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When Banks are Insiders:
Evidence from the Global Syndicated Loan Market*

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Abstract

This paper studies the impact of connections between banks and firms on the lead arranger bank choice and loan pricing in the global syndicated loan market. We examine cases where the bank is an insider on the borrower firm by representation on the board of directors or by holding equity stakes directly and indirectly (through affiliated institutional money managers). These connections have a positive and significant effect on a firm's lead arranger bank choice. Additionally, we find that banks charge higher interest rate spreads and face less credit risk after origination when lending to firms where the bank is an insider. Our findings suggest that the influence of banks over firms seems to accrue mostly to the banks' benefit, and therefore conclude for the existence of a conflict of interest between the role of lender and that of insider in the firm.

JEL classification: G21, G32

Keywords: Bank loans, Corporate Boards, Ownership, Lending relationships

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1. Introduction

Syndicated loans are an important source of financing for corporations worldwide, with the volume of loans in this market exceeding that of public debt market issuance (Drucker and Puri (2007)). Banks have advantages in producing information on the companies they lend to through economies of scale and scope and by developing special relationships with firms. Repeated loan transactions and other financial services imply that information is accumulated in the bank-firm relation and this information is non-transferable. Thus, even in a market-oriented system like the U.S., “relationship banking” is an important element of the syndicated loan market (Bharath, Dahiya, Saunders and Srinivasan (2007)).

On the other hand, banks can also have close ties to firms by being represented on the borrower firms’ boards of directors. Krozner and Strahan (2001) show that over 30% of the largest U.S. firms have a banker on their boards, while these figures are as high as 75% in Germany and 50% in Japan. German bank representation on boards comes from proxy voting (as banks provide the vast majority of retail brokerage services), but also from direct control blocks of corporate shares. Banks are some of the largest blockholders of public firms around the world (La Porta, Lopes-de-Silanes and Vishny (1999)). While the U.S. had restrictions on banks’ ownership of non-financial firms and the scope of commercial and investment banking until the repeal of the Glass-Steagall Act, many other countries had different regulation limits.¹

A new channel of bank influence over firms is through institutional holdings. Many banking groups have developed in recent years large asset management arms (such as bank trust services and mutual funds). Allen (2007) highlights that banks have a dominant presence in European financial markets in marketing financial products such as mutual funds. These funds can and do invest in many of the very same publicly-listed firms to which banks are also lending to. These indirect equity positions can potentially leverage a bank’s position in

¹Santos (1998) surveys regulations on banks’ investment in equities of non-financial firms around the world. Banks in the U.S., however, could take equity (at least temporarily) as part of a debt restructuring or bankruptcy workouts.

these firms.²

In this paper, we examine how lead arranger bank choice, loan pricing and non-pricing terms, and the post-loan credit risk performance are affected by connections between the bank and the firm. i.e. the bank is an insider. On the one hand, an insider bank can be a more effective monitor and mitigate financial constraints. When the bank is both a residual claimant (shareholder) and a creditor, it may be better able to monitor the borrower, and reduce the chances of premature liquidation.³ Additionally, the bank-firm link will increase the information flow as the borrower firm may be inclined to reveal more to the bank and the bank itself to produce more information (Boot (2000)). If banks share these information rents with connected firms, we expect to find more lending and lower interest rate spreads when the bank is an insider.

On the other hand, banks can use their board seats or equity positions in the firm to protect the banks' interests as a creditor and extract rents from their information monopoly and therefore to "hold-up" the firm (Sharpe (1990) and Rajan (1992)). Banks can charge higher loan interest rate spreads or get a disproportionate share of firms' borrowing. Thus, the presence of a bank as an insider can lead to more credit being granted but to a higher cost of financing to the firm. This is an empirical question that we address in this paper.

We use loan facility-level data to study the relationship between banks and firms worldwide. We investigate a large sample of syndicated loans to non-financial firms in the 2003-2006 period drawn from LPC DealScan where the lead arranger is one the 500 largest banks in the world (as ranked by "The Banker"). We draw accounting and market information on borrower firms from Datastream/Worldscope and bank information from Bankscope. We then obtain three potential types of connections between the borrowing firms and the lead arranger banks: (1) board composition of publicly-listed firms and banks (from BoardEx);

²Santos and Wilson (2007) examine trust investments held by U.S. banks in non-financial firms that provide no direct cash incentives to banks but may give them control over a stake of the firm's voting rights. Massa and Rehman (2007) find evidence of information flows between lending by banks and portfolio choice of affiliated mutual funds in the U.S.

³This mitigates the problems of asset substitution, and under- or over-investment (Jensen and Meckling (1976) and Myers (1977))

(2) direct equity ownership stake by banks as insiders in firms (from FactSet/LionShares and Osiris); and (3) institutional equity ownership by fund management companies affiliated to the lead arranger banks (from FactSet/LionShares).

We use the example of Deutsche Bank to illustrate that banks are insiders in firms accessing the syndicated loan market. In December 2002 (the start of our sample period), the bank's board members had a staggering number of 65 board seats in other firms. As one of the best connected banks in the German corporate network, Deutsche Bank had 3 common board members with E.ON AG (energy), 2 with BAYER AG (pharmaceutical) and 2 with LINDE AG (engineering). In the case of LINDE AG, the bank also had a direct stake of about 10% of the firms' equity. In the case of BAYER AG, the asset management arm of Deutsche Bank, DWS Investments, had a large holding of US\$414 million. These bank-firm ties may be associated with the fact that, over the next 4 year period (2003-2006), the bank acted as a lead arranger in 7 syndicated loans to E.ON AG, 6 loans to BAYER AG, and 8 loans to LINDE AG.

We first investigate whether the presence of a bank as an insider in the borrowing firm increases the chances that the bank will be chosen as lead arranger for firms' syndicated loans. To conduct this test, we construct bank-firm pairs using the sample of the top 100 banks in the world. We then test whether the choice of a specific bank as lead arranger is affected by the bank having a board seat, an equity stake directly or through affiliated money managers. Results from a logit model show that firms tend to get more loans arranged by banks that are insiders relative to banks without connections to the firm. The effect of a connection is stronger for firms with higher information asymmetry (smaller firms) and those from "bank-based" countries with less alternative financing choices.

Second, we investigate whether the existence of a bank-firm connection affects the interest rate spread and other non-pricing terms of the loan. We find that banks with board seats in the borrower firm charge a higher interest rate spread relative to banks without connections to the firm. This finding is robust to the inclusion of loan-, borrower -, and

bank-characteristics as controls. This result suggests that insider banks are able to “capture” the firm. Interestingly, when bank is a direct shareholder these effects are attenuated. This is consistent with the “information rent extraction” hypothesis, i.e. the information advantage of the insider bank may deter competition from other banks or create a lemons problem in that other banks will be skeptical of the quality of firm that do not use their universal bank as lead arranger (Rajan (2002)). We also examine the effect of bank-firm links on other loan non-pricing features such as collateral, covenants and maturity, but we find no evidence of relaxing of these non-pricing contract terms. We also find that firms with insider bank have higher lender concentration, i.e. connections have a negative and significant effect on the number of lead arrangers and lenders used by the borrower firm.

Finally, we investigate the ex-post performance of firms that borrow in the syndicated loan market. We ask the question whether firms that get loans from connected banks have less ex-post credit risk. We find that the existence of a bank-firm link at the time of the loan initiation is associated with a decrease in the expected default probability (EDF from Moody’s KMV) in the year following the loan initiation. Therefore, insider banks seem to benefit from an improvement in the credit quality of the firms they lend to as compared to banks with no connections. This improvement in credit risk favors the creditors but not necessarily other shareholders.

Overall, our evidence suggests that banks (more than firms) gain from lending relationships where the bank is an insider. Insider banks lend out more to firms where they are insiders, charge higher spreads and face less credit risk subsequent to the loan initiation.

Previous evidence on the effect of the presence of an executive from the bank on the board of U.S. non-financial firms is mixed. Guner, Malmendier and Tate (2006) find that firms get more loans from affiliated bankers but do not find significant effects on loan pricing. Kroszner and Strahan (2001) also find that U.S. banks do not favor their connected borrowers. However, Ciamarra (2007) finds that the presence of an executive from the bank on the borrowing firm board of directors is associated with a lower cost of borrowing and

more favorable non-pricing terms in individual loan contracts. Evidence from international studies has also been mixed (Puri and Drucker (2007)).

To the best of our knowledge, this paper is the first to examine the effects of direct and indirect equity holdings by banks on the global syndicated loan market. However, there are two recent papers addressing related issues for the U.S. A recent paper by Santos and Wilson (2007) examines the role of voting rights of U.S. banks by holding stock in trust for their clients. They find that banks charge lower interest rate spreads and impose less strict covenants to firms where they hold a voting stake. Massa and Rehman (2007) find that information generated inside banking groups by the lending arm is used by the asset management arm, in violation of the Chinese walls separating these two activities. They find that bank-affiliated funds invest more heavily in the stock of borrowing firms than other comparable non-affiliated funds and these holdings provide them with extra performance.

One important aspect of our paper is to study bank-firm connections using a large cross-section of countries, with a significant dispersion in regulatory environments, quality of financial markets and in legal institutions. Our paper adds to recent studies on the workings of the syndicated loan market around the world. Qian and Strahan (2007) examine how country factors (legal system and quality of institutions) affect loan contract design. Carey and Nini (2006) and Houston et al. (2007) examine the U.S. and European syndicate loan market and find that borrowers mainly issue in their home market and home bias seems to affect loan pricing.

Our findings suggest the existence of important conflict of interest between the role of lender and that of insider in the firm. Thus our paper also contributes to the literature on the appropriate scope of bank activities, in particular the debate on the advantages and costs of allowing banks to have control rights through board seats and equity holdings. In many countries, historically and at the present, banks have held these types of positions on industrial firms (see Santos (1998) for a survey, Gorton and Schmid (2000) for evidence in Germany and Kaplan and Winton (1994) for evidence in Japan). Puri and Drucker (2007)

highlight in their survey that more empirical research is warranted on the direct effects of banks as insiders on lending and underwriting activities. Mehran and Stulz (2007) also recently survey the importance of conflicts of interest in financial intermediation.

Finally, our paper contributes to the literature on the effects of bank-firm relationships. Others proxies for intensity of bank-firm relationship, such as prior lending activity, have been shown to increase the probability of banks extending loans (Bharath et al. (2007)) or winning bond underwriting mandates (Yasuda (2005), Druker and Puri (2007)). Schenone (2007) finds evidence that lending relationships can lead to banks earning information rents by charging higher interest rates. Other papers focus alternative measures of intensity of bank-firm relationships such as the geographical distance between bank and borrower (Petersen and Rajan (2002), Degryse and Ongena (2005)) or the nationality of both the bank and the borrower (Carey and Nini (2006), Houston, Itzkowitz and Naranjo (2007)).

The remainder of the paper is organized as follows. In the next section we present our main hypotheses and testable predictions. Section 3 describes the data. Section 4 presents the results. Section 5 concludes.

2. Hypotheses

In this section, we provide a discussion of the benefits and the costs of a close bank relationship to a firm. This discussion will inform the tests we design and carry out in the paper.

On the one hand, the bank presence as an insider, either through board representation, a direct equity stake or indirect stake through institutional holdings can potentially benefit the borrower firm. This close relationship increases the information flow to the bank through screening (Allen (1990)) and monitoring (Diamond (1984)). The bank gathers information over time, some of it proprietary and not disseminated to financial markets, and that can facilitate the provision of multiple financial services (Boot (2000)). In contrast, other banks

providing arms-length finance are at a disadvantage. If the bank has a board seat, a direct or indirect equity position, then the borrower firm can be inclined to reveal more information than in a transaction-oriented relation. Furthermore, given the stake the bank has in the borrower firm, the bank itself has stronger incentives to invest in producing information. Finally, bank equity stakes can reduce agency costs (Jensen and Meckling (1976)) and costs of financial distress and enhance bank efficiency (Berlin, John and Saunders (1996)).

Overall, a close bank-firm relationship produces information rents that can be shared between the bank and the borrower firm. This leads us to posit our first “information rent sharing” hypothesis and its testable predictions. First, insider banks have an advantage in lending to the firm so we expect to find more lending than by similar banks without such links to the firm. Second, firms can benefit from information rents by way of lower interest rate spreads and relaxing non-pricing loan features such as collateral, covenants and maturity. Finally, special relationship with a linked bank that can provide uninterrupted access to funding will allow firms to avoid financial distress, so we expect that firms with loans from linked banks will experience less credit risk.

On the other hand, the bank presence as an insider can increase the bargaining power of the bank. The proprietary information about borrowers that banks obtain from having a board seat or being a shareholder can give them an information monopoly. It potentially can create a “hold-up” problem and allow the bank to extract information rents from the borrower firm in the form of higher loan interest rate spreads (Sharpe (1990) and Rajan (1992)). Banks can pressure firms to borrow at uncompetitive interest rates and “lock in” the firm, who will find difficult to access alternative banks as the bank has information that a potential new lender does not have. Additionally, conflicts of interest can arise when the bank pushes its interests to mitigate credit risk and reduce shareholder’s risk-taking incentives (Jensen and Meckling (1976)).

Thus, we posit an alternative “information rent extraction” hypothesis and derive testable predictions. As with the “information rent sharing” hypothesis above, we expect to find more

lending by insider banks than by similar banks without such links to the firm. But this is now explained by the firm being “locked in” to the bank. These effects are expected to be stronger for firms with greater information asymmetry, such as smaller firms or firms with fewer tangible assets, and for countries with “bank-based” financial systems where the firm has less alternative financing choices. In addition, we predict that the bank appropriates its information rent in the form of uncompetitive interest rates and other non-pricing loan features as well as having greater loan concentration. A last prediction of the “dark side” of relationship banking is that banks can act to reduce firm’s credit risk. We expect that firms with loans from connected banks experience less ex-post credit risk.

3. Data

This section describes the data sources and sample used in the paper. The Appendix provides detailed definitions of all variables used in the tests in subsequent sections.

3.1. Sample of Loans

Data on syndicated bank loans are drawn from the Loan Pricing Corporation (LPC - Reuters) DealScan database. DealScan is the largest commercial database on loans and contains information on loan contract terms (e.g. amount, all-in drawn spread, maturity, structure, purpose, type). This database contains information on syndicated loans worldwide and allows us to identify the lead arranger banks and lenders of each loan. This dataset has been used in recent papers such as Qian and Strahan (2007) and Santos and Wilson (2007).

Our data set contains all loans initiated from January 2003 to December 2006. Syndicated loan deals include multiple tranches (or loan facilities) that differ in price, type, and maturities (such as a line of credit and a term loan). Following the literature (e.g. Carey and Nini (2007), Qian and Strahan (2007) and Santos and Wilson (2007)), we perform our

main tests at the facility level.⁴ There is no straightforward way to identify which facilities make part of a deal in DealScan. We consider that facilities make part of the same deal if (1) the borrower is the same; (2) the deal date is the same; (3) the primary purpose is the same; (4) the deal amount is the same; and (5) the sum of the tranches amount add up to the deal amount.

We exclude the following loan facilities from our sample: (1) loans in which the borrower is a financial firm (SIC 6000-6999); (2) loans in which the borrower is from the public sector (SIC 9000-9999) and sovereign loans; (3) deals with amount less than US\$100 million (amounts converted to US\$ when they are in a different currency), i.e. the sum of the tranches; (5) loans without information on all-in drawn spread. Loans with several lead arrangers in the syndicate are included in the sample separately for each lead arranger.

In our regression tests performed at the loan facility level, we examine the effect of bank-firm links on several loan pricing and non-pricing features: all-in drawn spread over Libor including fees (ALL _SPREAD_LOAN), existence of collateral (SECURED), existence of covenants (DIVRESTRICT), existence of a guarantor (GUARANTOR), maturity (LOG_MATURITY), number of lenders (LOG_LENDERS), and number of lead arrangers (LOG_LEAD_ARRANGERS).

We control for several loan-level characteristics in these regression tests: rating notation converted to numerical scale (RATING), inexistence of rating notation (UNRATED), loan facility amount (LOG_AMOUNT_LOAN), corporate purpose (CORPURPOSES), re-finance purpose (REFINANCE), takeover purpose (TAKEOVER) working capital purpose (WORKCAPITAL), line of credit type (CREDITLINE), term loan type (TERMLOAN), bridge loan type (BRIDGELOAN), loan seniority (SENIOR), existence of sponsor (SPONSOR), and whether the loan is syndicated (SYNDICATED). The Appendix provides detailed definitions of these variables.

⁴We find similar results (not tabulated here) using only deals with a single facility.

3.2. Sample of Banks

To determine the most important banks worldwide we rely on the “Top 1000 World Banks” published by “The Banker” in 2005, which ranks the world’s leading commercial banks sorted by Tier 1 capital. In the interest of making the data analysis feasible, however, we restrict our sample to the top 500 banks in this ranking.

Our sample includes all loans where the lead arranger bank is one of the top 500 banks. We focus on the lead arranger banks of a loan facility which usually holds the largest share of the syndicated loan (see Kroszner and Strahan (2001)).⁵ We use the parent bank or financial group of the lead arranger to determine bank-firm connections. For example, loans arranged by bank subsidiaries like ABN AMRO Australia Ltd, ABN AMRO Bank Shanghai, and ABN AMRO Bank Taipei are considered as part of ABN AMRO Holding NV. Out of a total of 1,021 different lead arrangers in syndicated loans during our sample period, 782 are affiliated and matched to the top 500 banks.

In the regression tests, we control for several bank characteristics such as the rank (BANK_RANK) and the nationality of the bank. In addition, we draw bank characteristics such as bank market capitalization (BANK_SIZE) and return on equity (BANK_ROE) from BankScope.

Table 1 lists the top 30 banks, as ranked by the number of firms for which these banks have acted as lead arrangers in the 2003-2006 period. This list includes some of the largest banks in the world as can be seen by corresponding ranks from “The Banker”.

3.3. Sample of Borrower Firms

We focus our analysis on publicly-listed non-financial borrowers (firms with SIC 6000-6999 are excluded). We draw firm-level accounting and market information for borrower firms from Worldscope/Datastream. We merge the loan “Borrower-Parent” to Worldscope firms

⁵The lead arranger is frequently the administrative agent that has the fiduciary duty to other syndicate members to provide timely information about the borrower of default. Thus, the responsibilities of a lead bank best fit the description of a relationship lender.

using country and ticker (when available) and then manually by firm name. Only firms for which we are able to identify as a publicly-listed firm in Worldscope/Datastream are included in our sample. For U.S. firms, out of a total of 3,730 borrowers, 1,570 are found to be publicly-listed firms. Outside the U.S., out of a total of 2,654 borrowers, 1,313 are found to be publicly-listed firms. So the sample includes 2,883 public borrower firms worldwide.

In terms of loans in the 2003-2006 sample period, out of 7,129 deals where the banking group of the lead arranger bank is identified (US\$2,772 billion in loans and 46,191 bank-loan facility observations), we are able to match the borrower with publicly-listed firms in WorldScope/Datastream for 3,146 deals (US\$1,616 billions in loan amounts and 24,274 bank-loan facility observations). The final sample includes 15,619 bank-loan facility observations for which loan and borrower firm variables are available.

In our regression tests we control for several borrower firm characteristics from WorldScope/Datastream: firm size proxied by total sales (LOG_SIZE), leverage (TOTAL_DEBT), short-term debt (SHORT_DEBT), tangibility (TANG), R&D expenditures (R&D), equity market-to-book ratio (MB), profitability (PROFIT), interests coverage (INTCOV), net working capital (NWCAPITAL), volatility of stock returns (STDEV), dividends and repurchases (PAYOUT). The Appendix provides detailed definitions of these variables.

3.4. Bank-Firm Links

In order to measure whether banks are insiders in borrower firms we consider three bank-firm links: (1) board seats; (2) direct equity stakes; and (3) indirect institutional holdings through bank-affiliated money managers. We measure the bank-firm links at the end of the year prior to the loan initiation. Additionally, we include as controls other proxies of the relationship between firm and bank used in the literature. Following Bharath et al. (2007) we construct a dummy variable (DUMMY_PAST_LOAN) which takes the value of one if there is a syndicated loan between the lead arranger bank and the borrower firm in the 5-year period prior to the beginning of our sample period (1998-2002). We also include a

dummy variable that takes the value of one if the bank and firm are headquartered in the same geographical region (DUMMY_SAME_REGION) as in Houston et al. (2007).

3.4.1. Bank as BOARD Member

We use the BoardEx database to obtain board composition of publicly-listed borrower firms and banks involved in the syndicated loan market. BoardEx is a private data vendor that offers an international board analysis database covering more than 9,000 firms and 80,000 directors across Europe and the U.S. For each firm, BoardEx provides information on individual board director individual roles, committee composition, and biographies and network links of directors (i.e. all board positions occupied by an individual in other firms).

We extract data on board links between banks and firms.⁶ There is a bank-firm link when a bank executive is on the board the firm or when there is a common board member to the bank and the firm. For each year-end (using the overlap period) we construct the following bank-firm link variables through board seats: a dummy variable that takes the value of one when there is at least a common board member (DUMMY_BANK_INBOARD), the number of common board members between the bank and the firm (NUMBER_BANK_INBOARD), and the sum of the tenure of the common board members (TENURE_BANK_INBOARD). We match these variables with the loan sample using bank-firm link variables through board seats at the end of the year prior to the loan initiation.

3.4.2. Bank as EQUITY Insider

We use FactSet/LionShares to obtain bank insider ownership in publicly-listed borrower firms. FactSet/LionShares provides ownership data of publicly-listed firms on over 50 countries. Insider holders are families, states, other companies, and financial institutions. We focus on financial institutions to obtain bank insider stakes. FactSet/LionShares data sources are public filings by investors (as SEC forms 3, 4 and 144 in the U.S.), company annual re-

⁶We only consider first degree network connections between list of banks and firms.

ports, and regulatory agencies around the world.

We focus on insider ownership by the top 500 banks according to “The Banker” ranking. We manually match insider names with the list of top 500 banks and we are able to match 362 of this list of top banks (including 92 out of the top 100 banks). Total equity insider holdings by banks in our sample add up to US\$392 billion as of December 2002. To complement and validate this insider ownership data, we also collect bank insider ownership from the Bureau Van Dyck (BVED) OSIRIS database.⁷ Insider positions reported in the two data sources are in general consistent. In the end, we are able to measure insider equity ownership by the lead arranger bank in the borrower firm for each loan facility at the end of the year prior to the loan initiation.

3.4.3. Bank as INSTITUTIONAL holder

Banking groups increasingly provide asset management services for their clients worldwide such as bank trust services, mutual funds and pension fund portfolio management. Many of the banks involved in the syndicated loan market are part of financial groups that have asset management divisions which do invest in many of the same publicly-listed companies that banks are lending to.

FactSet/LionShares is the leading source for institutional equity holdings worldwide. FactSet/LionShares data feed financial information providers such as Reuters and the Wall Street Journal. This data set has been previously used in Matos and Ferreira (2007) to study the role of institutional investors in corporations around the world. Institutions are defined as professional money managers: mutual fund companies, pension funds, bank trusts, and insurance companies. Sources are public filings by investors (such as 13-F filings with the SEC in the U.S.) and company reports. This data set contains holdings at the investor-stock level by over 5,300 institutions from 26 countries, with positions totaling US\$18 trillions

⁷OSIRIS is a data product by Bureau van Dijk (BVED) that provides ownership information for publicly-listed companies around the world. As of March 2003, 19,798 companies included on OSIRIS contained at least one shareholder. Data sources used by BVED are company annual reports, SEC or local regulatory agency filings, company communications and press news.

as of December 2005. Institutional ownership data represents, on average, over 40% of the world stock market capitalization in the 2000-2005 period. A more detailed description of this data set can be found in Ferreira and Matos (2007).

Some of the largest money management companies around the world are divisions of banks. For example, of the top 5 money managers in the U.S., 2 of these are bank-affiliated (Barclays Global Investors, State Street Global Advisors) and 3 are stand alone investment companies (Capital RM, Fidelity, Vanguard). For France, all top 5 managers are bank or insurance company affiliated (AXA, Credit Agricole Asset Management, IXIS Banques Populaires, BNP Paribas Asset Management). For Germany, 4 of the top 5 are divisions of banks (Dresdner Bank Investment Management, Deutsche Bank's DWS Investment, Deka Investments) and one is independent (Universal Investment).⁸ Massa and Rehman (2007) investigate the implications of the affiliation of mutual funds to financial conglomerates active in banking and insurance. In the U.S. alone, they find that approximately 40% of the mutual funds belong to financial conglomerates.

We match the ultimate parent company of the institution (for example DWS Investments's ultimate parent is Deutsche Bank) to the list of top 500 banks. So for the lead arranger bank(s) of each loan facility, we can identify the total institutional holdings by money managers affiliated to the bank.

3.4.4. Example on Selected Top Banks

To provide a more concrete understanding of the data used in the paper, Table 2 provides examples of bank-borrower links for 6 selected top banks.

We start with JP Morgan, the most active lead arranger bank during our sample period. According to BoardEx, JP Morgan had a total of 62 common board members with other publicly-listed firms in December 2002. For example, it had 3 board members in Honeywell, 2 in Exxon-Mobil, and 2 in Verizon. Some of these firms accessed the syndicated loan market

⁸List of top 5 institutions by assets under management by country is available in Table A.1. of Ferreira and Matos (2007).

during the next 4-year period (2003-2006). JP Morgan arranged 4 loans for Exxon-Mobil (with the bank supplying a total of US\$10 billion in financing or 30% of firm's financing in the syndicated loan market in the sample period) and 4 loans for Verizon (US\$11 billion, 50% of financing). However, the bank had no equity stakes in publicly-listed firms as regulations in the U.S., such as the 1933 Glass-Steagall Act, historically prohibited banks from taking equity stakes in non-financial firms.⁹ Nonetheless, its fund management division, JPMorgan Asset Management, had large equity stakes. Interestingly, the top holding of JP Morgan Asset Management was in Exxon-Mobil with a market value of US\$709 million.

The second example is that of Royal Bank of Scotland (RBS), for which bank-firm connections seem not to play any role. The bank had many board connections to non-financial firms but none of these firms were among its top ten borrowers in the syndicated loan. The bank also had no equity stakes in publicly-listed firms. Finally, its institutional holdings were very small as the bank has outsourced its asset management business through a partnership with Aviva in the U.K. that manages the investment products that RBS distributes.

One of the more interesting examples of a bank with multiple connections is Deutsche Bank. As the largest of the universal banks, Deutsche Bank was also the best connected bank in the German corporate network with 65 appointments in boards of other firms. This indicates that some of its directors had multiple appointments in corporate boards. For example, Josef Ackermann (its Chairman and CEO) had 5 other board positions in LINDE AG, BAYER AG, NASDAQ, STORA ENSO and VODAFONE. Deutsche Bank had 3 common board members with E.ON AG (a large energy company), 2 with BAYER AG (pharmaceutical) and 2 with LINDE AG (engineering).^{10,11} In the case of LINDE AG, FactSet/LionShares data shows that Deutsche Bank had a direct stake of over US\$436 million (about 10% of

⁹Interestingly, however, during the last quarter of the 19th and early 20th century, JP Morgan financial services were not "arms-length" and entailed the presence of Morgan man among the directors in the corporate client firm and to raise funds only through the Morgan partnership (Ramirez (1995)).

¹⁰For example, with LINDE AG, Dr Josef Ackermann (Chairman/CEO of Deutsche Bank since 1997) was board member in LINDE AG until 2006 and Karl-Hermann Bauman (Board Member of Deutsche Bank from 1998 – to 2005) has been board member in LINDE AG since 1998.

¹¹In total, Deutsche Bank had 18 common board members with firms that eventually accessed the syndicated loan market over the period.

the firms' equity). In the case of BAYER AG, Deutsche Bank asset management companies, DWS Investments (DE) and Deutsche Asset Management (US), had a very large holding of US\$414million. These bank-firm connections might be related with the fact that, over the subsequent 4 year period, Deutsche Bank acted as a lead arranger in 7 syndicated loans to E.ON AG, 6 loans to BAYER AG and 8 loans to LINDE AG.

Banks from other countries also offer interesting cases. Societe Generale had connections to firms for which it acted several times as lead arranger, as with the 11 loan facilities to VIVENDI SA (2 board seats, US\$83 million invested by SGAM and TCW, divisions of Societe Generale) and 4 loan facilities to PEUGEOT SA (1 board member, direct equity stake of US\$300 million). Banco Bilbao Vizcaya Argentaria acted as lead arranger in 4 loan facilities to TELEFONICA SA (7 common board members, direct equity stake of US\$266 equity stake plus US\$116 through their fund management divisions, BBVA Gestion and BBVA Patrimonios, which was their top holding). Bank-firm links, however, do not always translate into loans as is the case of ING Bank that had large direct equity stakes in Unilever (US\$738 million directly, US\$286 million through its funds).

3.5. Country Variables

Legal and institutional differences have been shown to shape the terms of bank loans across the world (Qian and Strahan (2007)). Thus, we consider country-level variables of the borrower firms' home country as controls: creditor rights index (CREDITORS) and common law dummy (COMMON_LAW) from La Porta, Lopez-de-Silanes, Shleifer and Visnhy (1997). We control for the level of economic development using GDP per capita, the level of financial development using the ratio of stock market capitalization to GDP, and the level of bank concentration using the ratio of assets of the 3 largest banks as a share of assets of all commercial banks in a country. Finally, we also include three variables of banking regulation in a country from the World Bank Survey: restrictions on bank ownership by non-financial firms (BANK_OWN_NFIN); a dummy variable that takes the value of one if there are restric-

tions to the entry of foreign banks (LIMITS_FOREIGN_BANK); and the percentage of government ownership in banks (PERCGOV_OWN_BANKS).¹² Finally, in alternative to these country-level variables we use country dummies (of the borrower and bank countries) in some specifications to take into account all the unobserved heterogeneity across countries.

4. Results

In this section, we present the methodology and results of our regression tests of the effects of bank-firm links in the lead arranger bank choice, features (pricing and non-pricing) of the loan contract, and performance of the loan in the global syndicated market.

4.1. Do Bank-Firm Links Affect The Choice of Lead Arranger Bank?

We first test whether bank-firm connections impact the choice of lead arranger bank in the syndicated loan market. We ask whether banks are more likely to arrange lending for firms where banks are insiders.

To test this possibility, for each firm j we focus on bank's i likelihood of winning the loan business or act as lead arranger. To economize on the size of the data set but still retain most of the loans, we keep only those loans where the lead arranger bank is ranked in the top 100 banks, as defined in "The Banker" ranking. So for each borrower firm, we create a choice set of 100 potential lead arrangers. In total, we form 205,500 bank-firm (i, j) pairs formed by combining $i = 1, \dots, 100$ (top banks) with $j = 1, \dots, 2055$ borrower firms with syndicated loans for which we are able to find Worldscope/Datastream financial information.¹³ To test whether a bank-firm link impacts the choice of lead arranger bank, we estimate the following logit model:

¹²Data available in http://www.worldbank.org/research/projects/bank_regulation.htm

¹³Bharath et al. (2007) also economize the size of data set by selecting top 40 banks in the U.S., while Yasuda (2005) uses top 15 banks active in Japan.

$$\text{Prob}(\text{DUMMY_LOAN}) = a_0 + a_1\text{BANK_INSIDER}_{i,j} + a_2Y_j + a_3X_i + \varepsilon_{i,j} \quad (1)$$

where the dependent variable is a dummy variable (DUMMY_LOAN) that equals one if bank i acts as lead arranger in at least one loan facility to firm j over the 2003-2006 period, and zero otherwise. The explanatory variable of interest is BANK_INSIDER, which indicates whether bank is insider at the beginning of the sample period (December 2002). We use three alternative types of bank-firm connections: (1) DUMMY_BANK_INBOARD that equals one if “Bank is on BOARD” i.e. there is at least one common board member between bank i and firm j board of directors; (2) DUMMY_BANK_INSIDER that equals one if “Bank is EQUITY Insider” i.e. bank i has a direct equity position in firm j ; and (3) DUMMY_BANK_INSTHOLDINGS that equals one if “Bank has INSTITUTIONAL holdings”, i.e. at least one institutional money manager (e.g. bank trusts, mutual funds) affiliated to bank i has an equity position in firm j . We control for other bank-level (X_i) and firm-level variables (Y_j).

Table 3 describes the sample used in the lead arranger bank choice tests. Panel A presents summary statistics. Panel B gives details of the sample for the 16 countries for which data is comprehensive (North America and Europe). Panel C gives details for the most active 30 banks

There are 5,977 bank-firm pairs with loans, for a total of 15,998 loans with a total amount of US\$3.5 trillion. We can see that from a total of 998 bank-firm board links in December 2002, 374 translate into a lending relationship (i.e. loan initiation) over the next 4-year period. There are fewer instances of bank equity holdings that translate into lending, but we still can find it in 62 bank-firm pairs. Finally, in 1,340 out of the 5,977 bank-firm pairs with loans the bank had an indirect equity position through affiliated institutional investors prior to the lending initiation..

Table 4 presents the results of the logit model for the lead arranger bank choice. The coefficients for the existence of a bank-firm link are positive and significant in all specifications

(DUMMY_BANK_INBOARD in columns (1), and (2), DUMMY_BANK_INSIDER in columns (4) and (6), and DUMMY_BANK_INSTHOLDINGS in columns (7) and (8)). Thus, banks are more likely to secure lending business from firms where they are insiders by holding board seats or having an equity stake directly and indirectly through its affiliated asset management companies.

We also consider continuous versions of the variables measuring the links between banks and firms. In column (3) we use the number of common board members (NUMBER_BANK_INBOARD). In column (6) we include the bank's direct insider stake as percentage of shares outstanding (BANK_INSIDER). In column (9) we use the bank's indirect stake through affiliated institutional holdings (BANK_INSTHOLDINGS). All these variables are also positively associated with the likelihood of the bank arranging loans for the firm in the syndicated loan market. Finally, in a final specification (see column (10)) we consider the three bank-firm link dummy variables jointly and find that the three links are positive and significant.

The regressions include other proxies of the relationship between firm and bank used in the literature. Using syndicated loan data, we construct a dummy variable (DUMMY_PAST_LOAN) which takes the value of one if there is a loan between the lead arranger bank and the borrower firm in the 5-year period prior to the beginning of our sample period (1998-2002). The existence of past loans is positively associated with the likelihood of the bank providing future loans to the same firm, which consistent with relationship banking (Bharath et al. (2007)). We also include a dummy variable that takes the value of one if the bank and firm are headquartered in the same geographical region (DUMMY_SAME_REGION) and we find evidence consistent with a home bias effect, i.e. borrowers tend to select local lead arranger banks (Houston et al. (2007)).

In all logit regressions we control for borrower firm characteristics such as size, leverage, tangibility and R&D expenditures and country (using country dummies or country-level variables). We also control for bank characteristics such as its rank in "The Banker", market

capitalization, return on equity, a dummy variable for European banks and bank country dummies.¹⁴

In Table 5 we run additional tests and check the robustness of the results in Table 5 also using a logit model of the lead arranger bank choice. We investigate whether the effects are stronger in “bank-based” countries (as proxied by market capitalization to GDP) and for borrowers facing higher information asymmetry (as proxied by firm size and tangibility). We find that the positive effect of bank-firm links through board seats is stronger for firms located in “bank-based” countries where they usually have access to less alternative financing choices (as shown by the negative and significant coefficient of the variable `DUMMY_BANK_INBOARD x MARKET_CAP_GDP` in column (1)). With respect to the degree of information asymmetry, we find evidence that the positive effect of bank-firm links through board seats is stronger for smaller firms that in general face higher information asymmetry (as shown by the negative and significant coefficient of the variable `DUMMY_BANK_INBOARD x LOG_SIZE` in column (1)).

We also check the robustness of our findings by estimating alternative specifications of the logit model in Table 4. The results are presented in columns (4)-(7) of Table 5. We run OLS regressions where the dependent variable is the number of loans from bank *i* to firm *j* (`NUMBER_LOAN` in column (4)), the logarithm of the number of loans (column (5)) and the logarithm of the dollar amount of loans (`AMOUNT_LOAN` in column (6)). In column (7) we run a Tobit model where the dependent variable is the share that loans from bank *i* to firm *j* represent of all loans received by firm *j* (`SHARE_LOAN`). Across all our tests, we confirm our main finding that an insider bank has an advantage in securing lending business to the connected firm relative to similar banks without such a connection to the firm.

¹⁴We also test each bank-firm link with only firm and bank fixed effects as in a conditional logit model, and the coefficients for bank-firm links are also positive and significant.

4.2. Do Bank-Firm Links Affect Loan Pricing and Non-Pricing Terms?

We have established that a link between the bank and the firm increases the probability of securing future lending business. In this section, we examine whether it lowers or increases the interest rate spread charged to the borrower firm and affects other non-pricing terms in the loan contract. We conduct our tests of the effects of bank-firm links on pricing and non-pricing terms of the loan contract at the loan facility level.

Table 6 presents summary statistics on the sample of loan facilities. Our sample consists of 15,619 loan facilities of syndicated loans for which we have loan characteristics, bank-firm link variables and information on the borrower’s firm from WorldScope/Datastream. When we also include bank characteristics in the regression the number of observations reduces to 13,817 facilities.

To test whether the borrower firm obtains loans with lower or higher loan interest rate spreads when there is a connection between the bank and the firm, we estimate the following regression:

$$\text{ALL_SPREAD_LOAN}_{i,j,k} = a_0 + a_1\text{BANK_INSIDER}_{i,j,k} + a_2Y_j + a_3Z_k + a_4X_i + \varepsilon_{i,j,k} \quad (2)$$

where the dependent variable is the all-in spread drawn of the loan facility (ALL_SPREAD_LOAN) that includes the spread over LIBOR plus annual fees and upfront fees pro-rated over the life of the loan. We control for borrower-firm characteristics (Y_j), loan characteristics (Z_k), and bank-level characteristics (X_i). Our explanatory variable of interest is BANK_INSIDER $_{i,j,k}$, i.e. whether bank is an insider at the end of the year prior to the loan initiation by having a board seat (DUMMY_BANK_INBOARD), an insider stake (DUMMY_BANK_INSIDER), and institutional holdings through its asset management arm (DUMMY_BANK_INSTHOLDINGS) in the borrower firm.

Table 7 presents the estimates of regression equation (2). We test each bank-firm link measure separately and then in a final specification in column (11) we consider the three bank-firm link variables jointly. Columns (1)-(4) present results for the loan pricing effects of a link through the board. Columns (5)-(7) test the effects of bank insider ownership. Columns (8)-(10) test the effects of institutional ownership by the bank affiliated money managers.

In some specifications we consider alternative (continuous) variables of the bank-firm link. We use the number of common board members (NUMBER_BANK_INBOARD) in column (3), the tenure of common board members (TENURE_BANK_INBOARD) in column (4), the level of insider ownership (BANK_INSIDER) in column (7), and the level of bank-affiliated institutional ownership (BANK_INSHOLDINGS) in column (10).

The coefficients on bank-firm links through board seats (DUMMY_BANK_INBOARD) are positive and significant in all specifications. The alternative board variables (number of board members and tenure) coefficients are also positive and significant. Additionally, we find that the existence of a link through bank affiliated institutions holding stock of the firm also seems to positively impact the loan spread. In contrast, the coefficients on bank insider ownership are insignificant at the 5% level. The specification that includes the three bank-firm link variables jointly confirms the findings of a positive loan spread effect of a link through boards or institutional money managers, but not through insider ownership.

The evidence here suggests that banks with board seats (and with holdings through their money management arm) are able to “capture” the firm as insider banks seem to charge uncompetitive interest rates to connected firms. This is consistent with the “information rent extraction” hypothesis, in that the information advantage the insider bank possesses may deter competition from other banks. These results are consistent with Kroszner and Strahan (2001) that U.S. banks do not favor their connected borrowers on loan pricing. Guner et al. (2006) also find no effect for U.S. firms, but these results differ from and Ciamarra (2007) who find that bank representation in boards of U.S. non-financial corporations decrease the

costs of borrowing. Santos and Wilson (2007) also find that banks charge lower rates on loans to firms in which they have a voting stake, and that the interest rate discount increases with the bank's voting stake. Finally, we do not find evidence of significant effects in terms of loan pricing when the bank is a direct shareholder, in contrast with the evidence for board seats or indirect equity positions.

The regressions also include other proxies of bank-firm relationship using transaction data such as past loan activity (DUMMY_PAST_LOAN) as in Bharath et al. (2007) and proximity (DUMMY_SAME_REGION) as in Houston et al. (2007). With respect to these alternative bank-firm relationship variables (DUMMY_PAST_LOAN and DUMMY_SAME_REGION) we find no evidence that they impact loan spreads. This finding is consistent with most of the previous literature on the effects of bank-firm relationships in loan pricing. An exception is the paper of Bharath et al. (2006) that finds evidence of lower loan spreads when borrowing from a relationship bank.

In all specifications in Table (7) we control for borrower firm characteristics and other non-pricing loan features. As expected, we find that spreads are lower for larger firms (LOG_SIZE), less levered (TOTAL_DEBT) and more profitable (PROFIT), while firm's stock risk (STDEV) tends to increase spreads. The regressions also include borrower firm industry dummies to account for heterogeneity across industries and year dummies.

We adjust for borrower credit quality using the rating notation converted into a numerical scale (RATING) and a dummy variable that equals one for firms without rating (UNRATED). In terms of loan characteristics, we control for loan size (LOG_AMOUNT_LOAN), whether loan has collateral (SECURED), loan maturity (LOG_MATURITY), and dummy variables indicating different stated purposes of financing (CORPURPOSE, BRIDGELOAN). We find that existence of a syndicate increases the interest rate spread but as more lenders participate in the loan deal the spread tends to be lower.

We also include some bank characteristics as controls such as bank ranking, size, profitability, and location. We find that larger banks (BANK_LOG_SIZE) charge higher inter-

est rate spreads. We do not find evidence that European banks (`BANK_EUROPE_DUMMY`) provide cheaper credit as in Carey and Nini (2006), which could potentially be explained by the different sample period and the additional controls in our specifications. To account for all the potential heterogeneity across lead arranger banks we also include bank fixed effects in some specifications.

Country factors such as legal environment and economic development can also have an effect on loan spreads (e.g. Qian and Strahan (2007) and Houston et al. (2007)). Therefore, we control for borrower country variables using alternatively country dummies and country-level variables. Consistent with Qian and Strahan (2007), we find that an increase in the index of creditor right's (`CRED`) reduces interest rate spreads.¹⁵

The existence of a connection between the lead arranger bank and the borrower could also potentially impact other loan non-pricing terms, such as the probability of inclusion of financial covenants or collateral, maturity, and the use of guarantor. We investigate the relation between these non-pricing loan terms and bank-firm links in Table 8. We estimate similar specifications to those in Table 7 for the loan spread. In the interest of space, Table 8 only present the results for the most complete specification that includes borrower firm control variables, loan control variables, and bank control variables. The regression also includes year, borrower firm industry and country, and bank dummies.

Columns (1)-(4) of Table 8 present the results of a probit model for the inclusion of collateral in the loan contract (`SECURED`). There is no evidence that any type of bank-firm link impact the collateral requirements of the loan.¹⁶

Columns (5)-(8) present the results of a probit model for the inclusion of dividend restrictions (`DIVRESTRICT`) a form of financial covenant. The coefficient on the dummy variable whether the bank is represented on the borrower board of directors is negative and significant at the 10% level. While there is some evidence that affiliated institutional ownership

¹⁵We obtain consistent results if we also include bank country dummies in the regressions.

¹⁶In DealScan, the “secured” variable is missing for a large number of cases. We follow prior studies (e.g. Ciamarra(2007)) and assumes that a missing value corresponds to a non-secured loan.

decreases the likelihood of the bank requiring dividend restrictions on the borrower firm, the effect of insider ownership is insignificant. Santos and Wilson (2007) also find that banks are less likely to impose dividend restrictions when they have control over a stake of the borrower's voting rights.

Columns (9)-(12) presents estimates of a probit model for the use of loan guarantor. We find that the likelihood of the bank requiring a guarantor is negatively related to presence of common board members. This offers some evidence that insider banks ease the terms of loans granted to connected firms. There is not similar evidence for the other type of bank-firm links.

Finally, columns (13)-(16) present results of regression where the dependent variable is the logarithm of the loan maturity. There is no evidence that a bank-firm link through the board seats impacts the loan maturity. We find that bank insider stakes and affiliated institutional ownership is associated with the use of shorter maturities when lending to a connected firm.

With respect to the alternative bank-firm relationship variables (DUMMY_PAST_LOAN and DUMMY_SAME_REGION), there is evidence that a past lending relationship tends to ease the non-pricing terms of future lending as it is less likely that there are dividend restrictions and guarantor. The findings for the bank-firm proximity variable are not consistent across loan terms.

So, overall, we conclude that there is some evidence that banks benefit from information rents by charging higher interest rate spreads, while there is no evidence of relaxing of non-pricing loan features.

4.3. Do Bank-Firm Links Affect Loan Concentration?

In this section, we examine the effects of bank-firm links on the number of lead arranger banks used by firms. If indeed the bank is able to capture the firm we expect to find a higher level of loan concentration, i.e. less lead arrangers being used by the connected borrower

firm. Under the “rent extraction” hypothesis, the bank presence as an insider can create a lemons problem in that other banks will be skeptical of the quality of firms that do not use their universal bank as lead arranger (Rajan (2002)). In fact, the presence of multiple banking relationships can allow firms to reduce the value of information acquisition to any one individual bank (Boot and Thakor (2000), Ongena and Smith (2000)).

Table 9 presents the results. We find strong evidence that the existence of bank-firm links at the board level is negatively associated with the number of lead arrangers and lenders used by firms. However, there is not consistent evidence that bank insider ownership and affiliated institutional ownership also increases loan concentration. These loan concentration regressions use the same set of control variables used in the previous tests of non-pricing loan terms.

4.4. What is the Ex-Post Credit Risk of Firms That Get Loans from Linked Banks?

In this section, we investigate the ex-post performance of syndicated loans, i.e. whether banks take on “good” or “bad” loans from firms where they are insiders. We therefore examine how the connected borrowers perform ex-post in terms of credit risk and default likelihood as compared to other borrowers without a connection to the bank.

We use the estimate of default probability (“EDF”) produced by Moody’s KMV CreditMonitor implementation of Merton’s (1974) structural model as a proxy for the level of credit risk of the borrower after loan initiation. KMV uses equity market information to determine a firm’s probability of default. EDF denotes Expected Default Frequency or the probability that a firm will default within one year, which by construction ranges from 0.02 to 20.00. The EDF is given as a percentage, so an EDF of 2.0 indicates a 2% probability of default over the next year.

The EDF data we use is restricted to European non-financial firms.¹⁷ Following Yu

¹⁷The sample used in this section is thus more limited than in previous sections. We thank Jose-Luis

(2007), we calculate two alternative measures of loan credit risk performance: (1) the change in EDF of the borrower firm from 1-year after the loan initiation to 2-year after; and (2) the change in EDF of the borrower firm from 1-year before the loan initiation to 2-year after. We then regress this ex-post measure of credit risk of the borrower firm on the existence of a bank-firm link at the time of loan origination. We estimate similar specifications to those in Tables 7-9 for loan spreads and non-pricing loan features. Table 10 presents the results for the most complete specification that includes all control variables.

We find that when the bank is represented on the board of directors or has a direct equity stake in the borrower firm, there is a lower probability of default in the years following the loan initiation. Indeed, the coefficients of the `DUMMY_BANK_INBOARD` and `DUMMY_BANK_INSIDER` variables are negative and significant at the 5% level. This finding suggests that banks take less risk when they potentially can exert an influence in the borrower. There is no similar evidence for a link through affiliated money managers.

So, overall, we find that banks face less credit risk in banks where these act as insiders. This favors their main interest as creditors but may not necessarily be aligned with the interest of other shareholders.

5. Conclusion

We provide evidence of the effects of bank-firm connections in the syndicated loan market around the world. Using a large sample of loans, we examine the effects of bank-firm connections established through board seats, and direct and indirect equity stakes (via stock holdings by institutional money managers affiliated to the bank group). We find that insider banks lend out more to firms to which they are connected to, charge higher interest rate spreads (even if easing some other loan non-pricing terms), and incur in less credit risk subsequent to the loan initiation. Thus, the influence banks exercise over corporations seems to accrue mostly to the banks' benefit.

Peydro for making this data available to us for this study.

Our findings illustrate the importance of bank-firm links in financial intermediation. Few regulatory issues have been as controversial as the separation of investment and commercial banking. Unlike regulations on bank capital requirements, where Basel accords have harmonized capital-asset ratios around the world, there is no similar international coordination on regulation of bank control over non-financial firms in the form of board seats, equity stakes or indirect stock holdings through bank-affiliated asset management business. The findings in this paper suggest the existence of conflicts of interest between the role of lender and that of insider in the firm.

We leave several issues unexplored that warrant further research. For example, the special bank-firm relationships we document can provide uninterrupted access to funding and may allow firms to avoid financial distress. Extensions of this paper will help to have a more complete picture of the effects of banks as insiders of firms around the world.

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Table 1
Top 30 Banks in the Global Syndicated Loan Market

This table presents the top lead arranger banks ranked by number of firms to which they arranged loans in the 2003-2006 period. There is double-counting in the number of loan facilities as many times as the number of lead arranger banks involved in each facility.

Bank	Country	The Banker Rank	Loans as Lead Arranger Bank	
			Number of firms	Number of loan facilities
JP Morgan Chase	US	2	745	2,700
Citigroup	US	1	633	2,561
Bank of America	US	4	603	1,461
BNP Paribas	France	10	367	1,793
Royal Bank of Scotland	UK	6	322	1,733
ABN AMRO Bank	Netherlands	20	319	1,429
HSBC Holdings	UK	3	314	1,497
Barclays Bank	UK	13	304	1,449
Credit Agricole Groupe	France	5	299	1,358
Deutsche Bank	Germany	21	277	1,568
Societe Generale	France	23	236	1,101
Credit Suisse Group	Switzerland	27	198	653
Wachovia Corporation	US	18	198	484
ING Bank	Netherlands	17	191	1,121
Mitsubishi Tokyo Financial Group	Japan	7	154	387
Mizuho Financial Group	Japan	8	149	574
Sumitomo Mitsui Financial Group	Japan	15	138	387
UniCredit	Italy	39	133	1,125
Banco Bilbao Vizcaya Argentaria	Spain	33	119	401
Fortis Bank	Belgium	34	119	228
Commerzbank	Germany	45	118	497
Lloyds TSB Group	UK	26	112	208
Nordea Group	Sweden	44	105	303
Rabobank Group	Netherlands	14	101	319
UBS	Switzerland	19	100	215
Bayerische Landesbank	Germany	50	93	493
Groupe Banques Populaires	France	36	92	207
Skandinaviska Enskilda Banken	Sweden	86	83	245
HBOS	UK	9	79	577
Danske Bank	Denmark	53	77	122

Table 2
Detail of Bank-Firm Links on Selected Top Banks

This table shows bank-borrower links for 6 selected banks as measured in December 2002 and the subsequent loans arranged in the 2003-2006 period. "Bank is on BOARD" lists the top 10 industrial firms in which the bank has the highest number of common board members. "Bank is EQUITY Insider" lists the top 10 direct equity positions of each bank. Our tests consider only non-financial firms, so entries denoted as "-" denote firms that are not included in our sample. "Bank has INSTITUTIONAL holdings" lists the top 10 holdings by institutional money managers (e.g. bank trusts, mutual funds) affiliated to the bank group.

Bank	Bank-Firm Link			Bank is LENDER (number and amount of loan facilities 2003-2006)
	Bank is on BOARD (number board members Dec-2002)	Bank is EQUITY insider (US\$ value of position Dec-2002)	Bank has INSTITUTIONAL hold. (US\$ value of position Dec-2002)	
JP MORGAN	HONEYWELL INTL (3)	-	EXXON MOBIL (\$709 mln)	WAL-MART (10 loans; \$23 bln; 83% financ.)
CHASE (US)	WYETH INC (3)	-	BP PLC (\$350 mln)	E ON (11 loans; \$13 bln; 16% financ.)
	EXXON MOBIL (2)	-	ALTRIA GROUP (\$340 mln)	CONSTELLATION (22 loans; \$11 bln; 64% financ.)
	MERCK CO (2)	-	VODAFONE GR. PLC (\$298 mln)	IBM (3 loans; \$11 bln; 50% financ.)
	MOTOROLA INC (2)	... no positions ..	SAMSUNG ELECT. (\$225 mln)	VERIZON (4 loans; \$11 bln; 50% financ.)
	PFIZER INC (2)	-	ABBOTT LAB. (\$220 mln)	EXXON MOBIL (4 loans; \$10 bln; 30% financ.)
	RYDER SYSTEM INC (2)	-	NOKIA OYJ (\$185 mln)	BELLSOUTH (6 loans; \$10 bln; 85% financ.)
	VERIZON (2)	-	ENI (\$169 mln)	FORD MOTOR CO (3 loans; \$10 bln; 30% financ.)
	ANHEUSER-BUSCH (1)	-	BNP PARIBAS (\$169 mln)	AUTOMATIC DATA (7 loans; \$10 bln; 53% financ.)
	AVON PRODUCTS INC (1)	-	BELLSOUTH CORP (\$140 mln)	BOEING CO (11 loans; \$8 bln; 50% financ.)
ROYAL	BANCO SANTANDER CH (3)	-	EXXON MOBIL (\$2 mln)	VODAFONE PLC (6 loans; \$10 bln; 10% financ.)
BANK OF	SCOTTISH INV TRUST (2)	-	BP PLC (\$2 mln)	CONOCOPHILLIPS (5 loans; \$9 bln; 23% financ.)
SCOTLAND	AVIVA (1)	-	C.R. BARD INC (\$1 mln)	E ON (2 loans; \$8 bln; 2% financ.)
(UK)	BP (1)	-	VODAFONE GR. PLC (\$1 mln)	GALA INC (33 loans; \$5 bln; 33% financ.)
	BT GROUP (1)	... no positions ..	AUSTRALIAN GAS (\$0 mln)	TELEFONICA SA (9 loans; \$4 bln; 5% financ.)
	CEPSA (1)	-	AMCOR LIMITED (\$0 mln)	LINDE AG (4 loans; \$4 bln; 11% financ.)
	ERICSSON (1)	-	NOKIA OYJ (\$0 mln)	SUPERVALU INC. (3 loans; \$4 bln; 42% financ.)
	OLD MUTUAL (1)	-	TOYOTA (\$0 mln)	GRUPO FERROVIAL (11 loans; \$3 bln; 9% financ.)
	TRINITY MIRROR (1)	-	ENI (\$0 mln)	PIRELLI SPA (9 loans; \$3 bln; 7% financ.)
	YELL GROUP (1)	-	BELLSOUTH CORP (\$0 mln)	XSTRATA AG (9 loans; \$3 bln; 16% financ.)
DEUTSCHE	E.ON AG (3)	<i>ALLIANZ AG (\$808mln)</i>	EXXON MOBIL (\$885mln)	E ON (7 loans; \$12 bln; 10% financ.)
BANK	BASF AG (2)	<i>SAN PAOLO IMI SPA (\$438mln)</i>	BP PLC (\$760mln)	VNU NV (9 loans; \$7 bln; 18% financ.)
(Germany)	BAYER AG (2)	LINDE AG (\$436mln)	VODAFONE GR. PLC (\$690mln)	LINDE AG (8 loans; \$5 bln; 23% financ.)
	HEIDELBERGER DR AG (2)	<i>SUEDZUCKER AG (\$142mln)</i>	NESTLE S.A. (\$569mln)	OWENS-ILLINOIS (20 loans; \$4 bln; 58% financ.)
	HENKEL KGAA (2)	<i>EUROHYPO AG (\$125mln)</i>	SIEMENS AG (\$477mln)	XSTRATA AG (13 loans; \$4 bln; 23% financ.)
	LINDE AG (2)	<i>DEUTZ AG (\$30mln)</i>	BAYER AG (\$414mln)	ENEL SPA (10 loans; \$4 bln; 17% financ.)
	SIEMENS AG (2)	<i>WMF (\$21mln)</i>	NOKIA OYJ (\$394mln)	CELANESE AG (12 loans; \$4 bln; 100% financ.)
	DAIMLERCHRYSLER AG (1)	<i>DEUTSCHE BETEILIG. (\$17mln)</i>	SAMSUNG ELECT. (\$390mln)	TELEFONICA SA (9 loans; \$4 bln; 5% financ.)
	SAINT GOBAIN (1)	OCEAN RIG ASA (\$11mln)	BASF AG (\$372mln)	SAINT GOBAIN (3 loans; \$3 bln; 14% financ.)
	TUI AG (1)	-	ABBOTT LAB. (\$358mln)	INVENSYS AG (12 loans; \$3 bln; 37% financ.)

Table 2: continued

Bank	Bank-Firm Link			Bank is LENDER (number and amount of loan facilities 2003-2006)
	Bank is on BOARD (number board members Dec-2002)	Bank is EQUITY insider (US\$ value of position Dec-2002)	Bank has INSTITUTIONAL hold. (US\$ value of position Dec-2002)	
SOCIETE GENERALE (France)	ALCATEL-LUCENT (2)	TOTAL SA (\$650mln)	BNP PARIBAS (\$151mln)	VIVENDI SA (11 loans; \$7 bln; 13% financ.)
	GEODIS (2)	PEUGEOT SA (\$300mln)	CARREFOUR (\$105mln)	SANOFI-AVENTIS (2 loans; \$6 bln; 20% financ.)
	VIVENDI SA (2)	<i>BANQUE TARNEAUD SA (\$133mln)</i>	SUEZ (\$91mln)	GAS NATURAL (3 loans; \$5 bln; 17% financ.)
	ALSTOM (1)	<i>KOMERCNI BANKA AS (\$129mln)</i>	SANOFI-AVENTIS (\$89mln)	MERCK CO. (5 loans; \$5 bln; 35% financ.)
	ALTADIS SA (1)	ACCOR SA (\$110mln)	NOKIA OYJ (\$88mln)	TELEFONICA SA (9 loans; \$4 bln; 5% financ.)
	GROUPE DANONE (1)	<i>BOURSORAMA SA (\$49mln)</i>	VIVENDI SA (\$83mln)	ARCELOR SA (9 loans; \$3 bln; 7% financ.)
	PERNOD RICARD (1)	<i>MANITOU BF SA (\$25mln)</i>	BP PLC (\$80mln)	VOLKSWAGEN AG (2 loans; \$3 bln; 6% financ.)
	PEUGEOT SA (1)	<i>ORPEA (\$18mln)</i>	ENI (\$74mln)	BADEN-WURT (6 loans; \$3 bln; 25% financ.)
	SCHLUMBERGER LTD (1)	<i>GROUPE GASCOGNE SA (\$7mln)</i>	VODAFONE GR. PLC (\$65mln)	RWE AG (4 loans; \$2 bln; 16% financ.)
	VEOLIA ENVIRON. (1)		DANONE (\$61mln)	BMW AG (4 loans; \$2 bln; 14% financ.)
ING BANK (Netherlands)	AKZO NOBEL NV (2)	UNILEVER NV (\$738mln)	UNILEVER N.V. (\$386mln)	ARCELOR SA (3 loans; \$1 bln; 2% financ.)
	CSM NV (2)	<i>KOOKMIN BANK (\$463mln)</i>	VODAFONE GR. PLC (\$274mln)	FRANCE TELECOM (8 loans; \$1 bln; 4% financ.)
	AHOLD NV (1)	<i>EUROCOMM (\$267mln)</i>	PHILIPS ELECT. NV (\$247mln)	AHOLD NV (7 loans; \$1 bln; 8% financ.)
	BUHRMANN NV (1)	WOLTERS KLUWER NV (\$258mln)	NOKIA OYJ (\$244mln)	KABEL NEW MEDIA. (6 loans; \$1 bln; 13% financ.)
	DSM NV (1)	<i>ABN AMRO NV (\$196mln)</i>	BP PLC (\$233mln)	LIBERTY PLC (18 loans; \$1 bln; 20% financ.)
	GETRONICS NV (1)	NUMICO NV (\$190mln)	NESTLE S.A. (\$215mln)	PIRELLI SPA (3 loans; \$0 bln; 2% financ.)
	HEINEKEN NV (1)	CSM NV (\$116mln)	EXXON MOBIL (\$179mln)	CEMEX S.A. (5 loans; \$0 bln; 3% financ.)
	OCE NV (1)	<i>ING BANK SLASKI SA (\$104mln)</i>	KPN NV (\$155mln)	VNU NV (5 loans; \$0 bln; 10% financ.)
	RANDSTAD HOLDING NV (1)	NUTRECO HLD NV (\$45mln)	ENI (\$150mln)	PEUGEOT S.A. (2 loans; \$0 bln; 6% financ.)
	TESSENDERLO CHEMIE (1)	VOPAK NV (\$41mln)	AHOLD NV (\$121mln)	CHARBONNAGES (2 loans; \$0 bln; 20% financ.)
BANCO BILBAO VIZCAYA ARGENTARIA (Spain)	TELEFONICA SA (7)	<i>BNL (\$355mln)</i>	TELEFONICA SA (\$116mln)	ARCELOR SA (5 loans; \$2 bln; 4% financ.)
	REPSOL YPF SA (3)	TELEFONICA SA (\$266mln)	VODAFONE GR. PLC (\$92mln)	HOCHTIEF AG (4 loans; \$2 bln; 26% financ.)
	ACERINOX SA (2)	<i>BBVA BANCO FRANCES (\$173mln)</i>	NOKIA OYJ (\$85mln)	TELEFONOS MEX. (7 loans; \$1 bln; 24% financ.)
	IBERDROLA SA (2)	REPSOL YPF SA (\$131mln)	REPSOL-YPF SA (\$66mln)	VIVENDI SA (6 loans; \$1 bln; 7% financ.)
	ACCIONA SA (1)	IBERIA (\$125mln)	ENDESA SA (\$58mln)	CEMEX S.A. (16 loans; \$1 bln; 10% financ.)
	GAS NATURAL SDG SA (1)	IBERDROLA SA (\$114mln)	BP PLC (\$55mln)	TELEFONICA SA (4 loans; \$1 bln; 2% financ.)
	IBERIA (1)	TUBOS REUNIDOS SA (\$106mln)	IBERDROLA S.A. (\$52mln)	FRANCE TELECOM (4 loans; \$1 bln; 2% financ.)
	LAFARGE (1)	CEMENTOS LEMONA (\$16mln)	BNP PARIBAS (\$48mln)	ENDESA SA (14 loans; \$1 bln; 10% financ.)
	PRISA SA (1)		BRISA S.A. (\$46mln)	GR. FERROVIAL (15 loans; \$1 bln; 13% financ.)
	SOGECABLE SA (1)		NESTLE S.A. (\$36mln)	CARREFOUR (3 loans; \$1 bln; 12% financ.)

Table 3
Summary Statistics of Bank-Firm Pairs Sample

This table presents summary statistics on dataset of 256,000 all bank-firm (i, j) pairs formed by combining $i = 1, \dots, 100$ top banks (as defined by the “The Banker” ranking) with $j = 1, \dots, 2526$ firms with syndicated loans in LPC/DealScan for which we are able to obtain accounting and financial information on the borrower firm in Datastream/Worldscope. Financial borrowers (SIC 6000-6999) are excluded. The sample period is from 2003 to 2006. Definitions of variables are detailed in the Appendix. Variables are winsorized at the bottom and top 1% level.

Panel A: Sample Variables Summary Statistics					
	Mean	Std Dev	Min	Max	Obs
Loan Variables					
DUMMY_LOAN	0.029	0.168	0	1	205,500
NUMBER_LOAN	0.078	0.606	0	33	205,500
AMOUNT_LOAN	17	230	0	26,000	205,456
AMOUNT_LOAN_SHARE	0.010	0.078	0	1.000	188,400
Bank-Firm Link Variables					
DUMMY_BANK_INBOARD	0.005	0.070	0	1	205,500
NUMBER_BANK_INBOARD	0.007	0.123	0	8	205,500
TENURE_BANK_INBOARD	0.010	0.291	0	43	205,500
DUMMY_BANK_INSIDER	0.001	0.025	0	1	205,500
BANK_INSIDER	0.000	0.001	0	0.320	205,500
DUMMY_BANK_INSTHOLDINGS	0.038	0.192	0	1	205,500
BANK_INSTHOLDINGS	0.000	0.002	0	0.139	205,500
DUMMY_PAST_LOAN	0.014	0.149	0	8	205,500
DUMMY_SAME_REGION	0.276	0.447	0	1	205,500
Borrower Firm Control Variables					
LOG_SIZE	14.153	1.614	9.024	17.946	205,500
TOTAL_DEBT	0.319	0.181	0	0.940	205,500
SHORT_DEBT	0.251	0.266	0	1	205,500
TANG	0.381	0.239	0	0.931	205,500
R&D	0.011	0.025	0	0.145	205,500
MB	1.801	1.414	0	5.628	205,500
PROFIT	0.030	0.088	-0.218	0.189	205,500
INTCOV	11.310	15.499	-1.304	66.169	205,500
NWCAPITAL	1.047	1.608	-0.098	6.752	205,500
STDEV	0.487	0.263	0	1.806	205,500
PAYOUT	0.463	1.100	-3.154	5.872	205,500
Bank Control Variables					
RANK_BANK	50.500	28.866	1.000	100.000	205,500
BANK_LOG_SIZE	16.474	1.085	13.054	19.050	147,960
BANK_ROE	10.802	13.346	-66.880	25.600	150,015
BANK_EUROPE_FUMMY	0.500	0.500	0	1	205,500
Borrower Firm Country Control Variables					
CREDITORS	1.558	1.083	0	4	204,900
COMMON_LAW	0.700	0.458	0	1	205,500
LOG_GDPC	10.139	0.751	6.155	10.785	198,400
BANK_CONCENTRATION	0.393	0.224	0.230	0.989	204,900
MARKETCAP_GDP	1.067	0.420	0.136	2.980	204,900
BANK_OWN_NFIN	2.560	0.727	1	4	202,900
LIMITS_FOREIGN_BANK	2.978	0.147	2	3	202,900
PERCGOV_OWN_BANKS	4.491	12.5	0	75.3	202,200

Table 3: continued

Panel B: Summary Statistics by Country											
Country	Number of firms	Firm-bank pairs	Firm-bank pairs with loan	Total amount of loans (US\$ bln)	Total number of loans	Firm-bank pairs with banker on board	Firm-bank pairs with banker on board & loan	Firm-bank pairs with bank insider stake	Firm-bank pairs with bank insider stake & loan	Firm-bank pairs with bank affiliated inst. holdings	Firm-bank pairs with bank affiliated inst. holdings & loan
Australia	48	4,800	188	44.1	593	52	20	0	0	175	19
Austria	6	600	23	3.4	24	4	1	0	0	24	4
Belgium	9	900	39	15.1	66	10	7	1	1	85	24
Canada	56	5,600	87	48.7	178	37	10	5	1	326	26
Denmark	8	800	47	24.1	147	5	2	2	1	74	18
Finland	20	2,000	86	23.8	114	9	6	0	0	232	44
France	71	7,100	446	250.0	1,266	132	67	8	5	848	240
Germany	54	5,400	267	325.0	899	112	39	5	4	649	106
Italy	23	2,300	121	104.0	478	22	13	4	1	186	41
Luxembourg	2	200	28	50.3	135	2	2	0	0	28	18
Netherlands	38	3,800	233	80.0	571	62	38	28	15	397	84
Norway	17	1,700	62	16.8	123	5	3	3	0	118	30
Spain	36	3,600	251	153.0	974	25	17	19	13	449	131
Sweden	26	2,600	155	34.9	270	30	21	0	0	341	87
UK	136	13,600	621	195.0	1,527	92	28	6	1	1,335	226
US	1,137	113,700	2,057	1,820.0	5,348	397	100	0	0	946	89
Other	368	36,800	1,266	310.0	3,275	2	0	48	20	1,649	153
Total	2,055	205,500	5,977	3,500.0	15,988	998	374	129	62	7,862	1,340

Table 3: continued

Panel C: Summary Statistics by Bank (Top 30 Banks)											
Bank	Country	The Banker Rank	Firms with loans	Total number of loans	Total amount of loans (US\$ bln)	Bank in board	Bank in board & loan	Bank with insider stake	Bank with insider stake & loan	Bank with affiliated institutional holdings	Bank with affiliated institutional holdings & loan
JP Morgan Chase	US	2	617	1,823	730	57	45	0	0	391	112
Citigroup	US	1	529	1,554	579	54	34	3	2	0	0
Bank of America Cor	US	4	510	1,277	350	42	23	0	0	189	43
Royal Bank of Scotland	UK	6	222	736	135	9	5	0	0	4	1
BNP Paribas	France	10	270	676	128	33	26	0	0	245	119
ABN AMRO Bank	Netherlands	20	244	646	109	34	20	1	1	290	84
Deutsche Bank	Germany	21	204	638	164	53	22	12	3	304	85
Credit Agricole Groupe	France	5	218	628	83	17	16	1	1	199	83
HSBC Holdings	UK	3	235	605	104	25	11	2	0	224	98
Barclays Bank	UK	13	216	601	125	17	7	0	0	242	91
Societe Generale	France	23	163	468	83	27	18	4	3	198	74
Wachovia Corporation	US	18	175	436	102	18	5	0	0	115	7
Credit Suisse Group	Switzerland	27	125	401	102	18	3	0	0	220	29
ING Bank	Netherlands	17	134	328	30	22	12	13	9	224	46
UniCredit	Italy	39	85	303	37	19	9	0	0	268	36
Mizuho Financial Group	Japan	8	93	237	21	0	0	10	6	0	0
Banco Bilbao Vizcaya Argentaria	Spain	33	78	224	31	14	10	5	4	122	30
Mitsubishi Tokyo Fin. Group	Japan	7	99	221	28	0	0	12	5	22	6
Santander Central Hispano	Spain	12	47	197	31	14	5	1	0	102	28
Commerzbank	Germany	45	77	191	38	21	11	1	1	208	33
Sumitomo Mitsui Fin. Group	Japan	15	85	184	16	0	0	13	7	0	0
Rabobank Group	Netherlands	14	59	170	16	0	0	4	2	95	8
Groupe Banques Populaires	France	36	74	169	21	8	7	0	0	144	32
UBS	Switzerland	19	76	143	49	12	3	0	0	332	28
Fortis Bank	Belgium	34	67	142	21	18	8	8	3	234	31
Lloyds TSB Group	UK	26	62	131	15	19	7	1	1	168	26
Nordea Group	Sweden	44	61	129	18	9	8	1	1	134	41
Standard Chartered	UK	74	55	127	6	11	1	0	0	0	0
SunTrust Banks	US	61	51	114	24	0	0	0	0	71	1
HBOS	UK	9	30	113	10	8	0	1	0	171	11

Table 4
Bank-Firm Links and Lead Arranger Bank Choice

This table presents results for a logit model of whether the existence of a bank-firm (i, j) link (through a common BOARD member, an EQUITY insider position or INSTITUTIONAL holdings) affects the probability that firm j chooses bank i as lead arranger on the syndicated loan market. Dependent variable is DUMMY_LOAN which equals one if bank i acted as lead arranger in at least one loan facility to firm j . Financial borrowers (SIC 6000-6999) are excluded. The sample period is from 2003 to 2006. Definitions of variables are detailed in the Appendix. Robust t -statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bank-Firm Link Variables										
DUMMY_BANK_INBOARD	1.4068 (13.81)	1.4231 (14.03)								1.2969 (12.56)
NUMBER_BANK_INBOARD			0.8920 (10.95)							
TENURE_BANK_INBOARD										
DUMMY_BANK_INSIDER				1.5784 (5.67)	1.6103 (5.48)					1.2873 (4.53)
BANK_INSIDER						0.1852 (5.37)				
DUMMY_BANK_INSTHOLDINGS							0.7803 (15.57)	0.7805 (15.54)		0.7379 (14.56)
BANK_INSTHOLDINGS									61.5140 (11.09)	
DUMMY_PAST_LOAN	2.4830 (32.02)	2.4347 (31.32)	2.4803 (31.93)	2.5061 (32.44)	2.4573 (31.83)	2.5712 (28.66)	2.4936 (32.22)	2.4498 (31.48)	2.4937 (32.40)	2.4704 (31.72)
DUMMY_SAME_REGION	1.7640 (38.65)	1.6564 (40.99)	1.7696 (38.69)	1.8129 (39.74)	1.7017 (42.23)	1.8133 (34.72)	1.7625 (38.14)	1.6421 (40.61)	1.7992 (39.16)	1.7097 (37.03)
Borrower Firm Variables										
LOG_SIZE	0.2038 (17.32)	0.2166 (18.71)	0.2053 (17.49)	0.2230 (19.16)	0.2350 (20.49)	0.2215 (16.69)	0.1670 (13.65)	0.1794 (14.92)	0.2238 (19.03)	0.1521 (12.32)
TOTAL_DEBT	0.3115 (2.38)	0.2252 (1.74)	0.3128 (2.39)	0.3081 (2.35)	0.2028 (1.57)	0.3356 (2.26)	0.2524 (1.93)	0.1532 (1.18)	0.3028 (2.29)	0.2681 (2.04)
SHORT_DEBT	-0.3150 (-4.18)	-0.2423 (-3.21)	-0.3206 (-4.25)	-0.3018 (-4.02)	-0.2306 (-3.07)	-0.3387 (-3.87)	-0.2768 (-3.68)	-0.2266 (-3.00)	-0.3066 (-4.04)	-0.2855 (-3.78)
TANG	0.1174 (1.42)	0.0308 (0.37)	0.1150 (1.39)	0.1244 (1.50)	0.0297 (0.36)	0.2458 (2.55)	0.0588 (0.71)	-0.0109 (-0.13)	0.1330 (1.60)	0.0567 (0.69)
R&D	-0.2751 (-0.35)	-1.4445 (-1.86)	-0.2741 (-0.35)	0.0804 (0.11)	-1.1111 (-1.46)	0.6768 (0.78)	-0.8203 (-1.06)	-2.0179 (-2.60)	-0.0602 (-0.08)	-1.1023 (-1.39)
MB	0.0229 (1.72)	0.0128 (0.97)	0.0238 (1.79)	0.0266 (2.00)	0.0156 (1.19)	0.0541 (3.47)	0.0145 (1.07)	0.0053 (0.40)	0.0271 (2.03)	0.0120 (0.88)
PROFIT	0.1269 (0.51)	0.4621 (1.81)	0.1135 (0.46)	0.1340 (0.54)	0.4716 (1.84)	0.5698 (1.86)	-0.0126 (-0.05)	0.3377 (1.34)	0.1011 (0.40)	-0.0311 (-0.13)
INTCOV	-0.0019 (-1.08)	-0.0025 (-1.48)	-0.0017 (-0.97)	-0.0019 (-1.08)	-0.0026 (-1.54)	-0.0025 (-1.25)	-0.0023 (-1.35)	-0.0030 (-1.73)	-0.0020 (-1.13)	-0.0022 (-1.26)
NWCAPITAL	0.0175 (1.04)	0.0057 (0.34)	0.0164 (0.98)	0.0157 (0.94)	0.0032 (0.19)	0.0165 (0.84)	0.0134 (0.80)	0.0027 (0.16)	0.0149 (0.89)	0.0163 (0.97)
STDEV	0.1774 (2.07)	0.1957 (2.31)	0.1756 (2.05)	0.1747 (2.04)	0.1910 (2.26)	0.2769 (2.81)	0.1452 (1.67)	0.1790 (2.09)	0.1549 (1.77)	0.1472 (1.70)
PAYOUT	0.0292 (1.76)	0.0113 (0.68)	0.0294 (1.77)	0.0308 (1.87)	0.0127 (0.77)	0.0278 (1.47)	0.0277 (1.68)	0.0120 (0.73)	0.0293 (1.77)	0.0282 (1.70)

Table 4: continued

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bank Control Variables										
RANK_BANK	-0.0315	-0.0313	-0.0314	-0.0312	-0.0310	-0.0317	-0.0305	-0.0302	-0.0307	-0.0306
	(-17.36)	(-17.12)	(-17.24)	(-17.29)	(-17.03)	(-15.19)	(-16.97)	(-16.71)	(-17.04)	(-16.90)
BANK_LOG_SIZE	0.3723	0.3740	0.3833	0.3846	0.3869	0.3803	0.3887	0.3912	0.3979	0.3796
	(9.19)	(9.16)	(9.44)	(9.50)	(9.46)	(8.12)	(9.58)	(9.56)	(9.78)	(9.34)
BANK_ROE	-0.0189	-0.0200	-0.0193	-0.0193	-0.0204	-0.0207	-0.0195	-0.0207	-0.0195	-0.0194
	(-7.63)	(-7.97)	(-7.81)	(-7.68)	(-7.98)	(-7.17)	(-7.86)	(-8.19)	(-7.87)	(-7.75)
BANK_EUROPE_DUMMY	-0.1541	-0.2706	-0.1802	-0.2450	-0.3526	0.6106	-0.2868	-0.3991	-0.2186	-0.1919
	(-0.82)	(-1.44)	(-0.96)	(-1.31)	(-1.88)	(2.26)	(-1.52)	(-2.11)	(-1.17)	(-1.02)
Borrower Firm Country Variables										
CREDITORS		0.0918			0.0791			0.0643		
		(4.37)			(3.74)			(3.03)		
COMMON_LAW		-0.2689			-0.2271			-0.1752		
		(-4.18)			(-3.49)			(-2.69)		
LOG_GDPC		-0.5901			-0.5890			-0.5752		
		(-18.15)			(-18.08)			(-17.45)		
BANK_CONCENTRATION		0.9286			0.9538			0.8808		
		(8.67)			(8.85)			(8.13)		
MARKET_CAP_GDP		0.2267			0.2171			0.1736		
		(4.22)			(4.01)			(3.16)		
BANK_OWN_NFIN		-0.0045			-0.0153			0.0238		
		(-0.14)			(-0.48)			(0.73)		
LIMITS_FOREIGN_BANK		0.1871			0.1715			0.1690		
		(1.56)			(1.42)			(1.38)		
PERCGOV_OWN_BANKS		-0.0055			-0.0047			-0.0045		
		(-2.96)			(-2.55)			(-2.38)		
Borrower firm country dummies	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Bank country dummies	Yes									
Observations	144,485	139,373	144,485	144,485	139,373	111,962	144,485	139,373	144,485	144,485

Table 5
Bank-Firm Links and Lead Arranger Bank Choice: Additional Tests

This table presents results for a logit model of whether the existence of a bank-firm (i, j) link (through a common BOARD member, an EQUITY insider position or INSTITUTIONAL holdings) affects the probability that firm j chooses bank i as lead arranger on the syndicated loan market. Dependent variable is alternatively DUMMY_LOAN which equals one if bank i acted as lead arranger in at least one loan facility to firm j , the number of loans from bank i to firm j , the log of the number of loans, the log of amount of loans, and the share that loans from bank i to firm j represent of all loans of firm j . All regressions include borrower firm control variables, bank control variables, and borrower firm country control variables (coefficients not shown). Financial borrowers (SIC 6000-6999) are excluded. The sample period is from 2003 to 2006. Definitions of other variables are detailed in the Appendix. Robust t -statistics are in parentheses.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent Variable	Logit DUMMY LOAN	Logit DUMMY LOAN	Logit DUMMY LOAN	OLS NUMBER LOAN	OLS NUMBER LOAN (log)	OLS AMOUNT LOAN (log)	Tobit AMOUNT LOAN (log)
Bank-Firm Link Variables							
DUMMY_BANK_INBOARD	8.1517 (7.36)			0.5920 (9.15)	0.2442 (12.37)	3.9405 (13.68)	0.3288 (10.51)
DUMMY_BANK_INSIDER		0.7035 (0.18)		0.7993 (3.54)	0.3193 (4.77)	4.6205 (5.28)	0.3720 (4.25)
DUMMY_BANK_INSTHOLDINGS			2.2705 (4.71)	0.1772 (11.00)	0.0829 (15.68)	1.5206 (18.58)	0.2179 (12.87)
DUMMY_PAST_LOAN	2.4762 (31.09)	2.4610 (31.82)	2.6240 (30.14)	1.3508 (30.67)	0.5101 (39.83)	7.4227 (39.3910)	0.5860 (43.2240)
DUMMY_SAME_REGION	1.6542 (40.83)	1.7013 (42.23)	1.6197 (40.17)	0.1269 (23.70)	0.0562 (31.55)	(0.93) 34.7450	(0.57) 38.4800
Interactions							
DUMMY_BANK_INBOARD × DUMMY_PAST_LOAN	-0.9277 (-3.56)						
DUMMY_BANK_INBOARD × MARKET_CAP_GDP	-2.0079 (-6.11)						
DUMMY_BANK_INBOARD × CREDITORS	-0.0137 (-0.18)						
DUMMY_BANK_INBOARD × LOG_SIZE	-0.2836 (-4.37)						
DUMMY_BANK_INBOARD × PAYOUT	-0.0099 (-0.13)						
DUMMY_BANK_INBOARD × TANG	-0.6372 (-1.39)						
DUMMY_BANK_INSIDER × DUMMY_PAST_LOAN		-1.6400 (-1.93)					
DUMMY_BANK_INSIDER × MARKETCAP_GDP		-0.2763 (-0.21)					
DUMMY_BANK_INSIDER × CREDITORS		-0.4685 (-1.10)					
DUMMY_BANK_INSIDER × LOG_SIZE		0.1924 (0.90)					
DUMMY_BANK_INSIDER × PAYOUT		1.3171 (1.65)					
DUMMY_BANK_INSIDER × TANG		-2.6130 (-1.43)					
DUMMY_BANK_INSTHOLDINGS × DUMMY_PAST_LOAN			-0.9550 (-5.66)				
DUMMY_BANK_INSTHOLDINGS × MARKET_CAP_GDP			-0.1063 (-1.11)				
DUMMY_BANK_INSTHOLDINGS × CREDITORS			-0.2018 (-6.15)				
DUMMY_BANK_INSTHOLDINGS × LOG_SIZE			-0.0532 (-1.87)				
DUMMY_BANK_INSTHOLDINGS × PAYOUT			0.0184 (0.45)				
DUMMY_BANK_INSTHOLDINGS × TANG			-0.1647 (-0.87)				
Borrower firm country dummies	No	No	No	Yes	Yes	Yes	Yes
Bank country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	139,373	139,373	139,373	147,960	147,960	147,918	135,648
R-squared				0.179	0.23	0.232	

Table 6
Summary Statistics of Loan-Level Sample

This table presents summary statistics on the dataset of syndicated loan facilities in LPC/DealScan for which we are able to obtain accounting and financial information on the borrower firm in Datastream/Worldscope. Financial borrowers (SIC 6000-6999) are excluded. Variables are winsorized at the bottom and top 1% level. The sample period is from 2003 to 2006. Definitions of variables are detailed in the Appendix.

	Mean	Median	Std Dev	Min	Max	Obs
Loan Variables						
ALL_SPREAD_LOAN	118.988	75.000	118.942	15.000	900.000	15,619
SECURED	0.218	0.000	0.413	0.000	1.000	15,619
DIVRESTRICT	0.188	0.000	0.391	0.000	1.000	15,619
GUARANTOR	0.091	0.000	0.287	0.000	1.000	15,619
LOG_MATURITY	1.411	1.609	0.634	-0.288	2.890	15,619
LOG_LENDERS	2.444	2.565	0.762	0.000	3.784	15,619
LOG_LEAD_ARRANGERS	1.387	1.386	0.911	0.000	3.178	15,619
EDF_CHG_P2_P1	-0.199	-0.020	1.473	-17.470	11.120	2,310
EDF_CHG_P2_M1	-1.011	-0.315	2.471	-19.690	11.080	2,256
Bank-Firm Link Variables						
DUMMY_BANK_INBOARD	0.062	0.000	0.241	0.000	1.000	15,619
NUMBER_BANK_INBOARD	0.096	0.000	0.458	0.000	10.000	15,619
TENURE_BANK_INBOARD	0.217	0.000	1.407	0.000	34.000	15,610
DUMMY_BANK_INSIDER	0.028	0.000	0.164	0.000	1.000	15,619
BANK_INSIDER	0.001	0.000	0.013	0.000	0.373	15,619
DUMMY_BANK_INSTHOLDINGS	0.093	0.000	0.290	0.000	1.000	15,619
BANK_INSTHOLDINGS	0.009	0.000	0.063	0.000	1.000	15,619
DUMMY_PAST_LOAN	0.283	0.000	0.451	0.000	1.000	15,619
DUMMY_SAME_REGION	0.710	1.000	0.454	0.000	1.000	15,619
Borrower Firm Control Variables						
LOG_SIZE	15.120	15.150	1.642	8.884	18.364	15,619
TOTAL_DEBT	0.338	0.310	0.198	0.000	1.243	15,619
SHORT_DEBT	0.245	0.182	0.231	0.000	1.000	15,619
TANG	0.367	0.343	0.224	0.006	0.901	15,619
R&D	0.009	0.000	0.020	0.000	0.108	15,619
MB	2.274	1.873	1.584	0.017	6.395	15,619
PROFIT	0.050	0.049	0.084	-0.168	0.225	15,619
INTCOV	10.559	7.002	10.635	0.687	44.499	15,619
NWCAPITAL	0.681	0.378	0.894	-0.113	3.597	15,619
STDEV	0.350	0.293	0.239	0.000	1.759	15,619
PAYOUT	0.604	0.228	1.525	-2.327	10.588	15,619
Loan Control Variables						
RATING	2.171	2.000	2.282	0.000	6.000	15,619
UNRATED	0.494	0.000	0.500	0.000	1.000	15,619
LOG_AMOUNT_LOAN	19.785	19.762	1.318	14.221	23.901	15,619
CORPURPOSES	0.248	0.000	0.432	0.000	1.000	15,619
REFINANCE	0.317	0.000	0.465	0.000	1.000	15,619
TAKEOVER	0.077	0.000	0.267	0.000	1.000	15,619
WORKCAPITAL	0.094	0.000	0.292	0.000	1.000	15,619
CREDITLINE	0.505	1.000	0.500	0.000	1.000	15,619
TERMLOAN	0.353	0.000	0.478	0.000	1.000	15,619
BRIDGELoAN	0.013	0.000	0.112	0.000	1.000	15,619
SENIOR	0.988	1.000	0.108	0.000	1.000	15,619
SPONSOR	0.102	0.000	0.303	0.000	1.000	15,619
SYNDICATED	0.878	1.000	0.328	0.000	1.000	15,619
Bank Control Variables						
RANK_BANK	31.197	13.000	52.119	1.000	494.000	15,619
BANK_LOG_SIZE	17.417	17.381	0.970	14.557	19.050	13,816
BANK_ROE	11.687	13.150	6.213	-3.840	22.830	13,878
BANK_EUROPE_DUMMY	0.524	1.000	0.499	0.000	1.000	15,619
Borrower Firm Country Control Variables						
CREDITORS	1.769	1.000	1.216	0.000	4.000	15,619
COMMON_LAW	0.535	1.000	0.499	0.000	1.000	15,565
LOG_GDPC	9.978	10.182	0.815	6.155	10.785	15,565
BANK_CONCENTRATION	0.469	0.470	0.228	0.230	0.989	15,619
MARKETCAP_GDP	0.974	0.989	0.466	0.136	2.980	15,619
BANK_OWN_NFIN	2.272	2.000	0.824	1.000	4.000	15,505
LIMITS_FOREIGN_BANK	2.973	3.000	0.163	2.000	3.000	15,559
PERCGOV_OWN_BANKS	7.725	0.000	16.199	0.000	75.270	15,497

Table 7
Bank-Firm Links and Loan Spread

This table presents results for regression of loan all-in-spread (ALL_SPREAD_LOAN) on the existence of a bank-firm link (through a common BOARD member, an EQUITY insider position or INSTITUTIONAL holdings). Financial firm borrower (SIC 6000-6999) are excluded. The sample period is from 2003 to 2006. Definitions of variables are detailed in the Appendix. Robust *t*-statistics adjusted for firm-level clustering are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Bank-Firm Link Variables											
DUMMY_BANK_INBOARD	9.1105 (3.41)	9.6143 (3.60)									9.5762 (3.59)
NUMBER_BANK_INBOARD			4.2401 (3.11)								
TENURE_BANK_INBOARD				0.7703 (2.33)							
DUMMY_BANK_INSIDER					-0.4816 (-0.10)	-5.6957 (-1.28)					-3.1250 (-0.64)
BANK_INSIDER							4.4521 (0.03)				
DUMMY_BANK_INSTHOLDINGS								16.1462 (5.46)	16.5511 (5.41)		16.2073 (5.48)
BANK_INSTHOLDINGS										18.6925 (1.10)	
DUMMY_PAST_LOAN	0.4858 (0.32)	1.0475 (0.70)	0.3652 (0.25)	0.3866 (0.26)	0.6161 (0.41)	1.2704 (0.84)	0.4776 (0.33)	0.8586 (0.57)	1.5453 (1.03)	0.4990 (0.34)	0.7566 (0.50)
DUMMY_SAME_REGION	1.7724 (0.89)	2.5984 (1.42)	0.8578 (0.44)	0.8814 (0.45)	2.3192 (1.16)	3.0707 (1.68)	1.2002 (0.61)	2.4400 (1.23)	2.9752 (1.63)	1.1534 (0.59)	1.9093 (0.96)
Borrower Firm Control Variables											
LOG_SIZE	-7.0072 (-10.85)	-6.3350 (-9.87)	-6.8929 (-10.69)	-6.9554 (-10.83)	-6.8784 (-10.67)	-6.1984 (-9.68)	-6.8113 (-10.59)	-6.1959 (-9.56)	-5.5542 (-8.60)	-6.6753 (-10.35)	-6.3265 (-9.74)
TOTAL_DEBT	34.6354 (5.91)	36.5654 (6.19)	36.0172 (6.13)	35.4444 (6.03)	34.1442 (5.82)	35.9785 (6.09)	35.6115 (6.06)	32.1056 (5.50)	33.7442 (5.73)	35.6589 (6.07)	32.6136 (5.59)
SHORT_DEBT	13.4476 (3.67)	12.2846 (3.28)	13.1416 (3.58)	13.2743 (3.61)	13.5761 (3.71)	12.4558 (3.33)	13.2734 (3.62)	12.6666 (3.47)	11.6624 (3.12)	12.9494 (3.52)	12.5322 (3.43)
TANG	-6.3415 (-1.76)	-8.6322 (-2.41)	-6.3262 (-1.75)	-6.1621 (-1.70)	-6.3269 (-1.75)	-8.8418 (-2.47)	-6.3033 (-1.74)	-6.6093 (-1.83)	-9.0140 (-2.52)	-6.4551 (-1.79)	-6.6442 (-1.84)
R&D	47.1347 (1.16)	126.7365 (3.27)	51.4702 (1.27)	52.7350 (1.30)	51.4308 (1.27)	130.5462 (3.38)	54.5895 (1.35)	58.3602 (1.44)	136.9851 (3.56)	57.6582 (1.43)	54.0934 (1.33)
MB	-2.5407 (-5.73)	-2.2815 (-5.06)	-2.4728 (-5.59)	-2.4320 (-5.50)	-2.5104 (-5.67)	-2.2535 (-5.00)	-2.4523 (-5.55)	-2.2857 (-5.20)	-2.0235 (-4.53)	-2.4278 (-5.49)	-2.3169 (-5.27)
PROFIT	-84.2889 (-6.50)	-70.4621 (-5.65)	-85.7381 (-6.62)	-87.2046 (-6.74)	-84.6722 (-6.53)	-71.1869 (-5.71)	-86.0488 (-6.64)	-82.6244 (-6.39)	-69.1344 (-5.55)	-85.6110 (-6.63)	-82.3417 (-6.36)
INTCOV	-0.1479 (-1.77)	-0.0545 (-0.68)	-0.1402 (-1.68)	-0.1402 (-1.68)	-0.1536 (-1.84)	-0.0618 (-0.77)	-0.1450 (-1.74)	-0.1571 (-1.89)	-0.0607 (-0.76)	-0.1439 (-1.73)	-0.1515 (-1.82)
NWCAPITAL	-4.4302 (-4.51)	-3.5322 (-3.57)	-4.4620 (-4.56)	-4.5953 (-4.69)	-4.4818 (-4.57)	-3.6057 (-3.65)	-4.5080 (-4.60)	-4.6433 (-4.75)	-3.7825 (-3.85)	-4.4958 (-4.59)	-4.5888 (-4.70)
STDEV	92.8750 (17.55)	88.5178 (17.01)	93.2026 (17.67)	93.6069 (17.70)	93.2201 (17.58)	88.8450 (17.06)	93.5387 (17.71)	89.8875 (16.86)	85.3070 (16.28)	91.6897 (17.11)	89.4809 (16.79)
PAYOUT	-0.6687 (-1.59)	-0.3205 (-0.79)	-0.6590 (-1.59)	-0.6702 (-1.62)	-0.6591 (-1.57)	-0.3073 (-0.76)	-0.6460 (-1.56)	-0.6447 (-1.55)	-0.2943 (-0.73)	-0.6324 (-1.53)	-0.6586 (-1.58)

Table 7: continued

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Loan Control Variables											
RATING	33.4078 (26.69)	35.9993 (27.39)	33.5738 (26.80)	33.5220 (26.74)	33.3110 (26.61)	35.9220 (27.33)	33.4686 (26.72)	33.3616 (26.71)	35.9699 (27.45)	33.6107 (27.10)	33.4510 (26.78)
UNRATED	156.2263 (31.04)	163.2019 (31.28)	157.0272 (31.17)	156.8025 (31.11)	155.6687 (30.94)	162.7685 (31.20)	156.4776 (31.08)	155.7098 (31.03)	162.7280 (31.29)	157.0572 (31.53)	156.2387 (31.10)
LOG_AMOUNT_LOAN	-4.1178 (-5.12)	-2.3769 (-2.81)	-4.0780 (-5.06)	-4.0422 (-5.02)	-4.0519 (-5.04)	-2.2816 (-2.69)	-4.0111 (-4.99)	-3.9818 (-4.96)	-2.2068 (-2.61)	-4.0043 (-4.97)	-4.0461 (-5.04)
SECURED	34.8707 (14.98)	35.2320 (15.11)	34.8366 (15.01)	34.6314 (14.91)	34.9514 (15.01)	35.2866 (15.13)	34.8954 (15.03)	34.8144 (14.96)	35.0561 (15.04)	34.8785 (15.04)	34.7398 (14.94)
LOG_MATURITY	6.0341 (3.09)	4.1864 (2.03)	6.0340 (3.09)	6.0486 (3.10)	6.0062 (3.08)	4.1311 (2.01)	5.9725 (3.06)	6.2446 (3.22)	4.3775 (2.14)	6.1064 (3.13)	6.2498 (3.22)
CORPURPOSES	-3.1631 (-1.61)	-0.9316 (-0.46)	-3.6647 (-1.86)	-3.4946 (-1.78)	-3.0398 (-1.55)	-0.8006 (-0.39)	-3.5958 (-1.83)	-3.4731 (-1.77)	-1.2437 (-0.61)	-3.4864 (-1.77)	-3.5886 (-1.83)
REFINANCE	-17.4349 (-7.78)	-17.6856 (-7.84)	-17.6539 (-7.88)	-17.5605 (-7.84)	-17.4753 (-7.79)	-17.6628 (-7.83)	-17.7122 (-7.91)	-17.2635 (-7.71)	-17.5758 (-7.80)	-17.6421 (-7.88)	-17.2286 (-7.69)
TAKEOVER	0.3487 (0.13)	2.8308 (1.06)	-0.3292 (-0.12)	-0.2681 (-0.10)	0.7598 (0.28)	3.2018 (1.20)	0.0065 (0.00)	0.4628 (0.17)	2.9930 (1.12)	0.1120 (0.04)	0.0482 (0.02)
WORKCAPITAL	-11.1272 (-4.36)	-9.0205 (-3.52)	-11.5991 (-4.54)	-11.6387 (-4.55)	-11.0025 (-4.32)	-8.9494 (-3.50)	-11.5242 (-4.51)	-11.6499 (-4.57)	-9.5977 (-3.76)	-11.4662 (-4.50)	-11.7712 (-4.62)
CREDITLINE	-17.3645 (-4.69)	-15.2695 (-3.93)	-17.3548 (-4.69)	-17.4980 (-4.72)	-17.3679 (-4.69)	-15.2010 (-3.91)	-17.2704 (-4.67)	-17.6869 (-4.80)	-15.6671 (-4.05)	-17.4507 (-4.72)	-17.6376 (-4.78)
TERMLOAN	10.9564 (2.55)	12.5570 (2.76)	11.4387 (2.65)	11.3517 (2.63)	10.9096 (2.53)	12.5818 (2.76)	11.4818 (2.66)	10.2297 (2.39)	11.8039 (2.60)	11.2826 (2.62)	10.3256 (2.41)
BRIDGELOAN	36.8814 (3.56)	39.5425 (3.97)	38.0009 (3.69)	37.8565 (3.68)	36.8586 (3.56)	39.5431 (3.97)	37.9751 (3.69)	37.4322 (3.60)	39.8337 (3.98)	38.1580 (3.70)	37.4466 (3.60)
DIVRESTRICT	-1.4576 (-0.62)	2.1178 (0.92)	-2.2025 (-0.95)	-2.0746 (-0.89)	-1.5529 (-0.66)	1.9306 (0.84)	-2.2363 (-0.96)	-1.5139 (-0.65)	1.9853 (0.86)	-2.1504 (-0.93)	-1.4137 (-0.60)
SENIOR	-370.4978 (-17.52)	-354.7270 (-15.30)	-371.6541 (-17.52)	-371.4609 (-17.52)	-370.3316 (-17.51)	-354.6085 (-15.30)	-371.6008 (-17.52)	-369.4260 (-17.43)	-353.4382 (-15.22)	-371.4909 (-17.50)	-369.5908 (-17.44)
GUARANTOR	-16.4572 (-6.52)	-20.3553 (-8.01)	-16.2654 (-6.42)	-16.3013 (-6.43)	-16.4896 (-6.52)	-20.2996 (-7.97)	-16.3041 (-6.43)	-17.0256 (-6.70)	-21.0273 (-8.21)	-16.3215 (-6.44)	-16.9881 (-6.69)
SPONSOR	68.7329 (19.28)	79.6443 (22.08)	70.2260 (19.81)	70.3842 (19.85)	68.7603 (19.28)	79.6490 (22.08)	70.2519 (19.80)	68.6256 (19.28)	79.6050 (22.11)	70.1150 (19.75)	68.5714 (19.27)
LOG_LENDERS	-11.9404 (-9.27)	-14.5376 (-10.98)	-12.0865 (-9.41)	-12.0728 (-9.40)	-11.9983 (-9.31)	-14.6142 (-11.02)	-12.1296 (-9.45)	-11.9430 (-9.29)	-14.5079 (-10.98)	-12.1616 (-9.46)	-11.8964 (-9.25)
SYNDICATED	8.3074 (3.86)	13.5090 (6.40)	8.3664 (3.88)	8.3283 (3.86)	8.4280 (3.91)	13.5803 (6.43)	8.5173 (3.95)	8.5479 (3.97)	13.6952 (6.51)	8.5584 (3.97)	8.4374 (3.93)
Bank Control Variables											
RANK_BANK	-0.2350 (-11.21)	0.0205 (0.63)	0.1712 (2.87)	0.1704 (2.86)	-0.2330 (-11.10)	0.0195 (0.60)	0.1703 (2.86)	-0.2379 (-11.30)	0.0236 (0.72)	0.1720 (2.88)	-0.2395 (-11.36)
BANK_LOG_SIZE	-31.1779 (-10.82)	5.9444 (4.85)	8.0734 (4.56)	8.0909 (4.58)	-31.2588 (-10.84)	5.7534 (4.70)	8.0286 (4.54)	-30.7072 (-10.64)	5.5189 (4.52)	8.0038 (4.53)	-30.5756 (-10.58)
BANK_ROE	-3.9579 (-10.12)	-0.8793 (-6.36)	-0.7713 (-3.93)	-0.7666 (-3.91)	-3.9445 (-10.08)	-0.8721 (-6.31)	-0.7685 (-3.92)	-3.8794 (-9.89)	-0.8626 (-6.25)	-0.7796 (-3.98)	-3.8911 (-9.93)
BANK_EUROPE_DUMMY	40.5620 (7.47)	4.1557 (2.09)	-21.0622 (-1.80)	-21.0525 (-1.80)	40.9717 (7.55)	4.1710 (2.09)	-21.6840 (-1.85)	40.0790 (7.39)	3.4354 (1.73)	-21.8453 (-1.85)	39.5957 (7.29)

Table 7: continued

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Borrower Firm Country Control Variables											
CREDITORS		-8.6665 (-8.07)				-8.8004 (-8.19)			-8.6462 (-8.05)		
COMMON_LAW		17.5827 (7.20)				17.5935 (7.20)			17.1250 (7.01)		
LOG_GDPC		12.0270 (7.53)				12.1162 (7.59)			11.8765 (7.43)		
BANK_CONCENTRATION		-5.4758 (-1.43)				-5.1242 (-1.34)			-6.5041 (-1.70)		
MARKETCAP_GDP		1.0762 (0.58)				0.8831 (0.47)			0.9911 (0.53)		
BANK_OWN_NFIN		-15.5559 (-9.24)				-15.6658 (-9.29)			-15.7959 (-9.35)		
LIMITS_FOREIGN_BANK		-41.4273 (-7.17)				-41.2202 (-7.14)			-41.3573 (-7.20)		
PERCGOV_OWN_BANKS		0.6132 (6.87)				0.6223 (6.97)			0.6101 (6.84)		
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower firm industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower firm country dummies	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Bank dummies	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	13,817	13,664	13,816	13,807	13,817	13,664	13,816	13,817	13,664	13,816	13,817
R-squared	0.658	0.626	0.654	0.654	0.658	0.626	0.654	0.659	0.627	0.654	0.659

Table 8
Bank-Firm Links and Non-Pricing Loan Terms

This table presents results for regression of other loan terms on the existence of a bank-firm link (through a common BOARD member, an EQUITY insider position or INSTITUTIONAL holdings). All regressions include borrower firm control variables, loan control variables, and bank control variables (coefficients not shown). Financial firm borrower (SIC 6000-6999) are excluded. The sample period is from 2003 to 2006. Definitions of variables are detailed in the Appendix. Robust *t*-statistics adjusted for firm-level clustering are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Probit Secured			Probit Dividend Restrictions				Probit Guarantor				Maturity				
DUMMY_BANK_INBOARD	0.0462			0.0459	-0.1336			-0.1323	-0.1805			-0.2002	-0.0069			0.0104
	(0.58)			(0.58)	(-1.64)			(-1.64)	(-2.00)			(-2.22)	(-0.45)			(0.68)
DUMMY_BANK_INSIDER		0.0133		0.0028		-0.0268		0.0111		0.1958		0.2310		-0.1438		-0.1470
		(0.12)		(0.03)		(-0.17)		(0.07)		(1.53)		(1.78)		(-5.38)		(-5.49)
DUMMY_BANK_INSTHOLDINGS			0.0025	0.0025		-0.1058	-0.1042				0.2304	0.2303			-0.0289	-0.0380
			(0.05)	(0.05)		(-1.79)	(-1.76)				(3.87)	(3.87)			(-1.95)	(-2.54)
DUMMY_PAST_LOAN	0.0080	0.0084	0.0085	0.0081	-0.0875	-0.0898	-0.0926	-0.0902	-0.1769	-0.1816	-0.1780	-0.1762	-0.0333	-0.0315	-0.0383	-0.0323
	(0.20)	(0.21)	(0.22)	(0.20)	(-2.16)	(-2.21)	(-2.28)	(-2.22)	(-3.96)	(-4.07)	(-3.98)	(-3.95)	(-3.39)	(-3.22)	(-4.08)	(-3.29)
DUMMY_SAME_REGION	0.1625	0.1647	0.1648	0.1626	0.1024	0.0953	0.0944	0.1015	-0.1233	-0.1395	-0.1345	-0.1265	-0.0002	0.0011	0.0061	0.0001
	(3.21)	(3.27)	(3.27)	(3.21)	(1.85)	(1.72)	(1.71)	(1.83)	(-2.29)	(-2.60)	(-2.51)	(-2.34)	(-0.02)	(0.09)	(0.56)	(0.00)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower firm industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower firm country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,634	13,634	13,634	13,634	10,321	10,321		10,321	12,739	12,739	12,739	12,739	13,817	13,817	13,664	13,817
R-squared													0.506	0.508	0.493	0.508

Table 9
Bank-Firm Links and Number of Lenders and Lead Arrangers

This table presents results for regression of number of lenders and number of lead arrangers on the existence of a bank-firm link (through a common BOARD member, an EQUITY insider position or INSTITUTIONAL holdings). All regressions include borrower firm control variables, loan control variables, and bank control variables (coefficients not shown). Financial firm borrower (SIC 6000-6999) are excluded. The sample period is from 2003 to 2006. Definitions of variables are detailed in the Appendix. Robust *t*-statistics adjusted for firm-level clustering are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Number of Lenders								Number of Lead Arrangers							
DUMMY_BANK_INBOARD	-0.0644							-0.0581	-0.1747							-0.1696
	(-3.15)							(-2.75)	(-9.31)							(-8.83)
NUMBER_BANK_INBOARD		-0.0295														
		(-2.79)														
TENURE_BANK_INBOARD			-0.0061													
			(-1.70)													
DUMMY_BANK_INSIDER				-0.0753				-0.0587					-0.0909			-0.0420
				(-2.38)				(-1.82)					(-2.67)			(-1.23)
BANK_INSIDER					-0.4930									-0.0703		
					(-1.09)									(-0.24)		
DUMMY_BANK_INSTHOLDINGS						-0.0204		-0.0207							0.0230	0.0226
						(-0.97)		(-0.98)							(1.38)	(1.35)
BANK_INSTHOLDINGS							0.1313									0.0140
							(1.23)									(0.17)
DUMMY_PAST_LOAN	0.0149	0.0125	0.0226	0.0120	0.0225	0.0106	0.0223	0.0128	-0.1374	-0.1431	-0.1448	-0.1403	-0.1475	-0.1412	-0.1475	-0.1366
	(1.16)	(0.92)	(1.71)	(0.88)	(1.71)	(0.78)	(1.69)	(0.94)	(-11.70)	(-12.67)	(-12.80)	(-11.92)	(-13.02)	(-11.98)	(-13.03)	(-11.64)
DUMMY_SAME_REGION	-0.0659	-0.0593	-0.0543	-0.0622	-0.0565	-0.0634	-0.0574	-0.0581	-0.2036	-0.1883	-0.1902	-0.2158	-0.1974	-0.2168	-0.1975	-0.2032
	(-4.56)	(-3.62)	(-3.40)	(-3.80)	(-3.54)	(-3.88)	(-3.60)	(-3.54)	(-13.80)	(-12.94)	(-13.07)	(-14.70)	(-13.62)	(-14.76)	(-13.64)	(-13.79)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower firm industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower firm country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,805	13,959	13,947	13,959	13,958	13,959	13,958	13,959	13,959	13,958	13,947	13,959	13,958	13,959	13,958	13,959
R-squared	0.364	0.397	0.390	0.397	0.390	0.397	0.390	0.398	0.664	0.658	0.658	0.663	0.657	0.662	0.657	0.665

Table 10
Bank-Firm Links and Ex-Post Credit Risk

This table presents results for regression of default risk of borrower firm in the year following each loan on the existence of a bank-firm link (through a common BOARD member, an EQUITY insider position or INSTITUTIONAL holdings) at the time of loan is granted. All regressions include borrower firm control variables, loan control variables, and bank control variables (coefficients not shown). Financial firm borrower (SIC 6000-6999) are excluded. The sample period is from 2003 to 2006. Definitions of variables are detailed in the Appendix. Robust t -statistics adjusted for firm-level clustering are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Change in EDF from $t + 1$ to $t + 2$								Change in EDF from $t - 1$ to $t + 2$							
DUMMY_BANK_INBOARD	-0.3644 (-4.11)							-0.2848 (-3.68)	-0.5245 (-3.71)							-0.5384 (-3.67)
NUMBER_BANK_INBOARD		-0.1328 (-3.47)								-0.1540 (-2.66)						
TENURE_BANK_INBOARD			-0.0370 (-3.68)								-0.0780 (-2.44)					
DUMMY_BANK_INSIDER				-0.5481 (-4.15)				-0.4462 (-3.80)				-0.2110 (-1.38)				-0.0273 (-0.17)
BANK_INSIDER					-3.5359 (-4.81)								-5.2346 (-2.90)			
DUMMY_BANK_INSTHOLDINGS						0.3922 (2.07)		0.3781 (2.01)						-0.1166 (-0.48)		-0.1353 (-0.55)
BANK_INSTHOLDINGS							-0.5497 (-0.18)									-5.6355 (-1.24)
DUMMY_PAST_LOAN	0.0153 (0.31)	0.0131 (0.26)	0.0035 (0.07)	0.0107 (0.21)	0.0011 (0.02)	-0.0129 (-0.25)	0.0021 (0.04)	0.0149 (0.30)	0.1358 (1.92)	0.1087 (1.61)	0.1006 (1.52)	0.1164 (1.66)	0.0939 (1.41)	0.1055 (1.51)	0.0966 (1.46)	0.1220 (1.73)
DUMMY_SAME_REGION	0.5244 (1.80)	0.2127 (0.59)	0.2049 (0.56)	0.5257 (1.75)	0.2080 (0.55)	0.4958 (1.58)	0.1899 (0.54)	0.5401 (1.76)	-0.0542 (-0.17)	-0.0592 (-0.21)	-0.0546 (-0.19)	-0.0911 (-0.28)	-0.0539 (-0.19)	-0.0940 (-0.30)	-0.1699 (-0.51)	-0.0472 (-0.15)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower firm industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower firm country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,155	2,155	2,155	2,106	2,106	2,106	2,106	2,106	2,108	2,108	2,108	2,059	2,059	2,059	2,059	2,059
R-squared	0.421	0.362	0.361	0.436	0.369	0.433	0.368	0.441	0.655	0.641	0.643	0.657	0.643	0.656	0.643	0.660

Appendix: Variables Definition

Variable	Definition
Loan Variables	
DUMMY_LOAN	Dummy variable that takes the value of one if bank i acted as lead arranger in at least one loan facility to firm j.
NUMBER_LOAN	Number of loan facilities from bank i to firm j.
AMOUNT_LOAN	Amount of loan facilities from bank i to firm j (millions US\$).
AMOUNT_LOAN_SHARE	Share amount that loan facilities from bank i to firm j represent of all loans of firm j.
ALL_SPREAD_LOAN	Loan spread over LIBOR in the issue data plus fees (DealScan item All-in spread Drawn).
SECURED	Dummy variable that takes the value of one if loan is secured by collateral (DealScan item Secured).
DIVRESTRICT	Dummy variable that takes the value of one loan has restrictions on paying dividends (DealScan item Covenants: General-Material Restriction).
GUARANTOR	Dummy variable that takes the value of one if loan has a guarantor (DealScan item Borrower-Guarantor).
LOG_MATURITY	Logarithm of loan maturity in years (DealScan item Tenor/Maturity).
LOG_LENDERS	Logarithm of the number of lenders (DealScan item Number of Lenders).
LOG_LEAD_ARRANGERS	Logarithm of the number of lenders (DealScan).
EDF_CHG_P2_P1	Change in expected default frequency (EDF) from two-year to one-year after the loan (Moody's KMV).
EDF_CHG_P2_M1	Change in expected default frequency (EDF) from two-year after to one-year before the loan (Moody's KMV).
Bank-Firm Link Variables	
DUMMY_BANK_INBOARD	Dummy variable that takes the value of one if there is at least one common board member between borrower firm and lead arranger bank at the end of the year prior to the loan (Boardex).
NUMBER_BANK_INBOARD	Number of common board member between borrower firm and lead arranger bank at the end of the year prior to the loan (Boardex).
TENURE_BANK_INBOARD	Tenure of common board member between borrower firm and lead arranger bank at the end of the year prior to the loan (Boardex).
DUMMY_BANK_INSIDER	Dummy variable that takes the value of one if lead arranger bank has direct equity positions in borrower firm at the end of the year prior to the loan (Factset/Lionshares and Osiris).
BANK_INSIDER	Direct equity positions in borrower firm at the end of the year prior to the loan as a percentage of number of shares outstanding (Factset/Lionshares and Osiris).
DUMMY_BANK_INSTHOLDINGS	Dummy variable that takes the value of one if at least one institutional money manager (bank trust, mutual fund, investment adviser, pension fund) affiliated to lead arranger bank has an equity position in borrower firm at the end of the year prior to the loan (Factset/Lionshares).
BANK_INSTHOLDINGS	Equity positions by institutional money managers (bank trusts, mutual funds, investment advisers, pension funds) affiliated to lead arranger bank in borrower firm at the end of the year prior to the loan (Factset/Lionshares).
DUMMY_PAST_LOAN	Dummy variable that takes the value of one if there is a loan between the lead arranger bank and the borrower firm in the five-year period before the start of the sample period, 1998-2002 (DealScan).
DUMMY_SAME_REGION	Dummy variable that takes the value of one if the lead arranger bank and the borrower firm are located in the same geographical region, Africa, Asia, Eastern Europe, Japan, Latin America, North America, Oceania, Western Europe (DealScan).
Borrower Firm Control Variables	
LOG_SIZE	Logarithm of sales in thousands of US\$ of the borrower firm in the year prior to the loan (WS item 01001).
TOTAL_DEBT	Total debt divided by total assets of the borrower firm in the year prior to the loan (WS item 03255 / WS item 02999).
SHORT_DEBT	Short-term debt divided by total debt of the borrower firm in the year prior to the loan (WS item 03051 / WS item 03255).
TANG	Net property, plant and equipments divided by total assets of the borrower firm in the year prior to the loan (WS item 02501 / WS item 02999).
R&D	RD expenditures divided by total assets of the borrower firm in the year prior to the loan (WS item 01201 / WS item 02999).
MB	Market value of equity divided by book value of equity of the borrower firm in the year prior to the loan (DS item MV / WS item 03501).
PROFIT	NIBE divided by sales of the borrower firm in the year prior to the loan (WS item 01551 / WS item 01001).
INTCOV	EBITDA divided by interest expenses of the borrower firm in the year prior to the loan (WS item 18198 / item 01251).
NWCAPITAL	Current assets minus current liabilities to total debt of the borrower firm in the year prior to the loan ((WS item 02201 - WS item 03101 + WS item 03051) / WS item 03255).
STDEV	Annualized standard deviation of daily stock returns (DS item RI) of the borrower firm in the year prior to the loan.
PAYOUT	Common dividends plus stock repurchases divided by operating income ((WS item 05376 + WS item 03499) / WS item 01250).

Variable	Definition
Loan Control Variables	
RATING	Senior bond rating of the borrower firm at the close of the deal from Moody's, or when not available from SP; the ratings are converted into a numeric scale: Aaa equals 1, Aa equals 2, A equals 3, Baa equals 4, Ba equals 4, B or below equals 1, and missing rating equals zero (DealScan items Ratings-Moody's Senior Debt at Close, Ratings-SP Senior Debt at Close).
UNRATED	Dummy variable that takes the value of one if the borrower firm does not have a senior bond rating the close of the deal from Moody's or SP (DealScan items Ratings-Moody's Senior Debt at Close, Ratings-SP Senior Debt at Close).
LOG_AMOUNT_LOAN	Logarithm of loan facility amount in US\$ (DealScan item Tranche Amount (Converted) (\$)).
CORPURPOSES	Dummy variable that takes the value of one if loan is for corporate purpose (DealScan item Primary Purpose).
REFINANCE	Dummy variable that takes the value of one if loan to repay existing debt (DealScan item Primary Purpose).
TAKEOVER	Dummy variable that takes the value of one if loan to finance takeovers (DealScan item Primary Purpose).
WORKCAPITAL	Dummy variable that takes the value of one if loan for working capital purpose (DealScan item Primary Purpose).
CREDITLINE	Dummy variable that takes the value of one if loan for credit line (DealScan item Specific Tranche Type).
TERMLOAN	Dummy variable that takes the value of one if term loans (DealScan item Specific Tranche Type).
BRIDGELOAN	Dummy variable that takes the value of one if term loans (DealScan item Specific Tranche Type).
SENIOR	Dummy variable that takes the value of one if loan is senior in terms of seniority (DealScan item Seniority).
SPONSOR	Dummy variable that takes the value of one if loan has a sponsor (DealScan item Borrower-Sponsor).
SYNDICATED	Dummy variable that takes the value of one if loan is syndicated (DealScan item Distribution Method).
Bank Control Variables	
RANK_BANK	Rank of lead arranger bank in Top 500 "The Banker" rankings in 2005.
BANK_LOG_SIZE	Logarithm of market capitalization of the lead arranger bank in the year prior to the loan (Bankscope).
BANK_ROE	Return on equity of the lead arranger bank in the year prior to the loan (Bankscope).
BANK_EUROPE_DUMMY	Dummy variable that takes the value of one if lead arranger bank is headquartered in a European country (DealScan).
Borrower Firm Country Control Variables	
CREDITORS	Creditors rights (CRED): creditor rights index (La Porta et al. (1997)).
COMMON_LAW	Common law dummy (ENG): dummy that equals one for countries with common legal origin (La Porta et al. (1997)).
LOG_GDPC	Logarithm of GDP per capita in US\$ (WDI World Bank).
BANK_CONCENTRATION	Assets of three largest banks as a share of assets of all commercial banks (World Bank).
MARKETCAP_GDP	Stock market capitalization divided by gross domestic product (World Bank).
BANK_OWN_NFIN	Bank ownership of non-financial firms (World Bank Survey).
LIMITS_FOREIGN_BANK	Dummy variable that takes the value of one if there are restrictions to the entry of foreign banks (World Bank Survey).
PERCGOV_OWN_BANKS	Percentage of government ownership of banks (World Bank Survey).