

Business Elites, Political Connections and Economic Entrenchment
Evidence from Belgium 1858-1909

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Abstract

We investigate the role of political and upper class connections in an environment which was characterized by high information asymmetries and weak investor protection, and in which there was a strong concentration of power in the hands of a small upper class elite with close ties to business, banks and politics. Our results, based on a unique sample of listed Belgian firms in two periods (1858-1865 and 1905-1909) are consistent with the hypothesis that the concentration of power in the hands of a small elite caused a distortion of capital allocation, led to entry barriers for new firms, and limited competition in the market. In both periods considered, political and upper class connections were widespread, and firms tended to have more connections with the ruling political party than with other parties. Connected firms had higher growth levels and higher probability of survival. However, it was bank affiliated firms active in the industries which developed during the first industrial revolution that had more political and upper class connections and accrued the largest benefits. We do not find any significant differences either in the extent or in the value of connectedness between the two periods considered. This is remarkable, as firms in principle became much less dependent on government after the free incorporation act of 1873.

JEL-classifications: G21, G28, G38, N23, N83, O16

Keywords: business elites, political connections, nobility, economic entrenchment, rent seeking, first and second industrial revolution, pre-World War I Belgium

1. Introduction

In this study, we investigate the role of political and upper class connections of Belgian listed firms before World War I. Belgium in this period provides an interesting environment. On one hand, it was characterized by a strong concentration of power in the hands of a small upper class elite with close ties to business, banks and politics. On the other hand, while it was the first continental European country to industrialize in the 19th century, specializing in the heavy industries of mining, metallurgy, textiles, railways and tramways (Baudhuin, 1928; Mokyr, 1976; van der Wee, 1997; van der Wee and Goossens, 1997) at the turn of the 20th century many of the major innovations of the second industrial revolution (1870-1914) were underdeveloped or had developed with considerable delay (e.g. Boschma, 1999; van der Wee, 1991; van der Wee and Goossens, 1997, van Meerten 2004)¹.

Considering the view that fast industrializers should be able to benefit from ‘first mover advantages’ (Broadberry, 1994; Dahmén, 1991), the delayed development of these new, innovative technologies provides an interesting paradox. Following Morck et al. (2005) and Rajan and Zingales (2003), we argue that the concentration of power in the hands of a small elite, the choice of a safe path dependent investment strategy in traditional industries and a symbiosis between heavy industries-financial institutions and political actors caused distortion of capital allocation, entry barriers for new firms, and limited competition in the market.

The appointment of politicians and prominent figures on company boards is a widespread phenomenon (e.g Faccio, 2006a) However, a lot of ambiguity surrounds both the reasons behind such appointments and the benefits they bring. Empirical studies (Faccio, 2006a; Fisman, 2001; Jayachandran, 2006, among others) generally conclude that political and upper class connections represent an important firm asset, a social capital component (Burt, 1997; Granovetter, 1985) which affects both firm strategic choices and their performance in the market. However, there may also be important economic costs, as the influence of political and upper class elites may forestall country-wide capital market reforms and suppress technological change (Morck, Wolfenzon and Yeung, 2005; Shleifer and

¹ Industries like electricity and gas faced difficulties in developing and attracting financial capital (van Meerten, 2004). The chemical industry had Germany as main fore-runner in 1913, while in Belgium, with some rare exceptions like Solvay, Gevaert or coke producing companies, was dominated mainly by small plants. The number of firms engaged in the production of motorcars and electric appliances remained also limited.

Vishny, 1994). At the firm level, political connections may lead to misallocation of capital or diversion of resources away from real investment opportunities (Murphy et al., 1991).

While the benefits of political and upper class connections to firms have been quite extensively investigated in the literature, few studies have focused on whether and how such connections may lead to the oligarchic control of a tiny business elite over particular industries, to economic entrenchment and/or to financial market atrophy. In this study, we investigate the role of political and upper class connections of Belgian firms listed on the Brussels stock exchange for two distinct periods. The first period, 1858-1865, was characterized by a restrictive legislation, a relatively weak and selective regulatory enforcement and a financial market dominated by two universal banks. The second period, 1905-1909, was characterized by increased market competition following the free incorporation act of 1873. However, investor protection was still weak and universal banks continued to play a dominant role in industrial finance. For both periods, we consider the determinants of political and upper class connections and their impact on firm growth and firm survival. We also investigate the impact of connections on new entries in industries with high a percentage of politically/upper class connected firms.. Following the argument of Rajan and Zingales (2003) that preferential access to finance and influential politics lead to oligarchic firm control and limit market competition, we also account for affiliations with universal banks. Political connections are measured by members of parliament (MPs) and (ex-)ministers on the board of directors, while upper class connections are titled individuals (barons, counts, chevaliers, sirs, princes, viscounts, marquises) on the board of directors.

Our results suggest that political and upper class connections mattered. In both periods considered, political and upper class connections were widespread, and firms tended to have more connections with the ruling political party than with other parties. Connected firms had higher growth levels and a higher probability of survival. However, it was larger, bank affiliated firms active in the industries developed during the first industrial revolution, that had more political and upper class connections and accrued the largest benefits. We do not find any significant differences either in the extent or in the value of connectedness between the two periods considered. This is remarkable, as firms in principle became much less dependent on government after the free incorporation act of 1873.

Combined, our results support the hypothesis of lock-in effects between universal banks, power politics and upper class elites in the industries developed during the first industrial revolution (coal, steel and iron) and in the railway industry. At the turn of the 20th century these industries remained highly concentrated, and the rate of new entry was on average two

times lower in industries dominated by large connected firms. Young firms which were active in new industries found it harder to establish political and upper class connections, and they had low growth levels and a lower probability of survival. Our findings are consistent with the hypothesis advanced by Rajan and Zingales (1998; 2003) that mingling the access to finance (universal bank affiliation) with the financial interests of the economic and political elite represented an ideal barrier to competition. Such a system is argued by Perroti and Haber (2008) to maintain high oligopolistic rents, high financial barriers, sustained levels of concentration in downstream industries, granting entrenched economic privileges and restricting competition.

Our study contributes to several strands of literature. First, it contributes to the literature analyzing the effect of politicians, political connections and rent-seeking activities on firm performance (Faccio, 2006a; Fisman, 2001; Kwaja and Mian, 2005 among others). Second, it provides empirical evidence on the economic entrenchment (Morck et al., 2005; Rajan and Zingales, 1998 and 2003) and the bank hegemony theory (Gerschenkron, 1962; Tomka, 2001). Third, we offer a possible (complementary) explanation for the underdevelopment of several new industries in Belgium after the 1870s.

The remainder of the paper is organized as follows. Section 2 gives an overview of the Belgian institutional and regulatory setting over the period 1858-1909. Section 3 describes different theories explaining the prevalence and value of political and social connectedness and derives our main hypotheses. In section 4, we discuss the data and variables. In section 5, we present our results, which are followed by a brief summary and conclusions in section 6.

2. Institutional and regulatory environment in Belgium 1858-1865 and 1905-1909

2.1 The period 1858-1865

During the first half of the 19th century, Belgium became the first country in continental Europe to industrialize and a major player in the world market (Chlepner, 1943; Cameron, 1967). By the beginning of the 1850s, it was the only country on the continent which could compete with England in its degree of industrialization and levels of industrial output (Mokyr, 1976; Cameron, 1967). A brief look at its exports statistics shows a period of constant industrial growth (Mokyr, 1976): exports of iron rose from 564 thousands francs in the period 1831-1835 to 10.645 thousands francs in the period 1846-1850; exports of woolen

cloth from 8 million francs to over 16 million francs and of glass from 820 thousands to 13 million francs from the period 1831-1835 to 1846-1850.

Belgian company law at the time was based on the French Civil Code (1804) and the French Commercial Code (1807), which remained in force until the Company Reform Act of 1873. According to the Commercial Code, a governmental authorization was required for the creation of a limited liability firm. Granting such permission usually implied a cumbersome process, sometimes lasting more than two years. The government could grant authorizations at their discretion, and grounds on which a rejection was possible included the commercial nature of the firm's main activity, the amount of capital required and the potential risk of bringing any kind of real prejudice to the already established industries (e.g. Neuville, 1976). Additionally, the government could ban firms from trading on the stock exchange, restricting their access to capital markets and their composition of equity and bonds funding (van Nieuwerburgh et al., 2006). Ambiguity in the way legislation was formulated made its enforcement fairly arbitrary. Authorizations were granted sparingly, mostly to firms under the sphere of influence of the two universal banks of the time: Société Générale and Banque de Belgique.

Many authors attribute a central role in Belgian industrialization process to the two universal banks. They dominated the Belgian banking sector before 1873 and took an active role in industrial finance, assisting the creation of a large number of limited liability firms (e.g. Cameron, 1967; Kurgan-van Hentenryk, 1991; van der Wee and Goossens, 1991). Société Générale, which was established in 1822 by King William I of the Netherlands, became active in industrial finance only after the Belgian revolution in 1830. Because of the revolutionary uprising and the preceding economic crisis, many firms were unable to fulfill their financial obligations. Société Générale was forced to convert debt into shares and thus became the first universal bank in history. Starting with 1837, Société Générale had expanded its interests and controlled around 25% of the Belgian industry, investing mainly in mining, metallurgy and railways (Chlepner, 1930). Banque de Belgique was established in 1835. The bank followed closely the investment strategy of Société Générale, focusing primarily on the railway sector and in the expanding industries of mining and metallurgy (van der Wee and Goossens, 1991). Together with Société Générale, it took an active role in promoting Belgium's industrial development. Over the period 1833-1838, the bank accounted for 18% (54 million francs) of the total capital invested in the creation of joint stock companies (Cameron, 1967).

Not surprisingly, the legal restrictions on the establishment of limited liability firms resulted in the emergence of concentrated, oligopolistic industries, with a relative limited number of firms controlling large shares of the market. For example, between 1845 and 1869 around 50 railway firms have been granted concessions from the government, and their total capital accounted for about one third of the total amount raised by all private limited firms in that period (Kurgan-van Hentenryk, 1991). Coal-mining and manufacturing industries were also dominated by a high degree of ownership concentration. By 1900, 16 coal-mining firms accounted for about two thirds of the coal market, while 27 manufacturing firms had a combined market share of almost 60%².

As for politics, throughout most of the 19th century and the first decade of the 20th century, two political parties dominated Belgian politics: the [Catholic Party](#) (Church-oriented and [conservative](#)) and the [Liberal Party](#) ([anti-clerical](#) and [progressive](#)). In the period 1858-1865, there was a Liberal government and a large number of politicians (ministers and MPs) who held seats on the board of directors of various industrial firms (Jacquemins, 1965). Similarly, a large number of directorships in limited liability firms were held by nobles and high rank social elites.

2.2 The Company Reform Act of 1873

The Company Reform Act of 1873 amended the Commercial Code of 1807, introducing some important changes. One major change was the abolishment of the requirement of governmental authorization to set up a limited liability firm. As could be expected, free incorporation triggered intensified market competition. Whereas in 1873 there existed 543 corporations, from 1873 to 1900 more than 4000 companies were established. Also, the period 1900-1914 showed a growth of 4400 new companies (Chlepner, 1943). Deregulation and increased competition in the market also led to the creation of a large number of universal banks. According to Durviaux (1947), the number of universal banks increased from 8 in 1880 to 25 in 1900.

Another important consequence of the 1873 Company Reform Act was a clearer definition of the role of the corporate board. The law maintained the existing dual structure consisting of an executive board ('administrateurs') and a supervisory board ('commissaires'), but it now expressed more clearly the role, duties and accountability of corporate directors. The executive board members were appointed by the articles of incorporation or by the general meeting of shareholders, acted on behalf of and for the

² Own calculations based on Belgian Statistical Yearbook, 1870

account of the firm, and their responsibilities were limited by the firm's articles of incorporation. The minimum number of executive board members was legally set at three and their mandate could not exceed six years. However, they were eligible for re-election. Also, firms were now *obliged* to set up a supervisory board. Members of the supervisory board were appointed by the general meeting of shareholders and had to approve the firm's annual accounts. Moreover, they had an 'unlimited' right of supervision and control of all the firm's operations, and had the right to view all writings of the firm (Théate, 1905).

2.3 The period 1905-1909

By the turn of the 20th century, Belgium combined an active stock market with a strongly developed banking sector. 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). However, economic growth was achieved mainly through investments in the old, traditional sectors of the first industrial revolution. Boschma (1999) documents serious underdevelopment of the new industries of the second industrial revolution (1870-1900). Van der Wee and Goossens (1997) coin the period as "ossified, rigid and imprisoned in traditional, unviable sectors, without economic future". Théate (1905), a contemporary legal scholar, argued that Belgian investors were also badly protected as compared to investors in other European countries³.

Universal banks continued to play an important role in industrial finance in this period. Despite the existence of around 25 universal banks at the beginning of the 20th century, the Société Générale managed to preserve its dominance, especially in industries such as railways, mining and metallurgy. According to Cameron (1967) the universal banks which

³ One problem was the inadequate provision of information. For example, when a firm was founded, the founders could pay up their equity shares with any tangible or intangible assets, which they could value themselves, and which were often "scandalously" overvalued. This was possible because there existed no independent body verifying the correctness and the completeness of information provided to investors. In principle, firms were controlled by a supervisory board. According to Théate, supervisory board members were typically chosen among friends and allies of the firm's founders, who could actually be supervisory board members themselves. Another problem Théate identified was that many limited liability firms issued specific share types of which it was unclear whether they represented the firm's capital, and whether they had a voting right at the general assembly. Such problems signaled important market failures and a still weak and ineffective legal system.

had been established after the company reform act of 1873 followed the model of Société Générale. They took an active role in industrial development by contributing most of the financing of the new securities issued by Belgian firms, either by investing in securities themselves or selling them to the public. The practice of establishing interlocking directorships between firms and universal banks was quite common: Van Overfelt et al. (2009) report that 22% of all Belgian non-financial firms listed on the Brussels Stock Exchange in 1905 had at least one director interlock with a universal bank. The role of universal banks was especially pronounced in the capital intensive industries of mining, railways and metallurgy.

3. The role of political and upper class connections

3.1. General considerations

Several strands of literature try to explain business-upper class-politics connections. We focus on three explanations: the resource dependency theory, political rent-seeking and the economic entrenchment theory.

The *resource dependency theory*, pioneered by Pfeiffer and Salancik (1978) and Boyd (1990), argues that firms establish connections to politicians and to influential upper class members to cope with various external uncertainties. According to the *rent-seeking theory* (Krueger, 1974; Tullock, 1967), connections with the political party in power typically act as a substitute warranty for economic safety, ensuring better growth opportunities and stability in the market. Firms lobby politicians in power in order to gain easier access to valuable information, to better opportunities and to limited market resources, in an economic environment in which business success is highly dependent on the favouritism shown to it by the ruling government (Haber, 2002; Hellman et al., 2003; Johnson and Mitton, 2003). Thus, from a resource dependency and rent seeking perspective, building connections with politicians in power and with the upper class elite can help firms cope with various sources of uncertainties. One important source of uncertainty is government action. Political connections can give firms prior knowledge about changes or disruptions in the policy making process, helping them to anticipate and effectively adapt to such changes. Also, strong connections with the ruling party can shield firms from external market uncertainties. Such uncertainties can stem from actions undertaken by competing firms, from restrictive access to finance or

from the rise of new, risky industries, as was the case of electricity or chemicals at the turn of the century. Firms active in these new industries often lack credibility in the market and find it more difficult to obtain financing. Influential politicians and members of the upper class on their board of directors may provide legitimacy in the market (Galaskiewicz and Wasserman, 1989), certifying their quality and adding valuable reputation capital. Accordingly, from this perspective, connections are expected to be more valuable to highly vulnerable firms, which can be easier harmed by market uncertainties or by unexpected changes of policy.

The underlying rationale behind *the economic entrenchment theory* (Morck et al, 2005; Perotti and Haber, 2008; Rajan and Zingales, 2003) is that a tiny business elite with influential access to politicians in power holds an oligarchic control over particular industries or over the economy. Connected firms use their influence to further their own interests at the expense of other firms and of the economy at large. They are often large, long-established firms mainly interested in preserving either their dominant/oligarchic position in the market, preferential access or shield themselves against competition (Morck et.al, 2005). Rajan and Zingales (2003) argue that mingling preferential access to finance with the financial interests of the economic and political elite represents an ideal barrier to competition. This is to a large extent consistent with the bank hegemony theory, which refers to “spheres of influence” that follow an organized pattern and have financial institutions as a nucleus. Combined with access to political power, such structures often lead to economic entrenchment which benefits the vested interests of particular firms or industries, at the expense of the rest of the economy. A similar argument is advanced by Perroti and Haber (2008), who assert that financial systems in which such a business-power politics nexus exists tend to restrict competition by granting entrenched privileges to incumbent firms. This often leads to cumbersome entry barriers for new firms, misallocation of investments, limitation of competition and high levels of corruption (Shleifer and Vishny, 1994).

3.2. Connections with the ruling political party

It can be argued that firms are more likely to invest in connections with the *ruling* political party than in connections with other political parties. These connections can help them cope with uncertainties regarding public policies: changes in policies, selective enforcement of regulation or selective access to limited information or resources (Pittman, 1977). Moreover, connections with the ruling party can shield firms against external market

uncertainties. A well placed politician may grant them access to profitable governmental contracts and may lobby for or elicit favorable political decisions on issues such as taxes, market regulations, licenses and concessions of various types. From the point of view of economic entrenchment, large, established businesses may invest in connections with politicians of the ruling party in order to maintain their privileged position in the market, to shield themselves against changes in regulation and erect a variety of entry barriers for new firms in the market (Morck et al., 2005). Accordingly, we formulate our first hypothesis:

Hypothesis 1: Firms are more likely to have politicians belonging to the ruling party on their boards than other politicians.

On the other hand, it could be argued that politicians are appointed on the board of directors because of their specific managerial qualities. Politicians may have excellent leadership, strategic or negotiating skills, and may suggest adequate strategies on how to react to and to derive advantages from different policy changes. If this is the case, we would expect firms to appoint politicians as directors on their corporate board due to their qualities and political affiliation per se, disregarding any specific affiliation to the ruling party.

3.3. Government dependency

Resource dependency theorists (Emerson, 1962; Pittman, 1977) argue that political connections and reputation capital should be more valuable in times of distress, higher levels of market uncertainty, and high government dependence by firms, when policy changes are unpredictable. Once formal institutions are created that promote financial markets development and facilitate entry for new businesses, the network of corporate relations and board linkages should become less important (e.g. Hillman et al., 2000). In an empirical analysis of the role of informal structures and bank affiliation in two settings with significant differences in legislation enforcement and market entry regulation, Mexico and Brazil at the turn of the 20th century, Mussacchio and Read (2007) indeed find a reduction in the value firms attach to political connectedness following the introduction of legislation allowing for increased market competition.

Accordingly, considering the highly restrictive firm legislation existent in Belgium prior to 1873, which made market entry dependent on government approval, we would expect firms

to show higher vulnerability towards government and changes in the regulatory framework during the period 1858-1865, preceding the free incorporation act. With governmental authorizations being required for firms establishment, and with the possibility of such authorization being denied on fairly subjective grounds like the commercial nature of the firm or whether the new firm hinders in some way the development of established industries, we would expect political and upper class connections to be a valuable asset. By the start of the 20th century, increased market liberalization, lower dependency on government for firm establishment and access to capital markets should lead to a lowering in the need of building and relying on such connections. Accordingly we hypothesize:

Hypothesis 2a: Firms are more likely to have politicians and upper class members on their boards in periods of higher government dependency.

However, economic entrenchment theory argues that clique formation around politicians in power and financial institutions follow the interests of the incumbent elite which wants to protect its dominant position in the market. Thus, under this rationale, changes in regulation may not matter. Increased liberalization, easier market entry, increased number of universal banks facilitating access to credit, as well as firms being able to access capital markets without any prior government approval will not lower firms reliance on political and upper class connections. On the contrary, business elites may perceive liberalization and increased competition as a serious threat to their privileged position and a sign of market uncertainty. Consequently, they might intensify their investments in political connections and reputation capital to preserve their status-quo and impede new entry in the market. Therefore, an alternative hypothesis is:

Hypothesis 2b: The presence of politicians and upper class members on corporate boards is independent of changes in government dependency.

3.4. The role of universal banks

The dominant role played by universal banks in the development of firms in Belgium over the period 1858-1909 raises the question whether politicians and upper class connections were substitutes or complements to universal bank affiliations. As a fast industrializer, ranking second after Britain in 1860 in terms of industrial output, Belgium in the 19th century furthered away from the bank non-interventionist market based system adopted by Britain and developed an universal banking system more typical to late industrializers such as Germany, Japan or Hungary. Banks took an active role in industrial finance, holding equity stakes and directorships in client firms and combining standard banking functions with the underwriting and trading of securities. It has been argued that while universal banking developed as a reaction to economic backwardness and brought important benefits to affiliated firms during the industrialization phase (Gerschenkron, 1962 for Germany; Tomka, 2001 for Hungary) it ceased to bring higher advantages after the industrialization completed (Fohlin, 2007 for Germany). However, in the case of Belgium universal bank affiliation continued to be profitable for affiliated firms during the first decade of the 20th century (Van Overfelt et al., 2009).

Högfeldt (2005) points out that the Netherlands, a country of similar size to Belgium, followed a quite distinct trajectory in the development of its financial system during the second half of the 19th century. In the Netherlands, a large class of wealthy and influential individuals served as a non-intermediated network that channeled funds to industrial firms, thereby acting as substitutes for universal banks. In Belgium, two patterns are observed: on one hand, a strong universal banking system, and on the other hand the active involvement of political upper class elites in industrial finance. This raises the question whether these elites acted as *substitutes* or *complements* of universal banking. Did the elites help firms with limited access to relationship banking, or did the elites use universal banks as vehicles to exercise their influence?

From a resource dependency point of view, bank affiliations and political and upper class connections may have been alternative mechanisms to shield the firm from external uncertainties. Having bankers on the board of directors may have facilitated access to capital by e.g. signaling the quality of the firm to the capital markets and may have improved firm performance through monitoring (e.g. Van Overfelt et al., 2009). Thus, we would expect firms having a bank director to be less vulnerable to external uncertainties, and consequently have less need to establish connections to politicians and upper class elites. Accordingly, we hypothesize that political and upper class elites were substitutes for universal bank relations:

Hypothesis 3a: Bank affiliated firms are *less* likely to have politicians and upper class members on their board than non-affiliated firms.

On the other hand, if connections to politicians and upper class are built to preserve the interests of the incumbent business elite that was strongly connected to universal banks, these connections may have been complements to universal bank affiliations.

Hypothesis 3b: Bank affiliated firms are *more* likely to have politicians and upper class members on their board than non-affiliated firms.

3.5. New industries versus traditional industries

Two types of firms coexisted in Belgium in the period considered in this study. On one side, firms active in industries like mining, metallurgy, railways and tramways developed with strong support from the two universal banks (Société Générale and Banque de Belgique), and on the other side firms developed after 1870 and based on the new technologies of the second industrial revolution (electricity, petroleum or chemicals). The firms active in the first category, managed to preserve to a large extent the support of universal banks by the first decade of the 20th century. They were mostly large, long-standing firms with a strong market position and close ties to other firms. This, together with the support of their relationships with universal banks made such firms less vulnerable to market uncertainties. It could therefore be argued that they had less need for political and upper class connections than the firms which developed after 1870 and suffered from a lack of legitimacy and credibility in the market. This lack may be compensated by investing in ties with well connected politicians and upper class elite (Aldrich and Fiol, 1994). This is confirmed by Braggion (2006), who analyzes firms operating within the new industries of the second industrial revolution in Victorian Britain at the turn of the 20th century. These firms were able to extract benefits from access to informal sources of capital via titled directors, which confirms that in Britain social elites and access to reputation capital acted as efficient substitutes to bank affiliation. Accordingly, we hypothesize:

Hypothesis 4a: Firms active in newer, riskier industries are more likely to have politicians and upper class members on their boards.

On the other hand, large, established businesses may also build strong connections to politicians in power in order to maintain their privileged position in the market, shielding themselves against changes in regulation and erect a variety of entry barriers for new firms in the market (Morck et al., 2005). Analyzing a long term sequence of techno-industrial stages in Belgium, Boschma (1999) provides evidence of a sharp contrast between Belgium in the 19th century, when it was the first country in continental Europe to industrialize, and Belgium in the 20th century, with all major innovations of the second industrial revolution (1870-1900) either missing, underdeveloped or developed with considerable delay and with important foreign investments. This is remarkable, as the organizational behaviour literature (e.g. Broadberry, 1994; Dahmén, 1991) argues that there are strong dynamic technological linkages between innovative clusters. One cluster typically emerges on the foundations laid by previously established ones. Thus, fast industrializers should be able to benefit from “first mover advantages”. Belgium’s lagging status in developing second industrial revolution innovative technologies is therefore an interesting puzzle. Boschma (1999) blames it on Belgium’s lack of resources and of proper scientific institutions. Others (e.g. van der Wee and Goossens, 1991; van der Wee, 1997) blame it on an outward focus of financial investments and the banks channeling funds and backing up established firms investments in foreign markets.

We hypothesize that the lock-in effects in the old, traditionally first industrial revolution clusters, backed up by bankers, politicians in power and upper class elites also contributed to the slow rate of development of these new industries, giving birth to economic entrenchment. An example of such concentration of power and lock-in effects is given by Mexico’s business conglomerates over the industrialization phase, which managed to suppress the political opposition to the allocation of important procurement contracts in their favor, thereby extending their dominance over the most important industries and over the economy (Maurer and Sharma, 2001; Haber, 2002).

Hypothesis 4b: Large, long established firms active in the traditional industries of the first industrial revolution are more likely to have politicians and upper class members on their boards.

3.6. The impact of political and upper class connections on firm performance

Empirical evidence suggests political connections represent valuable investments, adding better performance, increased market stability and higher probability of survival to connected firms. Benefits are quantified in terms of financial performance (e.g. Faccio, 2006a, 2006b; Hongbin et al., 2007; Johnson and Mitton, 2003), easier access to debt financing and exclusive borrowing privileges (e.g. Fan et al., 2009; Johnson and Mitton, 2003), preferential access to governmental contracts (e.g. Claessens et al, 2008), higher likelihood of government bailout in case of default (e.g. Faccio et al., 2006b), expertise and information (e.g. Agrawal and Knoeber, 2001; Faccio, 2006a; Miwa and Ramseyer, 2002) or higher lobbying power (e.g. Agrawal and Knoeber, 2001, Ferguson and Voth, 2008). Accordingly, we would expect that:

Hypothesis 5: Firms with politicians and upper class members on their boards have higher performance.

Hellman et al. (2003) find that especially in settings where political influence is strong and rent generating advantages may be sold by politicians to private firms, long-established incumbent firms will enjoy higher preferential advantages. Such advantages often lead to superior performance for connected firms, but also to a social cost by weaker economy wide firm performance. This is consistent with the economic entrenchment theory of Morck et al. (2005), the state capture theory of Hellman et al. (2003) and the interest group theory of financial development of Rajan and Zingales (2003). Without connections, firms could lose their position in the market to newer, better skilled competitors; they could lose important contracts, clients, reputation, all these jeopardizing their profitability or even causing their exit from the market. Consequently, entrenched incumbent firms will invest in such connections and will intensify such investments up to the point of being provided the expected benefits.

Thus, provided that hypotheses 2b-4b are confirmed, we expect connections to yield important advantages to mature, entrenched firms. These firms may invest in political and upper class connections in order to preserve their entrenched privileges (hypotheses 3b and 4b). Privileged access to finance (provided by universal bank affiliation, hypothesis 3b), size and maturity (hypothesis 4b) combined with access to influential power politics actors (hypothesis 1) may give rise to what Rajan and Zingales (1998) and Perroti and Haber (2008) coin as a perfect barrier to competition.

Accordingly, such connections might trigger higher levels of benefits in terms of increased performance (higher levels of growth, lower market exit) but this might come with important social costs for new entry firms and the economy at large: high levels of industry concentration and low competition in the market. Thus, we also test the following *economic entrenchment* hypotheses:

Hypothesis 6: The value of political and upper class members on their board is especially pronounced for entrenched firms.

Hypothesis 7: Entrenched firms with political and upper class members on their board operate in industries with low new entry rates and low levels of competition.

4. Data and variables

4.1. Data

The data for the empirical analysis were retrieved from various sources. For the period 1858-1865, we employ a dataset constructed by Julienne Laureyssens (1970), which is based on the Collection Complète des Statuts des Sociétés Anonymes de Belgique 1859-1874 (Adolphe Demeur, 1859; 1874). It includes information on share prices, number of stocks outstanding and on the composition of the board of directors (including noble titles) of all Belgian listed firms over the period 1857-1874. For the 1905-1909 period, we collected data on directors (including noble titles) from the Recueil Financier, a financial annual covering firm-specific information and corporate board composition over the period 1893-1975. Stock market data for this period come from a database constructed by the StudieCentrum voor Onderneming en Beurs (SCOB) at the University of Antwerp, Belgium. The primary source of this database is the archive of the Brussels Stock Exchange, going back to 1832 and including information on all Belgian listed firms in terms of share prices, dividends, number of stocks outstanding (Annaert et.al, 1998). For both periods we hand-collected data on Belgian politicians: ministers, ex-ministers and MPs. Data on bankruptcy and survival of firms comes from two sources: a first source is the information provided in the dataset of Laureyssens, and has been checked using Demeur (1859). A second source, for the 1905-1909 period is the “Compilation depuis 1873 jusqu’au 30 juin 1927 des sociétés disparues”. It is a reliable source on all listed Belgian limited liability firms dissolved and closed at any time

before 1909 and enables us to separate firm closures from fusions, acquisitions or simple changes of name.

Financial firms were excluded from the sample because they are subject to different regulatory requirements and might induce severe bias in our results. The final sample for 1858 consists of 117 firms. 62.4% of these firms were active in either mining (19.7%), metallurgy (23.9%) or railways (18.8%). The final sample for 1905 consists of 394 firms. Though new industries emerge (such as electricity and gas, chemicals or petroleum) and represent almost 28% of the total sample, the three main industries of the 1858-1865 period seem to preserve their importance, continuing to amount to 58.8% of the total number of firms.

4.2. Variables

We define a firm as being politically connected if it has a politician on the board of directors⁴. We consider as politicians parliament members (MPs) belonging to the main political parties of the time (Catholic and Liberal for the 1858 sample; Catholic, Liberal and Socialist for the 1905-1909 sample), as well as ministers and ex-ministers. The Liberal party was the sole ruling party in the period 1858-1865, while the Catholic party was the sole ruling party in the 1905-1909 period. Upper class connections are measured by titled individuals (barons, counts, chevaliers, sirs, princes, viscounts, marquises) on the board of directors. We use five measures of connectedness to upper class elites and politicians. *Nobles* is a dummy variable which equals one if a firm has titled individuals on its board. *MPs* is a dummy variable which equals one if a firm has MPs on its board. *Catholic MPs* is dummy variable which equals one if a firm has Catholic MPs on its board. *Liberal MPs* is a dummy variable which equals one if a firm has Liberal MPs on its board. *(Ex-)Ministers* is a dummy variable which equals one if a firm has (ex-)ministers on its board. We also consider the number of nobles / politicians / Catholic MPs / Liberal MPs / (ex-)ministers as a percentage of the total number of board members.

Performance is measured by survival probability and growth in market capitalization. For both periods 1858-1865 and 1905-1909, *Firm Survival* is a dummy variable that equals one if the firm was listed at the start of the period and was not dissolved or closed at any time before the end of the period. We checked Demeur (1874) to distinguish between firms that dissolved,

⁴ A lack of available data for the period 1858-1865 do not allow us to distinguish between executive directors and supervisory directors.

closed, or disappeared because of mergers, acquisitions or simple name changes in the period 1858-1865. For the period 1905-1909, we checked the “Compilation depuis 1873 jusqu’au 30 juin 1927 des sociétés disparues”. We follow Faccio (2002) and define *Firm Growth* as the percentage increase in market capitalization over the period considered.

The dummy variable *New entry* equals one if the firm was listed in 1909 but not in 1905, and measures the probability of new entry in the market for the period following increased liberalization, higher access to capital markets and lower dependency on government for firm establishment (1905-1909).

We assume a firm to be affiliated with a universal bank if a director of a universal bank is on the board of the firm. For the period 1858-1865 we consider the two main universal banks (Société Générale and Banque de Belgique). Following Van Overfelt et al. (2009), for the period 1905-1909 we consider directors of the six most important universal banks (Société Générale, Crédit Général Liégeois, Banque d’Outremer, Banque Liégeoise, Banque de Bruxelles and Banque Internationale de Bruxelles). *Bank Interlock* is a dummy variable which equals one if at least one director of one of these banks is on the executive board or the supervisory board of the firm.

For the 1905-1909 sample, we distinguish between old industries (using first industrial revolution technologies) and new industries, developed during the second industrial revolution. Industry classifications for 1858 are based on the Laureyssens database, while industry classifications for 1905 are based on the SCOB database. Both databases include also a sector classification code, identifying the main activity of the firms. We define *New industry* as a dummy variable that equals one if the firm belongs to one of the following industries: electricity, chemicals, petroleum, constructions, other transports (bicycles or motorcycles) or non-ferrous metals, and zero otherwise (see e.g. Braggion, 2006, Kurgan-van Hentenyk, 1997; van der Wee and Goossens, 1991).

Finally, we include as control variables in our regression models seven industry dummies, firm age and board size. *Firm age* is the number of years since the firm has been established. *Board size* is the number of directors on the board of directors.

*** Table 1 about here ***

5. Results

5.1. Univariate results

Table 1, which reports descriptive statistics on politicians and nobles on the board of directors in 1858 (panel 1a) and 1905 (panel 1b), confirms the important role of elite directors in both periods under analysis. In 1858, 31.6% of the firms had MPs on their board, while 37.6% of the firms had nobles on their board. The results for 1905 are very similar: 26.4% of the firms had MPs as directors and 40.2% of the firms had nobles as directors. The enduring presence of elite directors on the board confirms hypothesis 2b, according to which the presence of politicians and upper class members on corporate boards is independent of changes in government dependency, because this presence is driven by economic entrenchment rather than market uncertainty. Consistent with the hypothesis that firms are more likely to have politicians of the ruling party on their board than other politicians (hypothesis 1), in 1858 21.3% of the firms had Liberal MPs on their board while only 11.1% of the firms had Catholic MPs as directors. In 1905, when there was a Catholic government, 17.5% of the firms had Catholic MPs on their board while only 10.6% of the firms had Liberal MPs as directors. The switch in elite cooptation, from Liberal dominated boards in a time frame dominated by a Liberal government (1858) towards a prevalence of Catholic MPs as directors when Catholics are in power (1905) validates what has been coined as the “puzzle” of power politics (Acemoglu and Robinson, 2008). According to this “puzzle”, inefficient institutional settings and reputation and political role of elites will persist over time, despite changes in political arena. This is explained by the fact that business elites can always redirect their efforts towards de facto political power, offsetting any real institutional changes.

Table 1 also reveals that on both periods bank affiliated firms were much more likely to have politicians and nobles on their board than non-affiliated firms. The difference between bank affiliated and non-affiliated firms is especially pronounced for nobles. In both periods about 71% of the bank affiliated firms had noble directors, compared to only 16.6% (in 1858) and 26.3% (in 1905) of the non-affiliated firms. Furthermore, we find that for firms with an elite director on their board, the average number of Catholic MPs, Liberal MPs, (ex-)ministers and nobles on the board is significantly higher for bank affiliated firms than for non-affiliated firms. Again, these results hold for both periods. They are consistent with hypothesis 3b, according to which connections to politicians and upper class are built to preserve the interests of the incumbent business elite which was strongly connected to universal banks.

*** Table 2 about here ***

Table 2 reports descriptive statistics on firm characteristics in 1858 (panel 2a) and 1905 (panel 2b). We first consider characteristics for all firms, and then distinguish between (1) firms with politicians, nobles and bankers on their board, (2) firms with politicians and nobles but no bankers on their board, and (3) firms without politicians, nobles and bankers on their board. T-tests measure the difference between subsamples (1) and (2) on the one hand and subsample (3) on the other hand.

While in 1858 firm were fairly old (median 25 years), in 1905 firms tended to be younger: the median firm age was 15 years, but there were large differences across firms: firm age ranges between one year and 92 years. As for performance, in the period 1858-1865 firm growth (median 0.2%) and firm survival (58%) were considerably lower than in the period 1905-1909, when median firm growth was 9% and firm survival was 68%.

In both periods, firms with elite directors show significantly higher survival rates and higher levels of growth than firms without elite directors. Interestingly, while there is no difference in age between firms with and firms without elite directors in 1858, by 1905 firms with elite directors are significantly older than firms without elite directors. All these results are consistent with the economic entrenchment story.

*** Table 3 about here ***

5.2. Multivariate analysis

5.2.1. Determinants of elite directors

Table 3 reports regression results for the determinants of elite directors for 1858 (panel 3A) and 1905 (panel 3B). We use five measures of elite directors: Nobles, MPs, Catholic MPs, Liberal MPs and (ex-)ministers. As the dependent variables are dummy variables, we estimate probit regressions. To account for non-linearity in the relationship between elite directors and board size / firm age, we include quadratic terms of board size and firm age. The results suggest that in both periods considered, firms interlocked with a universal bank were significantly more likely to have nobles (regressions 1 and 6), MPs (regressions 2 and 7) and (ex-)ministers on their board. These findings contradict the hypothesis that bank affiliations reduce market uncertainty and thus the need for political and upper class connections (hypothesis 3a). They support the alternative hypothesis (3b) that bank affiliated firms invest

in connections because they allow them to preserve their privileged position in the market and lock-in their status-quo.

We also find that in both periods bank affiliated firms were significantly more likely than non-affiliated firms to have MPs belonging to the ruling party (Liberal party in 1858; Catholic party in 1905) on their board. On the other hand, we find no significant differences between bank affiliated and non-affiliated firms for MPs belonging to the party in opposition (Catholic party in 1858; Liberal party in 1905). These results reinforce hypothesis 3b that a clique formation of financiers, politicians and other elites around incumbent firms entrenched themselves.

The regressions for 1905 (panel 3B) also include a New Industry dummy variable that equals one if the firm belongs to one of the industries that developed during the second industrial revolution. On the one hand, it could be argued that firms in new industries had more politicians and upper class members on their board in order to signal their legitimacy and credibility to the market, and that titled directors provided them access to informal sources of capital (Hypothesis 4a). The economic entrenchment argument on the other hand suggests that it was the firms in the older industries that used political connections in order to preserve their privileged position in the market and erect a variety of entry barriers for new firms (Hypothesis 4b). Consistent with the economic entrenchment story, we find that new industry firms had significantly less nobles (regression 6), (ex-)ministers (regression 10) and MPs of the ruling (Catholic) party (regression 7) on their board. Interestingly, new industry firms had significantly more politicians of the opposition party (regression 8) as a director. These results are inconsistent with the finding of Mussacchio and Read (2007) that improved legislation and increased competition in the Brazilian market at the turn of the 20th century triggered both lower levels of connectedness and a switch in the type of firms using such connections to younger, more financially constrained firms.

Thus, the predictions of the resource dependency hypotheses (2a-4a) are not confirmed by our data. We do not find any evidence of more political or upper class connections for younger, non-affiliated firms operating in new industries which were more likely to have higher levels of market vulnerability. On the contrary, we find that in both periods, bank affiliated firms and firms active in established industries were more likely to have elite directors on their board. This is all consistent with our economic entrenchment hypotheses (2b-4b).

*** Table 4 about here ***

5.2.2. *Elite directors and firm performance*

We now investigate the impact of elite directors on firm performance. Based on previous work on political and upper class connections, we expect a positive relation between MPs / nobles on the board and firm performance. However, we posit an additional question: is it political and upper class connectedness per se that triggers such benefits, or is it the bank affiliation-political connections-reputation capital nexus at the firm level? Table 4 reports regressions results for the determinants of firm survival for 1858-1865 (panel 4A) and 1905-1909 (panel 4B). In the regression models we include an interaction term between bank affiliation and the share of elite representation on the board (%elite*bank interlock), in order to capture the effect of a mixture of preferential access to finance via bank affiliations and power politics.

Our results for the 1858-1865 sample (panel 4A) show that political directors indeed affected firm survival. Firms with (ex-)ministers and/or Liberal MPs (i.e. the ruling party) were significantly more likely to survive than other firms. However, the positive effect of politicians on the board was considerably stronger for bank affiliated firms: the %elite*bank interlock interaction term is positive and significant in regressions 12 (MPs), 14 (Liberal MPs) and 15 ((ex-)ministers). These findings are consistent with the argument that political connections are especially beneficial to the entrenched business elite. They suggest that access to power politics and reputation capital, combined with bank affiliation, triggered a higher probability of survival. This again supports our entrenchment hypothesis (hypothesis 6). For the 1905-1909 sample (panel 4B), there is no direct, significant effect of either bank affiliation or share of elite representation on firms board, but there is a positive and highly significant effect of the interaction term, which again confirms hypothesis 6.

Nobles on the board did not seem to affect firm survival in 1858-1865 (regression 11). For 1905-1909 we even find a significantly negative coefficient (-0.4) for the %elite variable, but the %elite*bank interlock interaction coefficient (+0.8) is significant and positive, so that the combined effect is positive, as expected.

*** Table 5 about here ***

Table 5 reports regression results where firm growth in 1858-1865 (panel 5A) and firm growth in 1905-1909 (panel 5B) are the dependent variables. We use a quasi-likelihood model proposed by Papke and Wooldridge (1996) for fractional response variables. Again, the results generally confirm the economic entrenchment hypothesis. In both periods, firms with nobles on the board have a significantly higher growth, especially if they are affiliated with a bank. Bank affiliated firms with MPs from the ruling party on the board also have significantly higher growth rates (regression 24 for 1858-1865; regression 28 for 1905-1909). We also find have higher growth rates for firms with (ex-)ministers on their board, and this effect again is stronger for bank affiliated firms.

The economic entrenchment story suggests that firms with political and upper class connections will use their power to reduce market entry and market competition. We therefore expect that these firms will tend to operate in industries with low entry levels and low levels of competition (hypothesis 7). To test this hypothesis, for the period 1905-1909 we distinguish between industries that show a high degree of bank interlocks and elite connections, and other industries. Based on a factor analysis on the number of bankers, politicians and nobles on the board (results available from the authors upon request), we find the ‘entrenched’ industries to be the mining, metallurgy and railways industries. Not surprisingly, these were the most important industries using first industrial revolution technologies. For both subsamples, we estimate the determinants of firm survival and firm growth, as well as the likelihood of new entry. ‘New Entry’ is a dummy variable equal to one if the firm was listed in 1909, but not 1905. The results of our regression analysis are displayed in Table 6. In regressions 33 and 36, where New Entry is the dependent variable, the independent variables are calculated as of 1909 instead of 1905.

*** Table 6 about here ***

For the highly connected industries, we find that firms with bank interlocks and firms with elite directors have higher growth rates (regression 32) and are more likely to survive (regression 31). Moreover, this effect is much stronger for firms which have both bank interlocks and elite directors: the interaction coefficient is large and statistically significant at the 1% level. For the other industries we find no significant effect of either bank interlocks or elite directors on performance (regressions 34 and 35). Regarding new entries, as we expected the percentage of new entries is significantly lower in the highly connected mining,

metallurgy and railways industries (13.9%) than in the other industries (27.9%)⁵. Furthermore, we find that while in other industries bank affiliations and elite directors are unrelated to new entries (regression 36), in the mining, metallurgy and railways industries new entry firms are significantly less likely to have bank interlocks or elite directors.

These results support our hypotheses 6 and 7: the value of political and upper class connections is especially pronounced for entrenched firms (politically and upper class connected firms in bank dominated industries). Benefits are quantified in terms of higher growth levels and higher probability of survival (hypothesis 6). However, these benefits come also at a social cost: reduced competition and lower entry rates in the corporate sectors dominated by such firms (hypothesis 7).

6. Conclusion

We have investigated the role of political and upper class connections in an environment which was characterized by a strong concentration of power in the hands of a small upper class elite with close ties to business, banks and politics: Belgium in the period 1858-1909. Following Morck et al. (2005) and Rajan and Zingales (2003), we argue that this concentration of power in the hands of a small elite caused the distortion of capital allocation, entry barriers for new firms, limited competition in the market and poor long-run performance.

We provide empirical evidence that political and upper class connections mattered and acted as efficient substitutes for a weak institutional environment. Firms with such connections had a higher probability of survival and were able to grow more strongly. Bank affiliated firms active in the old industries which developed during the first industrial revolution had more political and upper class elites on their board, and they accrued the largest benefits. At the turn of the 20th century these industries remained highly concentrated, with the rate of new entry being on average two times lower in industries dominated by large connected firms. Young firms which were active in new industries found it harder to establish political and upper class connections, and they had lower growth levels and a lower probability of survival. Combined, our results support the hypothesis of economic entrenchment by a business elite with close ties to universal banks and politics, which entrenched itself by creating strong financial barriers and barriers to competition.

⁵ Significant at the 0.01 level based on a t-test.

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Table 1: Descriptive statistics – elite directors

This table reports descriptive statistics on elite directors (politicians and nobles) of Belgian firms listed on the Brussels stock exchange in 1858 (panel 1a) and 1905 (panel 1b). Nobles are titled individuals (barons, counts, chevaliers, viscounts or marquise). Firms are bank affiliated if at least one director of the firm is an executive director of a main universal bank, and non-affiliated otherwise. ‘Average no. of elite directors on the board’ refers to the average number of elite directors for firms with an elite director only.

Panel 1a: 1858 sample

	% of firms with an elite director			Average no. of elite directors on the board		
	All firms	Bank affiliated	Non-affiliated	All firms	Bank affiliated	Non-affiliated
MPs	31.6%	46.6%	16%	2.1	2.5***	1.9
Catholic MPs	11.1%	24.4%	4.1%	1.4	1.6***	1.1
Liberal MPs	21.3%	35.5%	9.7%	1.9	2.7***	1.4
Independent and other parties MPs	0%	0%	0%	0	0	0
(ex-)ministers	8.5%	15.5%	4.1%	1.1	1.4***	1
Nobles	37.6%	71.9%	16.6%	1.3	1.8***	1.1
Total number of firms	117	45	72	117	45	72

Panel 1b: 1905 sample

	% of firms with an elite director			Average no. of elite directors on the board		
	All firms	Bank affiliated	Non-affiliated	All firms	Bank affiliated	Non-affiliated
MPs	26.4%	39.2%	20.5%	1.4	2.1***	1.3
Catholic MPs	17.5%	30.5%	11%	1.5	1.9***	1.1
Liberal MPs	10.6%	15.7%	8.4%	1.2	1.2	1.1
Independent and other parties MPs	1.01%	0%	1.5%	1	0	1
(ex-)ministers	7.6%	17.4%	3.3%	1.2	1.8***	1
Nobles	40.2%	71.2%	26.3%	1.6	1.9***	1.3
Total number of firms	394	121	273		273	

*** : $p < 0.01$. ** : $p < 0.05$. * : $p < 0.10$; significance levels based on a two sample independent t-test with separate (unequal) variances.

Table 2: Descriptive statistics – firm characteristics

This table reports descriptive statistics on firm characteristics for Belgian firms listed on the Brussels stock exchange in 1858 (panel 2a) and 1905 (panel 2b). *Firm Survival* is a dummy that equals one if the firm was listed at the start of the period and was not dissolved or closed at any time before the end of the period. *Firm Growth* is the percentage increase in market capitalization over the period considered. *Board Size* is the number of directors on the board of directors. *Firm Age* is the number of years since the firm has been established. *New Industry* is a dummy variable that equals one if the firm belongs to one of the following industries: electricity, chemicals, petroleum, constructions, other transports (bicycles or motorcycles) or non-ferrous metals. Firms are bank affiliated if at least one director of the firm is an executive director of a main universal bank, and non-affiliated otherwise.

Panel 2a: 1858 sample (117 firms)

All firms						
	Mean	Median	St. Dev.	Minimum	Maximum	
Firm growth	0.9%	0.2%	1.8%	0.1%	14.5%	
Firm survival	58%					
Board size	7.7	8	3.12	2	14	
Firm age	23.3	25	6.3	12	35	
Firms with:						
Politicians on the board	Yes		Yes		No	
Nobles on the board	Yes		Yes		No	
Bank affiliation	Yes		No		No	
	Mean	Median	Mean	Median	Mean	Median
Firm growth	1.6%***	0.7%	1.2%***	0.8%	0.5%	0.2%
Firm survival	71%.***		66%***		50.3%	
Board size	8.7**	9	8.4*	9	7.7	8
Firm age	23.3	27	23.5	27	23.3	23.5
Number of firms		18		24		49

Panel 2b: 1905 sample (394 firms)

All firms						
	Mean	Median	St. Dev.	Minimum	Maximum	
Firm growth	5%	9%	2.3%	0.9%	15.9%	
Firm survival	68%					
New industries	28.2%					
Board size	9.9	9	4.2	2	34	
Firm age	24.8	15	17.2	1	92	
Firms with:						
Politicians on the board	yes		Yes		no	
Nobles on the board	yes		Yes		no	
Bank affiliation	yes		No		no	
	Mean	Median	Mean	Median	Mean	Median
Firm growth	9%***	17%	7%***	8%	1%	5%
Firm survival	78%***		75%***		58%	
Board size	12.8***	11	12.7***	11	9.7	9
Firm age	29.6***	23	27.5***	21	22.6	21
Number of firms		40		83		185

* indicates that the mean for firms with politicians and nobles on the board is significantly different from the mean for firms without politicians and nobles on the board based on a two sample independent t-test with separate (unequal) variances; *** : $p < 0.01$. ** : $p < 0.05$. * : $p < 0.10$

Table 3: Determinants of elite directors

This table displays Probit regression coefficients (standard errors in parentheses) for Belgian firms listed on the Brussels stock exchange in 1858 (panel 3A) and 1905 (panel 3B). Nobles are titled individuals (barons, counts, chevaliers, viscounts or marquise). Bank Interlock is a dummy variable which equals one if at least one director of the main universal banks is on the executive board or the supervisory board of the firm. New industry as a dummy which equals one if the firm belongs to one of the following industries: electricity, chemicals, petroleum, constructions, other transports (bicycles or motorcycles) or non-ferrous metals. Firm Age is the number of years since the firm has been established. Board Size is the number of directors on the board of directors. dF/dx is for discrete change of dummy variable from 0 to 1; ***: $p < 0.01$; **: $p < 0.05$; *: $p < 0.10$.

Panel 3A: 1858 (117 observations)

	(1)	(2)	(3)	(4)	(5)
Dependent Variable:	Nobles	MPs	Catholic MPs	Liberal MPs	(Ex-)Ministers
<i>Estimation: Probit</i>	dF/dx	dF/dx	dF/dx	dF/dx	dF/dx
Bank interlock	0.62*** (0.151)	0.46*** (0.183)	0.12 (0.057)	0.18*** (0.110)	0.48*** (0.110)
Firm Age	-0.15* (0.092)	0.09** (0.034)	-0.03 (0.061)	0.004 (0.061)	0.04 (0.061)
Firm Age squared	0.004* (0.002)	-0.002** (0.007)	0.0007 (0.001)	0.0001 (0.001)	-0.0004 (0.001)
Board Size	0.01 (0.031)	0.07 (0.029)	0.05 (0.029)	0.07 (0.031)	0.1 (0.031)
Board Size squared	0.002* (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Industry dummies	YES	YES	YES	YES	YES
Pseudo R ²	29%	35.2%	17.4%	23.9%	33.6%
Wald Chi2 test	20.2***	19.7***	14.8***	26.1***	31.6***

Panel 3B: 1905 (394 observations)

	(6)	(7)	(8)	(9)	(10)
Dependent Variable:	Nobles	MPs	Catholic MPs	Liberal MPs	(Ex-)Ministers
<i>Estimation: Probit</i>	dF/dx	dF/dx	dF/dx	dF/dx	dF/dx
Bank interlock	0.27*** (0.051)	0.082* (0.051)	0.12*** (0.041)	-0.03 (0.031)	0.11** (0.041)
New industry	-0.18*** (0.047)	-0.01 (0.047)	-0.12*** (0.032)	0.08*** (0.03)	-0.04** (0.01)
Firm Age	-0.01** (0.005)	0.03 (0.004)	-0.03 (0.004)	0.03* (0.003)	-0.02 (0.005)
Firm Age squared	0.0002*** (0.000)	0.0003 (0.000)	0.00004 (0.000)	-0.0002 (0.000)	0.00002 (0.000)
Board Size	0.037* (0.181)	0.041*** (0.021)	0.01 (0.012)	0.03*** (0.012)	0.01* (0.012)
Board Size squared	-0.001 (0.000)	-0.001 (0.000)	0.0001 (0.000)	-0.0007** (0.000)	-0.001 (0.000)
Pseudo R ²	24.6%	18.6%	19.4%	18.1%	17.6%
Wald Chi2 test	94.1***	71.2***	42.5***	35***	28***

Table 4: Elite directors and firm survival

This table displays Probit regression coefficients (standard errors in parentheses) for Belgian firms listed on the Brussels stock exchange in 1858 (panel 4A) and 1905 (panel 4B). Firm Survival is a dummy that equals one if the firm was listed at the start of the period and was not dissolved or closed at any time before the end of the period. Bank Interlock is a dummy variable which equals one if at least one director of the main universal banks is on the executive board or the supervisory board of the firm. %Elite is the percentage number of elite directors over total number of directors. Firm Age is the number of years since the firm has been established. Board Size is the number of directors on the board of directors. dF/dx is for discrete change of dummy variable from 0 to 1; ***: $p < 0.01$; **: $p < 0.05$; *: $p < 0.10$.

Panel 4A: Determinants of firm survival 1858-1865 (86 observations)

	(11)	(12)	(13)	(14)	(15)
Elite measured by:	Nobles	MPs	Catholic MPs	Liberal MPs	(Ex-)Ministers
<i>Estimation: Probit</i>	dF/dx	dF/dx	dF/dx	dF/dx	dF/dx
Bank interlock	0.16 (0.131)	0.31 (0.262)	0.14 (0.132)	0.32 (0.341)	0.22 (0.221)
%Elite	0.58 (0.463)	1.59** (0.661)	1.12 (0.977)	1.43*** (0.510)	2.21** (1.111)
%Elite*bank interlock	-0.68 (0.822)	2.33** (0.910)	0.02 (0.930)	2.27*** (0.810)	2.81** (1.362)
Firm Age (log form)	-0.82*** (0.331)	-0.77** (0.420)	-0.77*** (0.320)	0.72*** (0.321)	-0.83*** (0.331)
Board Size(log form)	0.15 (0.130)	0.06 (0.130)	0.13 (0.120)	0.07 (0.120)	0.08 (0.120)
Industry dummies	YES	YES	YES	YES	YES
Pseudo R ²	17.1%	17.6%	21.1%	20.8%	21.7%
Wald Chi2 test	23.2***	21.3***	19.8***	18.6***	17.9***

Panel 4B: Determinants of firm survival 1905-1909 (375 observations)

	(16)	(17)	(18)	(19)	(20)
Elite measured by:	Nobles	MPs	Catholic MPs	Liberal MPs	(Ex-)Ministers
<i>Estimation: Probit</i>	dF/dx	dF/dx	dF/dx	dF/dx	dF/dx
Bank interlock	-0.05 (0.130)	-0.12 (0.195)	-0.11 (0.192)	0.02 (0.081)	0.07 (0.052)
% Elite	-0.42** (0.195)	-0.12 (0.288)	-0.41 (0.390)	0.42 (0.491)	-0.27 (0.810)
%Elite*bank interlock	0.86** (0.031)	0.14** (0.032)	0.14** (0.031)	0.05 (0.068)	0.35*** (0.071)
Firm Age (log form)	0.23*** (0.046)	0.22*** (0.045)	0.18*** (0.059)	0.18*** (0.059)	0.22*** (0.061)
Board Size (log form)	-0.02* (0.011)	-0.03** (0.011)	0.03** (0.011)	-0.02 (0.010)	0.01 (0.010)
Industry dummies	YES	YES	YES	YES	YES
Pseudo R ²	17.3%	19.1%	17.6%	18.5%	17.8%
Wald Chi2 test	68.6***	58.1***	60.3***	61.9***	89.4***

Table 5: Elite directors and firm growth

This table displays GLM regression coefficients (standard errors in parentheses) for Belgian firms listed on the Brussels stock exchange in 1858 (panel 5A) and 1905 (panel 5B). Firm Growth is the percentage increase in market capitalization over the period considered. Bank Interlock is a dummy variable which equals one if at least one director of the main universal banks is on the executive board or the supervisory board of the firm. %Elite is the percentage number of elite directors over total number of directors. Firm Age is the number of years since the firm has been established. Board Size is the number of directors on the board of directors. dF/dx is for discrete change of dummy variable from 0 to 1; ***: $p < 0.01$; **: $p < 0.05$; *: $p < 0.10$.

Panel 5A: Determinants of firm growth 1858-1905 (75 observations)

	(21)	(22)	(23)	(24)	(25)
Elite measured by:	Nobles	MPs	Catholic MPs	Liberal MPs	(Ex-)Ministers
<i>Estimation: GLM</i>	<i>b/SE</i>	<i>b/SE</i>	<i>b/SE</i>	<i>b/SE</i>	<i>b/SE</i>
Bank interlock	0.06 (0.511)	0.21 (0.510)	0.13 (0.521)	0.12 (0.521)	0.06 (0.494)
%Elite	2.61* (1.032)	0.12 (0.920)	-1.74 (1.961)	0.92 (2.110)	0.77 (0.833)
%Elite*bank interlock	0.81*** (0.440)	0.35 (0.214)	0.46 (0.632)	0.82** (0.420)	0.42 (0.771)
Firm Age (log form)	0.11 (0.577)	0.32 (0.581)	0.04 (0.610)	0.27 (0.570)	0.26 (0.569)
Board Size(log form)	0.11** (0.051)	0.08* (0.048)	0.11* (0.051)	0.08* (0.047)	0.09** (0.044)
Industry dummies	YES	YES	YES	YES	YES
F-test	14.3***	12.7***	14.3***	12.8***	12.6***
R-squared	9.1%	8.3%	8.4%	8.2%	7.6%

Panel 5B: Determinants of firm growth 1905-1909 (294 observations)

	(26)	(27)	(28)	(29)	(30)
Elite measured by:	Nobles	MPs	Catholic MPs	Liberal MPs	(Ex-)Ministers
<i>Estimation: GLM</i>	<i>b/SE</i>	<i>b/SE</i>	<i>b/SE</i>	<i>b/SE</i>	<i>b/SE</i>
Bank interlock	0.02 (0.081)	0.01 (0.088)	0.01 (0.074)	0.02 (0.081)	0.01 (0.077)
%Elite	1.01* (0.63)	0.49 (0.49)	-0.67 (0.79)	-0.25 (0.86)	1.97** (1.13)
%Elite*bank interlock	1.24* (0.810)	-0.52 (0.690)	3.25*** (1.063)	0.82 (1.220)	1.30** (0.631)
Firm Age (log form)	0.12* (0.070)	0.09 (0.070)	0.11* (0.071)	0.11* (0.070)	0.09* (0.070)
Board Size (log form)	0.32*** (0.120)	0.31*** (0.109)	0.35*** (0.108)	0.34*** (0.110)	0.34*** (0.108)
Industry dummies	YES	YES	YES	YES	YES
F-test	34***	32.9***	34***	32.9***	33***
R-squared	13.5%	10.6%	10.8%	10.1%	9.6%

Table 6: Elite directors, firm performance and new market entry: old industries versus new industries

This table displays regression coefficients (standard errors in parentheses) for Belgian firms listed on the Brussels stock exchange 1905. Firm Survival is a dummy that equals one if the firm was listed in 1905 and was not dissolved or closed at any time before the end of 1909. Firm Growth is the percentage increase in market capitalization over the period 1905-1909. New entry is a dummy that equals one if the firm was listed in 1909 but not in 1905. Bank Interlock is a dummy variable which equals one if at least one director of the main universal banks is on the executive board or the supervisory board of the firm. %Elite is the percentage number of elite directors over total number of directors. Firm Age is the number of years since the firm has been established. Board Size is the number of directors on the board of directors. dF/dx is for discrete change of dummy variable from 0 to 1; ***: p<0.01; **: p<0.05; *: p<0.10.

Dependent Variable:	Firm survival 1905-1909	Firm growth 1905-1909	New entry 1905-1909
Elite measured by:	Nobles and MPs	Nobles and MPs	Nobles and MPs
Estimation:	<i>Probit</i> <i>dF/dx</i>	<i>GLM</i> <i>b/SE</i>	<i>Probit</i> <i>dF/dx</i>
<i>Mining, Metallurgy and Railways (13.9% new entries)</i>			
	(31)	(32)	(33)
Bank interlock	0.43* (0.191)	0.51* (0.120)	-0.24*** (0.094)
% Elite	0.51* (0.188)	0.17* (0.081)	-0.72*** (0.181)
%Elite*bank interlock	2.05*** (0.488)	1.24*** (0.481)	-1.11* (0.810)
Firm Age (log form)	0.23*** (0.003)	0.41 (0.380)	- -
Board Size (log form)	0.04 (0.042)	0.24 (0.190)	-0.07** (0.032)
F-test /Wald Chi-square	18.6***	35.5***	27.8***
R-squared	12.8%	13.1%	13.9%
Number of observations	229	177	229
<i>Other industries (27.9% new entries)</i>			
	(34)	(35)	(36)
Bank interlock	0.21 (0.312)	0.63 (0.488)	-0.15 (0.110)
% Elite	0.91 (0.781)	0.42 (0.581)	0.12 (0.151)
%Elite*bank interlock	0.52 (0.870)	0.31 (0.388)	1.71 (1.970)
Firm Age (log form)	0.07*** (0.013)	0.14** (0.055)	- -
Board Size(log form)	0.03* (0.011)	0.11** (0.071)	-0.16*** (0.002)
F-test /Wald Chi-square	17.9***	35.1***	33.3***
R-squared	9.8%	9.4%	19.2%
Number of observations	146	117	146