the use of board interlocks has become a standard practice in the literature on bank affiliations (see De Long (1991); Becht and Ramirez (1993) or Ramirez (1995) among others for studies using director interlocks as a measure of affiliation.), both definitions have their advantages and their drawbacks. On the one hand, a direct equity stake is probably the cleanest indicator of bank involvement in the firm, since underperformance of the firm has direct pecuniary implications on the value of the equity holdings of the bank. In addition, it was the commingling of equity participations and debt participations that was the object of much controversy in the history of universal banking<sup>35</sup>. Table 3 displays the direct equity stakes of the Société Générale in listed-coal mining companies. The table reveals some noteworthy facts. First, there are only eleven different coal mining companies in which the Société Générale took a direct equity stake (there are about 70 listed coal mining companies in each year; see table 2). Given that the Société Générale is the most important universal bank in Belgium, this is not too much<sup>36</sup>. The second observation to make from the table is that most companies that were in the portfolio in 1905 remained in the portfolio over the entire sample period. Only “Marchienne” disappeared. In fact, of all companies

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<sup>35</sup> It is surprising to see that no study used equity participations as a measure of bank affiliation. Perhaps the reason is that most banks did not disclose their equity stakes.

<sup>36</sup> However if we compare this with the studies in the United States before the Glass-Steagall Act or Germany before the first World War, eleven different companies from one sector seems respectable. De Long (1991) only identified twenty companies affiliated to J.P. Morgan based on interlocking directors and in the sample of Ramirez (1995) there are only 16 Morgan affiliates. Ramirez and Becht (1993) only identified 29 large (total assets in excess of 1 million marks) listed firms affiliated with the German “Great Banks” in the mining and steel sector.

present in the portfolio in 1905, five were already in the portfolio in 1865 and all companies were in the portfolio of 1900. Furthermore, all companies (except “Marchienne”) were present in the industrial portfolio of 1928. This means that the Société Générale indeed maintained long-term relations with affiliated companies and that the potential for selection bias in affiliation based on equity stakes is limited. Finally, the equity stakes are not very large. No equity participation is larger than 50 percent and the median lies between 10 and 20 percent. Although there were no legal restrictions on the percentage of share a single shareholder could buy, the small percentage of direct participations can be traced to institutional reasons. One reason may be proxy voting. Shareholders could delegate their votes to a third party<sup>37</sup>. Another, probably more important reason, is that in order to prevent large shareholders from dominating the general meeting, the law stipulated that one could not vote more than twenty percent of the issued stocks or more than forty percent of the attendant capital at the general meeting (Resteau, 1913b)<sup>38</sup>. This may be a (partial) explanation of why the Société Générale started to create a branch network of incorporated affiliated banks in 1872 (Durviaux, 1947). In addition, multiple holding companies were created by different universal banks<sup>39</sup>. By means of the branch networks and holding companies, the universal banks probably held significant indirect equity stakes. Since direct equity stakes are probably a lower bound for the bank influence, we use board interlocks as a second measure of affiliation.

We consider board interlocks with five different universal banks: (i) The Société Générale; (ii) the Crédit Général Liégeois; (iii) the Banque Internationale de Bruxelles; (iv) the Banque de Bruxelles and (v) the Banque d’Outremer. These were the most important universal banks in terms of the value of the industrial portfolio (Durviaux, 1947). The coal mining sector was dominated by the Société Générale and the Crédit Général Liégeois however. Table 4 gives a year-by-year overview of the number of

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<sup>37</sup> Proxy voting was allowed but the articles of incorporation could define extra restrictions; e.g. that the third party needs a written permission or that the proxy votes could only be exercised by shareholders of the company.

<sup>38</sup> The law of 1873 prescribed: “Nul ne peut prendre part au vote pour un nombre d’actions dépassant la cinquième partie du nombre des actions émises ou les deux cinquièmes des actions pour lesquelles il est pris part au vote”. This gave rise to difficulties if there was more than one large shareholder. In 1913 the lawmaker added that the smaller of the two upper-bounds should be considered “c’est toujours le maximum le moins important qu’il faut considérer comme la limite qu’on ne peut dépasser.”

<sup>39</sup> Durviaux, 1947, pp 84: “Les banques fondèrent des sociétés à portefeuille dont elles gardent le contrôle par une prise de participation d’importance variable – pouvant même être réduite à 15 ou 20%.”

affiliated companies with each bank in each sample year. This table reveals that only the Crédit Général Liégeois had a respectable number of affiliated companies in the coal mining sector. It comes as no surprise that this was also the second largest bank according to table 1. Since interlocks are based on the boards of 1905, the number of affiliated companies can only increase if newly listed firms are interlocked. It is remarkable that the number of affiliated companies increases only for the Société Générale.

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Insert Table 3 about here  
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Insert Table 4 about here  
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## **5. Results**

To assess the impact of universal bank involvement, we use a standard regression model in which a proxy for performance is regressed on an affiliation variable and a number of control variables. The basic regression equation is as follows:

$$\text{Performance}_i = a_0 + a_1 \text{Affiliation}_i + b \text{Control Variables}_i + e_i$$

We use the Return on Assets (ROA) and Market-to-Book ratio (MTB) as measures of performance. ROA is defined as the operating revenues minus operational costs divided by the total assets. The profit and loss statements of the time do not allow for a better proxy. MTB is defined as the market value of all equity plus the book value of debt, divided by total assets.

The control variables included in the regression are: (i) size of the company, measured by the total assets; (ii) age of the company, measured as the difference between the current year and the year the company transformed to a limited liability company; and

(iii) four geographical dummies, which indicate the location where the coal mining company operates. These dummies measure differences in the quality of extracted coal or the difficulty to extract coal in a particular region.

We will use different measures of affiliation. For each specification, we will estimate OLS on means for the full 1905-1909 period, in order to measure the long term effect of group affiliation, and estimate separate regressions for each year of the period.

Table 5, which contains descriptive statistics, reveals that the number of companies for which the market-to-book ratio is available is larger than the number of companies for which return-on-assets is available. This is due to the fact that these companies did publish a balance sheet but failed to provide a profit and loss statement. In addition, the table displays that minimum level of return on assets in 1906 is positive. This may be explained by the definition of our return-on-assets proxy, since we define return-on-assets as the operational cash flow over total assets.

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Insert Table 5 about here  
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### ***5.1. Equity Participations of the Société Générale***

We first estimate the impact of an equity participation of the Société Générale. Table 6 shows the results for regressions where the affiliation indicator is a dummy variable indicating if a firm is included in the portfolio of the Société Générale, and zero otherwise. If the entire sample period is considered, the affiliation variable is insignificant. For the individual years, the affiliation variable is never significant either. The results from this table lead us to consider alternative specifications where the importance of the equity stake is taken into account.

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Insert Table 6 about here  
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Next, we measure affiliation by the “Portfolio” variable, which measures the equity stake of the Société Générale in the company, and is defined as the logarithm of one plus the equity stake. It is a continuous variable which takes a value of zero if the Société Générale does not have an equity stake, and which is increasing as a function of the equity participation. Results are reported in Table 7.

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Insert Table 7 about here  
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The sign of the “Portfolio” coefficient is positive in all regressions. If we consider the entire 1905-1909 period, it is not significant however. Interestingly, when we consider the individual years, the coefficient is insignificant in 1905 and 1906 (before the economic crisis) but it is significantly positive in 1908 and 1909. This result holds both for ROA and MTB. It suggests (1) that it is important to take into account the amount of money invested by the Société Générale in the company, and (2) that affiliation with the Société Générale mattered during an economic downturn.

In order to further explore the findings from table 7, we differentiate between firms in which the Société Générale takes an equity stake that is larger than the median equity participation and firms in which the Société Générale has an equity participation which is below the median equity participation<sup>40</sup>. The results are reported in table 8. Interestingly, affiliation has a positive effect in the 1905-1909 period if the equity stake of the Société Générale is above the median, while for companies in which the equity stake of the Société Générale is below the median it a negative effect. These coefficients are not significantly different from zero for the entire 1905-1909 period. However, for the companies with above median equity stakes, they are significantly positive in the years 1907, 1908 and 1909 (ROA) and in the years 1908 and 1909 (MTB). Furthermore, during the 1907 crisis, the impact of affiliation on market-to-book ratio for below median participation firms is significantly negative, but only at the 10% level. In sum, these results suggest that affiliation with the Société Générale

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<sup>40</sup> We also performed the analyses in which the first quarter and the third quarter of the equity stakes were used as cut-off values. The results were qualitatively the same.

was beneficial especially during economic downturns for the companies in which the equity stake was considerable.

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Insert Table 8 about here  
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## **5.2. Director Interlocks**

The second measure of affiliation is based on director interlocks, i.e. a company is related with a universal bank if an executive director of the universal bank is on the board of that company. As in the previous section, we start the analysis by including a simple dummy variable indicating whether or not a company is related with the Société Générale. Again, the coefficients are insignificant (results not reported).

In a next step, we measure the degree of Société Générale affiliation by three dummy variables. The first dummy, “One Interlock SG”, takes a value of one if one executive board member of the Société Générale is on the board of a company and zero otherwise. Interestingly, all companies (except one) which have only one director interlock with the Société Générale, are not included in the equity portfolio of the Société Générale. The second dummy, “Two Interlocks SG”, takes a value of one if two executive board members of the Société Générale are on the board of the company, and zero otherwise. The dummy “Three or More interlocks SG” takes a value of one if three or more executive board members of the Société Générale are on the board of the company, and zero otherwise.

The results, presented in table 9, are striking. If ROA is used as dependent variable, companies with only one interlock with the Société Générale consistently have a significant *lower* performance than non-affiliated companies. If MTB is the dependent variable, the impact of one board interlock with the Société Générale is also negative in every year, but it is only significant during and after the 1907 crisis. If a company has two board interlocks with the Société Générale, the effect on performance is positive but insignificant in all years both for return-on-assets and market-to-book ratios. If a company has three or more board interlocks with the Société Générale, the impact on

return-on-assets is positive in all years, but only significant in the years following the crisis. The impact on market-to-book ratio is negative before and during the crisis, while it is positive after the crisis but these results are never significant.

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Insert Table 9 about here  
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Affiliation based on board interlocks allows us to take into account the impact of affiliation with other universal banks as well. Because, as revealed in Table 4, the number of affiliated coal mining companies is only significant for the Crédit Général Liégeois, we consider all other universal banks together. Again we take into account the number of interlocks with these banks by introducing two dummy variables. “One interlock other mixed banks” takes a value of one if a company has only one executive board member of another universal bank (other than the Société Générale) on its board and zero otherwise. “One or more interlocks with other mixed banks” takes a value of one if the company has more than one interlock with another universal bank (other than the Société Générale) and zero otherwise. The results are displayed in Table 10. The impact of Société Générale affiliation is qualitatively the same as in Table 9. For both ROA and MTB, the impact of two or more interlocks with other universal banks is positive while the impact of one interlock is negative. These coefficients are not significantly different from zero however. An exception is the coefficient of “Two or more interlocks with other mixed banks”, which is significantly positive in 1909.

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Insert Table 10 about here  
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## **6. Conclusion**

Universal banks in Belgium are believed to have promoted economic growth in the years preceding the First World War. This paper investigates the influence of universal banks on performance during the period 1905-1909 in the coal mining sector. We measure affiliation by direct equity stakes and board interlocks, and pay special

attention to the role Société Générale, which at the time was the most important universal bank in Belgium. Our results, although preliminary, suggest that the optimistic view of universal bank involvement should be moderated. We find that affiliation with the Société Générale had a significant positive impact during and after the 1907 crisis for firms in which the Société Générale had a significant equity stake and for firms in which more than one executive board member of the Société Générale was present. On the other hand, for firms in which the Société Générale was present with one executive board member, we find a significantly negative impact. Finally, our results suggest that affiliation with other universal banks is mostly insignificant, even though the impact seems to be larger if a company has more bank directors on its board.

Of course, it has to be taken into account that these preliminary results are based on a very small sample. In a next version of the paper we will enlarge our sample by including firms in the Trams, Railways and Textiles sectors.



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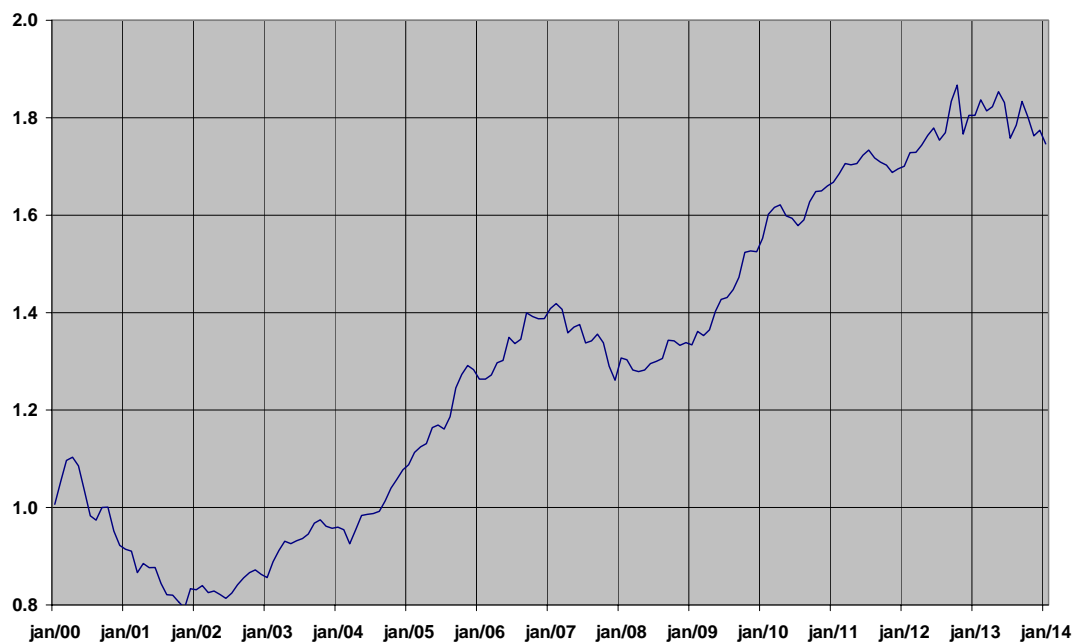
**Table 1: Major Belgian Universal Banks.**

Asset Value (in Belgian francs) of Belgian Universal banks on 31 December 1913.  
(Source: Durviaux, 1947, pp 82-83).

<b>Société Générale Group</b>	<i>Assets</i>
La Société Générale	482.3
La Banque belge pour l'étranger	166.3
La Banque d'Anvers	157.0
La Banque Italo-Belge	89.3
Affiliated banks of the Société Générale (18)	534.8
<b>Total</b>	<b>1,429.7</b>
<b>Other Universal Banks</b>	
Le Crédit Général Liégeois	149.2
La Banque Générale Belge	104.1
La Banque de Bruxelles	100.9
La Banque Internationale de Bruxelles	100.0
La Banque d'Outremer	99.6
La Banque Liégeoise	56.1
Le Comptoir d'escompte de Bruxelles	22.3
Le Crédit Général de Belgique	19.6
Le Crédit National Industriel	16.8
<b>Total</b>	<b>668.6</b>

**Figure 1: Evolution of the Belgian stock Market 1900-1913.**

The figure plots the value weighted total return index over the period 1900-1913 (1900 = 1). The index includes the common stocks of Belgian companies with primary production facilities in Belgium, colonial companies and Belgian companies with primary production facilities abroad.



**Table 2: Year-by-year overview of the number of companies in the sample.**

This table summarizes the sample selection process. The first line gives the number of companies listed on the Brussels Stock Exchange<sup>41</sup> (Only Belgian companies with most important activity in Belgium; Belgian companies with the most important activity abroad; and colonial companies). The second line gives the number of companies for which accounting data were collected (Belgian companies with most important activity in Belgium)

	1905	1906	1907	1908	1909	1905-1909
<b>Stock Market Data</b>	456	481	488	500	503	2428
<b>Accounting Data</b>	113	113	126	123	126	601
Coal Mining	68	68	71	71	74	352
Trams	21	21	22	21	21	106
Railways	11	10	10	9	9	49
Textiles	13	14	23	22	22	94

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<sup>41</sup> In future versions of the paper we plan to examine the risk return relation of different portfolios. This analysis will include all listed companies.

**Table 3: Equity stakes of the Société Générale.**

This table gives an overview of the direct equity stakes of the Société Générale in listed coal-mining companies. The equity stake is defined as the number of shares of a particular company in the industrial portfolio of the Société Générale divided by the total number of equities listed on the Brussels Stock Exchange. The equity stakes of the Société Général were extracted from the annual reports.

<b>Company Name</b>	<b>1905</b>	<b>1906</b>	<b>1907</b>	<b>1908</b>	<b>1909</b>	<b>Mean</b>
Produits du Flénu	0.15	0.15	0.15	0.15	0.15	0.15
Levant de Flénu	0.48	0.48	0.48	0.48	0.48	0.48
Hornu et Wasmes	0.20	0.20	0.20	0.20	0.20	0.20
Charbonnages Belges	0.09	0.09	0.09	0.09	0.09	0.09
Charbonnages Réunies de Charleroi	0.30	0.30	0.30	0.30	0.30	0.30
Monceau Fontaine et Martinet	0.44	0.44	0.44	0.44	0.44	0.44
Unis Ouest de Mons	0.09	0.09	0.09	0.09	0.09	0.09
Gouffre	0.11	0.11	0.11	0.11	0.11	0.11
Marchienne	0.40	0.40	0.08	X	X	0.29
Bois d'Avroy	0.04	0.04	0.04	0.04	0.04	0.04
Marcinelle Nord	X	X	X	0.10	0.10	0.10
<b>Median</b>	0.18	0.18	0.13	0.13	0.13	0.15



**Table 4: Affiliated Companies with universal banks based on board interlocks.**

This table gives an overview of the number of affiliated companies based on board interlocks. A company is considered to be affiliated with a universal bank if an executive board member of the bank is on the board of a company. To avoid selection bias the interlocks are based on the 1905 boards.

	<b>1905</b>	<b>1906</b>	<b>1907</b>	<b>1908</b>	<b>1909</b>	<b>1905-1909</b>
Société Générale	12	12	13	14	14	<b>65</b>
Crédit Général Liégeois	15	15	15	15	15	<b>75</b>
Banque internationale de Bruxelles	1	1	1	1	1	<b>5</b>
Banque de Bruxelles	2	2	2	2	2	<b>10</b>
Banque d'outremer	5	5	5	5	5	<b>25</b>
<b>Total</b>	<b>35</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>37</b>	<b>180</b>

**Table 5: Descriptive Statistics of Performance and Control Variables.**

Full Sample						
ROA						
	1905	1906	1907	1908	1909	1905-1909
Mean	0.1325	0.2140	0.2188	0.1623	0.1351	0.1721
Standard Error	0.1068	0.1240	0.1474	0.1227	0.1113	0.1280
Minimum	-0.0914	0.0321	-0.0623	-0.1367	-0.2546	-0.2546
Maximum	0.5377	0.5233	0.8715	0.7051	0.5381	0.8715
Median	0.1132	0.1917	0.1953	0.1357	0.1315	0.1550
# observations	68	68	69	69	73	347
MTB						
	1905	1906	1907	1908	1909	1905-1909
Mean	2.0735	2.5840	2.8118	2.4139	2.2741	2.4319
Standard Error	1.4324	1.7537	1.6250	1.3661	1.4109	1.5347
Minimum	0.5559	0.7975	0.7917	0.5552	0.4600	0.4600
Maximum	8.7065	8.7139	8.4343	7.4201	7.1014	8.7139
Median	1.6241	2.2244	2.5008	2.2864	2.1110	2.1407
# observations	68	68	71	71	74	352
AGE						
	1905	1906	1907	1908	1909	1905-1909
Mean	30.4265	31.4265	31.4507	31.2817	31.8378	31.2955
Standard Error	19.0665	19.0665	19.2975	19.4247	19.7907	19.2347
Minimum	1.0000	2.0000	2.0000	2.0000	2.0000	1.0000
Maximum	77.0000	78.0000	79.0000	80.0000	81.0000	81.0000
Median	24.5000	25.5000	25.0000	26.0000	25.5000	25.0000
# observations	68	68	71	71	74	352
Size						
	1905	1906	1907	1908	1909	1905-1909
Mean	15.1143	15.1174	15.1605	15.2663	15.2403	15.1814
Standard Error	0.6646	0.6746	0.7110	0.7255	0.7380	0.7030
Minimum	13.8124	13.8489	13.7267	13.8302	13.7559	13.7267
Maximum	16.4835	16.4573	16.5574	16.9912	17.2048	17.2048
Median	15.1414	15.1192	15.2098	15.2863	15.2426	15.1813
# observations	68	68	71	71	74	352

**Table 6: Impact on performance if the Société Générale has an equity participation in the company.**

Ordinary least squares estimates of the influence of affiliation with the Société Générale on performance. “Portfolio Dummy” is a dummy variable taking a value of one if the company is in the portfolio of the Société Générale and zero otherwise. “Mons-region”, “Charleroi-region” and “Centre-region” are dummy variables which take a value of one if the company is operating in the Mons, the Charleroi or the Centre region respectively and zero otherwise. The constant captures the Liège region. “Age” is measured as the difference between the current year and the year of incorporation. “Size” is measured as the logarithm of total assets at the beginning of the fiscal year. Panel A contains the results if ROA is the dependent variable; panel B contains the results for MTB. Heteroskedastic standard errors were used. \*, \*\* and \*\*\* indicate significance at the 10%, 5% and 1% significance level respectively.

Panel A: ROA						
	1905-1909	1905	1906	1907	1908	1909
Portfolio Dummy	0,0100	0.0175	0.0279	0.0441	0.0218	0.0375
Age	0,0008	0.0001	0.0007	0.0006	0.0009	0.0005
Size	0,0063	0.0191	-0.0032	-0.0165	-0.0066	-0.0117
C	0,0864	-0.1029	0.2765	0.4703	0.2686	0.3176
Mons region	-0,1043**	-0.1093***	-0.1114***	-0.0788*	-0.1011**	-0.1058**
Charleroi region	-0,0421	-0.0762**	-0.0506	-0.0239	-0.0217	-0.0025
Centre region	-0,0691	-0.0713	-0.0089	-0.0316	-0.0817*	-0.0492
R <sup>2</sup>	0.10	0.14	0.10	0.04	0.11	0.13
# observations	347	68	68	69	69	73

Panel B: MTB						
	1905-1909	1905	1906	1907	1908	1909
Portfolio Dummy	-0,0674	-0.0583	-0.0992	-0.1571	0.192	0.1556
Age	0,0279***	0.0268***	0.0296***	0.0265**	0.0219***	0.0252***
Size	0,0454	-0.0933	-0.1038	-0.0165	-0.1106	-0.0661
C	1,2891	3.1993	3.8204	2.6428	3.7057	2.7925
Mons region	-0,92*	-0.9368**	-0.9539*	-0.6631	-0.7661*	-0.8437**
Charleroi region	-0,8166**	-0.9332**	-1.1617**	-0.8475*	-0.5877	-0.5451
Centre region	0,0729	0.2552	0.6067	0.4583	0.3334	0.1268
R <sup>2</sup>	0.18	0.21	0.20	0.15	0.14	0.14
# observations	352	68	68	71	71	74

**Table 7: Impact on performance if the Société Générale has an equity participation in the company, taking into account the importance of the equity stakes.**

Ordinary least squares estimates of the influence of affiliation with the Société Générale on performance. Portfolio is defined as the logarithm of one plus the equity stake divided by the total number of shares of the company listed on the Brussels Stock Exchange. “Mons-region”, “Charleroi-region” and “Centre-region” are dummy variables which take a value of one if the company is operating in the Mons, the Charleroi or the Centre region respectively and zero otherwise. The constant captures the Liège region. “Age” is measured as the difference between the current year and the year of incorporation. “Size” is measured as the logarithm of total assets at the beginning of the fiscal year. Panel A contains the results if ROA is the dependent variable; panel B contains the results for MTB. Heteroskedastic standard errors were used. \*, \*\* and \*\*\* indicate significance at the 10%, 5% and 1% significance level respectively.

Panel A: ROA						
	1905-1909	1905	1906	1907	1908	1909
Portfolio	0,1677	0.1851	0.1829	0.4072*	0.2675*	0.3114**
Age	0,0006	-0.0001	0.0006	0.0006	0.0005	0.0002
Size	0,0049	0.0183	-0.002	-0.002	-0.0066	-0.0104
C	0,1120	-0.0854	0.2642	0.2642	0.2794	0.3083
Mons region	-0,1083***	-0.1133***	-0.1132***	-0.0859**	-0.1068**	-0.1098***
Charleroi region	-0,0446	-0.0791**	-0.0534	-0.0534	-0.0243	-0.0045
Centre region	-0,0742	-0.0786*	-0.0168	-0.0168	-0.0937**	-0.061
R <sup>2</sup>	0.12	0.15	0.11	0.07	0.13	0.15
# observations	347	68	68	69	69	73

Panel B: MTB						
	1905-1909	1905	1906	1907	1908	1909
Portfolio	1,3433	1.0753	0.8288	1.9501	2.4979*	2.6296*
Age	0,0261***	0.0252**	0.028**	0.0231**	0.019**	0.0222**
Size	0,0085	-0.1296	-0.1415	-0.0724	-0.1179	-0.082
C	1,8801	3.7797	4.4183	3.5593	3.9031	3.1188
Mons region	-0,9769**	-0.9906**	-1.0066*	-0.7718	-0.8194**	-0.9071**
Charleroi region	-0,8372**	-0.9527**	-1.1771**	-0.8596*	-0.6109	-0.5624
Centre region	0,0435	0.2236	0.5851	0.3953	0.2417	0.0397
R <sup>2</sup>	0.19	0.21	0.20	0.15	0.15	0.15
# observations	352	68	68	71	71	74

**Table 8: Impact on performance if the Société Générale has an equity participation in the company, taking into account the importance of the equity stakes.**

Ordinary least squares estimates of the influence of affiliation with the Société Générale on performance. “Above Median Equity Stake” and “Below Median Equity Stake” are two dummy variables which take a value of one if the equity stake of the Société Générale in the company Générale is above and below the median equity stake of the Société Générale respectively. “Mons-region”, “Charleroi-region” and “Centre-region” are dummy variables which take a value of one if the company is operating in the Mons, the Charleroi or the Centre region respectively and zero otherwise. The constant captures the Liège region. “Age” is measured as the difference between the current year and the year of incorporation. “Size” is measured as the logarithm of total assets at the beginning of the fiscal year. Panel A contains the results if ROA is the dependent variable; panel B contains the results for MTB. Heteroskedastic standard errors were used. \*, \*\* and \*\*\* indicate significance at the 10%, 5% and 1% significance level respectively.

Panel A: ROA						
	1905-1909	1905	1906	1907	1908	1909
Above Median Equity Stake	0,0633	0.0633	0.0658	0.1342**	0.0958**	0.1059**
Below Median Equity Stake	-0,0357	-0.032	-0.0126	-0.0223	-0.0236	-0.0038
Age	0,0005	-0.0001	0.0006	0.0002	0.0004	0.0001
Size	0,0116	0.0246	0.001	-0.0098	0.0004	-0.007
C	0,0169	-0.1762	0.2210	0.3861	0.1801	0.2612
Mons region	-0,1036**	-0.1078***	-0.1101***	-0.0784*	-0.1017**	-0.1055***
Charleroi region	-0,0457	-0.0810**	-0.0546	-0.0287	-0.0254	-0.0046
Centre region	-0,0827*	-0.0853*	-0.0202	-0.0532	-0.1038**	-0.0645
R <sup>2</sup>	0.19	0.16	0.11	0.08	0.14	0.16
# observations	347	68	68	69	69	73

Panel B: MTB						
	1905-1909	1905	1906	1907	1908	1909
Above Median Equity Stake	0,7462	0.5250	0.5446	0.9248	1.0800*	1.061*
Below Median Equity Stake	-0,6553	-0.6882	-0.7885	-0.7818*	-0.3458	-0.3845
Age	0,0237**	0.0244**	0.0270**	0.0212*	0.0168*	0.0203**
Size	0,1124	-0.0238	-0.033	0.0466	-0.0379	-0.0063
C	0,4353	2.2648	2.8763	1.885	2.7964	2.0696
Mons region	-0,9193*	-0.918**	-0.9312*	-0.6791	-0.7818**	-0.849**
Charleroi region	-0,8527**	-0.9944**	-1.2294**	-0.8728*	-0.6292	-0.5726
Centre region	-0,1179	0.0760	0.4147	0.2204	0.1101	-0.0726
R <sup>2</sup>	0.21	0.23	0.22	0.18	0.17	0.17
# observations	352	68	68	71	71	74

**Table 9: Impact on performance if an executive board member of the Société Générale is on the board of the company.**

Ordinary least squares estimates of the influence of affiliation with the Société Générale on performance. “One Interlock SG”, “Two Interlocks SG” and “Three or More interlocks SG” are three dummy variables which take a value of one if one, two and three or more executive board members of the Société Générale are also in the board of the company and zero otherwise. “Mons-region”, “Charleroi-region” and “Centre-region” are dummy variables which take a value of one if the company is operating in the Mons, the Charleroi or the Centre region respectively and zero otherwise. The constant captures the Liège region. “Age” is measured as the difference between the current year and the year of incorporation. “Size” is measured as the logarithm of total assets at the beginning of the fiscal year. Panel A contains the results if ROA is the dependent variable; panel B contains the results for MTB. Heteroskedastic standard errors were used. \*, \*\* and \*\*\* indicate significance at the 10%, 5% and 1% significance level respectively.

Panel A: ROA						
	1905-1909	1905	1906	1907	1908	1909
One Interlock SG	-0,1093*	-0.0841**	-0.1694**	-0.1789**	-0.1032***	-0.0681***
Two Interlocks SG	0,0126	0.0353	0.0325	0.0365	0.0105	0.0319
Three or More Interlocks SG	0,0100	-0.0125	-0.0031	0.0563	0.0721**	0.0711**
Age	0,0005	-0.0000	0.0007	0.0005	0.0005	0.0002
Size	0,0116	0.0200	-0.0002	-0.0193	-0.0028	-0.0077
C	0,0170	-0.1149	0.2343	0.5174	0.2255	0.2686
Mons region	-0,0962**	-0.1111***	-0.1108***	-0.0742	-0.0906**	-0.0989**
Charleroi region	-0,0393	-0.0751**	-0.0501	-0.0233	-0.0200	-0.0017
Centre region	-0,0536	-0.0551	0.0172	0.0132	-0.0696**	-0.0450
R <sup>2</sup>	0.15	0.15	0.12	0.08	0.16	0.16
# observations	347	68	68	69	69	73

Panel B: MTB						
	1905-1909	1905	1906	1907	1908	1909
One Interlock SG	-0,9997	-0.3281	-1.4473	-1.8892**	-1.1363***	-0.9635**
Two Interlocks SG	0,3139	0.4924	0.5092	0.4525	0.2258	0.2925
Three or More Interlocks SG	-0,3411	-0.3532	-0.5720	-0.5039	0.1462	0.1851
Age	0,0244**	0.0248**	0.0271**	0.0230**	0.0183**	0.0215**
Size	0,0738	-0.1258	-0.1226	-0.0808	-0.0552	-0.0224
C	0,9485	3.7127	4.1429	3.6710	2.9855	2.2443
Mons region	-0,8923*	-1.0177**	-1.0384*	-0.7168	-0.678*	-0.7864**
Charleroi region	-0,7731*	-0.9140**	-1.1313**	-0.8047*	-0.5523	-0.5223
Centre region	0,2696	0.3946	0.9214	1.0434	0.5165	0.2584
R <sup>2</sup>	0.21	0.22	0.22	0.18	0.17	0.17
# observations	352	68	68	71	71	74

**Table 10: Impact on performance if an executive board member of a universal bank is on the board of the company.**

Ordinary least squares estimates of the influence of affiliation with the Universal Banks on performance. The universal banks included are: Société Générale; Crédit Général Liègeois; Banque Internationale de Bruxelles, Banque de Bruxelles and Banque d'Outremer. "One Interlock other mixed banks" and "Two or more interlocks other mixed banks" are two dummy variables which take a value of one if one and two or more executive board members of other universal banks (other than the Société Générale) are in the board of the company and zero otherwise. "One Interlock SG", "Two Interlocks SG" and "Three or More interlocks SG" are three dummy variables which take a value of one if one, two and three or more executive board members of the Société Générale are also in the board of the company and zero otherwise. "Mons-region", "Charleroi-region" and "Centre-region" are dummy variables which take a value of one if the company is operating in the Mons, the Charleroi or the Centre region respectively and zero otherwise. The constant captures the Liège region. "Age" is measured as the difference between the current year and the year of incorporation. "Size" is measured as the logarithm of total assets at the beginning of the fiscal year. Panel A contains the results if ROA is the dependent variable; panel B contains the results for MTB. Heteroskedastic standard errors were used. \*, \*\* and \*\*\* indicate significance at the 10%, 5% and 1% significance level respectively.

	Panel A: ROA					
	1905-1909	1905	1906	1907	1908	1909
One interlock other mixed banks	0,013	0.0029	-0.0076	-0.0153	0.0334	0.0162
Two or more Interlocks other mixed banks	0,0504	0.0509	0.0421	0.0378	0.0555	0.0669*
One Interlock SG	-0,1091*	-0.0866**	-0.1648**	-0.178**	-0.1035***	-0.0683**
Two Interlocks SG	0,0047	0.0331	0.0356	0.0444	-0.0129	0.0218
Three or More Interlocks SG	0,0156	-0.0058	0.003	0.0655	0.0772*	0.0804**
Age	0,0003	-0.0002	0.0005	0.0003	0.0003	-0.0001
Size	0,0086	0.0177	-0.0007	-0.0184	-0.008	-0.0101
C	0,0523	-0.0902	0.2372	0.5014	0.2887	0.2928
Mons region	-0,0881**	-0.1046**	-0.1075***	-0.0739	-0.0766*	-0.0897**
Charleroi region	-0,0250	-0.0601	-0.0385	-0.0138	-0.0033	0.0168
Centre region	-0,0423	-0.0404	0.0297	0.0234	-0.0589	-0.0314
R <sup>2</sup>	0.16	0.17	0.14	0.08	0.18	0.19
# observations	347	68	68	69	69	73

Table 10 (continued)

	Panel B: MTB					
	1905-1909	1905	1906	1907	1908	1909
One interlock other mixed banks	0,0785	-0.2232	-0.06	0.0849	0.1134	0.2193
Two or more Interlocks other mixed banks	0,6914	0.3052	0.454	0.8062	0.7732	1.0583
One Interlock SG	-0,9931	-0.1857	-1.4121	-1.965**	-1.1391***	-0.9722***
Two Interlocks SG	0,2534	0.5959	0.5323	0.404	0.1132	0.1461
Three or More Interlocks SG	-0,2572	-0.3012	-0.5072	-0.3986	0.2679	0.3346
Age	0,0216**	0.0229*	0.025**	0.0197*	0.015*	0.0169*
Size	0,0452	-0.1044	-0.1317	-0.1253	-0.0895	-0.0531
C	1,2666	3.3988	4.2187	4.2012	3.375	2.5416
Mons region	-0,8018	-1.029*	-0.9986	-0.6193	-0.5589	-0.6379*
Charleroi region	-0,5849	-0.8447	-1.0045	-0.5754	-0.3402	-0.2323
Centre region	0,4279	0.4895	1.0559	1.2667	0.7003	0.4731
R <sup>2</sup>	0.23	0.23	0.23	0.20	0.20	0.21
# observations	352	68	68	71	71	74