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A Century of Firm - Bank Relationships:
Why the Transition to Multiple Banking?

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Fabio Braggion**
CentER - Tilburg University

Department of Finance
PO Box 90153, NL 5000 LE Tilburg, The Netherlands
Telephone: +31 13 4668209, Fax: +31 13 4662875
E-mail: f.braggion@uvt.nl

Steven Ongena
CentER - Tilburg University and *CEPR*

Department of Finance
PO Box 90153, NL 5000 LE Tilburg, The Netherlands
Telephone: +31 13 4662417, Fax: +31 13 4662875
E-mail: steven.ongena@uvt.nl

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Abstract

We study how relationships between firms and banks evolved between during the Twentieth century in Britain. We document and explain a remarkable transition from single to multiple firm-bank relationships during the last twenty years of the sample period. Larger, global, or transparent companies with greater needs for bank credit and specialized services are more likely to add a bank. Deregulation and intensifying competition in the banking sector during the 1970s spurred banks to supply credit and services through these multilateral arrangements. Firm size, geographical presence, leverage, and control determine whether a clearer bank, another British bank or a foreign bank is added. (102 words)

I. Introduction

How did firms and banks engage each other in the past? And how did firm – bank relationships evolve throughout the years? And are the findings of current banking research on relationships the result of an underlying historical process? And what are these processes?

This paper aims to answer these questions by studying how relationships between firms and banks evolved since the end of the Nineteenth century until the end of the Twentieth century in Britain. In particular we document and explain a remarkable shift from bilateral to multilateral relationship banking in Britain during this time period.

Long-run analysis has been somewhat overlooked by financial economists. Rajan and Zingales (2003), Chambers and Dimson (2009) and Frydman and Saks (2010) for example empirically study the long-run development of the financial system during the last century to understand if and how the present economic and financial systems are the result of historical processes. But no study – as far as we are aware – has investigated one of the key components of a financial system, i.e., the interactions between firms and banks and the role played by firm – bank relationships, over a long time period.

Long-run analysis provides us with a unique opportunity to test the validity of various relationship banking theories in a new and unexplored context. It also allows us to understand which institutional arrangements make certain explanations of relationship banking to be more relevant than others. Our analysis suggests that the transition to multiple banking coincided with a period of liberalization of the banking sector in the UK that greatly increased the level of competition among financial institutions.

The reasons for studying the financial system in Britain are straightforward. Its financial markets had a preeminent role in the world for many decades and banks played a notable role in its performance. Yet Britain's financial system was subject to many changes in its economic and legal environment. Crucial for our purposes financial information was always

readily available in Britain. We can therefore collect a unique dataset that contains consistent financial records of all publicly listed firms during a 90-year period from 1896 to 1986, including key firm-bank relationship information.

We document a remarkable transition from single to multiple bank relationship in the second half of the Twentieth century. Many firms had only one bank relationship prior to this change, demarcating a clean differentiation and possible transition from bilateral to multilateral banking during the sample years. Indeed, about 85% of companies in our sample were involved in a single bank relationship between 1906 and 1966. This figure considerably declines to 71% in 1976 and to 60% in 1986. The transition from single to multiple bank relationships is even more pronounced for larger companies: 65% of the top 200 companies (in terms of share capital issued) for example had a single relationship between 1906 and 1966. By 1986 this percentage almost halved to 38%. We also find that throughout the Twentieth century larger firms and firms with bigger administration boards were more likely to engage with multiple banks. Around and after the Second World War also leverage starts determining relationship multiplicity.

Our detailed data allows us to more precisely date the acceleration of the transition to multiple banking in the 1970s. The duration analyses we perform document that especially larger, global, more transparent, or more levered companies that are not controlled by a parent company have a higher need for multiple bank relationships. The result on transparency is especially robust and consistent across various specifications. In particular, we find that firms with better governance (i.e., in terms of applying the one share - one vote principle), officially listed firms (i.e., with securities that have direct access to a large market), and firms with

outstanding arms' length debt (i.e., already under close scrutiny of financial markets) were more likely to switch to multiple banking after 1966.

In order to obtain additional insights on the drivers of the transition we group the banks that are added in three groups: Clearer banks (which are large banks headquartered in London, Scotland or Ireland), other British banks, and foreign banks. Most firms maintain one relationship with a clearer bank and during the transition simply add another one. This finding *per se* may suggest that during this period market competition between banks intensified.

We further find that large firms located in the UK were more likely to add a clearer bank, whereas small firms were more likely to engage another secondary British bank. These results lend support to Stein (2002) and Berger, et al. (2005) for example who suggest that large (hierarchical) banks are better in dealing with hard information transmitted via formal documents obtainable from large firms, whereas small banks perform better in processing soft information acquired informally when dealing with small firms (that often do not have audited statements for example). Our results also show that transparency and good governance appear to be important drivers for firms to establish a relationship with a foreign bank Berger, et al. (2008)).

We therefore think that it is a secular increase in firm size and international presence coupled with a reduction in firm opaqueness through - for instance - the official listing, and high leverage without access to parent financing that pushed firms to seek multiple banking. The firms' relationship banks were too small in some cases to provide enough credit, while in other cases the firms may have sought specialized domestic and international services that the current relationships banks had insufficient expertise to comprehensively provide (for example Berger, et al. (2008)).

Deregulation and intensifying competition in the banking sector during the 1970s (Saunders and Ward (1976)) spurred banks to supply credit and potentially more specialized services to a wider set of increasingly transparent firms through multiple firm-bank relationships, alleviating the mismatch that existed between firm demands and bank supply of credit and services within single relationships.

On the basis of the precise timing of the transition, we consider some other explanations to be less likely to be important drivers of the transition. First, it is improbable that the improvement of creditors' protections legislation, established with various Companies acts from 1929 onward, can alone explain our results.[1] Improvements in creditor protections and accounting standards may reduce banks' monitoring costs and increase the probability of observing multiple banks relationships von Thadden (2004)).[2] In the UK, the bulk of the creditor protection and accounting reforms took place in 1948, twenty years before the transition to multiple relationships started. The improvement of investor protection makes also less likely that "soft budget constraint" problems and related strategic default issue are among the driver of the transition to multiple banking. According to these theories, the improvement

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[1] The Twentieth century was characterized by a marked improvement in the U.K. in the legislation regarding investor protections and companies' disclosure requirements. Originally, the U.K. common law system did not provide minority shareholders and investors with an automatic right of protection. It was the 1948 company Act that established various provisions intended to protect creditors and minority shareholders from managers' expropriation. For instance, the Act set in voting by proxy, provisions for shareholders to force an EGM with 10% of the voting equity capital, and special resolutions to make it easier for shareholders to remove directors. Further progresses were made in the late 1960s by, for instance, considering managers liable of crimes if they communicate false corporate information.

[2] Asymmetric information problems between a borrowers and a single lender that get resolved over time in a relationship create an informational advantage for the inside lender that can be exploited to extract rents (Fischer (1990), Sharpe (1990), Rajan (1992), von Thadden (2004)). Multiple bank relationships may reduce the hold-up problem of relationship lending. When banks' monitoring costs lower, it becomes more profitable for banks to lend in multilateral agreements with other banks and firms should be more likely to engage multiple banks (von Thadden (1992)).

of creditor protection should make multiple-relationship banking less desirable, but in our data we observe that the number of relationship banks increase during the Twentieth century

Second, we think it is unlikely that the transition from a single to multiple bank relationships is due to a firms' need to diversify increased bank liquidity risk (Detragiache, Garella and Guiso (2000)). British banks were highly liquid and since the Baring crisis in 1890 did not experience any major crisis until 2007, with the possible exception of liquidity problems that arose at the small, secondary banks during the mid-1970s. Duration analyses on bi-annual relationship data for the 1966 to 1986 time period, suggest that having a relationship in 1974 or 1976 with National Westminster for example, a bank that was particularly affected by these liquidity shortages, does not change the probability firms switches from single to multiple banking, while having a liquid and well capitalized bank in general actually increases the probability the firm switches. Consequently also the diversification motive does not explain the remarkable transition to multiple relationships.

Finally, it is similarly implausible that the banks nudged their borrowers to maintain multiple relationships to diversify their own risk exposure (Carletti, Cerasi and Daltung (2007)). Investment diversification opportunities increased along the Twentieth century together with the process of economic development, making multiple lending less necessary. Moreover, Carletti, Cerasi and Daltung (2007) predicts that a decrease in the monitoring cost should lead to a decrease of multiple lending,[3] exactly the opposite of what we observe in our data (see also Carletti (2004), Fluet and Garella (2007)).

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[3] In terms of the quality of firm financial information, the Twentieth century was also characterized by constant and gradual improvements. The quality of information presented in published accounts at the turn of the Twentieth century was limited when compared to present day standards. The Companies Act, 1900 required auditors to certify that the accounts reflected a "true and correct view of the state of the Company's affairs". Annual balance sheets were required to be furnished by firms, and although usually provided, annual profit and

We discuss these historical developments more in detail in the next section and summarize the relevant related empirical findings in Section III. Section IV introduces the data, variables and results of our empirical analysis of the determinants of multiple firm-bank relationships prior to the transition. Section V presents the duration analyses of the determinants of the transition to multiple banking. Section VI concludes.

II. UK Banking in the Twentieth Century

A. Consolidation and Cartelization Prior to the 1970s

In 1870 a total of 387 banks were operating in the U.K. (Capie and Rodrik-Bali (1982)). British banks were mainly commercial banks involved in various types of business activities: from providing local means of payment to firms, to acting as financial intermediaries by attracting or offering money on behalf of their clients. Towards the end of the Nineteenth century the British banking industry experienced considerable growth in merger activity. Between 1870 and 1921 there were 264 bank mergers. By 1920 only 75 banks were left in the U.K., of which just 20 were English or Welsh public banks (Capie and Rodrik-Bali (1982), Braggion, Dwarkasing and Moore (2010)).

The consolidation process was mostly characterized by London-based banks taking over other banks. In the period 1885 to 1905, takeovers of private and small targets were more common and the two banks' branch networks were usually geographically diverse. In the second twenty years, targets were mostly public banks of a larger size, which were more

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loss statements were not mandatory by law until 1929 (see Hein (1963)). The 1948 Companies Act introduced disclosure rules for prospectuses and specific penalties for non-disclosure, detailed provisions regarding the content and form of both balance sheets and profit and loss accounts and a requirement that company accounts be prepared on a basis that gives a "true and fair" view of a company's financial position, a litmus test of company accounts that has been applied to the present day.

likely to operate in the same geographical area as the bidder. While the consolidation process in its beginning increased efficiency and contributed to the development of a national branching network, in the last years and especially after 1915 it greatly curb competition in the industry, and gave to the surviving bank great monopoly power (Braggion, Dwarkasing and Moore (2010)). The result of this process was the emergence of the `Big Five' banks in Britain by 1918: Barclays, Lloyds, Midland, National Provincial, and Westminster. These five banks constituted the core of the so called London Clearing Banks which starting in the 1920 they dominated retail banking in various parts of the UK.

Despite the concerns of the contemporaries about the lack of competition in the banking sector, throughout the 1920s and the 1930s the London clearing banks continued to effectively operate a price cartel. London banks fixed the rate on deposits and advances in relation to the bank rate. For instance, from 1920 the deposit rate was set at 2% below the Bank rate (Collins (1988), p. 211). A similar price cartel operated also in Scotland.

The government did not interfere with these arrangements. On the one hand, lobbying activities of the representatives of the banking industry were particularly effective in keeping the government from trying to break up the cartel. On the other hand, the management of the UK national debt led British policy makers to actually promote and defend the existence of a cartel also beyond War World 2 until the 1970s. The rise of public debt during the two wars in fact increased the government's reliance on banks for the maintenance of a market in such debt and Treasury bills constituted a large share in banks portfolios. The authorities also benefitted in the conduct of their monetary policies by being able to channel policy changes through a small number of large banks who acted in concert. Through to the 1970s an

increasing range of controls over bank lending, interest rates and asset ratios was applied to the clearing banks.[4]

B. Deregulation and Intensifying Competition in the 1970s

In the late 1970s, the government and the Bank of England recognized the inadequacy of this arrangement. From 1971 on, the cartel was progressively dismantled and the UK authorities promoted greater competition among financial institutions. The relaxation of the quantitative restrictions and the abandonment of the interest rate cartel generated strong competition between banks and other financial intermediaries both on the deposit and loan market. The by-product was a rapid increase of money supply in the first years of the 1970s. The Bank of England reacted by sharply raising interest rates.

The sharp increase of the money supply together with the sudden rise of short term interest rates created severe liquidity problems for the small banks (known as secondary banks), particularly for those involved in the property market. Although these banks were relatively small in respect to the rest of the UK financial market, they had a sizable number of outstanding loans from the London Clearing banks, with the National Westminster bank being particularly exposed (Reid (1982), Saunders and Wilson (1999)). The Bank of England and the Treasury reacted to the crisis by organizing, with the cooperation of the clearing banks, a

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[4] Most of these agreements were informal. The major agreements were: (a) No interest was to be paid by the clearing banks on current accounts and the rate on deposit accounts was to be fixed at 2% below the level of the Bank rate. (b) The minimum rate charged by the clearing banks on advances to 'blue-chip' borrowers was to be fixed at a given margin above the Bank rate. (c) A tacit agreement determined the prices charged for operating current accounts. (d) Uniform opening hours were adopted. (e) Clearing banks lent a certain proportion of call money to the discount houses at a rate of 4% below the Bank rate which was also the minimum rate at which they would buy bills. (f) Clearing banks did not compete on their own account with the discount houses by tendering for Treasury bills at the weekly tender but bought them from the discount houses after they had been held for more than seven days. (g) The clearing banks maintained cash and liquid assets ratios of 8% and 28% respectively. See Saunders and Ward (1976) for further details.

rescue scheme and by reintroducing some forms of control of credit.[5] These latter measures were then repealed in 1975, while in 1979 system of statutory bank supervision was introduced for the first time in the UK (Saunders and Wilson (1999)).

To conclude, following deregulation and intensifying competition, the UK banking sector in 1970s started to supply the opportunities for corporations to seek more bank relationships. This corporate demand is discussed and investigated in the next sections.

III.   Related Empirical Findings

Multiple firm-bank relationships are a common feature in many financial systems, but there is large variation in the average number of bank relationships across firms within a country and across countries (see Degryse, Kim and Ongena (2009) for a review). Small firms tend to maintain fewer bank relationships than large firms. For example, US studies using the NSSBF (National Survey of Small Business Finance) data estimate the mean number of banks per firm to be two and the median to be one, while the mean for the large US firms in Houston and James (1996) equals five. The firm size - number of relationships correspondence has been further documented for France by Dietsch (2003), for Italy by Guiso (2003), for Germany by Hommel and Schneider (2003), and for Thailand by Menkhoff and Suwanaporn (2007) for example.

Many studies regress a bilateral/multilateral relationship dummy or the number of relationships as the dependent variable on a variety of relation, loan, firm, bank, and/or market

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[5] The new measures included the re-imposition of discriminatory requests on lending, a limitation of the interest that could be paid on bank deposits of less than £ 10,000, and the introduction of the scheme designed to control the growth of bank liabilities (Saunders and Ward (1976)).

characteristics. Though the specifications differ rather dramatically across the many studies that have been published, a few results seem robust.

As already indicated larger, but also older firms have more bank relationships *ceteris paribus*. Less profitable, distressed, low cash flow, intangible and leveraged firms also maintain more relationships. These findings broadly fit models for example in which firms signal their low quality through a multilateral financing arrangement, either because multiple creditors have less bargaining power in bankruptcy (Bris and Welch (2005)) or because multilateral borrowing ensures the firms' low quality is revealed resulting in accommodation by their product market competitors for example potentially attracting high-quality and R&D intensive firms to opt for a single bank (Bhattacharya and Chiesa (1995), Yosha (1995), von Rheinbaben and Ruckes (2004)).

Of course, these findings could also be due to the lack of willingness of the banks to bear all the risk of these borrowers (D'Auria, Foglia and Reedtz (1999) for example) and as such characteristics of the bank that are part of the bank-firm relationship are also often included in the regressions. An engagement with an older, larger, state, or foreign bank is more likely to be part of a multilateral arrangement, potentially to reduce the hold-up problem of repeated borrowing from this type of bank (Rajan (1992), von Thadden (1992)).

One particular aspect in this line of empirical investigation is the strong country effect, comprehensively documented in Ongena and Smith (2000) and Qian and Strahan (2007). Firms in the UK, Norway and Sweden maintain relatively few bank relationships - less than three on average - while firms in Italy, Portugal, and Spain for example maintain on average ten or more bank relationships. Ongena and Smith (2000) show that these rankings of the European countries hold after controlling for firm characteristics such as size. In general,

firms located countries with a French or German legal origin, with a lower degree of judicial efficiency or shareholder protection, have more bank relationships.

One interesting question, which has received only recently some attention, is whether and how the number of bank relationships varies over the business cycle or over an even longer time period. The few studies, that do have access to the necessary data, come to interesting conclusions. There seems some tantalizing evidence of variation, at a business cycle frequency, in the number of relationships maintained by large firms (Lefilliatre (2002), Sterken and Tokutsu (2003), D'Auria, Foglia and Reedtz (1999)). But overall the number of relationships seems quite stable, especially for small firms Proust and Cadillat (1996), without any clear trend emanating. The number of firm-bank relationships actually trends down in Hommel and Schneider (2003) and up in Dietsch (2003) for example.

But all of these studies have access to only a few decades of relationship information. Hence such short time windows may be inadequate to investigate the effect of structural changes − such as changes in legislation, monitoring technology or banking market conditions − on the number of bank relationships. It is this gap in the literature this paper addresses by studying a century-long comprehensive dataset of firm-bank relationships of publicly listed firms in the UK.

IV.   Multiple Firm-Bank Relationships during the Twentieth Century

A. Data Source

The main data source is an annual publication known as *The Stock Exchange Official Yearbook*. The Yearbook was published first in 1875 with the purpose of providing information on joint stock limited liability companies quoted at the London Stock Exchange

and it is regarded as the most authoritative source of information on the matter. Between 1896 and 1966 we retrieve our data from nine issues, in particular from the 1896, 1906, 1916, 1920, 1924, 1934, 1938, 1948, and 1958 issues. Starting in 1966 and ending in 1986 we accessed eleven issues on a bi-annual basis. We will refer to the 1896 – 1986 period as "the Twentieth century", and shorthand the 1966 – 1986 period as "the transition period" (because during that period multiple firm-bank relationships become more common). We collected data for all companies listed in the yearbook in the sections "Commercial and Industrial" and "Iron and Steel". With the exception of 1896, we believe we retrieved information for whole the population of firms quoted in London and belonging to these sectors.[6]

For each company the Yearbook provides information on the name of the company and its location; the name of the directors; the total amount of nominal share capital issued by the company; and various information related to the company's corporate governance arrangements such as: Voting rights, directors borrowing powers and amount of share capital required to be appointed as directors. In some cases also dividend payments information is provided. After 1948, the Yearbook provides also a summary of the last available balance sheet. Crucial for our study, the Yearbook also reports the name of the banks trading with the company. Unfortunately, the Yearbook does not report the nature of the business relationship between the firm and the bank(s). In other words, we do not know whether the bank granted a loan to the firm, or the just bank assists the firm with cash management or both.

We complement the data available in the Yearbook with the information provided by London Share Price Database (henceforth, LSPD). The London Share Price database contains

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[6] Before 1905, the Yearbook provides a sufficient amount of information only for a selection of firms. Usually, the largest and the most traded firms are included. As a result, we suspect our 1896 sample is biased towards large and liquid companies.

information on share returns since 1955, a piece of information not available in the Stock Exchange Yearbook. The LSPD provide returns data for the largest firms quoted at the London Stock Exchange plus a random 33% of the remaining firms.

B. Multiple Firm-Bank Relationships

Using the *Yearbook* information we create a variable labelled *Multiple Firm-Bank Relationships* that equals one if the company maintains multiple firm-bank relationships, and equals zero otherwise. This is our main dependent variable. We first discuss its relevant characteristics.

The upper panel in Table 1 presents the number of firm-bank relationships for each year in our sample. Relationships with a single bank prevail over the period 1900-1966. In these years, the average number of banks servicing a company is about 1.2, whereas the median is 1. At least 82% firms maintain a single bank relationship between 1906 and 1966. In 1948 and 1950 the percentage of firms with a single bank relationship stands as high as 87%. The figure looks quite different in 1976: the percentage of firms having only one bank relationships drops to 71%, whereas 18% of the companies have two relationships and about 11% more than one relationship. The shares of firms having only one bank relationships further decreases to 63.6% in 1986, with 20% of the companies displaying two relationships and about 16% more than one relationship.

[Table 1 around here]

These results are similar to the figures presented by Ongena and Smith (2000) for the year 1996. They investigate the number of bank relationship by sampling 138 large companies in

the U.K and they find that only 23% of firms in their sample maintained a single bank relationship. Moreover, they show that the average number of bank relationship is 2.9 and the median number is 2; both figures indicate that maintaining multiple bank relationships is more prevalent during the 1990s. In sum, the number of bank relationships has increased since 1966.

To provide more detail on the transition from bilateral to multilateral banking Table 1 Panel B reports the number of firm-bank relationships bi-annually for the 1966 − 1986 period for 599 firms that are reporting their relationships during the entire transition period. This selection of firms ensures that the average number of relationships the table reports is not affected by changes in the composition of firms on the stock exchange. For example like Rossi, Franks and Mayer (2009) we observe a decrease of the number of companies quoted on the London Stock Exchange from 1966 onwards. This can be partially explained by the increase in merger and acquisition (M&A) activity that took place on the stock exchange since then. M&As may increase for example the age and size of the firms listed on the stock exchange, corporate characteristics that are commonly found to positively affect the number of bank relationships a firm has (Degryse, Kim and Ongena (2009)).[7]

Either way, the results basically confirm Panel A (but because of selection the statistics in level differ somewhat from Panel A). The average number of relationships increases in twenty years from 1.3 to 1.8. In 1966 84% of firms engage one bank, in 1986 only 61% do. The decrease in the percentage single-bank firms is especially pronounced in 1972, 1974 and 1976

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[7] On the other hand, the group of 599 firms will on average get older during the sample period by one year each sample year. Limiting the group of firms to a specific age cohort of 40-50 years (30-40 years) for example, the percentage of the firms that have a bilateral relationship still decreases from 83% (79%) in 1966 to 62.5% (66%) in 1986.

when the percentage point drop exceeds 2.5% percentage points in absolute value (3.2, 4.0 and 2.8 percentage points, respectively). In sum, there is a fundamental shift from bilateral to multilateral banking that takes places around the mid-seventies that our subsequent analysis aims to explain first by analysing the determinants of multiple banking observed during the Twentieth century prior to the transition period and then by focusing on the determinants of the switching to multiple firm-bank relationships during the transition period itself.

C. Independent Variables

We now discuss the firm characteristics that we will employ as independent variables in our analyses of multiple banking prior to the transition period. The upper panel of Table 2 lists all variable names, units and definitions. As a proxy of size we employ the amount of share *Capital Issued*. The *Age* of a company, and the first independent variable, is defined as a particular data year minus the company's registration year.

We proxy the quality of a company's corporate governance mechanisms with the size of the board of the directors, labelled *Board Size*, a variable *Borrowing Limit* that is defined as the borrowing limit for the companies officers divided by the book value of assets, and a dummy variable, *One Share - One Vote (0/1)*, that takes the value of one if company complies with the one share - one vote principle and zero otherwise. The size of the board is both a proxy for the monitoring abilities of the boards over the manager (in principle, bigger boards should monitor better), and the degree of bureaucracy and a board's lengthy decision making (bigger boards are more bureaucratic), while the relative limit of borrowing by the company's officers is a management perk that may the outcome of management self-serving actions.

The one share – one vote dummy is a measure of the quality of governance that also directly enhances firm transparency. Another variable that captures firm transparency is the

dummy variable *Officially Listed (0/1)*, that equals one if the company had any class of its outstanding shares officially listed in London and traded on the floor, and equals zero otherwise. Being officially listed and traded should make a significant difference in the amount and quality of information that is available about the corporation, especially in the early years of the Twentieth century (Braggion (2011)).

In some specifications we also include *Arm's Length Debt (0/1)* that takes the value of one if the company has bonds or any other form of arm's length debt outstanding, and equals zero otherwise, and *Arm's Length Leverage which* equals the amount of bonds or any other form of arm's length debt outstanding divided by the book value of assets.

[Table 2 around here]

Finally, the Stock Exchange Yearbook does not provide any direct information on earnings. Following Kaplan and Reishus (1990), we proxy corporate performance with a dummy variable, *Past Dividends (0/1)*, that takes the value of one if the company paid dividends in all the previous five years in respect to particular data year and 0 otherwise (i.e. the company did not pay a dividend in at least one of the previous five years). We don't have this variable for all companies.

D. Descriptive Statistics

The nine columns in Table 3 present descriptive statistics for the independent variables for the nine selected Twentieth century years prior to the transition period. From 1896 until 1958 companies became larger and older, from an average total amount of capital issued of 238,591 pounds and an average of 12 years old in 1896, to 1,083,000 pounds in capital and 39 years in

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1958. Table 3 presents the nominal amounts of issued capital but this result holds even in real terms.

[Table 3 around here]

The size of the board increased somewhat throughout the Twentieth century from an average of 5.1 members in 1896 to an average of 5.7 in 1986. Interesting is the behaviour of the dummy variable *One Share – One Vote*. While in earlier years of the Twentieth century about half of the companies applied the one share – one vote principle this figure declines in the 1930s, in 1948 and in 1958. This result possibly suggests that the quality of the corporate governance declined throughout first half of the Twentieth century (it improved again in the second half it turns out). The borrowing limit for officers declined from 21% in 1896 to only 3% in 1958. Less than one third of the firms were officially listed in 1896, more than two thirds were in 1958.

The percentage of firms with arm's length debt decreased from 58% in 1896 to 12% in 1948, but then more than doubled to 26% in 1958. Arm's length leverage followed a similar pattern. According to our proxy of companies' performance, companies registered the second worst performance in 1924 where only 73% of firms paid a dividend in each of the two previous years. Performance improved towards the transition period: in 1958 90% had paid dividends.

E. Results

The nine panels Table 4 present the first set of regression results. We treat each year as a different sample and for each year we run probit models where the dependent variable takes

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the value of one if a company displays multiple bank relationships and zero otherwise.[8] We run various specifications where data allowing we control for firm size, age, board size, one share – one vote, borrowing limit, listing, leverage, and profitability. We also control for an industry dummy that takes the value of one if the company operated in the Iron and Steel sector and equals zero otherwise.

[Table 4 around here]

Throughout the years two results appear to be persistent. First, firms' size is strongly associated with a higher probability of multiple banks relationships. The coefficient on the logarithm of capital issued is positive and highly statistically significant in all the years and all the specifications. Also the economic significance of the variable is quite persistent throughout the years. Between 1906 and 1950, a company that increases its size by two standard deviations around the mean increases by almost 15 percentage points the probability of having multiple relationships. This increase corresponds to a doubling in the probability of multiple relationships for the average firm (which ranges between 17.6% in 1906 and 12.5% in 1950). Second, companies with larger boards of directors are more likely to have multiple firm-bank relationships. The economic significance of the variable, however, also declines somewhat over time.

The impact of firm age is ambiguous. Young companies are more likely to have multiple relationships in 1916 and 1920, whereas in the other years older companies are more likely to

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[8] Results are very similar if we run equivalent Poisson count models with the number of firm-bank relationships as the dependent variable.

have multiple relationships. Other measures of corporate governance quality, transparency, firm leverage and profitability appear to have no robustly significant impact on firms' choices of the number of bank; with the possible exception of the positive coefficients (which are significant at the ten or lower percent level in at least one specification) for official listing in 1896, 1906, 1924, 1934, and 1938, and arm's length debt in 1938, 1948 and 1958. However, overall, firm and board size are the main drivers of relationship multiplicity but seemingly with a decreasing effect over time (possibly because firm and board size themselves increase).

V. The Transition to Multiple Banking between 1966 and 1986

A. Duration Analysis of the Transition to Multiple Banking

We now investigate the possible drivers of the transition from single to multiple firm-bank relationships using a duration analysis on the observed relationships between 1966 and 1986. As in Farinha and Santos (2002) we define each single relationship as a spell and the transition to multiple banking as a switch (at which stage the spell ends and the firm exits the sample). All spells start in 1966 or later and end before or in 1986, because this is the period for which we collect the bi-annual readings from the Yearbook. Single relationships that do not change into multiple banking are therefore right-censored in 1986 (or prior to that if the firm delists). To provide correct inferences the estimator will have to be right-censoring robust (see Kiefer (1988), Ongena and Smith (2001), and Degryse, Kim and Ongena (2009) for example for details).

Tables 5 and 6 provide the first glance at the likelihood of the transition to multiple banking. Table 5 reports the number, percentage and cumulative percentage of single firm-bank relationships that turn to multiple firm-bank relationships for all single relationships,

those that are observed and initiated prior to or in 1966 and those that are observed and initiated after 1966. The distributions reported in the table are not adjusted for right-censoring (i.e., every exit from the spell is considered a transition to multiple banking) and its effect is especially pronounced for those spells that are initiated after 1966 and for which the right-censoring boundary in 1986 (or the individual firm delisting) is much more binding.

[Table 5 around here]

In contrast, the Kaplan-Meier survivor function that is calculated in Table 6 is adjusted for right-censoring. The function suggests that within this transition period after 20 years 41 percent of all firms have made the transition to multiple banking (and not 100 percent as a non-adjusted function would imply). Hence, the transition to multiple banking is wide-spread and pursued by many firms that start the transition period with a single relationship.

[Table 6 around here]

B. Independent Variables

The determinants of the transition to multiple banking can be multiple. Firm size, complexity and international presence can lead to larger, more complex and geographically diverse corporate credit and service demands, necessitating multiple bank relationships. To proxy for size we employ the logarithm of the firm's *Book Value of Assets*. For complexity we field the logarithm of one plus the *Age at Start* (we take the age of the firm at the start of the spell because otherwise firm age may spuriously determine the duration of the spell as

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deterministically the longer the spell, the higher the age). For international presence, we feature the dummy variable *British (0/1)* that equals one if the headquarters of the firm is located in Britain, and equals zero otherwise. We expect positive coefficients on all three variables.

Despite the fact that the bankruptcy legislation was left unchanged for most of the Twentieth century, it is possible that the liquidation value of companies' assets may have increased making multiple bank relationships more desirable. In other words, the increased liquidation value of the companies, decreased the bankruptcy cost for managers, making strategic defaults more likely and a higher number of creditors more optimal (Bolton and Scharfstein (1996)). To proxy for the quality of governance we therefore include again the logarithm of one plus *Board Size*.

Firms that are more levered may also need to add bank relationships. A variable *Leverage* equals the total amount of mortgages plus debentures plus short-term debt divided by the book value of the assets.

As before we also include two dummy variables capturing firm transparency, i.e., *One Share - One Vote (0/1)*, *Officially Listed (0/1)*. In the survival analysis we also consider the dummy *Arm's Length Debt (0/1)* as a valid measure of a firm's transparency. Since our specifications control for total leverage, in principle, this variable should capture only that firms with outstanding arm's length debt are already under the close scrutiny of capital markets (Rajan (1992), Faulkender and Petersen (2006)). A higher degree of firm's transparency should reduce banks' monitoring costs making multiple bank relationships more desirable (von Thadden (1992)). When monitoring costs are lower, banks find profitable to

lend in multilateral agreements, and, as a result the hold-up problem is alleviated. We therefore expect positive coefficients on these three dummy variables.

We also include a dummy variable *Subsidiary (0/1)* that equals one if the company is controlled by another company, and equals zero otherwise, because internal capital market financing obtainable through the parent company may alleviate some of the firm's financing needs. We expect positive signs on the leverage variable and a negative sign on the subsidiary dummy.

R&D intensive but high-quality firms may opt for a single bank (Bhattacharya and Chiesa (1995), Yosha (1995), von Rheinbaben and Ruckes (2004)). *Tangibility* is property, plant and equipment divided by the book value of assets, while firm profitability is measured as *Past Returns* which is the returns on the firm's stock in the previous two years.

Finally, firms may seek to diversify bank liquidity risk (Detragiache, Garella and Guiso (2000)). We introduce a dummy variable *Relationship Bank is National Westminster in 1974 or 1976 (0/1)* which equals one if the firm had a relationship with a secondary bank particularly affected by the liquidity shortages in the mid-1970s, *Relationship Bank Liquidity Ratio* which is the cash and marketable securities divided by the book value of assets of the relationship bank of the firm, and *Relationship Bank Capital Ratio* which is the total equity capital and reserves divided by the book value of assets of the relationship bank of the firm. If firms diversify, we would possibly expect a positive sign on the first variable and negative signs on the latter two.

Table 7 tabulates the descriptive statistics for a maximum of 14,877 relationship – year observations. The mean (median) firm has 15.1 (2.9) million British Pound in book assets and is 62 (63) years old. 93 percent of the firms are headquartered in Britain. The average

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(median) firm fields 6.25 (6) board members, has about a 50 percent chance of following a one share – one vote system, 83 percent are officially listed, 42 percent have arm's length debt outstanding, with an overall leverage ratio of 38 (38) percent. 14 percent of all firms are controlled by another company. The mean (median) firm has a tangibility ratio that equals 36 (33) percent, with past returns that equal 1 percent.

Only 3.7 (0) of the firms had a relationship with National Westminster in 1974 or in 1976, while the liquidity ratio of the relationship bank of the average (median) firm equals 31.2 (29.7) percent while its capital ratio equals 6.8 (5.7) percent.

[Table 7 around here]

C. Results

In Table 8 we investigate more closely what the determinants are of the transition to multiple banking.[9] The table reports results based on maximum likelihood estimations of the proportional hazard model using the Cox (1972) proportional hazard function and the Weibull

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[9] In unreported estimations we alternatively define each relationship as a spell and relationship termination as a switch at which stage the relationship spell ends but the firm remains in the sample with other and new relationships as in Ongena and Smith (2001). Consequently, spells start in 1966 or later and end before or in 1986, and relationships that do not terminate are right-censored in 1986 (or prior to that if the firm delists). Our estimates can be summarized as follows: The hazard rate averages around 3 percent per year and the median duration length is around 20 years, comparable in magnitude with findings for Argentina (Bebczuk (2004)), Italy (Castelli, Dwyer Jr. and Hasan (2006)), Norway (Ongena and Smith (2001)), Spain (Hernandez-Canovas and Martinez-Solano (2006)), or Sweden (Sjögren (1994)) for example during similar time periods. Larger or older firms are less likely to terminate a relationship, findings also documented for Belgium (Degryse, Masschelein and Mitchell (2010)), Denmark (Thomsen (1999)), Italy (Herrera and Minetti (2007)) and Norway (Ongena and Smith (2001)) for example. Firms that are British, with larger boards, or that are transparent are also less likely to terminate a relationship. More levered firms or those with more firm-bank relationships already are more likely to seek a new relationship. These results correspond to robust empirical findings for Belgium (Degryse, Masschelein and Mitchell (2010)) and Norway (Ongena and Smith (2001)) for example, and to reasonable priors (i.e., levered firms want to decrease lock-in by switching regularly and the value of each individual relationship should be lower when firms have multiple relationships). Overall, these results are complementary to those found analyzing the switching from single to multiple banking.

distributions as the baseline hazard (restricting the duration parameter to one to obtain an exponential distribution does not alter results). The independent variables are defined in Table 1. The number of observations varies between 14,877 and 4,360 according the combination of variables that is included.

[Table 8 around here]

The estimated duration dependence parameter in the Weibull specifications, which is always significantly larger than one, suggests that the transition to multiple banking has accelerated (as the single bank relationship arrangements continued through time).

Firm size or having the headquarters outside of Britain has a positive impact on the likelihood of the transition to multiple banking as the estimated coefficients are all both statistically significant and economically relevant. For example, being a British firm almost halves the hazard rate in Model IV (i.e., $0.59 = e^{-0.519}$).

Transparency matters a great deal. One share - one vote, being officially listed, and arm's length debt all speed the transition. Being officially listed for example almost doubles the hazard rate in Model VI (i.e., $1.82 = e^{0.599}$). More levered firms or firms without a controlling parent also are more likely to add another bank. Having a liquid or well capitalized relationship bank increases the likelihood of engaging an additional bank, seemingly in pointed contrast to a diversification-of-bank-liquidity-risk argument.

In sum, it is a straightforward increase in firm size and international presence coupled with a reduction in firm opaqueness that made levered firms without access to parent financing to

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engage multiple banks. Coinciding deregulation and intensifying banking competition likely fostered the banks' supply.

D. Which Bank is Added?

Finally, we investigate which type of bank is added. We distinguish between clearer banks (mostly large London based banks), other British banks and foreign banks. Table 9 lists the number and percentage of relationship – year observations between 1966 and 1986 by the type of relationship bank and added bank. Clearer banks account for 96 percent of all relationship bank observations (85 percent are headquartered in London, 8 percent in Scotland and 3 percent in Ireland), while other British and foreign bank account for only 2 percent each.

Surprisingly, given these proportions, many firms add another clearer bank as a second bank, resulting in 62 percent of the added bank observations. Other (secondary) British banks account for 13 percent, while foreign banks for more than 25 percent (of which 8 percent to commonwealth banks and the remainder to other foreign banks). These percentages suggest that while many firms simply engage another clearer bank possible to increase access to credit, other firms "trade down" to a (secondary) British bank possibly to obtain a better size fit, or engage a foreign bank possibly to obtain better trade-related financial services.

[Table 9 around here]

In Table 10 we investigate more closely what the determinants are of the adding of a clearer bank, another British bank, or a foreign bank. Interestingly we find that larger, transparent, levered or independent firms are more likely to add a clearer bank. Smaller, non-

British, listed or independent firms are more likely to add another British bank, while non-British, one-share-one-vote or listed firms are more likely to add a foreign bank. The higher the liquidity ratio of the current relationship bank the more likely a British bank is added. Overall the picture that emerges is one in which larger and more levered firms simply add another clearer bank, while non-British or more transparent firms more likely add another British or foreign bank.

[Table 10 around here]

VI.   Conclusions

In this paper we analyze how relationships between firms and banks have evolved during the Twentieth century in Britain. We document a remarkable shift from bilateral to multilateral relationship banking during this period. Our detailed data allows us to more precisely date the acceleration of the transition to multiple banking in the 1970s. On the basis of this more precise dating we can rule out a number of possible explanations, such as an improvement of creditors' protections legislation, the intended diversification of bank risk exposure, a variation in the cost of bankruptcy, or the deterioration in bank liquidity.

Using duration analyses on bi-annual relationship data for the 1966 to 1986 time period we document that larger, global or transparent companies, or companies in greater need of financing, have a higher propensity to switch to multiple firm-bank relationships. Larger firm size and more leverage increase the likelihood a clearer bank is chosen; firm independence

leads to the addition of a British bank; a headquarters outside of Britain to another (secondary) British or a foreign bank.

Given that we are not aware of any alternative or additional theoretical explanations that fit the data, we think that it is simply this secular firm level increase in size, international presence, and transparency coupled with an enhanced financing need that led to multiple banking. This process of over-time increasing demand for more bank credit and more sophisticated services may eventually have found its supply during the 1970s because of the far-reaching deregulation and the intensification of competition in the banking sector that took place during that period.

As the increase in the size, internationalization, transparency and leverage of the firms coincided with deregulation and intensifying competition in the banking sector, it is not impossible that bank orientation also may have concurrently and naturally shifted from relationship banking embedded in single firm-bank relationships to transactional banking provided through multiple firm-bank relationships (Boot and Thakor (2000)). We leave further investigations of this conjecture to future work.

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TABLE 1

NUMBER OF FIRM-BANK RELATIONSHIPS THROUGHOUT THE 20TH CENTURY IN BRITAIN

		Number of Bank Relationships			% Firms with N Bank Relationships		
Year	Observations	Average	Median	Maximum	N=1	N=2	N>2
Entire Sample							
1896	678	1.15	1	4	86.9	11.7	1.5
1906	1,790	1.22	1	5	83.4	12.9	3.7
1916	1,815	1.22	1	6	83.8	12.2	4.1
1920	1,908	1.22	1	8	83.4	12.6	3.9
1924	2,140	1.23	1	6	84.1	11.3	4.6
1934	2,432	1.24	1	7	82.9	12.6	4.4
1938	2,882	1.19	1	7	86.3	10.3	3.4
1948	3,236	1.19	1	7	86.9	9.7	3.4
1958	3,394	1.17	1	9	88.3	8.6	3.0
1966	3,116	1.20	1	9	86.2	9.5	4.2
1968	3,023	1.23	1	9	85.2	10.4	4.5
1970	2,687	1.28	1	7	80.9	13.0	6.1
1972	2,526	1.36	1	12	76.7	15.7	7.6
1974	2,295	1.45	1	10	72.5	17.4	10.1
1976	2,098	1.50	1	11	71.0	17.5	11.6
1978	1,876	1.59	1	11	68.0	18.6	13.4
1980	1,756	1.61	1	8	66.7	19.0	14.3
1982	1,948	1.68	1	11	64.7	18.7	16.5
1984	1,973	1.71	1	10	63.5	19.5	17.0
1986	2,004	1.69	1	10	63.6	20.1	16.3
Firms Followed from 1966 until 1986							
1966	599	1.30	1	8	84.0	9.4	6.7
1968	599	1.31	1	8	82.3	11.4	6.4
1970	599	1.32	1	6	80.8	12.2	7.0
1972	599	1.37	1	8	77.6	14.0	8.4
1974	599	1.44	1	10	73.6	17.2	9.2
1976	599	1.50	1	11	70.8	17.7	11.5
1978	599	1.62	1	11	68.3	17.9	13.9
1980	599	1.63	1	7	67.3	17.4	15.4
1982	599	1.70	1	9	65.9	15.2	18.9
1984	599	1.77	1	9	63.4	16.9	19.7
1986	599	1.78	1	8	61.4	18.9	19.7

NOTE. -- The table reports the number of firm-bank relationships during the 20th century in Britain. For each year the upper panel reports the number of observations, the average, median and maximum number of firm-bank relationships, and the percentage of sample firms that report one, two or more than two relationships. The lower panel reports the same statistics for 599 firms that can be followed from 1966 to 1986. In 1896 only data for a selection of the largest listed firms was reported.

TABLE 2
VARIABLE DEFINITIONS

Variable Name	Unit	Variable Definition
Variables Available for Years in the Period 1896 - 1986		
Multiple Firm-Bank Relationships	-	=1 if the company maintains multiple firm-bank relationships, =0 otherwise
Capital Issued	000 BRP	Amount of total share capital issued by the company
Age	years	Age of the company in the sample year
Board Size	-	Number of members in the administration board
Borrowing Limit	%	The borrowing limit for the companies officers divided by the book value of assets
One Share - One Vote	0/1	=1 if the company applies the one share - one vote principal, =0 otherwise
Officially Listed	0/1	=1 if the company had any class of its outstanding shares officially listed in London and traded on the floor, =0 otherwise
Arm's Length Debt	0/1	=1 if the company has bonds or any other form of arm's length debt outstanding, =0 otherwise
Arm's Length Leverage	%	Bonds or any other form of arm's length debt outstanding divided by the book value of assets
Past Dividends	0/1	=1 if the company always paid a dividend in the previous two years, =0 otherwise
Variables Available for the Period 1966 - 1986		
Book Value of Assets	mln. BRP	Firm book value of assets
British (0/1)	0/1	=1 if the headquarters of the firm is located in Britain, =0 otherwise
Leverage	%	Mortgages plus debentures plus short-term debt divided by the book value of the assets
Subsidiary (0/1)	0/1	=1 if the company is controlled by another company, =0 otherwise
Tangibility	%	Property, plant and equipment divided by the book value of assets
Past Returns	%	The returns on the firm's stock in the previous two years
Relationship Bank is National Westminster in 1974 or 1976 (0/1)	0/1	=1 if the relationship bank is National Westminster in 1974 or 1976, =0 otherwise
Relationship Bank Liquidity Ratio	%	Cash and marketable securities divided by the book value of assets of the relationship bank
Relationship Bank Capital Ratio	%	Total equity capital and reserves divided by the book value of assets of the relationship bank

TABLE 3
DESCRIPTIVE STATISTICS FOR SELECTED YEARS DURING THE 20TH CENTURY

Variable	Statistic	1896	1906	1916	1920	1924	1934	1938	1948	1958
Capital Issued	Mean	239	325	355	492	623	1,095	659	669	1,083
	Median	138	150	158	180	215	241	225	213	305
	St. Dev.	382	902	798	1,403	2,042	11,530	2,242	2,404	4,541
	N	617	1,667	1,682	1,728	2,024	2,319	2,775	3,128	3,339
Age	Mean	11.51	12.65	19.76	21.87	23.32	25.69	26.15	34.49	39.24
	Median	7	9	18	22	25	26	25	30	37
	St. Dev.	11.59	10.64	12.28	12.89	14.37	17.75	18.6	19.54	23.18
	N	617	1,667	1,682	1,728	2,024	2,319	2,775	3,128	3,339
Board Size	Mean	5.11	4.80	4.89	5.45	5.64	5.29	5.29	5.44	5.65
	Median	5	4	5	5	5	5	5	5	5
	St. Dev.	1.82	2.95	2.56	2.59	2.44	2.31	2.25	2.25	2.35
	N	617	1,667	1,682	1,728	2,024	2,319	2,775	3,128	3,339
Borrowing Limit	Mean	0.21					0.10	0.08	0.07	0.03
	Median	0					0	0	0	0
	St. Dev.	0.41					0.30	0.27	0.25	0.17
	N	476					2,103	2,638	3,007	3,317
One Share - One Vote (0/1)	Mean	0.55	0.58	0.56	0.55	0.56	0.49	0.48	0.46	0.41
	Median	1	1	1	1	1	0	0	0	0
	St. Dev.	0.50	0.50	0.50	0.50	0.50	0.50	0.54	0.50	0.49
	N	617	1,667	1,682	1,728	2,024	2,319	2,775	3,128	3,339
Officially Listed (0/1)	Mean	0.27	0.32							0.72
	Median	0	0							1
	St. Dev.	0.45	0.47							0.45
	N	617	1,667							3,339
Arm's Length Debt (0/1)	Mean	0.58	0.53	0.52	0.43	0.33	0.29	0.21	0.12	0.26
	Median	1	1	1	0	0	0	0	0	0
	St. Dev.	0.49	0.50	0.50	0.50	0.47	0.45	0.41	0.32	0.44
	N	617	1,667	1,681	1,728	2,024	2,319	2,775	3,128	3,339
Arm's Length Leverage	Mean	0.17	0.03	0.17	0.13	0.11	0.09	0.07	0.04	0.31
	Median	0.11	0	0.03	0	0	0	0	0	0.29
	St. Dev.	0.18	0.09	0.20	0.23	0.17	0.18	0.16	0.13	0.16
	N	617	1,667	1,682	1,728	2,024	2,319	2,775	3,128	3,339
Past Dividends (0/1)	Mean	0.73	0.83	0.80	0.93	0.74		0.77		0.90
	Median	1	1	1	1	1	0	1	0	1
	St. Dev.	0.45	0.38	0.40	0.25	0.44	0	0.42	0	0.31
	N	338	1,034	1,156	1,110	1,366	0	1,942	0	3,001

NOTE. -- The table reports descriptive statistics of key firm variables for selected years during the 20th century. N is the number of observations

TABLE 4

MULTIPLE FIRM-BANK RELATIONSHIPS: PROBIT ANALYSIS FOR SELECTED YEARS DURING THE 20TH CENTURY

	Year 1896				Year 1906				Year 1916			
Model	I	II	III	IV	I	II	III	IV	I	II	III	IV
ln(Capital Issued)	0.062***	0.061***	0.022	0.080***	0.061***	0.061***	0.072***		0.081***	0.081***	0.078***	
	[0.016]	[0.016]	[0.021]	[0.020]	[0.011]	[0.011]	[0.014]		[0.011]	[0.011]	[0.014]	
ln(1 + Age)	-0.033**	-0.034**	-0.064**	-0.042**	-0.045***	-0.045***	-0.050***		-0.021	-0.021	-0.009	
	[0.016]	[0.016]	[0.025]	[0.021]	[0.014]	[0.014]	[0.019]		[0.013]	[0.013]	[0.019]	
ln(1 + Board Size)	0.016	0.018	-0.029	0.015	0.120***	0.120***	0.135***		0.056*	0.056*	0.024	
	[0.046]	[0.046]	[0.056]	[0.056]	[0.027]	[0.027]	[0.036]		[0.030]	[0.030]	[0.038]	
Borrowing Limit				0.048								
				[0.045]								
One Share - One Vote (0/1)	-0.006	-0.006	-0.016	-0.002	0.003	0.003	0.008		-0.009	-0.009	-0.022	
	[0.027]	[0.027]	[0.034]	[0.032]	[0.018]	[0.018]	[0.023]		[0.018]	[0.018]	[0.021]	
Officially Listed (0/1)	0.048	0.050	0.070*	0.033	0.042*	0.042*	0.012		0.014	0.014	0.015	
	[0.034]	[0.034]	[0.040]	[0.039]	[0.022]	[0.022]	[0.027]		[0.020]	[0.020]	[0.024]	
Arm's Length Debt (0/1)	-0.002	0.022	-0.016	-0.015	0.003	0.003	0.020		0.003	0.002	0.013	
	[0.027]	[0.039]	[0.033]	[0.033]	[0.018]	[0.019]	[0.023]		[0.018]	[0.029]	[0.022]	
Arm's Length Leverage		-0.088				-0.004				0.002		
		[0.108]				[0.141]				[0.071]		
Past Dividends (0/1)			0.040				0.024				-0.026	
			[0.035]				[0.028]				[0.028]	
Chi2	34.53	34.05	12.61	28.79	130.50	130.52	89.71		120.14	120.43	78.94	
N	617	617	338	476	1,667	1,667	1,034		1,681	1,681	1,155	

	Year 1920				Year 1924				Year 1934			
Model	I	II	III	IV	I	II	III	IV	I	II	III	IV
ln(Capital Issued)	0.055***	0.053***	0.064***		0.042***	0.042***	0.053***		0.046***	0.047***	0.078***	
	[0.011]	[0.011]	[0.014]		[0.009]	[0.009]	[0.011]		[0.008]	[0.008]	[0.014]	
ln(1 + Age)	-0.012	-0.012	-0.024		-0.002	-0.002	-0.020		0.000	0.000	-0.009	
	[0.012]	[0.012]	[0.015]		[0.011]	[0.011]	[0.015]		[0.010]	[0.010]	[0.019]	
ln(1 + Board Size)	0.095***	0.095***	0.065		0.088***	0.088***	0.064*		0.049*	0.049*	0.024	
	[0.032]	[0.032]	[0.040]		[0.030]	[0.031]	[0.039]		[0.028]	[0.008]	[0.038]	
One Share - One Vote (0/1)	0.017	0.016	0.003		-0.026	-0.026	-0.009		0.003	0.003	-0.022	
	[0.018]	[0.018]	[0.024]		[0.016]	[0.016]	[0.020]		[0.016]	[0.016]	[0.021]	
Officially Listed (0/1)	0.011	0.012	0.008		0.043**	0.044**	0.035		0.050**	0.049**	0.015	
	[0.021]	[0.021]	[0.027]		[0.020]	[0.020]	[0.023]		[0.020]	[0.020]	[0.024]	
Arm's Length Debt (0/1)	-0.019	-0.009	-0.033		0.011	0.028	0.022		0.000	-0.011	0.013	
	[0.018]	[0.023]	[0.022]		[0.017]	[0.033]	[0.021]		[0.017]	[0.028]	[0.022]	
Arm's Length Leverage		-0.039				-0.051				0.035		
		[0.052]				[0.084]				[0.074]		
Past Dividends (0/1)			0.063				0.041**				-0.026	
			[0.039]				[0.021]				[0.028]	
Chi2	89.83	93.32	67.20		117.96	119.49	95.45		103.45	103.58	78.94	
N	1,727	1,727	1,109		2,024	2,024	1,366		2,319	2,319	1,155	

	Year 1938				Year 1948				Year 1958			
Model	I	II	III	IV	I	II	III	IV	I	II	III	IV
ln(Capital Issued)	0.035***	0.036***	0.034***	0.041***	0.050***	0.050***	0.050***	0.050***	0.041***	0.042***	0.040***	0.041***
	[0.007]	[0.007]	[0.009]	[0.007]	[0.005]	[0.005]	[0.005]	[0.006]	[0.005]	[0.005]	[0.006]	[0.005]
ln(1 + Age)	0.019***	0.019***	0.029**	0.023***	0.014*	0.014*	0.014*	0.016*	0.020**	0.022**	0.026***	0.019**
	[0.007]	[0.007]	[0.011]	[0.007]	[0.008]	[0.008]	[0.008]	[0.009]	[0.009]	[0.009]	[0.010]	[0.009]
ln(1 + Board Size)	0.091***	0.091***	0.109***	0.095***	0.072***	0.072***	0.072***	0.075***	0.020	0.018	0.022	0.019
	[0.024]	[0.024]	[0.029]	[0.025]	[0.021]	[0.021]	[0.021]	[0.022]	[0.019]	[0.019]	[0.020]	[0.019]
Borrowing Limit				-0.007				-0.024				0.027
				[0.025]				[0.023]				[0.038]
One Share - One Vote (0/1)	0.006	0.006	0.008	0.008	0.012	0.012	0.012	0.015	0.016	0.017	0.009	0.015
	[0.012]	[0.012]	[0.017]	[0.012]	[0.012]	[0.012]	[0.012]	[0.013]	[0.012]	[0.012]	[0.012]	[0.012]
Officially Listed (0/1)	0.029*	0.029*	0.020						-0.002	-0.005	0.003	0.000
	[0.017]	[0.017]	[0.020]						[0.014]	[0.014]	[0.014]	[0.014]
Arm's Length Debt (0/1)	0.033**	0.003	0.024	0.031*	0.044**	0.045	0.044**	0.040**	0.030**	0.021	0.027**	0.031**
	[0.017]	[0.033]	[0.020]	[0.017]	[0.019]	[0.042]	[0.019]	[0.020]	[0.013]	[0.013]	[0.013]	[0.013]
Arm's Length Leverage		0.08				-0.001				0.068*		
		[0.081]				[0.091]				[0.035]		
Past Dividends (0/1)			0.004								0.023	
			[0.018]								[0.018]	
Chi2	152.34	151.65	100.48	147.53	205.85	205.86	205.85	200.73	135.71	135.50	135.92	135.89
N	2,773	2,773	1,941	2,638	3,128	3,128	3,128	3,007	3,340	3,340	3,002	3,318

NOTE. -- The estimates in this table come from probit models. The dependent variable is Multiple Firm-Bank Relationships (0/1) which equals one if the number of firm-bank relationships equals more than one and equals zero otherwise. The independent variables are defined in Table 1. When possible every specification also controls for an industry dummy that takes the value of one if the company operated in the Iron and Steel sector and equals zero otherwise. Marginal effects are listed in the first row, standard errors are reported in the second row between brackets, and the corresponding significance levels are in the first row adjacent to the estimated marginal effects. For dummy (0/1) variables the marginal effect indicates the effect of a change from zero to one in the variable. *** Significant at 1%, ** significant at 5%, * significant at 10%.

TABLE 5
GOING FROM SINGLE TO MULTIPLE FIRM-BANK RELATIONSHIPS DURING THE 1966-1986 TRANSITION PERIOD

Period	All			Observed / Initiated =< 1966			Observed / Initiated > 1966		
	Count	Percentage	Cumulative	Count	Percentage	Cumulative	Count	Percentage	Cumulative
[2,4)	150	20.46%	20.46%	42	10.10%	10.10%	108	34.07%	34.07%
[4,6)	94	12.82%	33.29%	31	7.45%	17.55%	63	19.87%	53.94%
[6,8)	85	11.60%	44.88%	53	12.74%	30.29%	32	10.09%	64.04%
[8,10)	98	13.37%	58.25%	65	15.63%	45.91%	33	10.41%	74.45%
[10,12)	82	11.19%	69.44%	51	12.26%	58.17%	31	9.78%	84.23%
[12,14)	63	8.59%	78.04%	42	10.10%	68.27%	21	6.62%	90.85%
[14,16)	55	7.50%	85.54%	44	10.58%	78.85%	11	3.47%	94.32%
[16,18)	29	3.96%	89.50%	21	5.05%	83.89%	8	2.52%	96.85%
[18,20)	26	3.55%	93.04%	19	4.57%	88.46%	7	2.21%	99.05%
[20,22) or >= 20	25	3.41%	96.45%	22	5.29%	93.75%	3	0.95%	100.00%
>= 22	26	3.55%	100.00%	26	6.25%	100.00%			

NOTE. -- The table reports the number, percentage and cumulative percentage of single firm-bank relationships that turn to multiple firm-bank relationships for all single relationships, those that are observed and initiated prior to or in 1966 and those that are observed and initiated after 1966.

TABLE 6

SURVIVORSHIP FUNCTION ADJUSTED FOR RIGHT-CENSORING:
GOING FROM SINGLE TO MULTIPLE FIRM-BANK RELATIONSHIPS
DURING THE 1966-1986 TRANSITION PERIOD

Year	Survivor Function	95% Confidence Interval	
		Lower Bound	Upper Bound
0	1	1	1
2	0.96	0.96	0.97
4	0.93	0.93	0.94
6	0.90	0.89	0.91
8	0.86	0.84	0.87
10	0.81	0.80	0.83
12	0.77	0.75	0.79
14	0.73	0.71	0.75
16	0.71	0.68	0.73
18	0.68	0.65	0.70
20	0.64	0.61	0.67
>20	0.59	0.56	0.62

NOTE. -- The table reports the survivorship function and the lower and upper bound for its 95% confidence interval for single firm-bank relationships that turn into multiple firm-bank relationships.

TABLE 7

DESCRIPTIVE STATISTICS FOR 1966-1986 TRANSITION PERIOD

Variable	N	Mean	Median	Std. Dev.
Book Value of Assets	14,877	15.090	2.929	46.610
Age at Start	14,877	61.850	63	32.330
British (0/1)	14,877	0.931	1	0.254
Board Size	14,877	6.24	6	2.53
One Share - One Vote (0/1)	14,877	0.489	0	0.5
Officially Listed (0/1)	14,032	0.83	1	0.375
Arm's Lengh Debt (0/1)	14,877	0.421	0	0.494
Leverage	14,877	0.382	0.379	0.185
Subsidiary (0/1)	14,877	0.144	0	0.352
Tangibility	14,877	0.357	0.326	0.196
Past Returns	4,402	0.010	0.010	0.028
Relationship Bank is National Westminster in 1974 or 1976 (0/1)	14,877	0.037	0	0.188
Relationship Bank Liquidity Ratio	10,961	0.312	0.296	0.105
Relationship Bank Capital Ratio	10,961	0.068	0.057	0.082

NOTE. -- The table reports descriptive statistics of key firm variables for N relationship - year observations between 1966 and 1986.

TABLE 8

SURVIVAL ANALYSIS OF GOING FROM SINGLE TO MULTIPLE FIRM-BANK RELATIONSHIPS DURING THE 1966-1986 TRANSITION PERIOD

	I	II	III	IV	V	VI	VII	VIII
	Cox-Proportional		Weibull					
ln(Book Value of Assets)	0.189***	0.140***	0.132***	0.086***	0.087*	0.086***	0.113***	0.101***
	[0.026]	[0.031]	[0.026]	[0.032]	[0.049]	[0.032]	[0.036]	[0.035]
ln (1 + Age at Start)	-0.112	0.012	-0.210**	-0.042	0.059	-0.042	0.046	0.043
	[0.090]	[0.098]	[0.101]	[0.105]	[0.150]	[0.105]	[0.117]	[0.115]
British (0/1)	-0.443***	-0.538***	-0.436***	-0.519***	-0.184	-0.528***	-0.395**	-0.480***
	[0.143]	[0.147]	[0.142]	[0.144]	[0.414]	[0.145]	[0.169]	[0.167]
ln(1 + Board Size)	-0.016	0.049	0.014	0.074	-0.134	0.072	0.073	0.079
	[0.116]	[0.125]	[0.117]	[0.127]	[0.202]	[0.127]	[0.141]	[0.142]
One Share - One Vote (0/1)	0.190**	0.178**	0.151*	0.135	0.105	0.135	0.173*	0.149
	[0.082]	[0.088]	[0.084]	[0.089]	[0.136]	[0.089]	[0.098]	[0.098]
Officially Listed (0/1)		0.465***		0.396**	-0.237	0.390**	0.599***	0.553***
		[0.159]		[0.158]	[0.309]	[0.158]	[0.193]	[0.192]
Arm's Lengh Debt (0/1)		0.212**		0.205**	0.058	0.204**	0.167	0.160
		[0.096]		[0.096]	[0.145]	[0.096]	[0.107]	[0.107]
Leverage	1.040***	0.867***	1.033***	0.868***	0.637*	0.864***	1.192***	1.194***
	[0.206]	[0.228]	[0.205]	[0.227]	[0.338]	[0.226]	[0.249]	[0.247]
Subsidiary (0/1)	-0.446***	-0.392***	-0.473***	-0.424***	-0.143	-0.423***	-0.501***	-0.504***
	[0.134]	[0.145]	[0.135]	[0.145]	[0.235]	[0.145]	[0.164]	[0.164]
Tangibility	0.135	-0.129	0.306	0.047	-0.202	0.046	0.134	0.180
	[0.211]	[0.226]	[0.217]	[0.230]	[0.363]	[0.230]	[0.256]	[0.255]
Past Returns					1.830			
					[2.171]			
Relationship Bank is National Westminster in 1974 or 1976 (0/1)						0.182		
						[0.179]		
Relationship Bank Liquidity Ratio							1.787***	
							[0.445]	
Relationship Bank Capital Ratio								0.912**
								[0.417]
Constant			-6.354***	-6.666***	-5.677***	-6.656***	-8.449***	-7.523***
			[0.570]	[0.618]	[1.096]	[0.618]	[0.737]	[0.678]
Duration Dependence Parameter			1.44[+++]	1.43[+++]	1.29[+++]	1.43[+++]	1.40[+++]	1.35[+++]
Number of Observations	14,877	14,033	14,877	14,033	4,360	14,033	10,961	10,961

NOTE. -- The estimates in this table are based on ML estimations of the proportional hazard model using the Cox (1972) proportional hazard function and the Weibull distribution as the baseline hazard. The independent variables are defined in Table 1. Coefficients are listed in the first row, standard errors are reported in the second row between brackets, and the corresponding significance levels are in the first row adjacent to the estimated coefficients. *** Significant at 1%, ** significant at 5%, * significant at 10%. [+++] Significantly different from one at 1%.

TABLE 9

TYPE OF BANKS THAT WERE ENGAGED AND ADDED DURING THE
1966-1986 TRANSITION PERIOD

	Relationship Bank		Added Bank	
Bank Type	N	%	N	%
Clearer Bank	*19,928*	*95.8*	*1,073*	*61.6*
London Clearer	17,682	85.0	908	52.2
Scottish Clearer	1,627	7.8	93	5.3
Irish Clearer	619	3.0	72	4.1
Other British Bank	*489*	*2.4*	*222*	*12.8*
Foreign Bank	*379*	*1.8*	*446*	*25.6*
Commonwealth Bank	301	1.4	142	8.2
Other Foreign Bank	78	0.4	304	17.5

NOTE. -- The table reports descriptive statistics of the number and percentage of relationship - year observations between 1966 and 1986, by the type of relationship bank and added bank.

TABLE 10

SURVIVAL ANALYSIS OF GOING FROM SINGLE TO MULTIPLE FIRM-BANK RELATIONSHIPS DURING THE 1966-1986 TRANSITION PERIOD
BY ADDING A BANK OF THE INDICATED TYPE

	I	II	III	IV	V	VI
	Clearer Bank		Other British Bank		Foreign Bank	
ln(Book Value of Assets)	0.118***	0.145***	-0.197***	-0.212**	0.075	0.116
	[0.042]	[0.047]	[0.076]	[0.087]	[0.066]	[0.072]
ln (1 + Age at Start)	-0.030	0.091	0.015	0.354	-0.323	-0.477**
	[0.138]	[0.157]	[0.244]	[0.270]	[0.240]	[0.229]
British (0/1)	-0.204	-0.115	-1.189***	-0.918***	-0.923***	-1.014***
	[0.211]	[0.240]	[0.253]	[0.322]	[0.316]	[0.333]
ln(1 + Board Size)	0.111	0.053	0.423*	0.568*	-0.048	0.039
	[0.168]	[0.180]	[0.243]	[0.292]	[0.264]	[0.304]
One Share - One Vote (0/1)	0.075	0.141	-0.299	-0.36	0.407*	0.559**
	[0.115]	[0.126]	[0.211]	[0.243]	[0.220]	[0.237]
Officially Listed (0/1)	0.247	0.341	0.676*	1.556**	0.783*	0.848
	[0.202]	[0.235]	[0.364]	[0.615]	[0.448]	[0.523]
Arm's Lengh Debt (0/1)	0.252**	0.219	0.228	0.221	-0.049	-0.07
	[0.126]	[0.140]	[0.240]	[0.272]	[0.229]	[0.255]
Leverage	1.217***	1.466***	0.463	0.560	-0.343	-0.138
	[0.281]	[0.310]	[0.572]	[0.652]	[0.516]	[0.561]
Subsidiary (0/1)	-0.496***	-0.457**	-0.642*	-1.032**	-0.207	-0.289
	[0.189]	[0.203]	[0.340]	[0.455]	[0.341]	[0.381]
Tangibility	0.190	0.262	-0.331	-0.424	-0.242	-0.074
	[0.293]	[0.322]	[0.568]	[0.695]	[0.471]	[0.521]
Relationship Bank Liquidity Ratio		1.955***		2.385**		-0.035
		[0.527]		[1.039]		[1.315]
Constant	-8.250***	-9.983***	-4.877***	-8.285***	-6.842***	-7.378***
	[0.814]	[0.951]	[1.408]	[1.698]	[1.471]	[1.717]
Number of Observations	13,879	10,828	13,479	10,373	13,503	10,510

NOTE. -- The estimates in this table are based on ML estimations of the proportional hazard model using the Weibull distribution as the baseline hazard. The independent variables are defined in Table 1. Coefficients are listed in the first row, standard errors are reported in the second row between brackets, and the corresponding significance levels are in the first row adjacent to the estimated coefficients. *** Significant at 1%, ** significant at 5%, * significant at 10%. [+++] Significantly different from one at 1%.