THREE ESSAYS ON INTERNATIONAL LOAN SYNDICATIONS

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ABSTRACT

Three Essays on International Loan Syndications

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This thesis consists of three essays. The first essay (thesis chapter two) examines the relation between the terms of loans and the borrower's cross-listed situation for samples (un)differentiated by the state of economic development of the home country of the non-U.S. borrower and the distribution method. An important contribution is made to the cross-listing and capital structure literatures by providing evidence that the net benefit from being cross-listed for one debt component of the cost of capital (i.e., private corporate loans) depends upon whether or not the loan is syndicated. All else held equal, foreign borrowers that are cross-listed directly in the U.S. [U.K.] obtain loans with lower spreads [higher amounts] only for non-syndicated loans. Compared to their developed country counterparts, borrowers from emerging economies pay lower spreads and receive higher amounts and longer maturities on non-syndicated loans if cross-listed via Depositary Receipts (American or Global). These favorable effects for cross-listed borrowers are negated or become unfavorable if the loans are syndicated.

The second essay (thesis chapter three) studies alliances between financial institutions in the syndicated loan market and finds that the odds of a current syndicate relationship between two lenders depend upon their previous alliances. For example, the odds are significantly higher [lower] and strongest for a current lead-participant relationship with a continuation [reversal] of their previous roles. Specifically, the odds are nearly four times higher when the two lenders have been allied in the previous five years and more than twice higher for every standard deviation increase in the relative number of past alliances. The strength of lead-participant syndicate relationships between two lenders with same-ordered roles is most sensitive to the lead bank's reputation and informationally opaque lenders tend to have stronger relationships with

lead banks. Lenders appear to exhibit home bias in their syndicate alliances since ongoing relationships are stronger with domestic counterparts.

The third essay (thesis chapter four) examines the impact of past syndicate alliances on the consolidation of financial institutions. The odds of a M&A between two lenders increases when both parties co-participated in previous syndicated loans and with the intensity of such participations during the five-year period prior to the M&A. The impact is higher for international M&As, for cross-industry alliances, and when the acquirer and target are participant and lead, respectively, in the common syndicate relationships. The odds of a particular lender being a target also decreases with increases in the target's leverage and ROE, and increases with increases in the target's size and growth opportunities. The significantly lower short- and long-term performances for both acquirers and targets previously co-involved in past syndicated loans disappear in the presence of various control variables. These control variables account for the less frequent use of cash payment, the greater incidence of divestitures and the higher percentage of shares acquired when the merging parties were co-involved in past loan syndications.

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CHAPTER 1

INTRODUCTION

A syndicated loan is an instrument whereby multiple lenders provide funds to a single borrower. The syndication market is one of the biggest sources of corporate financing available for working capital needs, added liquidity, acquisition finance, refinancing and recapitalization. With global transactions totaling more than three trillion dollars (according to Reuters' Loan Pricing Corporation), syndicated credits represent a very significant source of financing, accounting for a third of all international financing, including bond, commercial paper and equity issues. However, perhaps due to data availability problems, research on syndicated loans has, for a long time, been neglected relative to studies on bonds and stocks. This neglect was also present on the market and with practitioners until the end of the 1990s. An article in January 2000 from the American Banker on the syndicated loan market states that "It [1999] was also the year Wall Street woke up to syndicated lending's potential". That same year, PaineWebber published "The Biggest Secret of Wall Street", a 44-page report that labeled syndicated lending "the largest, highest fee generating, and most profitable corporate financing business on the Street". Fortunately, the syndicated loan market finally got the attention it deserved, as evidenced by the number of research studies and articles on the subject in recent years. Nevertheless, some dimensions of this market are still unexplored, and this thesis proposes to deal with three of them.

In traditional loan syndicates, a group of banks (the syndicate) lends directly to the borrower under a single loan agreement. Syndicated loans are a modern version of the old club loans, improved by adding several features of the public securities markets including distribution of risk among a wide investor base and market-driven pricing. There is no standardization of the agreements in the syndicated loan market. The number of participating banks, the amount being advanced, the nature of the borrower, and the intended use of the funds are all characteristics that can vary from one contract to the next.

For the lenders, lending through a syndicate can be beneficial, for instance through greater portfolio diversification, the expertise of an agent, expanded client relationships, the coordination of events, documentation, and so forth. For foreign companies, syndicated loans also represent one of the easiest ways to raise capital on the international market. Among the other choices available are foreign bond issuing (e.g. Yankee bonds) or cross-border listing, which is the process whereby a firm lists its shares for trading on at least two stock exchanges located in different countries. The latter form of international financing is gaining in popularity. Since the mid-1980s, exchanges in the U.S. and U.K. have attracted an increasing number of cross-listed firms. As of May 2005, the New York Stock Exchange (NYSE), Nasdaq and American Stock Exchange (AMEX) list 526, 334 and 71 foreign companies, respectively. In contrast, the London Stock Exchange (LSE) lists 2,929 foreign companies either on its main market or AIM. [1] In terms of equity, research has shown that cross-listing benefits can include access to a larger investor base, increased liquidity, increased and improved research coverage, higher multiples (especially if in the U.S.), enhanced corporate image and public recognition, improvement in the cost and availability of capital, and lower risk.

However, the evidence on the impact of cross-listing on other types of capital is limited. Because cross-listing can potentially have opposing effects on the syndicate structure and loan terms, the net impact of being cross-listed on the terms of loans differentiated by distribution method is ambiguous, and is a question that can benefit from empirical inquiry. Thus, the second chapter of this thesis assesses the impact of cross-listing in the U.S. or the U.K. on the cost and other terms of private loans for a large sample of non-U.S. public borrowers.

If the lead arranger of the syndicated loan finds it easier to get syndicate participation when the borrower is cross-listed due to greater lender recognition of the borrower among a wider set of international lenders or enhanced liquidity due to an enlarged secondary market for the loan, then

[1] AIM is a market for smaller, growing companies whose listing requirements are more flexible than those for the main LSE market.

this should lead to better terms for the syndicated loans of cross-listed borrowers, especially for borrowers from developing countries. However, if syndicates of cross-listed firms tend to be more international or larger in terms of the number of lenders involved, they could lead to increased informational asymmetries between syndicate members. These informational frictions may affect the cost of the loan. A more international and heterogeneous syndicate for cross-listed borrowers could also lead to higher expected renegotiation problems or costs for troubled loans. Using a large sample of 4,254 non-U.S. borrowers from 50 different countries and nine general activity sectors, we verify in the second chapter of the thesis that being cross-listed has a significant impact on different loan terms, such as spread, amount and maturity and the sign of the effect. Both a multivariate regression to control for other factors known to affect the loan terms and a before-and-after approach to limit endogeneity problems are used. Interactive variables are added to capture the different impacts according to the economic development of the borrower's home country and the loan distribution method.

Aside from a common borrower-lender relationship through the loan itself, a syndicate is also a complex network of lender-lender relationships. Therefore, while the second chapter studies the syndicated loan as a financing transaction for the borrower, the third and fourth chapters focus on the syndicated loan as a relational event between financial institutions. The sustainability of the syndicated loan market relies on a complex network of international ties between financial institutions. Without these alliances, banks could support neither the risk levels implicit in the size of these corporate loans nor the borrower and country risk exposures they add to individual bank portfolios. These loans help ensure granularity in the loan portfolios of individual banks. Within a syndicate, lenders can play more than one role. An institution is classified as a "lead" lender if it retains primary administrative, monitoring, and contract enforcement responsibilities. These lenders also typically retain the largest stake in the loan. Other institutions may perform minor administrative oversight duties. Finally, banks may simply

be participants in a syndicate if they do not perform any special function other than being signatories to the original loan agreement.

While most inter-bank relationships are not observable to outsiders, loan syndicates represent visible manifestations of bank interactions that can be studied. The expanding literature on syndicated loans ranges from syndicate composition to agency problems, but little is known about the underlying relationships behind this activity. Most of the research concerning the dynamics of alliances in general is theoretical and hypothesizes (logically) that banks repeat syndicate alliances with other financial institutions. Given this deficiency, the purpose of the third chapter of this thesis is three-fold. The first objective is to examine the impact of past syndicate alliance relationships on future alliances based on international activity in the syndicated loan market between 1987 and 2004. The second purpose is to determine how the odds change when the relationship being measured pairs a lead and a participant whose initial (previous) roles are either continued or reversed. For the first two objectives, our methodology involves a logit regression to measure the impact of past relationships on future alliances between financial institutions. Eighteen control variables are added to control for other factors that can affect the probability of a syndicate pairing. The third objective of the third chapter is to examine the factors influencing the importance, or weight, of an alliance between two lenders, such as the significance of home bias and various cross-cultural differences (such as legal system and religion). To do so, a multivariate regression is run on the importance of an alliance between a lead and a participant on a variety of control variables, such as the reputation of the lead in the loan syndication market, the informativeness of the participant and the domesticity of the alliance.

The fourth chapter follows with an examination of the impact of past syndicate relationships on consolidation in the financial sector. The ongoing consolidation of financial institutions within and across national boundaries has generated considerable interest among academics and practitioners due to the size, importance and role of such institutions in the economy of most countries. As a result, a growing body of literature deals with M&As in the financial services

industry. Financial institutions wishing to engage in M&A activities need to gather information about potential target firms before starting the consolidation process. Such knowledge may be even more crucial for cross-border transactions, which are usually considered harder to conclude and maintain because of cross-cultural differences. A prior alliance with the target through syndication may help with the evaluation of the target, facilitate the merger and reduce subsequent integration costs. Similarly, firms with repeat alliances may perceive a full-blown merger as a logical step and decide to consolidate. Although the study of inter-bank relationships over the past decade has documented some of the benefits and costs of temporary alliances (such as loan syndications), much remains unknown. For instance, do financial institutions consider syndicated loans as pure business transactions, or do they also benefit from their relational nature in other ways? What are the effects and consequences of alliances formed through banking syndicates? Specifically, do these alliances lead to more formal alliances between syndicate participants, such as M&As? Do the M&As involving parties with previous syndicate co-alliances perform better than those without such previous co-alliances? Given these deficiencies in the literature, the primary purpose of the fourth chapter is to provide the first test of whether banks that co-participate in loan syndicates are more likely to subsequently co-engage in M&As. A logit model is used to test the hypotheses that the odds of a M&A is positively related to the presence of past syndication activities between two financial institutions and increases with the number of such past involvements. A number of control variables are used to control for other factors that can affect the probability of a merger, such as the relative size of the target, its leverage or its profitability. A further objective is to examine the relative terms of the M&As and post-merger performances conditioned on the past alliances of acquirers with targets. Short- and long-term abnormal returns for the acquirers and the targets are measured using models that control for market returns and risk, and are compared for two sub samples conditioned on the presence or not of past syndicate alliances between the two merging parties. A multivariate regression analysis is also applied to control for other factors that can affect the

abnormal performance of an acquisition, such as the acquisition technique and the payment method.

The fifth chapter concludes the essay. A summary of the main findings for each of the three chapters dealing with specific issues from the syndicated loan market and the conclusions that follow from these results are provided. The implications of the major conclusions for different players in the financial system are also described and briefly discussed. Finally, questions that remain unanswered in each chapter and possibilities for future research are highlighted.

CHAPTER 2

DO INTERNATIONALLY CROSS-LISTED NON-U.S. FIRMS OBTAIN MORE FAVORABLE (NON-)SYNDICATED LOAN TERMS?

2.1. INTRODUCTION

Increasing company internationalization over the past few decades has increased the importance of a cross-border listing.[2] Since the mid-1980s, exchanges in the U.S. and U.K. have attracted an increasing number of cross-listed firms. As of May 2005, the New York Stock Exchange (NYSE), Nasdaq and American Stock Exchange (AMEX) list 526, 334 and 71 foreign companies, respectively.[3] In contrast, the London Stock Exchange (LSE) lists 2,929 foreign companies either on its main market or AIM.[4]

Equity cross-listings on foreign trade venues are one of the principal mechanisms that produce competition among market centers. Cross-listings also are a major financial decision for the issuer who needs to balance the overall net benefits and costs of listing abroad. Overall, listing studies provide supportive, although not unanimous, evidence about the positive net effects of a (cross-) listing status on the equity values of firms. Further, since an increasing number of companies list their shares on foreign stock exchanges, it seems reasonable to conjecture that many corporations perceive overall net benefits from being cross-listed.

However, it is unclear whether or not and how the potential advantages of being cross-listed vary by type of capital. The impact of being cross-listed on the cost of debt (especially, private)

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[2] International cross-listing is the process whereby a firm lists its shares for trading on at least two stock exchanges located in different countries.

[3] These numbers include foreign companies that are solely listed on one of the American exchanges (i.e., on the NYSE, Nasdaq or AMEX as their primary market). The corresponding aggregate market cap of those listed on the NYSE is $7.1 trillion.

[4] AIM is a market for smaller, growing companies whose listing requirements are more flexible than those for the main LSE market.

capital is still largely unknown. To address this deficiency in the literature, we examine the relationship between the various terms of a private loan at initiation with being cross-listed in the U.S. and the U.K. (not) differentiating between the stage of economic development of the borrower's home country and the loan distribution method. To this end, we examine a very extensive sample of 4,254 foreign private loan facilities to borrowers from 50 non-U.S countries and nine general activity sectors. Of this total, 1,996 observations are from borrowers (in)directly cross-listed in the U.S., the U.K. or both, and the remainder consists of borrowers that are only listed domestically.

The results of this study are important for at least five reasons. Firstly, they can assist corporations in their decision to list on a foreign trade venue by providing additional evidence on the total impact of cross-listing on the firm's cost of capital. As the barriers between countries disappear, more companies consider internationalizing their activities, including their financings. Secondly, the findings reported herein can help major trade venues in the U.S. and the U.K. Since these venues are in constant competition for new listings and their associated order flow, knowing what benefits or costs such cross-listings generate allows these venues to adjust their trading mechanisms and protocols accordingly or to improve their marketing strategies. Thirdly, the generally supportive results of previous studies on the benefits for the cost of equity capital following a cross-listing or on being cross-listed still leave open the need to examine what impact being cross-listed has on other major publicly and privately placed components of a firm's cost of capital. Fourthly, the findings reported herein provide new evidence on the importance of reputational bonding, asymmetric information, costs of monitoring and renegotiation, and the loan distribution method on the terms at which capital is provided to corporate borrowers. Fifthly, although some of the prior papers use ADRs and direct listings interchangeably, our clear delineation between the two may help explain some of the ambiguous results reported in the existing cross-listing equity literature.

This chapter makes four major contributions to the literature, where the first three are drawn from the summary of results available in table 2.1. The first contribution is to the cross-listing and capital structure literatures by providing evidence that the net benefit from being cross-listed for one debt component of the cost of capital (i.e., private loans) depends upon whether or not the loan is syndicated. All else held equal and after controlling for interactive effects, foreign borrowers that are cross-listed directly in the U.S. obtain loans with lower spreads (61 bps lower) if the loan is not syndicated (i.e., is a club deal). This is offset partially by lower loan amounts (1.4% lower). After controlling for interactive effects, cross-listing in the U.K. does not have a significant impact on the loan spread but is related to higher absolute and relative loan amounts for non-syndicated loans only. Being cross-listed (un)differentiated by trade venue does not have a significant impact on loan maturity. Furthermore, costs per dollar borrowed are lower for U.S. cross-listed foreign borrowers once again for non-syndicated loans only.

[Please insert table 2.1 about here.]

The second contribution is to the literature on the effect of the level of economic development in the borrower's home country on the benefits of being cross-listed abroad for loan financings. Compared to their developed country counterparts, borrowers from emerging economies pay lower spreads and lower spread-costs-to-loan-amounts if cross-listed in the U.K. or with Depositary Receipts (American or Global DRs), and receive higher amounts and longer maturities if cross-listed via DRs only if the loans are not syndicated.

The third contribution is to the literature on the effect of the distribution method on the benefits of cross-listing abroad for loan financings. In almost all cases, the impact of cross-listing is negated when the loan is distributed by syndicates of lenders. Cross-listed borrowers in the U.S. pay higher syndicated loan spreads but lower spreads-to-maturity when the loan is syndicated. The interactive effect of cross-listing and syndication results in higher spreads-to-loan-amounts for borrowers cross-listed in the U.S. or the U.K. In contrast, the syndicated

method of distribution has a positive impact on the amount received, both in absolute and relative terms, for borrowers cross-listed in the U.S.

The fourth contribution is a demonstration that the results on spread costs are robust to the use of an alternative (event-study-like) empirical methodology with(out) a matching sample. For example, loan spreads increase significantly (16.5 bps) from the pre- to the post-listing periods for a sample of newly cross-listed borrowers that participate in the loan market. Furthermore, differentiating by distribution method, we find that the impact is significant (and positive) only for syndicated and not club loans.

The remainder of the chapter is organized as follows. Section 2.2 discusses the possible impacts of being cross-listed on loan terms based on the literature. The sample is discussed in section 2.3. The hypotheses to be tested, the methodology and the results obtained on the relationship between being cross-listed and various loan terms are presented and assessed in section 2.4. Section 2.5 analyzes the impact of the stage of the borrower's home country development and loan distribution method on the results obtained in section 2.4. Section 2.6 concludes the chapter.

2.2. IMPACT OF BEING CROSS-LISTED ON LOAN TERMS

2.2.1 Impact of Being Cross-Listed on the Cost of Public Capital

Overall, listing studies provide supportive, although not unanimous, evidence about the favorable net effects of being (cross-)listed on the equity values of firms.[5] Cross-listing benefits supposedly include access to a larger investor base, increased liquidity, increased and improved

[5] For an excellent review of the earlier evidence, see Karolyi (1998). Some more recent studies from this rich literature include: Errunza and Miller (2000) who find that market liberalizations significantly decrease the cost of equity capital by about 42.2% for ADR introductions; Lins et al. (2005) who find that firms (particularly from emerging economies) have greater access to international capital markets following their cross-listing; Doidge et al. (2004) who find that a U.S. listing creates more value when foreign firms have high growth opportunities and are located in poor investor-protection countries; and Baker et al. (2002) who find that firm visibility (investor recognition) significantly increases when a firm cross-lists on the LSE and NYSE.

research coverage, higher multiples (especially in the U.S.), enhanced corporate image and public recognition, improvement in the cost and availability of capital, and lower risk. The empirical evidence finds that share prices react favorably to cross-border listings in the first month post-listing but such performance is highly variable across companies. The amount and quality of information related to cross-listing can also reduce the equity premium. Firms that cross-list in the U.S. may subject themselves to increased enforcement by the Securities and Exchange Commission (SEC), a more demanding legal environment, and enhanced disclosure and reconciliation to U.S. GAAP. Cross-listed firms may also face increased scrutiny from both retail and institutional investors. By widening the potential investor base and due to the perception that cross-listed firms are of higher quality, cross-listing should increase analyst coverage.

The limited literature on the impact of cross-listing on the cost of bonds also identifies a favorable effect for the issuing firm. Miller and Puthenpurackal (2001) examine the cost of public debt issues made by non-U.S. firms in the U.S. (Yankee) market and find that public borrower costs are lowered by 41 bps when a firm has listed or issued public securities in the U.S. prior to the debt offering, such as through ADRs or direct listing.

However, whether or not and how the potential advantages of being cross-listed hold for privately issued or hybrid debt capital needs to be studied further.

2.2.2 Cross-Listing and Syndicate Banking as Bonding Mechanisms

According to bonding theory, firms in environments with weak legal institutions that are truly dependent on outside investors for an ongoing stream of finance need to adopt mechanisms to gain the confidence of outside investors (i.e., to provide reputational differentiation) during good and bad times (Coffee, 1999; Stulz, 1999). Borrowers can choose among a variety of mechanisms for reputational bonding (Siegel, 2005). These include ongoing (syndicate) banking relationships (relationship banking), cross-listing, embedding the borrower within a network of political elites (political connectedness) and the formation of tight alliances with foreign partner-

firms (cross-border alliances). While theory suggests that firms choose the most cost-effective reputational bonding strategy for their total capital structures in order to maximize the overall value (or alternatively, minimize the cost of capital) of the firm, this does not rule out the strong likelihood that the chosen reputational bonding strategy has differential (and possibly counter) effects on the terms of the various sources of firm financing. In fact, the choice(s) of reputational bonding mechanisms is likely to have different impacts on the screening, monitoring and renegotiation aspects of the provision of the same and different types of funds to firms.

While the literature clearly identifies cross-listing as a useful bonding strategy for the equity of firms in emerging economies that lack strong legal institutions, many firms choose not to cross-list because their alternate choice(s) of bonding strategies have provided lower costs of debt than cross-listings (Siegel, 2004). Firms may decide to cross-list for equity reasons, which has been shown to be generally favorable. However, even if the overall impact of cross-listing is favorable, this does not necessarily imply that the impact is positive for each and every type of capital. Specifically, it is unclear whether the net incremental benefit in terms of reputational bonding from adding cross-listing to relationship banking is negative, positive or nil.

2.2.3 Impact of Being Cross-Listed on the Syndicate Structure and Loan Terms

Cross-listings can potentially have opposing effects on the syndicate structure and loan terms. Participating banks in loan syndicates often resell their interests in such loans at a later point in time to other investors (Kroll, 2005). If the lead arranger of the syndicated loan finds it easier to get syndicate participation when the borrower is cross-listed due to greater lender recognition of the borrower among a wider set of international lenders or enhanced liquidity due to an enlarged secondary market for the loan, then this should lead to better terms for the syndicated loans of cross-listed borrowers, especially for borrowers from developing countries.

However, if syndicates of cross-listed firms tend to be more international or larger in terms of the number of lenders involved, they could lead to increased informational asymmetries

between syndicate members.[6] These informational frictions may affect the cost of the loan. For instance, Ivashina (2005) shows that the structure of the syndicated loan affects the spread, in addition to the borrower's characteristics, and the impact is influenced by informational asymmetry and diversification considerations.

A more international and heterogeneous syndicate for cross-listed borrowers could also lead to higher expected renegotiation problems or costs for troubled loans. Theoretical frameworks that investigate choices by firms between intermediary and direct borrowing are based on the premise that intermediaries have better reorganization skills but higher opportunity costs of capital than bondholders (e.g., Cantillo and Wright, 2000). However, this advantage is not necessarily equal for all private loan distribution methods. Bank syndicates can control sector risk by downsizing an industry when market demand fails to meet expectations in order to maximize the value of bank loan portfolios. Thus, some firms that would have successfully renegotiated their loans if linked to individual creditors may be unsuccessful if financed by a syndicate (Schure, Scoones and Gu, 2005). Such restructurings are expected to be more difficult for listed firms, especially those listed on multiple trade venues. Better monitoring can also be costly. Rajan's (1992) theoretical model predicts that firms with higher probabilities of failure may he "held-up" by financial institutions for higher interest rates because of the private information gained by the banks. Santos and Winton (2005) compare loan spreads for bank-dependent borrowers with spreads for borrowers that have continuing access to public debt markets and find that, during a recession, banks raise their rates more for bank-dependent borrowers. A syndicate can also lead to difficulties in reaching a consensus when faced with problem loans or special situations (Orfanidis, 2004). A recent paper by Koziol (2006) finds that multiple lenders

[6] For discussions on the information asymmetries in syndicated loans, please consult Simon (1993), Gorton and Pennachi (1995) and Dennis and Mullineaux (2000). Panyagometh and Roberts (2003) propose two alternative hypotheses to explain loan syndication behavior in general: a reputation hypothesis and an exploitation hypothesis. Zhang (2003) compares active and drop-out lead banks and concludes that the actions of the active group are consistent with the reputation hypothesis and those of the drop-out group are consistent with the exploitation or overconfidence hypothesis.

terminate fewer loans when the borrower is not in financial distress but more when it is, as opposed to the case for single lenders. The consensus-reaching difficulties may be increased if the loan is disparate in terms of its members.

Finally, when a foreign borrower raises capital in its domestic market, the local bank, presumed to be better informed about local borrowers and more able to navigate the local legal system, can act as main monitor within the syndicate and can help reduce the borrowing cost. If the firm shifts after a cross-listing from smaller local branches to larger international banks that do not necessarily operate in the borrower's market directly, then the information advantage of the debt syndicate may be reduced and a monitoring premium needs to be added to the spread, everything else held equal.[7]

Thus, the net impact of being cross-listed on the terms of loans differentiated by distribution method is ambiguous, and is a question that can benefit from empirical inquiry.

2.3 SAMPLE SELECTION AND DESCRIPTION

2.3.1 Sample of Foreign Borrowers and Loans

Information about (non-)price terms of loans comes from Dealscan, a database available from the Loan Pricing Corporation (LPC). The data are organized by deal and facility, where a deal consists of one or more facilities (such as a term loan and a credit line) or tranches, and defines a contract signed between a borrower and a lender at a particular date. The database contains 42,803 loan tranches made to foreign (non-U.S.) borrowers between 1994 and 2004. Since Dealscan only provides (generally incorrect) tickers for a very small percentage of these borrowers, ISIN numbers for the public borrowers are obtained manually using Bloomberg. This results in a sample of 17,809 loan facilities to public foreign borrowers, for which 10,452 have a

[7] We distinguish between multinational banks that physically operate in more than one country and international banks that engage in cross-border operations but do not set up operations in other countries.

positive facility amount.[8] Because Dealscan has little information about the borrower, *Datastream Worldscope* is used to obtain accounting and market data prior to the loan active dates.[9]

Certain borrower types may be overrepresented in Dealscan. Specifically, Dealscan firms are much larger and more profitable than other Compustat or Datastream firms, and are more likely to be rated firms and firms with more tangible assets (Strahan, 1999). This arises because one of the primary sources of data for Dealscan is self-reports by lenders who wish to appear on LPC's public rankings of top syndicators.

2.3.2 Cross-listing and ADR Sample

Datastream is used as the main provider of information for active and dead listings (including ADRs and GDRs) for foreign (non-U.S.) companies in either the U.S. (AMEX, NYSE, Nasdaq, OTC or via the 144a rule) and the U.K. (LSE, AIM or London Dutch Trading System).[10] This list is completed by adding 2,085 active ADRs obtained from the Bank of New York web site.[11] Although Lee (2003) argues that the difference between an ADR program and direct listing is insignificant and not relevant for his study, such a distinction may be important for our research.

After removing loan facilities for amounts below $500,000 and including all the necessary regression variables, the final sample consists of 4,254 loan facilities, including 1,123 tranches to foreign companies involved in a depositary receipt (DR) program and 841 loan tranches to directly cross-listed foreign borrowers.[12] The remaining observations are deemed to be neither from DRs nor cross-listed firms and thus represent our sub-sample of foreign public firms not cross-listed in the U.S. or the U.K. Based on table 2.2, more than two-thirds of these loans, or

[8] Borrowers can appear more than once in the sample, either because the deal has more than one facility or because the borrowers are involved in more than one deal.
[9] Although this does not ensure that the accounting information was publicly available at the time of the loan, this should not matter for bank loans since private lenders usually have access to this private information. This is in fact a major distinguishing characteristic between bank and public financing.
[10] Constraining the sample to non-U.S. foreign borrowers is not material since very few domestic firms listed in the U.S. in our sample are also listed on the LSE.
[11] These ADRs are from a variety of possible depositaries (including the Bank of New York, J.P. Morgan Chase, Deutsche Bank AG, Citibank, etc.) and are traded on the NYSE, AMEX, Nasdaq, or OTC.
[12] Results are similar when smaller loan facilities are not excluded.

68.09%, occur in the 2000-2004 period.[13] DRs represent the biggest sub-sample of cross-listed borrowers, with slightly more than one quarter of the sample (26.40%). U.K. cross listings constitute the largest sub-sample of directly cross-listed borrowers.

[Please insert table 2.2 about here.]

The manufacturing, transportation/communication and financial sectors, respectively, account for 36.93%, 18.83% and 18.64% of the loans. Firms from the Western European region and the Asian-Pacific region account for 51.57% and 30.54% of all facilities, respectively. Term loans account for 1,761 (41.40%) of the loan facilities, followed by revolver loans or lines of credit. More than half of the loans are for debt restructuring or general corporate purposes. The annual average facility amounts appear to be trendless, with yearly averages ranging from 276.9 million in 1996 to 644.6 million in 2000. Borrowers cross-listed in the U.S. exhibit the highest overall average spread of 148 basis points or bps.

2.4 RELATIONSHIP BETWEEN LOAN TERMS AND CROSS-LISTING SITUATION OF THE BORROWER

2.4.1 Relationship Between Loan Spreads and Cross-listing Situation of the Borrower

While cross-listing may be beneficial for the equity of a foreign firm, its impact on debt (especially, privately negotiated loans) is an empirical question, as discussed earlier in section two. Thus, the first hypothesis tested, $H_0^{2.1}$, is:

$H_0^{2.1}$: All else held equal, loan spreads for foreign public firms do not depend on their cross-listed status.

[13] The smaller proportion of loans in the earlier years of the sample is consistent with the growth trend since 1994 reported by Yago and McCarthy (2004), and also with the numbers from the Federal Reserve's Shared National Credit Program, which reports that the value of syndicated loans outstanding nearly doubled between 1995 and 2001.

To investigate this hypothesis, the all-in loan spread (*SPD*) over LIBOR is regressed on a series of variables that are defined subsequently and are known to affect the cost of debt and dummy variable(s) that capture the firm's (un)differentiated cross-listed status.[14] Specifically:

$$SPD = \beta_0 + \beta_1 * LISTING + \beta_2 * SIZE + \beta_3 * LEVERAGE + \beta_4 * PROFIT + \beta_5 * VOLATILITY + \beta_6 * RETSTOCK + \beta_7 * INDUSTRY + \beta_8 * ICRG + \beta_9 * COUNTRY + \beta_{10} * EMERGING + \beta_{11} * LEGAL + \beta_{12} * INFO + \beta_{13} * MTY + \beta_{14} * AMT + \beta_{15} * TYPE + \beta_{16} * PURPOSE + \beta_{17} * SYNDICATE + + \beta_{18} * LOAN - REGION + \beta_{19} * INTRAREGIONAL + \beta_{20} * LENDERS + \beta_{21} * YIELD - CURVE + \beta_{22} * DEFAULT - RATE + \beta_{23} * INDEX + \beta_{24} * RETMARK + \beta_{25} * VOLMARK + \beta_{26} * YEAR + \varepsilon \quad (2.1)$$

2.4.1.1 Borrower-specific variables

LISTING is a dummy variable that is equal to 1 if the foreign firm is cross-listed (including DRs) in the U.S. and/or U.K and is zero otherwise. *USCROSS, UKCROSS* and *USUKCROSS* equal 1 if the firm is cross-listed in the U.S., U.K. or both the U.S. and U.K., respectively, and is zero otherwise. *DUMDR* equals 1 if the firm is traded as a depositary receipt (DR) in the U.S. or the U.K. and is zero otherwise.

SIZE is the log of the inflation-adjusted U.S. dollar book value of the assets of the borrower, which is observed at the nearest date before the loan active date and is adjusted using the Consumer Price Index (CPI).[15] Everything else held equal, the loan spread should be lower with larger firm size (Strahan, 1999). Since larger firms are more likely to be well established, informationally transparent and have access to relatively stable cash flows that can service debt, this should lower both default risk and its associated spread.[16] While loan spreads could be

[14] The all-in loan spread includes other types of fees that can also be charged on a loan, such as cancellation, commitment or annual fees. For facilities priced over other base rates (i.e., HIBOR, SIBOR, TIBOR, Euribor BBSW, etc.), the credit spread is adjusted by adding or subtracting the average differential between the actual base rate and the corresponding LIBOR for the year prior to the deal active date. In a test of robustness, similar results obtain for a smaller sub-sample of 3,018 loan facilities, which consists only of loans originally priced over LIBOR.

[15] Although the ratio of loan size to borrower size can also provide information about the credit risk of the borrower, it is excluded due to its correlations with SIZE and AMT. Nevertheless, similar (unreported) results are obtained for regression (1) when this ratio replaces both SIZE and AMT.

[16] Although the Dealscan database is already biased towards larger and more profitable firms, not all of the firms in the sample may be eligible to cross-list. To avoid inference problems caused by this endogeneity

positively related to loan sizes given increased credit risk concentration (nongranularity), such should not be the case herein since syndication is designed to manage such risk concentrations.

LEVERAGE is the borrower's non-negative debt-to-equity ratio reported in Datastream, which is calculated by dividing the summation of short- and long-term debt by common equity, both measured at their book values. The expectation is that spreads are positively related with financial leverage due to the greater risk of future insolvency associated with greater debt-to-equity ratios.[17]

PROFIT is the profitability of the borrower as measured by the return on equity (ROE). The expectation is that the spread is negatively related to the profitability of the borrower due to the reduction in default risk with higher ROEs, all else held equal.

VOLATILITY is a measure of the risk of the borrower based on the volatility of its daily stock returns over the six months prior to the loan origination.[18] The expectation is that the spread is positively related to the volatility of the borrower due to the positive relation between volatility and default risk.

RETSTOCK proxies for variables related to the cost of capital and for managers' performance and ability. This variable is measured by the average daily stock return over the six months prior to loan origination. The expectation is that the spread is negatively related with this variable since higher stock returns signal higher forecasted earnings, and an associated drop in the probability of financial distress.

INDUSTRY is a set of eight dummy variables based on the four-digit SIC code classification of the borrower's industry. The industry dummies are for agriculture, forestry and fishing

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issue, borrowers smaller than $50 million in assets and with earnings lower than $2.5 million are removed from the sample in a test of robustness. Results are similar using this and other screens.

[17] The Z-score developed by Altman (1968), which includes five financial ratios related to a company's probability of failure (i.e., EBIT/Total assets, Net sales/Total assets, Market value of equity/Total liabilities, Working capital/Total assets and Retained earnings/Total assets), is also used as an explanatory variable. However, because the Z-score can not be calculated for a majority of the foreign borrowers, it is used in a test of robustness for a sub-sample with the required data with similar results.

[18] Stock price volatility is used instead of earnings volatility due to the unavailability of quarterly earnings observations from Datastream, especially before 2000.

(*INDUSTRY-AG*), construction (*INDUSTRY-CON*), finance, insurance and real estate (*INDUSTRY-FIN*), manufacturing (*INDUSTRY-MAN*), mining (*INDUSTRY-MIN*), retail trade (*INDUSTRY-RE*), services (*INDUSTRY-SER*), and transportation, communications, etc. (*INDUSTRY-TRAN*).

ICRG (International Country Risk Guide) composite rating is a measure of the risk of the home country of the borrower, where a higher rating signals a lower overall level of political, economic and financial risk. The expectation is that spreads are negatively related to this variable since a higher ICRG rating signifies a more hospitable environment for the activities of the borrower and lender.

COUNTRY is a measure of fixed country effects, and consists of 17 dummy variables where countries with fewer observations are grouped together. The country dummies are: *AUSTRALIA-NZ* (Australia and New Zealand), *ASIA* (China, Indonesia, Malaysia, Pakistan, Philippines, Singapore, Taiwan and Thailand), *HONG KONG*, *INDIA*, *JAPAN*, *KOREA*, *CANADA*, *EAST-EUROPE* (Czech Republic, Hungary, Poland, Russia and Serbia and Montenegro), *CAYMAN-BERMUDA* (Cayman Islands and Bermuda), *LATIN-AMERICA* (Argentina, Brazil, Chile, Mexico, Peru and Venezuela), *WEST-EUROPE* (Austria, Belgium, Denmark, Finland, Greece, Ireland, Italy, Luxembourg, Norway, Portugal, Spain and Switzerland), *FRANCE*, *GERMANY*, NETHERLANDS, *SWEDEN*, *TURKEY* and *U.K.*[19] The control group consists of countries from Africa/Middle East (Egypt, Israel and South Africa).

EMERGING is a dummy variable that is equal to 1 if the borrower is from an emerging country and zero otherwise based on the home country's per capita GNP obtained from the International Monetary Fund. The per capita GNP of each country is compared to the low-to-middle income threshold level provided by the World Bank on an annual basis for this classification. Since the ICRG rating already controls for detailed country risk, this variable is not necessarily a proxy for risk.

[19] Similar results are obtained from a regression that excludes borrowers from Bermuda or Cayman Islands.

LEGAL is a set of two dummy variables for the classification of La Porta et al. (1998) of the legal system in the borrower's home country. The legal dummies are for civil law and socialist systems, with the common law system as the control.

INFO is the number of times that the firm has borrowed on the loan market during the five-year period prior to the active date of the deal based only on the entries in the LPC database. This variable is a proxy for information already known by the banks about a specific borrower. Thus, the expectation is that spreads are negatively related to this variable, as spreads should be lower with lower levels of informational asymmetry about the borrower.

2.4.1.2 Loan-specific variables

MTY is the maturity of the loan as measured by the number of months until loan expiration. The expectation is that spreads are higher with longer maturities due to a higher risk of principal repayment.

AMT is the log of the facility amount in U.S. dollars adjusted for inflation using the CPI between 1994 and 2004. We expect larger loans to be associated with lower spreads because financial institutions are more inclined to lower cost in order to get business.

TYPE is a set of five distinct binary variables to account for the following loan types: 364-day facility (*TYPE-364*), floating rate note (*TYPE-FRN*), letter of credit (*TYPE-LC*), term loan (*TYPE-TERM*) and revolver/line of credit (*TYPE-REV*). The remaining facilities are put into the *OTHER* class and serve as the control variable.[20] All else held equal, the spread is expected to be lower for 364-day and revolver facilities although both have greater takedown risk than for fixed-term loans.[21]

PURPOSE is a set of eight dummy variables designed to capture the following loan purposes: general corporate purposes (*PURPOSE-GEN*), LBOs (*PURPOSE-LBO*),

[20] The effect of these indicator variables on the other control variables is tested using interactive variables. Since the estimated coefficients are not significant, the effects are similar across groups.

[21] Angbazo et al (1998) observe that term loans, which are generally larger in size and have longer maturities, have larger yield spreads than revolving loan facilities.

recapitalization (*PURPOSE-RECAP*), asset acquisition (*PURPOSE-ACQ*), takeover (*PURPOSE-TAKE*), working capital (*PURPOSE-WC*), debt restructuring (*PURPOSE-REST*) and project finance (*PURPOSE-PROJ*). The highest spread is expected to be associated with LBO loans, since these credits are associated with riskier corporate investments. The loan spread is also expected to be higher for loans for financing acquisitions than general corporate loans because lenders are able to charge higher rates for providing immediacy. Similarly, loan spreads are expected to be higher for loans for debt refinancing or recapitalization (Angbazo et al, 1998) since such uses are viewed as negative NPV investments since they are usually utilized for defensive purposes in corporate control contests.

SYNDICATE is a dummy variable that is equal to one if the loan is distributed through a syndicate of lenders and 0 otherwise (i.e., club deals or bilateral loans).[22] Although no empirical evidence is reported in the literature to support a loan spread differential for syndicated versus club deals, differences may exist due to information asymmetries or relationship banking issues. Also, practitioners believe that the relative complexity of commercial lending increases with movement in distribution method from sole to club to syndicated lender transactions (Kroll, 2005).

LOAN-REGION is a set of five dummy variables used to capture where the syndicate was arranged. Sufi (2006) shows that the composition of the syndicate has important implications for information asymmetries, which may, in turn, have an impact on the price. With Latin America as the control group, the regional dummies are for U.S.-Canada (*SYND-US/CANADA*), Western Europe (*SYND-WESTEUROPE*), Eastern Europe (*SYND-EASTEUROPE*), Asia/Pacific (*SYND-ASIA*) and Africa/MiddleEast (SYND-*AFRICA*).

INTRA-REGIONAL is a dummy variable that is equal to 1 if the regions of borrower and loan arrangement are the same, and is 0 otherwise. A negative coefficient is expected for this variable.

[22] Since the data source is Dealscan, 92.7% of the loans are syndications, 5.68% (or 242 facilities) are club deals, and the remaining facilities are bilateral or sole lender loans.

LENDERS is the number of lenders participating in the loan. If fewer lenders represent best practices to promote monitoring efficiency and flexibility in restructuring (Esty and Megginson, 2003), then a negative coefficient is anticipated for this variable.

2.4.1.3 Market-specific variables

YIELD-CURVE is the slope of the yield curve as measured on a quarterly basis by the difference between long- and short-term rates, which is shown to be an important variable in the pricing of (non-) syndicated loans (Thomas and Wang, 2004). The term premium has also been shown to be related to the pricing of corporate bonds (Fama and French, 1993 or Gebhardt et al. 2005). The market used for collecting the rates is based on the loan currency (as opposed to the borrower's country) since it provides a more accurate representative of the market in which the lenders financed the loan.[23]

DEFAULT-RATE is the annual default rate associated with the loan market in which the loan was drawn, which is identified as a relevant factor in the (non-)syndicated loan market (Altman and Suggitt, 2000). The default premium is also a major component of bond return (Fama and French, 1993; and Gebhardt et al., 2005). According to their currency, loans are associated with either a global non-U.S., dollar-weighted annual default rate, or a U.S. dollar-weighted annual default rate.

INDEX is the log of the corporate borrowing index based on the total amount of loans reported by Dealscan for each month.[24] The expectation is that spreads are negatively related to this measure of loan market activity as lenders may vary the cost (or other terms) of debt according to this demand.

RETMARK is the average daily return on the market index over the 6 months prior to the loan active date. All else held equal, the expectation is that the spread is positively related with

[23] Loan facilities involving multiple currencies are considered to be in U.S. dollars since it is always one of the represented currencies.

[24] Loans from all borrowers (including U.S. borrowers and nonpublic firms) are considered since banks will adjust their spreads according to the total demand, and not just foreign or public-firm demand. Overall, the sample includes 111,799 loan facilities, for a total value of $22.18 trillion.

the market return since the borrower is more likely to raise equity when the market is performing better.[25]

VOLMARK is the standard deviation of the daily returns on the market index calculated over the six months before the loan active date. All else held equal, the expectation is that the spread is negatively related with this variable since the borrower is less inclined to consider raising equity when the market is more volatile.

YEAR is a set of indicator variables to control for general trends in the market due to business cycles over the 1994-2004 period.

Descriptive statistics on the dependent and explanatory variables are presented in table 2.3. The mean average spread is 102.32 bps over LIBOR, while the minimum and maximum spreads observed are LIBOR-274 bps and LIBOR+800 bps, respectively.[26] The smallest and largest firms in our sample have assets of $13.34 million and $882 billion, respectively. The amounts loaned vary from $510,000 to almost $16 billion. The shortest loan facility is for 1 month while the longest is for 29 years. Based on an unreported matrix of Pearson correlation coefficients, most of the correlation coefficients are low, with the highest being 0.497 between loan amount and borrower size.[27]

[Please insert table 2.3 about here.]

[25] There is an extensive literature on "equity market timing", which refers to the practice of issuing shares at high prices and repurchasing at low prices. See, among others, Brav and Gompers (1997) or Baker and Wurgler (2002).

[26] Negative spreads are observed for two reasons: i) some loans are directly priced below LIBOR by the lender to reflect the borrower's very high quality, and ii) some loans are priced over a non-LIBOR base rate and the conversion generates a negative spread.

[27] To formally detect multicollinearity, Variable Inflation Factors (VIF) are calculated. A VIF is defined as the coefficient of multiple determination of the regression produced by regressing each variable X_i against the other X variables. Belsey, Kuh, and Welsch (1980) suggest that weak dependencies may be starting to affect the regression estimates when the VIF is around 10 or higher. None of the VIFs exceed 10. Although the inclusion of the *COUNTRY* dummies increases some VIF to values slightly above 10, a careful examination shows that the coefficients and their significance are almost identical for all variables, except for *EMERGING* and *CIVIL*. By removing the *COUNTRY* dummies, which eliminates the multicollinearity problem, *EMERGING* and *CIVIL* are both negative and significant. All variables are kept in the reported tables.

The regression results for a test of H_0^1 using the (un)differentiated cross-listing dummy(ies) are summarized in table 2.4.[28] The undifferentiated listing dummy is a significant 5.35, which implies that the loans of cross-listed foreign firms carry larger spreads.[29] When differentiated by cross-listing venue, the average loan spread is significantly different (higher by 13.12 bps) for U.K. cross-listings only.

[Please insert table 2.4 about here.]

With a few exceptions, all of the estimated coefficients for the remaining independent variables for which unambiguous expectations were stated earlier have the correct sign. The size of the company is inversely and significantly related to the loan spread with coefficients of 8.29 and 8.71. The leverage of the borrower is significant only in the first regression, with a very small coefficient of 0.003. The relationship between the profitability of the borrower and the loan spread is significant but of low magnitude, as reflected by the small coefficients of -0.06. As anticipated, the volatility of the borrower's stock return is positively and significantly related to the spread (with spread changes of 15.16 and 15.10 bps in the first and second regressions, respectively, for each percentage increase in volatility). The estimated coefficient of the stock return is not significant. Only a few of the seven industry dummies provide significant explanatory power. All else held equal, loan spreads are higher for borrowers from the construction sector and the communications and transportation sector, and lower for financial institutions. As expected, the rating of the borrower's country is negatively and significantly related to the spread, showing a decrease of 3.02 and 2.97 bps for every additional percent increase in the country's ICRG composite rating. In terms of fixed country effects, countries

[28] To ensure that the results are not biased by outliers, observations for which the borrower has a leverage greater than 500%, profitability ratio greater than 100%, and stock return greater than 100% are removed. Results are similar for this reduced sample of 3,852.

[29] To correct for heteroscedasticity caused by the possibility that errors for same-firm observations may be correlated, we use a consistent variance-covariance matrix (obtained asymptotically), which allows for dependence within clusters of data concerning the same company, to compute robust test statistics for the parameter estimates.

from the *ASIA* group, India and Turkey receive lower spreads than the control group, everything else held equal, while companies from the Netherlands pay more on average. Borrowers from emerging countries also pay a significantly larger spread on their loans. The legal system does not have a significant impact on the spread paid.

The number of past loans involving the borrower is positively and significantly related to the loan spreads.[30] The number of months before maturity is positively and significantly related to the required spread, although its economic impact is small (0.20 and 0.19 bps, respectively). The loan amount is negatively related to the spread, and the spread decreases by more than 0.09 bps (in both regressions) for every 1% increase in the amount borrowed. With regard to facility type, only revolvers, lines of credit and 364-day facilities provide significant (and negative) coefficients in both regressions. Revolver loans appear to require spreads that are lower by 30.86 and 31.19 bps, while 364-day facilities require spreads that are lower by 39.73 bps and 40.22 bps. The eight binary variables used to capture loan purpose are significant and positive in the two regressions. Not surprisingly, the largest impact on the spread is for LBO loans, which require, on average 143.04 and 142.93 bps more in terms of credit spreads. Loans for recapitalizations, asset acquisitions, takeovers and project financings require higher spreads of between 31 and 58 bps. Working capital loans require 29.32 and 29.37 bps higher spreads, while general purposes facilities carry higher spreads of 13.15 and 13.36 bps.

Loans that are distributed using lender syndicates (*SYNDICATE*) are associated with larger spreads, on average. While loans arranged in the U.S. or Canada carry higher spreads than the control group, those arranged in all the other regions carry lower spreads. If the region of arrangement is the same as that for the borrower (*INTRA-RELATIONAL*), the spread is lower, everything else held equal.

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[30] Although the variable *INFO* captures the number of past loans in Dealscan, it does not consider other loans or business that may have been contracted between the bank and the foreign borrower that are not reported in the database. Further, *INFO* does not account for a relationship between a specific lender and the borrower.

Unlike the default rate (*DEFAULT-RATE*), the slope of the yield curve (*YIELD-CURVE*) in the loan market is significantly related to the spread, with coefficient estimates of 3.15 and 3.12 bps in the first and second regressions, respectively. As anticipated, the loan activity index (*LOAN-INDEX*) has a significant relationship with the spread, with estimated coefficients of -8.43 and -8.49 bps. The market return (*RETMARK*) at the loan effective date is significantly related with spreads in both regressions with estimated coefficients of 0.34. The volatility of market returns (*VOLMARK*) at the time of the loan transaction is also significantly related to the loan spreads, with coefficients of 14.85 and 14.67, respectively. The calendar dummies for all the years between 1998 and 2004 are significant and positive, indicating a cyclical component in the spreads.

2.4.2 Relationship Between Other Loan Terms and the Cross-listing Situation of the Borrower

The use of loan spreads as the sole measure of the cost of debt may not fully capture other loan terms that might be related to the default risk of the borrower or its listing situation. Instead of (or in addition to) varying the loan cost to reflect the impact of cross-listing, lenders can alter the non-price terms of the loan. For instance, banks can control their exposure to risk by limiting the quantity that they lend to a specific borrower or the loan maturity (Strahan, 1999). To verify whether the foreign cross-listing status of a borrower affects these two nonprice terms of the loan, the following hypothesis, $H_0^{2.2}$, is now tested:

$H_0^{2.2}$: All else held equal, the nonspread terms of loans (such as loan size and maturity) for foreign public firms do not depend on their cross-listed status.

Loan size is examined because practitioners often cite the increased access to new capital as an important reason for issuing stocks or DRs abroad. Whether this translates into cross-listed companies being able to secure bigger loans than their domestic-only listed counterparts is an empirical issue. To test the second hypothesis, three reformulations of regression model (2.1) are

re-estimated. In the first reformulation of regression model (2.1), the log of the total dollar facility (*AMT*) is the dependent variable instead of the loan spread, and loan spread (*SPD*) is added as an independent variable to the regression model. Specifically:

$$\begin{aligned} AMT = {} & \beta_0 + \beta_1 * LISTING + \beta_2 * SIZE + \beta_3 * LEVERAGE + \beta_4 * PROFIT + \beta_5 * VOLATILITY \\ & + \beta_6 * RETSTOCK + \beta_7 * INDUSTRY + \beta_8 * ICRG + \beta_9 * COUNTRY + \beta_{10} * EMERGING + \beta_{11} * LEGAL \\ & + \beta_{12} * INFO + \beta_{13} * MTY + \beta_{14} * SPD + \beta_{15} * TYPE + \beta_{16} * PURPOSE + \beta_{17} * SYNDICATE + \\ & + \beta_{18} * LOAN - REGION + \beta_{19} * INTRAREGIONAL + \beta_{20} * LENDERS + \beta_{21} * YIELD - CURVE \\ & + \beta_{22} * DEFAULT - RATE + \beta_{23} * INDEX + \beta_{24} * RETMARK + \beta_{25} * VOLMARK + \beta_{26} * YEAR + \varepsilon \end{aligned}$$

(2.2)

In the second reformulation of regression model (2.1), the relative loan amount to borrower size (*RELAMT*) is the dependent variable instead of the loan spread, and the independent variables, loan spread (*SPD*) and facility amount (*AMT*), are respectively added and removed from the regression model. Specifically:

$$\begin{aligned} RELAMT = {} & \beta_0 + \beta_1 * LISTING + \beta_2 * SIZE + \beta_3 * LEVERAGE + \beta_4 * PROFIT + \beta_5 * VOLATILITY \\ & + \beta_6 * RETSTOCK + \beta_7 * INDUSTRY + \beta_8 * ICRG + \beta_9 * COUNTRY + \beta_{10} * EMERGING + \beta_{11} * LEGAL \\ & + \beta_{12} * INFO + \beta_{13} * MTY + \beta_{14} * SPD + \beta_{15} * TYPE + \beta_{16} * PURPOSE + \beta_{17} * SYNDICATE + \\ & + \beta_{18} * LOAN - REGION + \beta_{19} * INTRAREGIONAL + \beta_{20} * LENDERS + \beta_{21} * YIELD - CURVE \\ & + \beta_{22} * DEFAULT - RATE + \beta_{23} * INDEX + \beta_{24} * RETMARK + \beta_{25} * VOLMARK + \beta_{26} * YEAR + \varepsilon \end{aligned}$$

(2.3)

In the third reformulation of regression model (2.1), the maturity of the loan is the dependent variable instead of the loan spread, and loan spread (*SPD*) and loan maturity (*MTY*), respectively, are added and removed as explanatory variables. Specifically:

$$\begin{aligned} MTY = {} & \beta_0 + \beta_1 * LISTING + \beta_2 * SIZE + \beta_3 * LEVERAGE + \beta_4 * PROFIT + \beta_5 * VOLATILITY \\ & + \beta_6 * RETSTOCK + \beta_7 * INDUSTRY + \beta_8 * ICRG + \beta_9 * COUNTRY + \beta_{10} * EMERGING + \beta_{11} * LEGAL \\ & + \beta_{12} * INFO + \beta_{13} * AMT + \beta_{14} * SPD + \beta_{15} * TYPE + \beta_{16} * PURPOSE + \beta_{17} * SYNDICATE + \\ & + \beta_{18} * LOAN - REGION + \beta_{19} * INTRAREGIONAL + \beta_{20} * LENDERS + \beta_{21} * YIELD - CURVE \\ & + \beta_{22} * DEFAULT - RATE + \beta_{23} * INDEX + \beta_{24} * RETMARK + \beta_{25} * VOLMARK + \beta_{26} * YEAR + \varepsilon \end{aligned}$$

(2.4)

The results for regression (2.2) are presented in table 2.4. The model explains a high percentage of the variance in loan amounts or sizes (R-square almost 60%). Only the estimated coefficient for *UKCROSS* is significantly related to the loan amount. Thus, borrowers that are

cross-listed in the U.K. receive loans that are 12.61% (or 1.13 times) larger in amount, all else held equal.

Regarding the control variables, the estimated coefficient for borrower size is significantly and positively related to loan size. All the industry dummies, except for the construction and financial sectors, are significant and associated with larger loan amounts. The biggest differential occurs for borrowers from the agricultural industry, where loan sizes are about 1.75 times those for the control companies. Borrowers from Australia/New Zealand, from the *EAST-EUROPE* group or the U.K. (and Sweden for the second regression) are significantly associated with larger loan amounts, while borrowers from India and Korea are associated with lower loan amounts. Borrowers from emerging countries are significantly associated with larger loan amounts. Past information and loan spreads are both negatively related to the loan amount. Regarding the type of loan, revolvers exhibit a significantly positive relationship with loan size. The coefficients for four (3 for the second regression) of the eight purpose dummies are significant. Takeovers and restructuring as loan purposes have positive and significant relations with the amount loaned. The estimated coefficients for the dummies capturing loans for LBOs and recapitalizations are significant and negative. Loans arranged in the U.S. or Canada or in Western Europe are significantly larger, everything else held equal, while those that are arranged in Eastern Europe are significantly smaller. If the borrower's and arrangement's regions are the same, the loan amount is significantly larger. The loan amount also increases significantly with the number of lenders. Finally, the slope of the yield curve and the loan activity index are significantly and positively related to the amount loaned.

The results for regression (2.3) on the relative loan amount (i.e., relative to borrower size) are presented in Table 2.5. The estimated coefficients for both *LISTING* and *UKCROSS* are positive and significant, which indicates that cross-listed borrowers (in the U.K.) obtain higher loan sizes relative to borrower sizes than their noncross-listed counterparts, all else held equal. Although

the explanatory power of the model is weaker than for regressions (2.1) and (2.2) reported earlier, the significant coefficients for the control variables have their expected signs.

[Please insert table 2.5 about here.]

The results for the regression of the maturity of the loan facility on the listing situation of the borrower (model 2.4) also are presented in table 2.5. Only the U.K. cross-listing variable (*UKCROSS*) is significantly related to the loan maturity, with a positive coefficient of 3.07. Among the significant coefficient estimates for the control variables, *PROFIT* and *VOLATILITY* are negatively related to loan maturity. While the transport & communication sector has significantly longer loan maturities, the financial sector has significantly shorter loan maturities. Loans that are distributed through a syndicate of lenders have longer maturities on average.

2.4.3 Relationship Between Composite Measures of Loan Spread and Other Loan Terms with the Cross-listing Situation of the Borrower

Before proceeding, note that since few additional insights are gained by providing additional full regression results, we only report the regression results for the listing dummies in the remainder of the chapter. Since the spread and the other terms (e.g., size) of the loan are set simultaneously by the lender, regression model (2.1) is modified in that a composite measure of spread-cost-to-loan-size (*SPD/AMT*) is now used as the dependent variable instead of the loan spread (*SPD*). Specifically:

$$\begin{aligned} SPD/AMT = {} & \beta_0 + \beta_1 * LISTING + \beta_2 * SIZE + \beta_3 * LEVERAGE + \beta_4 * PROFIT + \beta_5 * VOLATILITY \\ & + \beta_6 * RETSTOCK + \beta_7 * INDUSTRY + \beta_8 * ICRG + \beta_9 * COUNTRY + \beta_{10} * EMERGING \\ & + \beta_{11} * LEGAL + \beta_{12} * INFO + \beta_{13} * MTY + \beta_{14} * TYPE + \beta_{15} * PURPOSE + \beta_{16} * SYNDICATE + \\ & + \beta_{17} * LOAN - REGION + \beta_{18} * INTRAREGIONAL + \beta_{19} * LENDERS + \beta_{20} * YIELD - CURVE \\ & + \beta_{21} * DEFAULT - RATE + \beta_{22} * INDEX + \beta_{23} * RETMARK + \beta_{24} * VOLMARK + \beta_{25} * YEAR + \varepsilon \end{aligned}$$

(2.5)

In (2.5), the composite measure of spread-cost-to-loan-size is calculated as the spread divided by the log of the loan size, and is analogous to the reciprocal of the Amivest ratio as justified by Amihud (2002) to measure market illiquidity as the ratio of absolute return to traded

volume. Since our composite measure decreases as loan size increases for a fixed spread, and decreases as spreads decrease for a fixed loan size, it provides a good measure of average loan cost per dollar borrowed. These properties also apply to both the dollar measure of loan size and to the ratio of loan to borrower size.

The regression results for this cost-to-loan-amount measure are reported in table 2.6. As expected given the results reported in earlier sections of this chapter, the coefficient estimate for *LISTING* and *UKCROSS* are positive. Thus, average cost-per-dollar of debt is only significantly different (and higher by 7 bps) for borrowers that are cross-listed in the U.K.

[Please insert table 2.6 about here.]

Regression model (2.1) is further modified by using a composite measure of spread-cost-to-loan maturity (*SPD/MTY*) as the dependent variable. Specifically:

$$\begin{aligned} SPD/MTY = {} & \beta_0 + \beta_1 * LISTING + \beta_2 * SIZE + \beta_3 * LEVERAGE + \beta_4 * PROFIT + \beta_5 * VOLATILITY \\ & + \beta_6 * RETSTOCK + \beta_7 * INDUSTRY + \beta_8 * ICRG + \beta_9 * COUNTRY + \beta_{10} * EMERGING + \beta_{11} * LEGAL \\ & + \beta_{11} * INFO + \beta_{12} * AMT + \beta_{13} * TYPE + \beta_{14} * PURPOSE + \beta_{15} * SYNDICATE + \\ & + \beta_{16} * LOAN - REGION + \beta_{17} * INTRAREGIONAL + \beta_{18} * LENDERS + \beta_{19} * YIELD - CURVE \\ & + \beta_{20} * DEFAULT - RATE + \beta_{21} * INDEX + \beta_{22} * RETMARK + \beta_{23} * VOLMARK + \beta_{24} * YEAR + \varepsilon \end{aligned}$$

(2.6)

The composite measure in (2.6) is analogous to the one in (2.5) and is calculated as the spread divided by the loan maturity in months. The coefficient estimates for the cross-listing dummies presented in table 2.6 are not significant.

2.5 RELATION OF LOAN TERMS WITH ECONOMIC DEVELOPMENT OF BORROWER'S HOME COUNTRY AND LOAN DISTRIBUTION METHOD

The literature reviewed in section 2.2 primarily links the bonding hypothesis to the state of development of the borrower's home country. Specifically, firms that can benefit the most from reputational differentiation are those with limited access to capital or weak legal institutions. The impact of cross-listing (or any other bonding mechanism) is therefore anticipated to be greater for

borrowers from emerging countries. To test whether this is the case, the following hypothesis, $H_0^{2.3}$, is now tested:

$H_0^{2.3}$: All else held equal, the various loan terms are unrelated to the borrower's cross-listed status regardless of whether the borrower is from an emerging or developed country.

The literature reviewed in section 2.2 also identifies a number of loan characteristics that vary according to the loan distribution method. Problems due to asymmetric information or consensus-reaching, for example, are clearly stronger when multiple lenders are involved than when only a single lender is present. Consequently, if cross-listing has an impact on the structure of the multiple-lender syndicate and the associated costs, we may find that the impact of cross-listing on syndicated loans is different from the impact on non-syndicated loans. We may also find different impacts within the general multiple-lender structure. Specifically, in a traditional syndicated loan, the price and structure of the loan are determined in a bargaining process that takes place between the lead bank and the potential participants after the non-price characteristics of the loan are set. Although a club deal also usually involves an arranging or lead bank, it can be argued that the role is more administrative than informative since all syndicate members are chosen by the borrower, and presumably have established relationships with it. If the information asymmetries between lenders and borrowers increase when borrowers are cross-listed, we anticipate the impact to be stronger for syndicated loans than for club deals or other distribution methods. Thus, the impact of cross-listing is anticipated to be unfavorable (or at least less favorable) to the firm only in the case of syndicated loans. To test whether this is empirically the case, the following hypothesis, $H_0^{2.4}$, is tested:

$H_0^{2.4}$: All else held equal, the impact of being cross-listed on the terms of loans does not depend upon whether the loans are syndicated or not.

To test these hypotheses, two- and three-way interactive variables that combine the listing status and the economic development of the borrower's home country and the method of

distribution are added to models (2.1) to (2.6).[31] To facilitate the interpretation of the coefficients and to limit the number of dummy variables, countries that are categorized as socialist countries are removed from these tests. The final sample consists of 4,187 loan transactions.[32] The various dummy variables are described in table 2.7.

[Please insert table 2.7 about here.]

2.5.1 Initial Results

The estimated coefficients for the (un)differentiated cross-listing dummies for models (2.1) to (2.6) are reported in table 2.8. Being cross-listed in the U.S. is now associated with a significant and negative impact on the spread, which is consistent with the literature findings for equity. However, if the loan is distributed by a syndicate, this spread decrease disappears and the net effect becomes positive.[33] The positive coefficient for *UKCROSS* found earlier is still positive but insignificant when the impact of syndicate lending is removed. The significantly negative coefficients for *EMER-UKCROSS* and *EMER-DUMDR* indicate that borrowers from emerging markets that are cross-listed in the U.K. or use DRs pay smaller spreads for non-syndicated loans. Overall, being cross-listed has a favorable (negative) impact on spreads if the borrower is from an emerging country. However, if the loan is syndicated, the net effect is an increase in the loan spread. The impact on loan maturity is positive for borrowers from emerging countries if they are cross-listed with DRs but significantly negative if the loan is syndicated.

[Please insert table 2.8 about here.]

Borrowers cross-listed with DRs from emerging countries have significantly higher [lower] loan sizes (AMT) for [non]syndicated loans. The loan size and relative loan size are significantly

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[31] Some of the three-way interactive variables are not added because they are linear combinations of the two-way interactive variables.

[32] No borrowers from emerging markets are listed in the U.S. or listed in both the U.S. and U.K. The control group for the syndication dummy is a combination of club deals and bilateral or sole lender loans. Results are similar if only the more frequent club deals are retained or if only bilateral loans are retained.

[33] In the interactive models, *SYNDICATE* is insignificant, indicating that the impact of the distribution method is not significant when *LISTING* (or its differentiated measures) is equal to zero.

higher [lower] if the loan is [not] syndicated. Borrowers cross-listed in the U.S. obtain significantly smaller spreads relative to loan amounts and significantly higher spreads relative to loan maturity, especially for syndicated loans. Borrowers from emerging countries receive significantly lower spreads relative to both loan amounts and loan maturities if cross-listed in the U.K., and significantly lower spreads relative to loan amounts if cross-listed using DRs.

2.5.2 Tests of Robustness

Three additional tests are now conducted to determine if the higher costs associated with cross-listing for syndicated loans are robust. The first test of robustness examines the average spreads before and after cross-listing for a sample of 119 cross-listed borrowers with syndicated loans in both the pre- and post-cross-listing periods. The average spread increases by a highly significant (p-value of 0.0084) 16.5 bps (i.e., from 65.16 to 81.65 bps). This average increase in cost after cross-listing, which does not account for all the control variables given the sample size, is larger in magnitude to that attributed to being cross-listed versus being non-cross-listed for the much larger sample of borrowers in the syndicated loan market reported earlier in the section 2.5.1 of this chapter.

The second test of robustness strives to verify, at least partially, the effect of the distribution method. To this end, we divide the sample of before-and-after cross-listed firms into club deals and syndicated loans (for the "after" transaction).[34] Although the sub-sample of club deals includes only 10 observations, results show that spreads do not increase significantly post-cross-listing for this distribution method, while the increase for the syndicated loan sub-group post-cross-listing is 21.99 bps.

The third test of robustness compares the relative change in average spreads for the sample of cross-listing borrowers with syndicated loans in both the pre- and post- cross-listing periods that can be matched with a sample of non-cross-listed borrowers with syndicated loans in both the pre- and post- cross-listing periods. The order of implementation of the matching criteria is

[34] No bilateral loans are available in the sample.

country, industry and loan type. This yields a matched sample consisting of 110 cross-listed borrowers. Although the average size of the cross-listed borrowers far exceeds that of the non-cross-listed borrowers, and loan spreads and borrower size are subsequently shown to be inversely and significantly related, the average relative (or differenced) spread change of 11.5 bps is significant at the 10% level (p-value of 0.096). Spreads change significantly from 45.03 bps to 64.15 bps for the cross-listed borrowers and insignificantly from 51.90 bps to 59.52 bps for the non-cross-listed sample from the pre- to post- cross-listing periods.

Thus, the results reported earlier in the text of the paper are robust to the use of these alternative test methodologies. However, the results of these robustness tests should be interpreted cautiously, as the listing venues are not evenly distributed. Out of the 119 cross-listed borrowers used in the first robustness test, only 2 are listed in the U.S. (both traded OTC), 7 are listed in the U.K. (2 in the Dutch Trading System, 3 from the International Retail Service and 2 from the International Order Book), and the remaining borrowers are listed with DRs.

2.6 CONCLUSION

Important conclusions can be drawn from the findings reported in this chapter, which control for interactive effects, and assuming that all else is held equal. Firstly, foreign borrowers that are cross-listed directly in the U.S. obtain loans with materially lower spreads, marginally lower amounts and lower spread-costs-to-loan-amounts if the loan is not syndicated. Being cross-listed in the U.K. does not have a significant impact on the loan spread but is related to higher absolute and relative loan amounts if the loan is not syndicated. The spread results are robust to an alternative (event-study) empirical methodology.

Secondly, compared to their developed country counterparts, borrowers from emerging economies pay lower spreads or composite spread-costs-to-loan-amounts if listed in the U.K. or with DRs (American or Global) and receive higher amounts and longer maturities if listed via DRs for loans that are not syndicated. Thirdly, in almost all cases, any positive impact of being

cross-listed is either negated or reversed for loans distributed by syndicates of lenders. Listed borrowers in the U.S. pay higher syndicated loan spreads but lower spreads-to-maturities when loans are syndicated. Spreads-to-loan-amounts for borrowers cross-listed in the U.S. or in the U.K. are associated with the interactive effect of syndication and being cross-listed.

The interactive effect of being cross-listed and loan syndication is puzzling and requires further study. Nonetheless, the results reported herein have interesting implications for the various players in the financial system. For firms who plan to facilitate the internationalization of their financing through listing on a foreign exchange, the findings reported herein indicate that they should examine the impact of being cross-listed on the overall cost of capital. The major trade venues in the U.S., the U.K. or elsewhere should analyze the findings reported herein to better understand the differences between their listing locations. Since these venues are in constant competition for new listings and their associated order flow, knowledge about the benefits and costs to their clientele of listed firms can prove valuable in the development of their marketing strategies.

Finally, although financial institutions generally do not influence the listing decisions of borrowers, they can benefit from the information signaled by the borrower's listing situation. It appears that this signal provides additional information about credit risk and syndication costs that can be used by lenders to set the terms for syndicated loans for non-U.S. borrowers.

CHAPTER 3

ARE CURRENT SYNDICATED LOAN ALLIANCES RELATED TO PAST ALLIANCES?

3.1 INTRODUCTION

The syndicated loan market is one of the most important sources of financing for large and medium-sized companies. In 2003, the U.S. syndicated loan market totaled over $2 trillion in drawn and undrawn commitments.[35] This market is becoming more transactional in nature, with qualities typically associated with public capital markets, such as the availability of loan ratings and participation by non-banks.[36] However, this trend away from the traditional bilateral lender-borrower relationship does not diminish the importance of lender-lender relationships. The sustainability of the syndicated loan market relies on a complex network of international ties between financial institutions. Without these alliances, banks could support neither the risk levels implicit in the size of these corporate loans nor the borrower and country risk exposures they add to individual bank portfolios. These loans help ensure granularity in the loan portfolios of individual banks.

While most inter-bank relationships are not observable to outsiders, loan syndicates represent visible manifestations of bank interactions that can be studied. The expanding literature on syndicated loans ranges from syndicate composition to agency problems, but little is known about the underlying relationships behind this activity. Except for a paper by Sufi (2006) whose development appears to coincide with this chapter, most of the research concerning the dynamics

[35] This statistic is from the *Federal Deposit Insurance Corporation* (FDIC) web site.
[36] Yago and McCarthy (2004) examine the characteristics and developments of the primary and secondary syndicated loan markets in the U.S. For an excellent review of trends in this market, please see the paper by Jones et al. (2005).

of alliances in general is theoretical and hypothesizes (logically) that banks repeat syndicate alliances with other financial institutions.

Given this deficiency, the purpose of this chapter is three-fold: first, to examine the impact of past syndicate alliance relationships on future alliances, based on international activity in the syndicated loan market between 1987 and 2004; second, to determine how the odds change when the relationship being measured pairs a lead and a participant and whose initial roles are either continued or reversed; and third, to examine the factors influencing the importance, or weight, of an alliance between two lenders, such as the significance of home bias and various cross-cultural differences (such as legal system and religion).[37]

This chapter contributes to the syndicated loans literature by providing additional evidence regarding the nature of ongoing relationships between syndicate members. The evidence presented herein differs from and, in some ways, improves on the similar case made by Sufi (2006) who contends that previous relationships between the lead arranger and potential participants do affect future alliances between the lenders. Dealing with the full spectrum of internationally domiciled (including U.S.) borrowers as opposed to U.S.-only nonfinancial firms (as in Sufi) allows us to examine what role domesticity, legal systems, state of country development, regional (multi-country) lender diversification, etc. play in the ongoing relationships between syndicate members. In that vein, we find that the strength of the relationship between two lenders is positively related to the reputation of the lead bank and increases when the two lenders are from the same country. Specifically, the weight of the relation increases by 20.6% for every 1% increase in the lead's market share and by 1.7% when both the lead and the participant are from the same country. The latter finding concurs with the literature on home bias which reports that investors, for example, are more likely to overweight in domestic

[37] For an excellent survey of home bias, see Karolyi and Stulz (2003). Examples of more recent papers dealing with home bias include Chan, Covrig and Ng (2005) and Sarkissian and Schill (2004).

securities. The strength of the relationship is also negatively related to the informativeness of the participant in the syndicated loan market.

This chapter also finds that syndicate lender participation is just as strongly determined by previous lead-participant (same-role-ordered) relationships as by borrower-participant relationships, whereas Sufi concludes that the former relationships are relatively less influential. In our view, this discrepancy may arise from differences in the geographical range of the samples or in the measurements of the variables. To be specific, Sufi's conclusions more likely apply to loans advanced to borrowers within the same country (particularly those made to the U.S. borrowers selected in his study) than to loans advanced to borrowers from different countries (selected in our study). What is more, Sufi bases his conclusions on a binary measure of lead-participant alliances in the previous quarter; a measurement period probably too short to support robust inferences. We use two measures: whether or not the lead arranger and the participant joined in a previous syndicate relationship over the past five years; and the number of such relationships over the past five years. Finally, Sufi uses the number of past relationships since 1992 to measure the lender-borrower relationship, which results in a measurement period that lengthens as the loan's date of origin approaches his study's cut-off point (through 2003). We use a fixed period composed of the previous five years, which is also consistent with the length of our lead-participant relationship measure.

Unlike Sufi, our chapter analyzes the various possible partnering relationships: lead-participant with same role ordering; lead-participant with reversed role ordering; lead-lead; and participant-participant. All else being equal, past lead-participant alliances increase [decrease] the probability for another syndicate alliance if their past roles are maintained [reversed]. To be precise, the odds of another syndicate alliance are 3.6 times higher when both institutions maintain the roles they played during the previous five years and these odds more than double with every standard deviation increase in the relative number of such past alliances. In contrast, the odds of a current lead-participant syndicate alliance are low if, in past alliances, both lenders

acted as non-lead participants. This shows that a comparative advantage is at work in the loan market, pushing some lenders to specialize in underwriting (lead) and others to specialize in participation in order to draw full advantage from their relative strengths.[38]

The remainder of the chapter is organized as follows. Section 3.2 briefly reviews the literature on syndication. The sample and data are discussed in section 3.3. Section 3.4 presents and discusses the results of tests of the likelihood and determinants of re-establishing past alliances between various lender pairings in the syndicated loan market. Section 3.5 concludes the chapter.

3.2 BRIEF REVIEW OF THE LITERATURE ON SYNDICATION

If the syndicated loan function is to attain the objectives and payoffs anticipated, a high degree of coordination and cooperation among the syndicate members is required. However, the very dynamics of syndicates may sometimes produce agency problems among their participants. Simons (1993) notes that loan participants should, in theory, perform their own credit analysis, but that, in practice, they usually rely on the loan documentation provided by the agent bank. Non-lead members of the syndicate may have far less access to information than its lead institution which may tempt the latter to conceal the riskiness of a specific loan in order to profit from syndicating larger portions of low-quality loans. However, Jones, Lang and Nigro (2005) conclude that lead banks are more likely to retain larger portions of low-quality loans. Similarly, Panyagometh and Roberts (2002) find that a larger proportion of the loans syndicated by lead banks are subsequently upgraded, implying the absence of serious agency problems. Finally, Gadanecz (2004) finds that large U.S. and European banks tend to originate loans to borrowers in emerging markets and then allocate them to local banks.

In a multi-period dynamic environment, the gains anticipated from future syndicate cooperation may deter the lead firm from misleading its partners due to the risk that this may

[38] We thank an anonymous referee for this insight.

damage its reputation and jeopardize future deals. Dennis and Mullineaux (2000) conclude that reputation can serve as a substitute for information in the debt market. Panyagometh and Roberts (2002) find that performance pricing and the managing bank's reputation (as measured by the annual average number of deals) can attenuate agency problems.

Based on the responses to a mail questionnaire survey, Lockett and Wright (1999) report that lead venture capital firms in the U.K. consider past interactions, reputation, and investment style when selecting non-lead investors. Wright and Lockett (2003) argue that reputation and past experiences are more important than legal sanctions in syndicate management.

3.3 DESCRIPTION OF SAMPLE AND DATA

Information about syndicates and syndicate members is drawn from Dealscan, a database of loans to large firms maintained by the Loan Pricing Corporation (LPC). We generate an international sample of public and non-public lending institutions which, between 1987 and 2004, joined at least one other financial institution in concluding a loan with a single borrower.[39]

The initial sample consists of 60,692 syndicate deals after excluding club deals and all bilateral loans between a single bank and a borrower.[40] A total of 6,363 distinct lenders participated in at least one syndicated loan during the period studied. In order to study specific members of the syndicates and to succeed in matching all possible pairs of financial institutions

[39] DealScan enters the name of the bank as its main identifier in the database. Since names are not always consistent throughout the database and not always spelled identically for the same financial institution, a unique identifier is added manually for each syndicate member in our sample. When possible, we use the same identifier for the parent company and all its subsidiaries, international or not. The ISIN number from Bloomberg for each publicly traded syndicate member is also added manually. If the parent of a non-publicly-traded lender is itself publicly traded, then the ISIN of the parent is used as the identifier for the lender.

[40] Club deals are removed from our sample because they are loan agreements in which the syndicate participants are specifically requested by the borrower. Alliances and relationships between banks have therefore a lesser role in the formation of these syndicates.

having co-participated in a syndicate, we generate 496,242 distinct bank-deal observations by creating a separate entry for each lender for every deal in the sample.[41]

The distribution of the deals and bank-deals arranged between 1987 and 2004 are summarized in table 3.1. While the number of deals increases almost every year, almost half of these deals (47.73%) occur in the 2000-2004 period. Segmenting the syndication market into the home regions of primary arrangers, we find that 62.26% of the deals were arranged in the U.S. or Canada (see panel B of table 3.1); approximately 20% in Asia; 11.82% in Western Europe; and the rest spread among the other regions of the world.

[Please insert table 3.1 about here.]

The number of participants in syndicated deals varies greatly, ranging from two to 159 lenders (see panel C of table 3.1). Half the deals have between 2 and 5 lenders; 42.08% have between 6 and 20 lenders; and 0.37% have more than 50 lenders. For the minority of deals with such information, 16.53% have only one arranger and 13.70% have between 2 and 5 arrangers (right-hand side of panel C in table 3.1).

Each syndicate participant is classified as a lead or a participant using Armstrong's (2003) definitions of the different roles within a syndicate.[42] Lead banks assume the following types of responsibilities: administrative, monitoring or contract enforcement tasks; loan pricing, dividing the loan into shares and/or inviting other lenders to participate in the syndicate. Almost one-half (48.5 percent) of the syndicate members are involved in lead roles.[43] The country alpha code given by the first two letters of the ISIN number for public financial institutions is used to assign a country to each syndicate member, since such information is not captured in the database. More

[41] If the same lender is entered more than once as a member of a specific deal (i.e., if it plays more than one role in a deal), the entry with the most important role only is retained.

[42] Banks placed in the lead category are those labeled with "Lead Role" by LPC, or those labeled as being: Agent, Bookrunner, Co-lead manager, Lead manager, Lead arranger, Lead underwriter, Mandated arranger, Senior arranger, Senior lead, and Underwriter. The Participant class includes those banks that are directly labeled as "Participant" by LPC and the remaining institutions playing roles labeled as, among others, "Publicity", "Offshore booking", and "Global coordinator".

[43] A specific bank can appear more than once in a specific deal if it is entered in more than one role category by LPC. These double entries are accounted for in the tests and regressions reported herein.

than one-third of the public lenders are from the Asian-Pacific region (a majority from Japan), 27.74% are from the U.S. or Canada, and 20.56% are from Western Europe. Banks in the U.S./Canada region and those from Western Europe (a majority from France) are responsible, respectively, for 42.58% and 34.03% of all the bank-deal observations in the sample.

3.4 LIKELIHOOD AND DETERMINANTS OF RE-ESTABLISHING PAST ALLIANCES FOR CURRENT SYNDICATED LOANS

Three distinct methodologies are used in this section to address different issues related to the dynamics of the relationships among lenders in loan syndicates. The first is a univariate analysis of past alliances between pairs of institutions. This is followed by a logit regression to study the impact of these past alliances on the probability that a bank will participate in a syndicate led by another bank. Finally, the strength of an alliance between two lenders is regressed on a number of potential explanatory variables to gain a better understanding of this relationship.

3.4.1 The Relationship between Past and Future Syndicate Alliances among Financial Institutions

The univariate analysis of the relation between current and past syndicate memberships over the entire 1992-2004 period involves calculating the percentage of current deal pairings which match at least one previous identical deal pairing and then counting the number of such past alliances over time periods of 1, 2, 3, 4 and 5 years ending just before the current deal dates.[44] The following deal pairings are examined: lead-participant with same [reversed] roles, lead-lead, and participant-participant.

Most syndicate lenders have shared at least one prior syndicate experience. Based on panel A of table 3.2, 86.22% [79.50%] of the same-ordered roles of the same lead-participant pairings are jointly associated with at least one past alliance during the 5-year [1-year] period before the current deal. When measured over the one [five] year[s] preceding the current syndicated deal,

[44] Since deal pairings of lenders are obtained by combining bank-deal observations that belong to the same syndicated deal, the same pair of lenders can appear more than once in the sample if the two institutions participate in more than one deal together.

the average number of past syndicate deals shared by same lead-participant/same role-ordered pairings is 16.6 [49.2]. For same lead-participant/reverse role-ordered pairings with at least one past alliance during the 1-year [5-year] period before the current deal, the percentage is somewhat lower at 53.71% [64.99].[45] The average number of past deals before the current deal is also lower at 9.0 and 25.8 for the 1- and 5-year periods, respectively.

[Please insert table 3.2 about here.]

The proportion of lead-lead pairs with at least one same-role-ordered past alliance increases from 86.53% to 90.79% when the period immediately preceding the current deal moves from one to five years, and the corresponding average number of such past alliances increases from 36.78 to 112.24 (panel C of table 3.2). The proportion of participant-participant pairs with at least one past same-role-ordered alliance increases from 82.49% to 88.33% when the period immediately preceding the current deal moves from one to five years, and the corresponding average number of such past alliances moves from 14.55 to 49.06 (panel D of table 3.2).[46]

3.4.2 The Relationship between the Probability of Current Syndicated Alliances and Past Syndicated Alliances

3.4.2.1 Basic Results

To make a more formal study of the link between current and past syndicate alliances, a logit regression on actual and simulated syndicate partnerships is estimated to determine whether there is a higher probability of re-partnering when the number of past alliances between the same financial institutions increases. Participant banks can be selective in their choice of lead banks, since invitations outnumber acceptances and only about one-third of the invitees accept such invitations (Rhodes, 1996).[47] When considering such invitations, participating institutions are

[45] For example, this occurs if Bank A [B] is the lead and Bank B [A] is the participant for a deal in 2000 [1999].

[46] Domestic lead-participant pairings average a significantly greater number of past syndicate alliances for all five pre-current-deal periods for same- and reversed-role orderings, which is consistent with the home bias found for the investment allocations of equity investors in an international context.

[47] Our premise is that lead arrangers invite a number of potential participants and that these participants make their decision on whether or not to accept the invitation depending on a number of characteristics.

likely to rely, at least partially, on their past experience with the leads originating the deal. Thus, the first hypothesis tested in this chapter is $H_0^{3.1}$: *The probability of a specific participant partnering in a current syndicated loan with a specific lead increases if the two parties have a history of past partnering.*

Because banks typically engage in repeat syndication deals with other banks, the strength of the relationship (the number of repeat relationships) between two lenders is also likely to affect the probability of future alliances. This is captured in the second hypothesis tested in this chapter; namely, $H_0^{3.2}$: *The probability of a specific participant partnering in a current syndicated loan with a specific lead increases with the frequency of past partnering (or alliances) between these two parties.*

Given that potential syndicate participants can choose whether or not to participate in a specific syndicated loan and typically the loan share they wish to receive as well, we argue that the actual riskiness of the loan and its portfolio diversification benefits may not be the deciding factors that determine whether or not a bank will participate in a syndicate.[48] Firstly, the lender should be compensated for the risk it assumes, since the lead bank will probably price the loan to reflect this risk.[49] Secondly, the participating bank can tailor its loan share to fit the exact risk and diversification needs of its own portfolio. Therefore, other factors, such as past alliances or reputation, are likely to weigh heavily in a lender's decision to participate in a syndicate.

In light of this, we examine lender-lender relationships mediated by loan syndicates, using a modified version of the model of Bharath et al. (2006) designed to test whether stronger bank-borrower relationships increase a lender's chances of attracting future lending business from that

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This differs somewhat from the premise of Sufi (2006) that lead arrangers choose participants based on certain characteristics.

[48] Banks are typically offered a number of different share participation options.

[49] Lead banks have incentives to price the loan correctly if they wish to maintain their reputation and be able to get participations in their future syndicated loans. If the participant accepts the invitation, the acceptance is partly based on past experience with that lead and the knowledge that the lead prices loans adequately.

borrower. In the following logit model where the indicator year variables are suppressed for compactness, the probability that a participating bank joins a syndicate formed by the lead bank is regressed against a number of factors likely to affect this likelihood:

$$\begin{aligned} PARTICIPANT_m = {} & \beta_0 + \beta_1 * RELATION_m + \beta_2 * SHARE_n + \beta_3 * SHARE_m + \beta_4 * DEALS_m / DEALS_n \\ & + \beta_5 * DOMESTIC_{mn} + \beta_6 * INDUSTRY_{mn} + \beta_7 * SIZE_j + \beta_8 * ROE_j + \beta_9 * CAPITAL_j \\ & + \beta_{10} * COMM-LOANS_m + \beta_{11} * GROWTH_m + \beta_{12} * US_m + \beta_{13} * SAME_{mb} \\ & + \beta_{14} * REGION-WEIGHT_{mb} + \beta_{15} * INDUSTRY-WEIGHT_{mb} \\ & + \beta_{16} * REL-BORROWER_{mb} + \beta_{17} * COUNTRY_b + \beta_{18} * RATING_b + \beta_{19} * LENDERS_i + ... + \varepsilon \end{aligned}$$

(3.1)

In (3.1), the dummy variable $PARTICIPANT_m$ is equal to 1 if participant m is a member of syndicate s and is 0 otherwise. For each loan, potential participants drawn from a likely source are added to the data set of actual participants. To economize on the size of each set of invitees and to increase the probability that potential participants could have received or refused invitations, the universe of potential participants includes only top-100 participants, ranked according to the number of deals they made during the year of the syndicated deal.[50] The total sample is also limited to deals involving top-100 leads, ranked according to their dollar volume during the year of the syndicated deal. Finally, to avoid overly clustered data and to facilitate the distinction between potential and actual participants, cases are removed where, in the previous 60 days, the potential participant and the lead joined in another syndicate.[51]

$RELATION_m$ is the generic dummy variable for two alternative measures of the relationship strength between participants (actual and potential) and leads. The first relationship measure, $DUMMY_m$, is equal to 1 if participant m was in a same role-ordered syndicate with lead n during

[50] Although this does not ensure that the potential participant had the choice to participate in the deal, we argue that top-100 participants join enough syndicates in a given year to make this a plausible scenario. Further, our interest is confined to the significance and not the predictive power of the estimated relationship. Nevertheless, the results do not change materially if only the top-10, top-25 or top-50 lead and participant banks are used instead.

[51] No significant differences occur in the estimated coefficients when other lags of 7, 15 and 60 days are used instead. However, the model appears to fit the data better with the longer lags.

the previous five years and is equal to 0 otherwise.[52] The coefficient of this dummy variable is expected to be positive. The second measure, $NUMBER_m$, is the relative frequency of previous syndicate activity between participating bank m and lead bank n over the preceding five-year window, as measured by dividing the number of same role-ordered syndicated loans involving banks m and n by the total number of syndicated loans in which m participated.

$SHARE_n$ is the market share of syndicated loans attributed to lead n and is added as a proxy for the reputation of the lead. Market share is equal to the dollar volume of transactions of bank n in the year immediately preceding the deal date divided by the total dollar volume for that year.[53] Since the reputation of a lead bank can help mitigate agency problems within a syndicate, potential participants' decisions to accept invitations should depend on the lead bank's reputation. A positive sign is expected for this variable.

$SHARE_m$, the market share of syndicated loans attributed to participant m, is obtained by dividing the dollar volume of transactions of bank m in the year immediately preceding the deal date by the total dollar volume for that year. If the variable is a good proxy for the informativess of the participant lender, then a positive sign is expected for this variable. [54]

$DEALS_m/DEALS_n$ is a proxy for the experience of participant m relative to lead n in the syndicated loan market. It is equal to the ratio of the number of deals of m to n in the syndicated loan market in the year prior to syndicate s for each lender. Since participants with higher

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[52] No empirical evidence exists on the current effect of the vintage of past syndicate relationships on alliance forming. A five-year period appears to be long enough to capture past syndication activity between two institutions and for lenders to gather information about other members, but not too long to become stale and outdated due to regime shifts in the characteristics of these banks (e.g., managers, ranking, size, and reputation).

[53] Since the real loan share is not available for most loans and most institutions, our measure is more specifically defined as the proportion of loan dollars in which the bank participated. A bank that participated in a syndicated loan would thus have a market share of 100%. We calculated this measure using our own league table since league tables provided by LPC do not account for every institution in the sample.

[54] Upon first reflection, it appears that $SHARE_n$ and $SHARE_m$ have arithmetic properties that associate them with the dependent variable. However, if n (or m) has a larger market share (or number of deals) undifferentiated by role and role ordering, this does not necessarily mean that n (or m) must have more same-role-ordered lead-participant pairings with someone, on average. Thus, the relationships between $PARTICIPANT_m$ and $SHARE_m$ or $SHARE_n$ due to their construction are minimized somewhat because the former variable is diffentiated by role and role ordering while both $SHARE_n$ and $SHARE_m$ are not.

experience ratios are better equipped to do their own analysis and monitoring, the probability of joining a syndicate should decrease with increasing relative participant experience. Thus, a negative sign is expected for this variable.

The dummy variable $DOMESTIC_{mn}$ is equal to one if the lead and participant are from the same country and is 0 otherwise. Although the syndicated loan market is increasingly global, lenders may still exhibit home bias. Further, the portfolios or diversification needs of same-country lenders may show more similarities than those of lenders from two different countries. Thus, a positive sign is expected for this variable.

The dummy variable $INDUSTRY_{mn}$ is equal to 1 if the lead and participant are in the same industry (i.e., banks, insurance or other) and is 0 otherwise. Because same-industry alliances are usually more common and easier to establish, a positive sign is expected for this variable.

For the lead or participant, $SIZE_j$, ROE_j and $CAPITAL_j$ are respectively the log of the U.S. dollar book value of assets, return on equity, and ratio of total capital to assets. Since larger or more profitable or more capitalized leads can not only attract more participants but also invest in more loans, a positive sign is expected for these variables when $j = n$ (i.e., lead). $COMM\text{-}LOANS_m$ is the ratio of commercial and industrial loans to total assets for the participant. $GROWTH_m$ is the 1-year growth in the participant's assets. All of these accounting variables are observed annually in Datastream and are based on the nearest date prior to the loan active date.

The dummy variable US_m equals 1 if participant m is from the U.S. and is 0 otherwise. Because the U.S. market is characterized by a higher level of information, a large pool of domestic borrowers and lenders who are relatively less reliant on the syndicated loan market, a negative sign is expected for this variable. The dummy variable $SAME_{mb}$ is equal to 1 if participant m and borrower b are from the same country and is 0 otherwise. Lenders may wish to avoid loans to specific foreign countries for a number of reasons (e.g., foreign loans may have different reporting rules or require more information and overall monitoring than domestic loans or the lender's concentration limit for that country may have been reached). Thus, the decision to

join the syndicate may have more to do with the borrower's country than with the lead bank's country. A positive sign is expected for this variable.

REGION-WEIGHT$_{mb}$ measures the concentration of the participant's commercial loan portfolio in the borrower's region. As a proxy for the bank's geographical specialization, this variable may capture the geographic-diversification influence on syndicate participation, where the participant's decision to participate depends on how its regional concentration compares to a certain benchmark.[55] Under- [over-] weighted regional portfolios are defined as concentrations below [above] the market average minus [plus] one standard deviation. A positive sign is expected for this variable. In a similar fashion, *INDUSTRY-WEIGHT*$_{mb}$ measures the concentration of the participant's commercial loan portfolio in the borrower's sector, in order to capture the bank's sector specialization motive. A positive sign is expected for this variable.

The dummy variable *REL-BORROWER*$_{mb}$ is the number of syndicated loans made to the borrower over the previous 5 years which included the participant. Given the information gained from a previous relationship with the borrower, the participant's motive may be to maintain an ongoing relationship with the borrower in preference to relationships with other lenders. Thus, a positive sign is expected for this variable.

COUNTRY$_b$ measures the risk associated with the borrower's home country as proxied by the ICRG (International Country Risk Guide) composite rating at loan date, where a higher rating signals a lower overall level of political, economic, and financial risk. Because loans from highly rated countries carry fewer potential problems, a positive sign is expected for this variable.

The dummy variable *RATING*$_b$ is equal to 1 if the borrower is rated (as reported by Dealscan).[56] The additional information provided by the lead bank through syndicated loans is of

[55] Because this information is not publicly available for most banks and because the regions and/or industries are often defined differently in each case, a benchmark is created by calculating portfolio concentrations for every lender in terms of geographic region and industry and then averaging over the entire loan sample from Dealscan.

[56] The more delineated measure of opaqueness based on SEC filings used by Sufi (2006) is not used herein because it is not appropriate for an international sample of borrowers.

lesser importance because rated borrowers are less opaque. Thus, a negative sign is expected for this variable.

LENDERS$_i$ is the number of lenders participating in the loan. Although unknown at invitation or the point of syndicate commitment, this variable may capture the attractiveness of the borrower or the transaction itself, or may merely control for the increased likelihood of a specific participant being in a syndicate with a specific lender when a larger syndicate size is drawn from a fixed number of potential participants. Thus, a positive sign is expected for this variable. The indicator variables *YEAR* control for general trends in the syndicated loan market between 1992 and 2004.

The initial sample for tests of $H_0^{3.1}$ and $H_0^{3.2}$ consists of 373,003 bank-deal observations. This sample yields 151,583 lead-deals and 135,885 real participant-deals that satisfy the ranking criteria, which, in turn, generate 423,127 real lead-participant deal pairings. After adding potential participants and removing observations that are missing one or more explanatory variables, the final sample consists of 474,802 actual and potential lead-participant pairings to be used for the initial estimations of equation (3.1). About 90% of the pairings have engaged in past alliances. Past alliances with a specific lead represent 5.20% of all past deals accepted by an average participant. The respective average market shares of the lead and participant banks are 15.17% and 11.06%. The relative experience of the participants varies widely from 0.03 to 63.57 times that of the lead.

Regression results for tests of $H_0^{3.1}$ and $H_0^{3.2}$ using the corresponding *RELATION*$_m$ measures are summarized in table 3.3.[57] As expected, the past alliance dummy has a highly significant value of 1.28, which implies that participants in past alliances with the lead have a higher

[57] Unless noted otherwise, statistical significance is measured at the 0.05 level throughout.

probability of joining a syndicate headed by the same lead.[58] Specifically, the odds of a participant joining a syndicate are 3.6 times greater given at least one previous syndicate alliance with the same lead.[59] The relationship is similarly strong when the past relations of *m* with *n* are measured by $NUMBER_m$. Its estimated coefficient of 13.65 translates into odds of an ongoing alliance between a participant and lead that are about 2.2 times higher for a 5.6% (one standard deviation) increase in the weight of the alliance.

[Please insert table 3.3 about here]

In conformity with expectations, the probability that a participant will join the syndicate is positively related to the reputation of the lead; to the participant's access to information; to whether the participant and lead are from the same country or industry; to whether the borrower and lender are from the same country; to whether the lender is over-weighted in the borrower's region; to the past relationships between the participant and the borrower; and to the number of lenders in the syndicated loans.[60] The estimated coefficients are also significant for the lender's size, ROE, and capital ratio, and for the participant's asset growth. However, the effective impact on the odds is very close to one for these accounting variables. Based on the estimates from the second regression, the odds of a participant joining the syndicate are about 2.7 times greater for every one standard deviation increase in the participant's range of informativeness in the syndicated loan market. These odds are about 2.2 [3.0] times higher when the participant and lead [the borrower] are from the same country.

[58] Since repeated observations on individual lenders are used in the regressions, the errors can be correlated across observations for the same firm. The Huber-White sandwich robust standard error estimator is used to correct for this heteroskedasticity problem.
[59] Our model deals with association and not causality.
[60] Our inferences with regard to reputation and informational situation, of course, depend upon how well each measure proxies for the intended variable.

3.4.2.2 Tests of Robustness

Six types of robustness tests are now conducted. The first robustness test includes interactive variables that combine $RELATION_m$ with time, industry, and region in model (3.1).[61] The impact of past lead-participant relationships on the probability of current participation is greater if both lenders are from the same industry. The impact of past relationships is also at its highest for the 2000-2004 time period, which may indicate that syndicated loans are becoming more relationship-based between lenders. Lenders with the most past alliances that are from the U.S. or Canada also have more chances of partnering than those from Europe.

The second robustness test uses an alternative relationship strength measure in model (3.1). This variable, $INTENSITY_m$, accounts for loan share and number of lenders in past alliances over the five-year window preceding the deal-active date, since this may affect the intensity of the relationship between the two lenders.[62] The estimated coefficient of 16.49 for $INTENSITY_m$ is highly significant, just as for the original measure of relationship strength.

The third robustness test consists of regressions on an alternative potential participant universe where each participant is matched with all the active lenders from the same country and with the same sector specialization (i.e., highest sector concentration) in their commercial loan portfolios.[63] Like the basic results reported earlier, the estimated coefficients for $DUMMY_m$ (1.39) and $NUMBER_m$ (6.26) are positive and significant.

The basic results reported earlier considered only same-role-ordered relationships for the measure of $RELATION_m$, in order to capture the special lead-participant relationship. The fourth robustness test involves the estimation of three additional relationship measures using the same

[61] US_m is removed from the model, and year dummies are replaced by period dummies. Two geographic regions are added: U.S./Canada and Europe, where the control group is Asia/Pacific.

[62] An intensity index is calculated for each loan by dividing the loan share of the lender by the total number of lenders in the syndicated loan so that intensity increases with higher loan shares and fewer lenders. Because the loan is not divided into equal loan shares, the number of lenders provides additional information about the intensity of the relation. $INTENSITY_m$ is then the sum of the intensity indexes of loans between participating bank m and lead bank n divided by the sum of the intensity indexes for all the loans in which m participated.

[63] This reduces the number of observations to 329,327 due to the absence of loan shares for some syndications.

methodology used to calculate $NUMBER_m$, but applied to cases where the roles for the lead and the participant are reversed (*NUMBER-PL*); where both lenders are participants (*NUMBER-PP*); and where they are both leads (*NUMBER-LL*). Based on untabulated results, the most important past alliances associated with current lead-participant alliances are those with the same role order. Past alliances where both lenders acted as simple participants, measured by *NUMBER-PP*, are not significantly associated with the probability of another syndicated alliance, indicating that not all members of the syndicate form strong ongoing relations. Finally, past syndicated loan relationships where the roles of leads and participants are reversed or where both lenders serve as leads are negatively associated with the probability of joining a lead-participant alliance.

The fifth robustness test examines whether past alliances are also important for lead-lead (or co-agent) relationships. Although the impact of past relationships is not as strong as for lead-participant alliances, the existence of past lead-lead alliances and their number are positively associated with the probability that co-agents will partner. The final robustness test examines the impact of the number of arrangers on model (1).[64] The number of agents has a small but significant negative coefficient of -0.05.[65]

3.4.3 Determinants of Renewal Likelihoods of Past Lead-Participant Alliances

3.4.3.1 Basic Results

We now turn our attention to the potential determinants of the strength of the ongoing syndicate relationships between lead and participant banks. Because the reputation of a lead bank can mitigate agency problems within a syndicate, syndicate participants may favor alliances with reputable leads. This is captured by the third hypothesis tested in this chapter; namely, $H_0^{3.3}$: *The*

[64] Esty and Megginson (2003) find that smaller syndicates with fewer lead banks represent best practices to promote monitoring efficiency and flexibility in restructuring. Thus, if the number of arrangers proxies for any agency problems within the syndicate, then the decision by participant *m* to join the syndicate may be negatively related to *ARRANGERS*.

[65] The unavailability of data for this variable for many syndicated loans reduces the sample size to 112,013.

importance of an alliance between a specific lead and a specific participant is positively related to the reputation of the lead in the loan syndication market.

Studying relationships between lenders and borrowers, Diamond (1991) concludes that borrowers suffering from the most severe information asymmetries have the most to gain from bank monitoring. Transposing his argument to bank-bank relationships, we argue that informationally opaque banks may benefit the most from an alliance with a specific lead bank, and vice versa. To verify whether the intensity of a lead-participant alliance depends on the informativeness of the participant, the following hypothesis is tested in this chapter; namely, $H_0^{3.4}$: *The importance of an alliance between a lead and a participant is negatively related to the informativeness of the participant.*

As shown earlier, the number of past alliances between any lead-participant pairing is affected by the domesticity of the alliance (i.e., home bias). To explore this relationship further, the following hypothesis is tested in this chapter; namely, $H_0^{3.5}$: *The importance of an alliance between a lead and a participant is positively related to the domesticity of the alliance.*

To test these three new hypotheses, the importance or the intensity of the alliance between two lenders is regressed on the reputation of the lead lender, the informational situation of the participant, the domesticity of the alliance, and on other determinants that are expected to be related to this measure a priori. Specifically with the year dummy variables suppressed for compactness:[66]

[66] While the observations used to test model (3.1) include potential and actual pairings, only actual lead-participant pairs are used to test model (3.2). Also, each pair appears only once (or once a year) in the final sample (i.e., the dependent variable combines all the deals between the two lenders during the period) as opposed to model (3.1) where each pair can appear more than once (i.e., the dependent variable is for a distinct deal).

$$IMPORTANCE_{mn} = \beta_0 + \beta_1 * SHARE_n + \beta_2 * SHARE_m + \beta_3 * DEALS_m / DEALS_n + \beta_4 * DOMESTIC_{mn}$$
$$+ \beta_5 * REGION_{mn} + \beta_6 * COUNTRY_j + \beta_7 * LEGAL_{mn} + \beta_8 * COMMON_j + \beta_9 * DEV_{mn}$$
$$+ \beta_{10} * DEVELOPED_j + \beta_{11} * RELIGION_{mn} + \beta_{12} * PROTESTANT_j + \beta_{13} * CATHOLIC_j$$
$$+ \beta_{14} * MUSLIM_j + \beta_{15} * BORROWER - REL_j + \beta_{16} * PERCENT - SAME_j$$
$$+ \beta_{17} * AVG - LENDERS + \beta_{18} * SIZE_j + \beta_{19} * ROE_j + \beta_{20} * CAPITAL_j$$
$$\beta_{21} * COMM - LOANS_j + \beta_{22} * GROWTH_j + ... + \varepsilon$$

(3.2)

In (3.2), $IMPORTANCE_{mn}$ is measured as the number of same-role-ordered deals between participant bank *m* and lead bank *n* divided by the total number of deals in which bank *m* participated during the current year. $SHARE_n$, $SHARE_m$ $DEALS_m/DEALS_n$, $DOMESTIC_{mn}$, $COUNTRY_j$, $SIZE_j$, $CAPITAL_j$, ROE_j, $GROWTH_j$ and *YEAR* (1992-2004) are as defined earlier, and subscript j is equal to *n* or *m* for a lead or participant, respectively.[67] According to hypotheses 3.3 and 3.4, the importance of the alliance is expected to be positively and negatively related to $SHARE_n$ and $SHARE_m$, respectively. A negative sign is expected for $DEALS_m/DEALS_n$ since participants with relatively more experience in the syndicated loan market than certain leads are proportionally less likely to partner with those leads. Since safer or more profitable or larger leads can attract more lenders and since highly capitalized or more profitable or larger participants rely less on same-lead alliances, the expected sign is positive [negative] for $SIZE_n$, $CAPITAL_n$ and ROE_n [$SIZE_m$, $CAPITAL_m$ and ROE_m]. Since same-role-ordered syndicate relationships are more [less] likely if the lead [participant] is fast growing, a positive [negative] sign is expected for $GROWTH_n$ [$GROWTH_m$].

The dummy variable $REGION_{mn}$ equals 1 if lead *n* and participant *m* are domiciled in the same region, and is 0 otherwise. Based on earlier arguments, relationship intensity is expected to be positively related to *n* and *m* if they are from the same country or region.[68] The dummy variable $LEGAL_{mn}$ equals 1 if both *m* and *n* are domiciled in the same legal-system country, as

[67] Any relationship between $IMPORTANCE_{mn}$ and each of $SHARE_n$, $SHARE_m$ and $DEALS_m/DEALS_n$ due to the way they are measured is muted to a large extent because the three independent variables are lagged one period.

[68] Although the industry of the lenders could also be a factor explaining the strength of the lead-participant relationship, the final sample consists entirely of alliances between same-industry parent companies.

based on the classification in La Porta et al. (1998), and is 0 otherwise. A positive coefficient is expected for this variable since lenders may find it easier to ally with another bank domiciled in the same legal system. The dummy variables $COMMON_j$ equal 1 if the lead (participant) is in a common-law legal system and is 0 otherwise. Since common-law-domiciled participants already have the advantages of such legal systems, a negative coefficient is expected for this dummy variable.[69]

The dummy variable DEV_{mn} equals 1 if both participant m and lead n are domiciled in a country with the same type of economy (i.e., emerging or developed). Since, to reduce informational disadvantages, two lenders may prefer to associate because they operate in the same type of economy; a positive sign is expected for this variable. The dummy variables $DEVELOPED_j$ equal 1 if the lead (participant if $j=m$) is domiciled in a developed country or is 0 otherwise. The sign for these dummy variables is expected to be negative, owing to factors such as the low marginal benefit for lenders if both lenders are from developed countries. The dummy variable $RELIGION_{mn}$ equals 1 if the religion most widely practised in the lender's country is the same for participant m and lead n. Since lenders likely prefer to form alliances with counterparts from similar cultural backgrounds, the sign is expected to be positive for this variable. $PROTESTANT_j$, $CATHOLIC_j$ and $MUSLIM_j$ are the proportions of Protestants, Catholics and Muslims, respectively, in the country of the lead (or participant if $j=m$). Since countries with high proportions of Catholics or Muslims are associated with weaker governments in terms of capitalist objectives (La Porta et al., 1998), the expected signs are positive, negative and negative, respectively, for these dummy variables.

[69] According to the legal origins theory, civil law countries tend to emphasize social stability (orientation towards state interventionism), while common law countries focus on the rights of an individual (orientation towards market discipline). The term "civil law" was originally used to lump all non-English legal traditions together in contrast to English common law. However, since continental European traditions are not uniform, scholars of comparative law usually subdivide civil law into three distinct groups: French, German and Scandinavian.

REL-BORROWER$_{jb}$ measures the cross-borrower average of the number of past syndicate relationships between lender *j* and each distinct borrower *b* during the prior five years.[70] Since participants having established strong relationships with specific borrowers tend to rely less on syndicated loan arrangements but are more likely to participate in syndicates with known borrowers, the expected sign for *REL-BORROWER*$_{mb}$ is indeterminate. Since participants are more likely to ally with leads with superior borrower information, the sign for *REL-BORROWER*$_{nb}$ is expected to be positive.[71]

PERCENT-SAME$_j$ is the percentage of loans common to *n* and *m* that are extended to borrowers from the same country as *j* (*j*=*n*; *m*). The sign is expected to be positive in both cases. *AVG-LENDERS* is the average number of lenders in the loans common to both *n* and *m*. *COMM-LOANS*$_j$ is the ratio of commercial and industrial loans to total assets of lender *j* (*j*=*n*; *m*).

Regressions are run for model (3.2) over the entire 1992-2004 period and yearly.[72] On average, the weight (or importance) of a lead-participant alliance as measured by *IMPORTANCE*$_{mn}$ is 2.63% for the entire period and 6.72% for the yearly relationships. The reputation of lead banks as measured by *SHARE*$_n$ is, on average, 7.16%, for the entire period, and 12.85% annually. The participant's informational situation as measured by *SHARE*$_m$ is, on average, 4.30% overall and 7.59% yearly. For all distinct pairings, 19.02% and 44.86% take place between same-country and same-region institutions, respectively. On average, the lead

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[70] For example, if *m* and *n* have 5 deals in common with 3 different borrowers, *REL-BORROWER*$_{mb}$ measures the average number of times participant *m* participated in lending to these 3 borrowers (not necessarily with lead *n*).

[71] An alternative measure of *REL-BORROWER*$_{jb}$ generates similar results. This alternative measures the proportion of borrowers involved in current lending relationships between participant *m* and lead *n* for which current lender *j* (*j*=*m*; *n*) has had at least one other syndicated loan relationship during the past five years.

[72] For the overall period regression, *IMPORTANCE*$_{mn}$ is measured using a numerator and denominator taken over the entire 1992-2004 period, accounting and country risk variables are removed and a distinct league table with overall volume and deal counts is created to estimate *SHARE*$_n$, *SHARE*$_m$ and *DEALS*$_m$/*DEALS*$_n$. For the yearly regressions, *IMPORTANCE*$_{mn}$ is measured using a numerator and denominator computed for a given year, accounting variables are based on the nearest date before the year in which *IMPORTANCE*$_{mn}$ is measured and country rating variables are measured in the year prior to the dependent variable. Finally, for both overall and yearly regressions, legal system and religion variables are measured in 1998, while state of country development variables are measured in 2004.

[participant] banks have 0.83 [0.44] relationships with each of the borrowers common to the current lender pairs. About one-third [slightly less] of the deals are with borrowers from the same country as the lead [participant]. The average number of lenders per deal for each pair is 25.98, with a maximum of 147.

The results for regression (3.2) using the entire period and annual data are summarized in table 3.4. All the significant coefficients have their expected signs, except for $DEALS_m/DEALS_n$. Although the estimated coefficient for $DEALS_m/DEALS_n$ is positive, its economic importance is small given that its value is close to zero (0.002). The relationship's importance is most sensitive to the lead bank's reputation (estimated coefficient of 20.64 for $SHARE_n$). The relationship's importance is negatively related to the participant's relative informativeness, implying that more informationally opaque lenders (i.e., those with lower $SHARE_m$) have stronger ongoing lead relationships.[73] Compared to their nondomestic counterparts, domestic lenders ($DOMESTIC_{mn}$) exhibit greater ongoing syndicate relations by an additional 1.70% overall. The relationship's importance is also greater for lenders domiciled in the same region and in countries at the same stage of development. In contrast, the relationship's importance is lower for participants domiciled in common law countries and for leads (participants for yearly data only) domiciled in developed countries. The relationship's importance is negatively related to the proportion of Protestants in the lead's [participant's] country for the entire period [yearly data]. However, the economic significance of the religion variables is minimal. Finally, the relationship's importance is positively related to the percentage of same-country borrowers and positively [negatively] related to the previous relationships between the lead [participant] and the borrower.

Because the inclusion of accounting variables significantly reduces the sample size, two regressions are run on the yearly data and they generate similar results. One interesting exception in the regression that excludes accounting data is that the coefficient estimates for the reputation

[73] Because most of the right-hand side variables that could be associated by construction to $IMPORTANCE_{mn}$ are lagged, the construction-induced bias in favor of finding our expectation is minimized.

and informativeness of the lead and the participant, respectively, are of opposite signs but similar magnitudes, which may indicate a substitution effect between these two factors. In the yearly regression that includes the accounting variables, the only significant coefficient that changes sign is that for $CATHOLIC_n$.

[Please insert table 3.4 about here]

3.4.3.2 Tests of Robustness

The first robustness test uses an alternative measure of importance given by the total dollar value of loans purchased by bank m (i.e., reflecting m's loan shares) of all the loans done together by the pair of lenders divided by the total dollar value of loans purchased by bank m during the same period. These untabulated results are similar to those reported above for the basic regressions. Interestingly, the coefficient estimates for $SHARE_n$ and $SHARE_m$ indicate a stronger substitution effect, with the participant's informativeness more than compensating for the lead's reputation. The impact of $DEALS_m/DEALS_n$ is slightly larger but still very small. The second robustness test runs the regression with unlagged independent variables and yields similar estimates.

3.5 CONCLUSION

This chapter provides empirical evidence on the continuation of ongoing relationships between syndicate members and their determinants. The probability of joining a syndicate is positively related to past alliances between leads and participating banks. The odds of a participant joining a syndicate headed by a specific lead are 3.6 times higher when the two institutions allied in the previous five years and more than twice higher for every increase of one standard deviation in the relative number of past alliances. The probability of joining a syndicate is positively related to the reputation of the lead; to the informational situation of the participant; to whether the participant and the lead are from the same country or industry; to whether the borrower and lender are from the same country; to whether the lender is over-weighted in the

borrower's region; to the past relationships between the participant and the borrower; and to the number of lenders in the syndicated loans.

The strength of the syndicate relationship between two lenders is most sensitive to the reputation of the lead bank, as proxied by the lead's market share. Informationally opaque participating lenders, as proxied by their market shares, have stronger relationships with lead banks. Lenders also exhibit home bias in their syndicate alliances.

CHAPTER 4

THE IMPACT OF PAST SYNDICATE ALLIANCES ON THE CONSOLIDATION OF FINANCIAL INSTITUTIONS

4.1 INTRODUCTION

The ongoing consolidation of financial institutions within and across national boundaries has generated considerable interest among academics and practitioners due to the size, importance and role of such institutions in the economy of most countries. A growing body of literature deals with M&As in the financial services industry.[74] Rhoades (2000) finds that approximately 8,000 M&As involving about $2.4 trillion in acquired assets occurred in the United States between 1980 and 1998, about half during the 1995-98 period, and that several mergers during the 1990s were the largest bank M&As in U.S. history. A Report by the Group of Ten in 2001 documents a high and increasing level of M&A activity in the 1990s for 13 countries (the 11 G10 countries plus Spain and Australia) with about 60% of such activity in the financial sector involving banking firms and domestic M&A transactions.

Financial institutions wishing to engage in M&A activities need to gather information about potential target firms before starting the consolidation process. Such knowledge may be even more crucial for cross-border transactions, which are usually considered harder to conclude and maintain because of cross-cultural differences. A prior alliance with the target through syndication may help with the evaluation of the target, facilitate the merger and reduce subsequent integration costs. Similarly, firms with repeat alliances may perceive a full-blown merger as a logical step and decide to consolidate.

[74] Some other recent examples include: Amel, Barnes, Panetta and Salleo (2004) who provide a review of the extensive literature on the efficiency gains from bank M&As; Karceski, Ongena and Smith (2005) who examine the impact of M&As on corporate bank borrowers in Norway; Black et al. (2005) who examine the market and profitability impact of M&As between bank holding companies; Ismail and Davidson (2005) who examine the market impact of within and cross-pillar bank M&As in Europe; and Buch and DeLong (2004) who analyze the determinants of international bank mergers.

Although the study of inter-bank relationships over the past decade has documented some of the benefits and costs of temporary alliances (such as loan syndications), much remains unknown. For instance, do financial institutions consider syndicated loans as pure business transactions, or do they also benefit from their relational nature in other ways? What are the effects and consequences of alliances formed through banking syndicates? Specifically, do these alliances lead to more formal alliances between syndicate participants, such as M&As? Do the M&As involving parties with previous syndicate co-alliances perform better than those without such previous co-alliances?

Given these deficiencies in the literature, the primary purpose of this chapter is to provide the first test of whether banks that co-participate in loan syndicates are more likely to subsequently co-engage in M&As. A further objective is to examine the relative terms of the M&As and post-merger performance conditioned on the past alliances of the acquirer with the target.

This chapter contributes to the M&A and banking literatures by providing evidence on the relationship between the odds of a merger between two lenders and their past syndicate alliances. All else held equal, the odds are 1.6 times higher when both parties participated in at least one syndicate together in the prior five-year period and 1.5 times higher for every one standard deviation increase in the relative number of such past syndicate relationships (almost two times higher for every 10% increase). The impact of relative number of past syndicate alliances between acquirer and target is higher for international and cross-industry transactions and when the history of syndicate relationships involved the acquirer and target as participant and lead, respectively. The later finding indicates that learning or information gathering about each other is greater for participants than leads by participating in lending syndicates even though leads are usually the larger firms and are more likely to be acquirers in future M&As.

This chapter furthers our understanding of M&A choice and market perceptions of M&A activities by providing some initial evidence on the relationship between M&A terms and post-M&A wealth effects with past syndicate alliances between the acquirer and the target. Any

informational advantages gained through loan syndication appear to be lost to greater agency costs. As a result, both the short- and long-term market performances of the acquirer and the target are significantly lower in the absence of control variables given their past co-syndicate co-involvements. Such performance differences become insignificant in the presence of control variables designed to account for the differences in the samples of M&As that (do not) involve parties that were previously co-involved in loan syndications. These differences include a lower frequency of cash payments, a greater frequency of divestitures, and a higher percentage of shares being acquired when the two M&A parties were previously co-involved in loan syndications.

The remainder of the chapter is organized as follows. Section 4.2 reviews the literature on the relationship between syndication and financial sector consolidation and performance. The samples of loan syndications and M&As are described in section 4.3. Tests of the relationship between current M&A activity and past syndicate alliances are examined in section 4.4. Sections 4.5 and 4.6 examine the relationships between the terms of M&As and post-M&A wealth effects, respectively, with past syndicate alliances between the merging parties. Section 4.7 concludes the chapter.

4.2 LITERATURE REVIEW

4.2.1 Formal Alliances and M&As

While the literature on the relationship between bank syndicates and subsequent M&As is sparse either from a leading indicator or consequential perspective, some interesting articles on the link between strategic alliances and M&As provide the basis to understand the relationship between syndicates and M&As. Buchheit (1985) reviews previous U.S. Supreme Court decisions that find syndicated lending to be a joint venture requiring consent by a majority of lenders before a single bank may take legal action to recover from a borrower. Das and Teng (1998) define alliances as inter-firm cooperative arrangements aimed at achieving the strategic objectives of the partners. Alliances are equity-based arrangements that involve the transfer or creation of equity

or non-equity based alliances (such as loan syndicates) that include a wide variety of contractually-based arrangements or contracts. Wright and Lockett (2003) define syndicates in the venture capital industry as inter-firm alliances where at least two firms co-invest in investee firms and share joint payoffs. Finally, a syndicate can be viewed as a team or strategic alliance formed for the purpose of providing finance to a particular borrower.

Pichler and Wilhelm (2001) view syndicates as a unique type of team since they are formed to complete well-defined functions. Although syndicates are dissolved upon deal completion, the authors argue that membership stability across deals represents a barrier to entry that enables the capture of quasi-rents, which improves incentives to cultivate relationships. Porrini (2004) argues that an acquirer's previous alliances with a target may help it obtain target-specific information and experience that aid in selection, valuation and integration of targets. Bleeke and Ernst (1991) show that 75% of all alliances end with one partner acquiring the cooperation unit. The main benefit of gradual acquisition or sale is that the parties benefit from information about the actual value of the business in the new holding company through the intermediate process of cooperation. This helps them negotiate fairer purchase prices, and also simplifies the integration of the target into the surviving entity.

Kogut (1991) examines the possibility that joint ventures are created as real options to expand. He finds that companies that build trust based on their joint partnering experience engage in additional joint ventures. In contrast, Gulati (1995) concludes that the larger the number of prior co-alliances the less likely that current alliances are equity based. Hagedoorn and Sadowski (1996) conclude that transformations from strategic technology alliances to M&As are rare.

The amount and quality of information learned may be limited due to the well-specified dimensions of the contract, such as fees, share, and so forth. Anand and Khanna (2000a, 2000b) argue that learning from alliances is greater for less specific alliance types where contractual ambiguity is greater or relatively less precise criteria guide the alliance. Nevertheless, syndicate

relationships, especially between lead and participant banks, may be more general and informative, especially for participants.

4.2.2 M&A Performance

Econometric evidence of efficiency gains following financial sector M&As is surprisingly weak, and differs somewhat by type of financial institutions, their countries and the internationality of the transaction. Empirical studies of M&A performance consist of event studies examining stock price impacts on targets and acquirers of M&A announcements, and analyses of post-merger firm performance using accounting data.

4.2.2.1 Stock market performance

The literature on stock market reactions to M&A announcements generally finds abnormal returns that are positive for target shareholders and zero or negative for acquirers. Houston and Ryngaert (1994) and Pilloff (1996) report no significant aggregate value effect. Madura and Wiant (1992) observe a negative cumulative abnormal return or CAR for the 36-month post-merger period. DeLong (2001) compares diversifying and focusing acquisitions and concludes that value is created for M&As for banks geographically or product space concentrated but not for those that diversify. Cybo-Ottone and Murgia (2000) report positive and significant value gains from domestic and not cross-border bank mergers in Europe. Cornett et al. (2003) find no [negative] AR for the acquirer of a focusing [diversifying] M&A. In contrast, Zhang (1995) finds value creation for out-of-market M&As, which is consistent with a diversification hypothesis. Finally, Amihud et al. (2002) find no decrease in banking risk associated with international M&As of financial institutions.

4.2.2.2 Firm performance based on accounting numbers

The literature examining firm performance as measured using accounting measures generally finds more benefits associated with M&As. Studies in the 1980s report that only relatively small banks gain efficiency from an increase in size and that higher banking concentration leads to less favorable conditions for consumers, especially for small business loans, retail deposits and

payment services. More recently, changes in technology and market structure affect scale and scope economies (Hughes et al., 2001) and the presence of non-bank loan institutions tends to offset the reduction in credit supply to small businesses (Mester, 1999). The evidence on the effects of M&As on cost efficiency varies by country. Cost efficiency or operating income following M&As improves for some European markets (especially between equals, Vennet, 1996) but not for the U.S. (Pilloff, 1996). Accounting performance is generally the poorest for cross-border transactions. For example, Focarelli et al. (2002) conclude that Italian M&As that involve the purchase of the majority of the target's voting shares result in significant improvements in cost efficiency.

Papers using frontier methodology to assess post-merger bank performance often find no efficiency gains. For instance, Berger and Humphrey (1992) find no significant gains in X-efficiency from bank consolidation.[75] Akhavein, Berger and Humphrey (1997) report no improvement in ROAs and ROEs post-M&A. Based on a review of the international evidence, Amel et al. (2004) conclude that little evidence exists that financial sector M&As yield economies of scope or gains in managerial efficiency.

4.2.2.3 Factors explaining market and firm performance results

One explanation for the lack of efficiency gains is related to the performance measurement methods employed. These include selection biases and the use of time-periods that are too short to effectively capture the full extent of the efficiency gains. However, as noted by Pilloff and Santomero (1997), it is improbable that these biases and errors affect all papers written on the subject.

Given the inverse relation between premiums and acquiring shareholder returns, authors question why premiums that average, for example, 41% between 1976 and 1990 are paid (Jensen, 1993). Roll (1986), Pilloff and Santomero (1997), among others, argue that the absence of

[75] X-efficiency is the effectiveness with which a given set of inputs are used to produce outputs. If a firm is producing the maximum output given the resources it employs (such as men and machinery) while using the best technology available, then the firm is said to be x-efficient.

efficiency gains from bank consolidation is due to management hubris, which leads to the over-payment for targets by over-confident acquiring managers.

Another possible reason, specifically for international M&As, is efficiency barriers. Berger et al. (2001) and Buch and Delong (2004) suggest that constraining factors (such as geographical distance, different languages and cultures, or adverse regulatory and supervisory structures) offset some of the gains of cross-border consolidations by impeding cross-border activity.

4.3 SAMPLE DESCRIPTION

4.3.1 Sample of Syndicates

An international sample that consists of (non-)public lending institutions participating in loan syndicates between 1987 and 2004 is generated from Dealscan, a database of loans to large firms maintained by the Loan Pricing Corporation (LPC).[76] The database includes information on various deal-related variables, such as the market of syndication, distribution method, lender role, and the numbers of arrangers and lenders.

The initial sample consists of 60,692 syndicate deals after excluding club deals and all bilateral loans between single banks and borrowers.[77] Overall, 6,363 distinct lenders participated in at least one syndicated loan during the studied period. In order to study specific lenders within the syndicates, each deal is separated across members to generate 496,242 distinct bank-deal observations where a different entry is created for each lender in each deal for every deal in the

[76] A syndicate is defined herein as an agreement involving at least two financial institutions to extend a loan to a single borrower. DealScan enters the name of the bank as its main identifier. Since names are not always consistent throughout the database or even spelled identically for the same financial institution, a unique identifier is added manually for each syndicate member (i.e., parent and all subsidiaries) in our sample, and the Bloomberg ISIN number is manually added for each publicly traded syndicate member. Thus, if the parent of a non-publicly-traded lender is itself publicly traded, then the ISIN of the parent is used as the identifier for the lender.

[77] Club deals are removed from the sample because they are loan agreements in which the syndicate participants are specifically requested by the borrower. Therefore, alliances and relationships between banks have a lesser role in syndicate formation.

sample.[78] This allows for a matching of all possible pairs of financial institutions that participated in syndicates together.

The distribution of deals and bank-deals between 1987 and 2004 is summarized in table 4.1. The number of deals increases almost every year, and almost half of these deals, or 47.73%, occur in the 2000-04 period. Based on a syndication market definition as the region of loan arrangement, 62.26% of the deals were arranged in the U.S. or Canada (see panel B of table 4.1). About 20% of the deals were arranged in Asia, 11.82% in Western Europe and the rest among the remainder of the world.

[Please insert table 4.1 about here.]

The number of lenders in syndicated deals ranges from two to 159 lenders.[79] Half the deals have between 2 and 5 lenders, 42.08% have between 6 and 20 lenders, and only 0.37% involve more than 50 banks (see panel C of table 4.1). While LPC does not provide the number of arrangers for most of the deals in the sample, 16.53% of the deals with such information have only one arranger and 13.70% have between 2 and 5 arrangers (see right-hand side of panel C in table 4.1).

Lead banks are defined herein as banks that retain administrative, monitoring, or contract enforcement responsibilities for the lending relationships with the borrower. More precisely, they must be in charge of loan pricing, its division into shares and/or the invitations to other institutions to participate in the syndicates. Armstrong's (2003) definitions of the different roles within a syndicate are used to classify syndicate participants as either leads or participants.[80]

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[78] If the same lender plays more than one role as a member of a specific deal, the entry with the most important role only is retained.

[79] The number of lenders used in the descriptive statistics is that provided by LPC. Since we do not count financial institutions from the same parent, our average number of lenders of 8.17 is lower than the 8.25 using the numbers recorded in the LPC database.

[80] Banks categorized as leads are those labeled by LPC with "Lead Role", Agent, Bookrunner, Co-lead manager, Lead manager, Lead arranger, Lead underwriter, Mandated arranger, Senior arranger, Senior lead, and Underwriter. Banks categorized as participants are labeled by LPC as "Participant", "Publicity", "Offshore booking", "Global coordinator", and other similar designations.

4.3.2 Sample of M&As

All M&As (domestic and international) between two financial institutions from 1992 to 2004 are drawn from SDC Platinum, generating a detailed list of 63,808 transactions. The database also provides detailed information on a number of M&A terms, such as premium, payment method, acquisition technique and percentage of shares acquired. Although within-firm equity restructurings (such as stake repurchases) are defined as M&As in the database, they are removed from the initial sample because they are within the same organizational structure. Transactions under the umbrella of the same parent (i.e., so-called roll-ups involving subsidiaries of the same parent where multi-bank organizations consolidate their charters) are also removed from the sample.[81] Thus, all M&As with SEDOL numbers for the parents of both targets and acquirers in SDC are retained. The Datastream ISIN numbers are used to identify the M&A participants to maximize matches with the sample of syndicated deals.

The event-time distribution of the final sample of 5,014 M&As between 1992 and 2004 is reported in table 4.2. Almost half of the transactions occur in the 2000-04 period. Based on panel B of table 4.2, approximately 75% of the targets and acquirers are North American or Western European financial institutions. Asian firms represent 18.63% and 20.66% of the acquirers and targets, respectively. International M&As (i.e., between financial institutions domiciled in different countries) represent 2,214 of the 5,014 M&As or 44.16% of the sample. Finally, as shown in panel C of table 4.2, depository institutions represent 41.66% and 39.21%, respectively, of the acquirers and the targets. Interpillar transactions (i.e., M&As between institutions from two different industries) represent 54.47% (2731 out of 5014 M&As) of the sample.

[Please insert table 4.2 about here.]

[81] This is important in the U.S. due to the passage of two acts. The *Riegle-Neal Interstate Banking and Branching Efficiency Act* (IBBEA) of 1994 permitted the acquisition by bank holding companies of banks in any state after September 30, 1995 (Nippani and Green, 2002). Similarly, the *Gramm-Leach-Bliley Financial Services Modernization Act* (*GLBA*) of 1999 permitted the consolidation of commercial and investment banks (www.en.wikipedia.org/wiki/Gramm-Leach-Bliley_Act). This removes 450 transactions involving both a U.S. target and acquirer from the sample.

4.4 TESTS OF THE RELATIONSHIP BETWEEN CURRENT M&A ACTIVITY AND PAST ALLIANCES AND ROLES IN LOAN SYNDICATIONS

4.4.1 The Relationship Between M&As Among Financial Institutions and Past Loan Syndicate Alliances

The literature on integration problems following M&As is large and unanimous in its conclusion that, if more information is acquired about a potential target, then the more adequate is the decision to go on with the M&A, the more precise the evaluation, the easier the transition, and the lower the integration costs and problems.

In any alliance a need exists for cooperation and coordination between the parties for the alliance to function properly and to meet the desired objectives and payoffs. This cooperation and coordination inevitably generates information about the parties. Consequently, a previous alliance with a target (via a loan syndicate) allows the acquirer to elicit very specific information about the target's potential compatibility and resources. Therefore, the expectation is that formal consolidation between two lending institutions is related to their past syndication activity. This is captured by the following null hypothesis:

$H_0^{4.1}$: Financial institutions with common prior syndicate involvements are more likely to engage in M&As than institutions without such involvements, all else held equal.

Although each syndicate is temporary in nature with a financing structure tailored specifically for that transaction, participating banks typically re-syndicate as leads or participants with a network of partners over time. Therefore, the expectation is that M&As are more likely for those banks with higher *repeat* syndications. This is embodied in the following hypothesis:

$H_0^{4.2}$: The relation between M&As and past syndication activities between financial institutions is stronger with greater frequencies of their past same-syndicate involvements.

A logit model is used to test the above two hypotheses, where the probability that institution p is the target of a M&A by acquirer q is regressed on their past syndicated alliances and on

various factors that are hypothesized as affecting this likelihood. Specifically, the logit model with the year dummy variables suppressed for compactness is:[82]

$$TARGET_p = \beta_0 + \beta_1 * RELATION_q + \beta_2 * ACTIVITY_q + \beta_3 * SIZE_p + \beta_4 * M/B_p + \beta_5 * LEVERAGE_p + \beta_6 * MGNT_p + \beta_7 * E/P_p + ... + \varepsilon$$

(4.1)

In (4.1), the dummy variable $TARGET_p$ equals 1 if bank p is the M&A target and is 0 otherwise. Two additional potential targets also are simulated for each M&A transaction based on same country and asset size so that two potential acquirer-target pairings exist for every actual M&A.

$RELATION_q$ is the generic dummy variable for two alternative measures of relationship strength between acquirer and target. The dummy variable $DUMMY_q$ is equal to 1 if acquirer q was in a syndicate with target p during the past five years.[83] $NUMBER_q$ is the relative frequency of past syndicate activities between q and p, as measured by dividing the number of syndicated loans involving banks q and p by the total number of syndicated loans that q participated in over the five-year window preceding the deal active date. Because $NUMBER_q$ is equal to zero if the acquirer has never partnered with the target nor participated in the syndicated loan market during the past 5 years, the dummy variable (DUM_q) is added, which equals 1 if the acquirer has no prior deals and is 0 otherwise. Every past syndicate alliance is considered, irrespective of the roles played by the acquirer or the target for both of these measures.

$ACTIVITY_q$ is the M&A intensity of acquirer q, measured by the number of acquisitions by the acquirer in the year prior to the current M&A announcement.[84]

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[82] To control for factors that theoretically and empirically affect the probability of being a target, we follow Palepu (1986) but add a slightly lower number of variables to proxy for characteristics of target firms implied by the different merger hypotheses in the literature. Specifically, some of the variables identified for other industries do not apply to the financial sector or are not available in the database or no equivalent proxy is available.

[83] No empirical evidence exists on the current effect of the vintage of past syndicate relationships on alliance forming. A five-year period appears to be long enough to capture past pairwise syndication activity and for lenders to gather information about other members, but not too long to become stale and outdated due to regime shifts in bank characteristics (e.g., managers, ranking, size and reputation).

[84] Time periods for *ACTIVITY* that range between 1 and 5 years are tested with no significant changes in the results.

$SIZE_p$ is the log of the book value of assets for target p observed at the latest date prior to the merger, converted into U.S. dollars. Because of several size-related transaction costs associated with firm acquisition (such as those associated with the absorption of the target or legal costs), larger firms may become less attractive to potential acquirers, ceteris paribus. However, larger-sized transactions may be more attractive for acquirers interested in building up size to better meet international competition. Thus, the sign of this variable is indeterminate.

M/B_p is the ratio of the market to book value of target p measured at the end of the fiscal year preceding the M&A announcement date. Acquirers supposedly can identify undervalued targets and buy them at bargain prices. If the market to book value ratio is low (e.g., if it is less than one), the target's assets may be undervalued. Thus, a negative relationship is expected between the probability of a merger and this ratio.

$LEVERAGE_p$ is the target's ratio of total liabilities to common equity.[85] Since firm consolidation should reduce the risk of default, the new entity should have a higher debt capacity and benefit from tax advantages, thus increasing the value of the new firm. The acquiring firm may also take advantage of a low target leverage to finance the takeover directly. Thus, a negative sign is expected for this variable.

$MNGT_p$ is the target's return on equity or ROE. Since the corporate control market acts as a mechanism for controlling agency problems, managers who fail to maximize firm value should be replaced when the target is acquired. Thus, the expected sign of this variable is negative.

E/P_p is the last earnings per share value available at the announcement date divided by the stock price of the target one month before the announcement date. Although questionable economically, its inverse (the price-earnings ratio) remains a popular explanation for takeovers. Firms with low P/E ratios are likely acquisition targets because they generate an "instantaneous capital gain" to the acquirer. On the other hand, acquirers interested in external growth

[85] The leverage ratio as calculated directly by Datastream is used herein. Because the interpretation of leverage and ROE are ambiguous when equity is negative, cases with negative leverage ratios are removed from the sample.

opportunities prefer to acquire firms with high P/E ratios. Thus, the expected sign of this variable is indeterminate. The inverse of the P/E ratio is used herein in order to limit the tendency of the P/E ratio towards infinity when earnings are very small and to allow for its interpretation when earnings are negative. To limit possible outliers or errors in the database, the E/P ratio is restricted to [-1, 1].[86]

YEAR is a set of indicator variables to control for general trends in the M&A market between 1992 and 2004.

Descriptive statistics for the (in)dependent variables for the entire sample are reported in table 4.3. Of the merger transactions (potential and actual), 10.36% involve at least one syndicate partnering between the acquirer and the target in the five years prior to the merger. The average relative frequency of past relations ($NUMBER_q$) represents 1.14% of all the syndicated deals by the acquirers. The average number of syndicated deals with acquirer participation equals 374.75 and the average number of pairings with the targets in these syndicates is 11.65.

[Please insert table 4.3 about here]

The results for regression model (4.1) are reported in table 4.4. Before proceeding to a discussion of these results, it should be noted that references to statistical significance are at the 0.05 level throughout unless noted otherwise. The odds of a merger between lenders p and q are 1.60 times higher when both participated in at least one syndicated loan together in the 5-year pre-M&A period.[87] The coefficient is 6.56 based on the relative frequency measure of past alliances, which translates into odds that are 1.45 times higher for every increase of one standard deviation in $NUMBER_q$ (1.93 times higher for every 10% increase). All the remaining significant coefficients have their expected signs. As expected, the probability that lender p is a target

[86] If no restriction is imposed on the range of values of E/P or if the ratio is restricted to [0, 1], the coefficient for E/P becomes insignificant. However, all the other coefficients are similar in sign and magnitude to those from the original regression.

[87] Since repeated observations on individual acquirers are used to estimate a regression, the errors can be correlated across observations for the same firm. The Huber-White sandwich robust standard error estimator is used to correct for this heteroskedasticity problem.

decreases with increases in the company's leverage and ROE, and increases with *p's* size. Since the probability that lender *p* is a target decreases with increases in the company's E/P, this suggests that acquirers appear to be interested in purchasing targets with greater growth opportunities.

[Please insert table 4.4 about here]

4.4.2 Tests of Robustness

4.4.2.1 Impact of past syndicate alliances controlling for nationality and industry of target and acquirer, and time period

Because the information and cultural gap between potential acquirers and targets can be higher when they are from different countries or industries, a stronger relation is expected between M&A activity and past syndicate alliances for international and/or inter-pillar M&As. This is captured by the following hypothesis:

$H_0^{4.3}$: All else held equal, any relationship between M&A activity and past co-syndication is stronger for international than for domestic M&As and for inter-pillar than for same-industry M&As.

To test this hypothesis, interactive variables that combine $RELATION_q$ with industry and domesticity dummies are added to model (4.1). Specifically, the dummy variable $CROSS\text{-}INDUSTRY_{pq}$ is equal to 1 if target *p* and acquirer *q* are from two different industries (i.e., bank, insurance company or other financial institution) and 0 otherwise. The dummy variable $INTERNATIONAL_{pq}$ is equal to 1 if *p* and *q* are from different countries and 0 otherwise. *RELATION/INDUSTRY* and *RELATION/INT* are interactive variables that combine the respective $RELATION_q$ measure with the respective $CROSS\text{-}INDUSTRY_{pq}$ or $INTERNATIONAL_{pq}$ dummy variables.

To test whether the impact of $RELATION_q$ is different across different time periods, interactive time variables are also added.[88] The estimated coefficients for the regression for each sub-sample are reported in table 4.5. The results are sensitive to the measure of $RELATION_q$ used. In the first regression, the impact of past relationships is higher for inter-pillar M&As and lower for the 2000-2004 time period. In the second regression, the impact of the relative frequency of past alliances is higher for M&As that are across industries and countries. Thus, these results are consistent with the null hypothesis 4.3.

[Please insert table 4.5 about here]

4.4.2.2 Relationship with the roles of the target and acquirer in past syndicate alliances

The information gains from a syndicate are mainly between participants and leads rather than between any two participants. Specifically, the expectation is that acquirers benefit from M&As with targets for which they had a prior participant-lead relationship since syndicate participants learn the most from lead(s). This is embodied in the following hypothesis:

$H_0^{4.4}$: Any relationship between M&As and past co-syndications is stronger for participant-lead pairs than for lead-participant or lead-lead pairs.

This hypothesis is tested by running regression (4.1) by measuring $RELATION_q$ with past syndicate alliances in which acquirer q and target p played specific roles. Three modifiers are added to $DUMMY_q$ and $NUMBER_q$: PL is when the acquirer was participant and the target was lead, LP is when the acquirer was lead and the target was participant, and LL is when acquirer and target played lead roles. The estimated coefficients for each case are given in table 4.6. As expected, the largest coefficient of 1.01 is for $DUMMY_q$-PL. This coefficient value is higher than the 0.47 reported earlier for the undifferentiated past syndicated roles (see table 4.4) and higher than the coefficients for the other two differentiated role dummy variables. Thus, the odds of a merger are more than 2.7 times higher when the acquirer and the target were in at least one

[88] Year dummies are replaced by period dummies.

syndicated loan where the acquirer [target] was the participant [lead]. The odds are also higher, although lower than the PL case, if the two lenders were in lead-lead syndicate alliances. Similarly, for the alternative measure of relationship intensity, the largest coefficient of 12.8 is for $NUMBER_q$-PL. Lead-lead alliances are also positively associated with the probability that the financial institutions will be involved in a M&A.

[Please insert table 4.6 about here]

4.4.2.3 Alternative universe of potential targets

To test if the basic results are robust to sample selection, an alternative potential target universe is examined where each real target is matched with all the non-target (as of 2004) financial institutions from the same country and industry. This increases the sample to 19,150 real and simulated M&A transactions. Based on the results reported in table 4.7, the coefficients for $DUMMY_q$ (0.15) and $NUMBER_q$ (3.91) are positive and highly significant. Thus, the earlier results are not caused by the choice of the sample of potential targets.

[Please insert table 4.7 about here]

4.4.2.4 Results for non-U.S. targets

To ensure that the earlier results are applicable to non-U.S. M&As, model (4.1) is run on a sub-sample of 3,915 non-U.S. targets. Based on the results presented in table 4.8, $NUMBER_q$ remains significant with a coefficient of 3.76 while $DUMMY_q$ is no longer significant.[89] The remaining coefficients have the same signs and similar magnitudes as for the original sample. Thus, the results are robust for the more refined (informative) measure of past syndicate activity.

[Please insert table 4.8 about here]

4.5 M&A TERMS AND PAST SYNDICATE ALLIANCES

Given the finding reported earlier that the odds of a M&A between acquirer and target increases significantly when they co-participated in syndicated loans, we now examine summary

[89] The results are similar when all U.S. acquirers and targets are removed. Specifically, $NUMBER_q$ remains significant with a coefficient of 2.97 while $DUMMY_q$ is no longer significant.

statistics on the terms of M&As in the financial sector conditioned on the existence of such co-participations. Significant differences are observed for payment method, acquisition technique and the percentage of shares acquired (see table 4.9). Specifically, 29.07% of the transactions with past alliances are paid cash compared to 47.40% for the no-alliance sub-group. A divestiture is involved in 65.02% and 47.94% of the M&As with and without past syndicate co-participations, respectively.[90] Finally, the percentage of shares acquired is significantly higher, on average, for M&As between those with past syndicate co-participations (88.38% vs 77.08%).

[Please insert table 4.9 about here]

4.6 M&A WEALTH EFFECTS AND PAST SYNDICATE ALLIANCES

As discussed earlier, a previous alliance with a target through loan syndications allows the acquirer to elicit very specific information about the target's potential compatibility and resources, and allows the acquirer to better determine if any offer will be perceived as being hostile or friendly. If banks purposefully select targets and the responses of potential targets to M&A overtures are influenced by their past relationships to capture any derived informational advantages, then M&As between parties with past alliances should yield higher performance gains than those without such past alliances. If the M&A is cross-border, this may be value-creating for acquirers by exploiting the expertise and knowledge of the target in specific markets (internalization theory of Rugman, 1981), by lowering failure risk by further diversifying income (French and Poterba, 1991) or by lowering operating and financing costs by exploiting financial market imperfections (Aliber, 1978). Furthermore, past alliances may create value by facilitating firm integration, which may be captured by the target shareholders.

In contrast, agency theory predicts that such M&As destroy value. If managerial perquisites are tied to firm size (Jensen and Meckling, 1976) and ownership diffusion, and managerial entrenchment is enhanced by slanting investments towards opportunities that make the specific

[90] More than one acquisition technique can be entered for each transaction.

skills of management harder to replace (Shleifer and Vishny, 1989), then the managements of both acquirers and targets may engage in M&As that are less favorable financially. Furthermore, M&As between parties previously co-involved in syndications are likely to be friendly and relatively less contested. In turn, this may result in smaller expected premiums (although the results reported in the previous section are inconclusive).

These expectations are captured by the following hypotheses:

$H_0^{4.5}$: All else held equal, the M&A impact on the wealth of the acquirer's shareholders is the same whether or not the merging parties co-engaged in past syndicate alliances.

$H_0^{4.6}$: All else held equal, the M&A impact on the wealth of the target's shareholders is the same whether or not the merging parties co-engaged in past syndicate alliances.

To investigate these two hypotheses, the sample of M&As is partitioned into two sub-samples classified on whether or not the merging parties co-engaged in loan syndicates during the five-year period prior to the M&A.

4.6.1 Announcement Day Effects

To determine market- and risk-adjusted abnormal returns (ARs) around each M&A announcement date (AD), the following dummy variable version of a single-factor market model, which allows for an event-induced beta change, is used:

$$R_{it} = \alpha_i + \beta_{1i} R_{mt} + \beta_{2i} R_{mt} D_1 + \sum_n \tau_{in} D_{2\tau} + \varepsilon_{it} \qquad (4.2)$$

where R_{it} is the return for firm i on day t; R_{mt} is the rate of return for the market m on day t;[91] α_i is the intercept for firm i; β_{1i} and β_{2i} are the pre-AD beta and the change in beta on and subsequent to the M&A AD for firm i; D_1 is a dummy variable with zeros before the M&A AD and ones on and after the M&A AD; τ_{in} is the parameter (measure of AR) for firm i on date n relative to the

[91] The index returns used for each institution are specific to the stock exchange on which the stock is traded. When unavailable, a Datastream-constructed value-weighted index for the relevant country is used.

AD; D_{2n} is a dummy variable that is equal to 1 on date n relative to the AD and 0 otherwise; and ε_{it} is the disturbance term of the relationship at time t for firm i, which is assumed to be distributed normally with mean equal to zero, constant variance, and zero correlation between residuals across and over time.

The regression results for tests of $H_0^{4.5}$ for the acquirers are summarized in panel A of table 4.10. Overall, the average CAR around the announcement date is significant, although very small at 0.13% for the [-1, 1] window. The median and mean differences in the announcement window wealth effects for the M&As between lenders with and without past syndicate co-involvements are statistically different and favor those without such involvements. The small positive wealth impact is present only for the M&As with no previous syndicate co-alliances.

[Please insert table 4.10 about here]

The mean cumulative abnormal performance for the [-1, 1] announcement window is 2.87% for the targets. The mean CAR is significantly higher for targets without prior alliances with the acquirers than those with (3.15% versus 0.87%). Although smaller in magnitude, the same inferences are drawn based on the medians.

4.6.2 Longer-run Wealth Effects

Longer-run wealth effects are measured using buy-and-hold returns, measured using monthly ARs, over holding periods of 12, 24 or 36 months. To control for risk, ARs are measured using the Jensen α that is obtained from:

$$R_{it} - R_{ft} = \alpha_i + \beta_i (R_{Mt} - R_{ft}) + \varepsilon_{it} \qquad (4.3)$$

where R_{it} is the return for acquiring firm i for month t within post-acquisition period T; R_{Mt} is the rate of return for the benchmark for month t; R_{ft} is the risk-free return as proxied by the monthly rate based on the three-month Treasury Bill rate for month t within the post-acquisition period; β_i is the beta for firm i; and ε_i is the error term of the relationship for month t for firm i, which is assumed to be distributed normally with mean equal to zero, constant variance, and zero

correlation between residuals across and over time. To test whether the abnormal performances of the acquiring firms differ from zero or between the two sub-groups, the mean and median alphas are tested using t- and Wilcoxon tests, respectively.

Four different types of benchmarks or control portfolios are used in model (4.3). The first one is based on Datastream's financial sector indices. For every country, indices are constructed using a varying number of institutions that are representative of the sector.[92] The second set of control portfolios are obtained by selecting institutions that did not acquire other financial institutions (or were not the target of such acquisitions) during the assessment period for each sample firm. Actual acquirers are then compared to a portfolio of same-country non-acquirers.[93] The third type of control portfolio combines non-acquirers into value- and equal-weighted world portfolios. The fourth type of benchmark consists of control firms not involved in M&As as either acquirers or targets but from the same country as the studied lender and approximately of the same size.[94] Individual acquirer or target returns are regressed against the appropriate benchmark returns for the first three types of benchmarks, and the returns of equal-weighted portfolios of targets and acquirers are regressed against the appropriate returns for the fourth type of benchmark. Thus, the latter test provides an additional test of robustness but is not an investable strategy since it is implemented in relative time.

The regression results for tests of $H_0^{4.5}$ using longer-term abnormal financial performance are summarized in table 4.11.[95] The BHAR for 1, 2 and 3 year periods for the full sample are all highly significant. Not unexpectedly, the magnitudes of the mean abnormal performances vary by benchmark, and range from 13.57% to 18.31% for the 3-year BHAR for the full sample of

[92] For instance, the U.S. and Canadian indexes are composed of 58 and 7 value-weighted banks, respectively.
[93] This generates control portfolios of different sizes for each acquiring firm.
[94] Since the control firms need at least the same amount of stock return data as the sample firms during the assessment period, any survivorship bias will benefit the control firms. Also, to reduce cross-sectional dependence, each control firm is used only once in a control group.
[95] Because the results are very similar for the equal- and value-weighted benchmark returns, only the results for the equal-weighted benchmarks are reported herein.

M&A acquirers. These values lie between the overperformance of 57.3% that Boubakri, Dionne and Triki (2006) document for acquirers over the three years following insurance company M&As and the small and generally insignificant long-term abnormal return performances documented by Loughran and Vijh (1997), Rau and Vermalen (1998) and Mitchell and Stafford (2000) for their full samples of M&As that exclude financial institutions and insurance companies. Interestingly, M&As with past alliances generally underperform those without such alliances for most benchmarks. One notable exception is the 24-month BHARs based on the world control portfolio where the median is significantly higher for the M&As with previous syndicate co-involvements.

[Please insert table 4.11 about here]

4.6.3 Wealth Effects and Past Alliance Strength Between Merging Parties

Because the abnormal performance around or following the event date can be caused by a number of factors aside from the past alliances between the two merging lenders, various cross-section regressions of the ARs on a number of variables that are known to affect such ARs are run in this section of the chapter. The specific model used is:

$$AP = \beta_0 + \beta_1 * RELATION + \beta_2 * REL-SIZE + \beta_3 * SIZE + \beta_4 * B/M + \beta_5 * E/P + \beta_6 * PAYMENT + \beta_7 * DOMESTIC + \beta_8 * TECHNIQUE + \beta_9 * BIDDERS + \beta_{10} * YEAR + \varepsilon \quad (4.4)$$

In (4.4), *AP* is the abnormal performance of the acquirer or the target, which is measured as the CAR over the [-1,1] announcement window in order to examine the short-term effect and as the 3-year BHAR to measure a longer-term impact. *RELATION* and *DOMESTIC* are as defined earlier. *REL-SIZE* is the relative size of the target, which is obtained by dividing the target's market value by the acquirer's market value. A positive relationship is expected between the relative size of the target and the impact of the merger announcement for the acquirer, and the inverse is expected for the target. *SIZE* is the acquirer's or target's size, as measured by the market value of equity. *B/M* is the acquirer or target's book to market value ratio, which is found

in the literature as being positively related to long-term stock performance.[96] *E/P* is the acquirer's or target's earnings yield, measured as before. *PAYMENT* is a dummy variable that is equal to 1 if the payment method is cash and is equal to 0 otherwise.[97] A positive coefficient is expected for this variable because empirical studies find that M&As with cash payment are associated with positive CARs because of the positive signal sent to investors.[98] The *TECHNIQUE* dummies are for tender offers (TENDER), divestitures (*DIVEST*), open market purchases *(OMP*), and privately negotiated purchases (*PRIVATE*). *BIDDERS* is the number of bidders that were involved in the M&A contest for the target.[99]

Three reformulations of model (4.4) are examined. Descriptive statistics on the dependent and explanatory variables are presented in table 4.12. The average abnormal performance is -0.06% for the acquirer and 1.43% for the target around the event date and is 11.25% for the acquirer for the 3–year post–event window. The percentage of M&As with past alliances ranges from 9.03% to 17.88%. Because we work with parent companies, the average relative size of the target is high (from 69.09% to 92.31%). Slightly less than 50% of the transactions involve cash payments. The majority of the transactions are divestitures, and most transactions involved only 1 bidder.

[Please insert table 4.12 about here]

The regression results for the three reformulations of model (4.4) are summarized in table 4.13. The announcement window abnormal returns of targets and the 3-year post-M&A abnormal returns of acquirers are not related to the presence or the number of past alliances but are negatively and significantly related to the respective sizes of the acquirers and targets. The

[96] Rau and Vermaelen (1998) find a positive relationship between book-to-market ratio and long-term stock performance, reflecting the dominance of value acquirers over glamour acquirers.
[97] The payment method is deemed to be cash if 50% or more of the transaction price involves a cash payment.
[98] See Travlos (1987), among others. For the long-term performance effects, Loughran and Vijh (1997) find that long-run stock performance is better for cash acquirers than stock acquirers.
[99] Although the percentage of shares acquired during the M&A transaction is a potential explanatory variable, it is not included in the regression because it is not available for most studied M&As.

announcement window ARs for acquirers are negatively and significantly related to the presence of past alliances.

[Please insert table 4.13 about here]

4.7 CONCLUSION

This chapter provided empirical evidence on the relationship between M&As and past syndication activity in the financial sector. The probability of a M&A between two lenders increases significantly when the institutions allied in the 5-year period before the M&A, and the odds of a merger are higher for every percent increase in the relative importance of the past alliances. The impact of relative past relationships between the acquirer and the target is larger for international alliances and cross-industry mergers, and when the acquirer and target were participant and lead, respectively, in past alliances. The method of payment is less frequently cash, the transactions result more often from divestitures, and the percentage of shares acquired is significantly higher when the two merging parties engaged in past alliances. Although the short- and longer-run market performances of M&As are significantly lower when the merging parties were co-involved in past syndicated loans, the impact of past syndicated alliances becomes insignificant when various control variables are considered.

CHAPTER 5

CONCLUSION

This thesis examined syndicated loans, both from the perspective of borrower-lender transactions and lender-lender relationships. It also examined the impact of an alternative bonding mechanism (cross-listing) on the bond between lenders, and between lenders and borrowers.

Four major conclusions follow from the empirical findings presented in the second chapter on the impact of cross-listing on the different loan terms for syndicated and non-syndicated loans. Firstly, such terms depend on whether or not the borrower is cross-listed and whether or not syndication is chosen as the method to distribute the loan. Foreign borrowers that are cross-listed directly in the U.S. obtain loans with materially lower spreads, marginally lower amounts and lower spread-costs-to-loan-amounts if the loan is not syndicated. Being cross-listed in the U.K. does not have a significant impact on the loan spread but is related to higher absolute and relative loan amounts if the loan is not syndicated. Secondly, compared to their developed country counterparts, borrowers from emerging economies pay lower spreads or composite spread-costs-to-loan-amounts if listed in the U.K. or with DRs (American or Global) and receive higher amounts and longer maturities if listed via DRs for loans that are not syndicated. Thirdly, in almost all cases, any positive impact of being cross-listed is either negated or reversed for loans distributed by syndicates of lenders. Cross-listed borrowers in the U.S. pay higher syndicated loan spreads but lower spreads-to-maturities when loans are syndicated. Finally, a prior decision to be cross-listed appears to have an impact on the choice of loan distribution method because of its apparent impact on reputational bonding, asymmetric information, costs of monitoring and renegotiation.

These conclusions have interesting implications for the various players in the financial system. Companies should not only consider the impact of cross-listing on the cost of equity but also evaluate the effect of cross-listing on the cost of debt, since the total or net benefit of the decision to cross-list may not systematically be positive across funding sources, and appears to depend on the method of distribution of the private loans that the foreign borrower is likely to negotiate in the future. The findings of this chapter can also help major trade venues in the U.S. and the U.K. Since these venues are in constant competition for new listings and their associated order flow, knowing the benefits or costs that cross-listing generate for their listed firms can allow these trade venues to adjust their trading mechanisms and protocols accordingly or to improve their marketing strategies.

The chapter still leaves open the need to examine the impacts of being cross-listed on other components of a firm's cost of capital, both public and private. Among the questions that remain unanswered are the following: What specific factors can explain the interactive effects between cross-listing and syndication? Do they include the ones proposed in the chapter that were not tested empirically?

Six major conclusions can be drawn from the third chapter, which examines the impact of past alliances on the probability of future alliances and on the determinants of syndicate alliances. Firstly, the probability of joining a syndicate is positively related to past alliances between leads and participating banks. The odds of a participant joining a syndicate headed by a specific lead are higher when the two institutions allied in the previous five years and increase with the relative number of past alliances. Secondly, the probability of joining a syndicate is positively related to the reputation of the lead; to the informational situation of the participant; to whether the participant and the lead are from the same country or industry; to whether the borrower and lender are from the same country; to whether the lender is over-weighted in the borrower's region; to the past relationships between the participant and the borrower; and to the number of lenders in the loan syndicate. Thirdly, the strength of the syndicate relationship between two

lenders is most sensitive to the reputation of the lead bank and is stronger for informationally opaque participating lenders, where both characteristics are proxied by the market shares of the lead and participant, respectively. Fourthly, past relationships between two lenders are at least as important a determinant of syndicate participation as information about the borrower. Fifthly, the likelihood of re-partnering depends upon the roles played by the lenders in past syndicate alliances. This provides evidence of a comparative advantage at work in the syndicated loan market, pushing some lenders to specialize in underwriting and others to specialize in participating in order to draw full advantage from their relative strengths. Lastly, lenders exhibit home bias in their syndicate alliances.

These conclusions have interesting implications for the decision to present syndicate membership offerings to potential syndicate participants and for the decision of participants to join syndicates. These conclusions highlight some of the factors that both parties consider when they offer and decide to accept such offerings to participate in loan syndications. These conclusions should assist both parties in refining their heuristic procedures for making such decisions.

Questions that remain unanswered in the third chapter include the following: Can the alliance between a participant and a lead be affected by a specific event, such as the failure of a major loan arranged by the lead? How do the alliances between a bank and other lenders evolve over the life of the institution? Do specific economic, geographic or corporate factors affect the number of different alliances that an institution enters into?

Four major conclusions are reached in the fourth chapter. Firstly, the probability of a M&A between two lenders increases significantly when the institutions allied in the 5-year period before the M&A. Secondly, the impact of relative past relationships between the acquirer and the target is larger for international alliances and cross-industry mergers, and when the acquirer and target were participant and lead, respectively, in past alliances. Thirdly, the modalities of M&As

differ when the two merging parties engaged in past alliances. Specifically, the method of payment is less frequently cash, the transactions result more often from divestitures, and the percentage of shares acquired is significantly higher. Finally, although the short- and longer-run market performances of M&As are significantly lower when the merging parties were co-involved in past syndicated loans, these differences become insignificant when the differences in the modalities of M&As conditioned on whether the two merging parties engaged in past alliances are accounted for. This strongly suggests that any informational advantages gained through loan syndication appear to be lost to greater agency costs.

These conclusions have interesting implications for the decision to participate in the syndicated loan market. Results imply that, in addition to a traditional business transaction, syndications are also relational transactions and represent an easy way to acquire information or maintain alliances with other lenders. Results can also assist bank managers in their decision to acquire a former syndicate partner by providing evidence that the stock market performance of such an acquisition would not be significantly different than if the merger was with an institution with no prior syndicate involvement given that the merger terms are structured in a similar manner.

Questions that remain unanswered in the fourth chapter include the following: Can agency problems explain the lack of better performance of a M&A where the two parties were previously allied through syndications? Can management entrenchment explain the results? Would other measures of performance, such as accounting performance ratios, obtain different results?

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TABLES

Table 2.1 Summary of the relationships between each of the six loan terms and the cross-listed status of the borrower

This table summarizes the relations between being cross-listed versus being noncross-listed with each of six terms of a loan. "SPD" refers to loan spread. "AMT" refers to loan amount. "RELAMT" refers to relative loan amount. "SPD/AMT" refers to relative loan cost per dollar of loan. "SPD/MTY" refers to relative loan cost per month of maturity. "Undifferentiated" refers to no differentiation by the economic development of the borrower's home country and/or the distribution method of the loan. "Developing – Developed" refers to a comparison of the specific loan term depending upon whether the borrower is from a developing or developed country. "Syndicated – Non-syndicated" refers to a comparison of the specific loan term depending upon whether the loan was distributed via a syndicate or a club deal or sole-lender. "Emerging/syndicated - Developed/non-syndicated" refers to a comparison of the specific loan term depending upon whether the borrower is from an emerging country with a syndicated loan or a developed country with a non-syndicated loan. "+" and "-" indicate that the value for the measure is significantly higher and lower, respectively. A blank indicates that the impact of the borrower's cross-listing status on the loan characteristic is not significantly different from zero at the 0.05 level. N/A indicates not applicable because the sub-sample size is too small or null. The loan terms are defined in table 2.2. The undifferentiated relations are taken from table 2.8, after controlling for interactive effects.

		Cross-listed on or using:				
Loan Term	**Type of Comparison**	**U.S. &/or U.K. &/or DRs**	**U.S.**	**U.K.**	**U.S. & U.K.**	**DRs**
SPD	Undifferentiated		-			
	Developing - Developed country	-	N/A	-	N/A	-
	Syndicated - Non-syndicated		+		N/A	
	Emerging/syndicated - Developed/non-syndicated	+	N/A	N/A	N/A	+
AMT	Undifferentiated		-	+		
	Developing - Developed country	+	N/A		N/A	+
	Syndicated - Non-syndicated		+		N/A	
	Emerging/syndicated - Developed/non-syndicated		N/A	N/A	N/A	-
RELAMT	Undifferentiated		-	+		
	Developing - Developed country		N/A		N/A	
	Syndicated - Non-syndicated		+		N/A	
	Emerging/syndicated - Developed/non-syndicated		N/A	N/A	N/A	
MTY	Undifferentiated					
	Developing - Developed country	+	N/A		N/A	+
	Syndicated - Non-syndicated				N/A	
	Emerging/syndicated - Developed/non-syndicated	-	N/A	N/A	N/A	-

Table 2.1 Cont'd.

Loan Term	Type of Comparison	Cross-listed on or using:				
		U.S. &/or U.K. &/or DRs	U.S.	U.K.	U.S. & U.K.	DRs
SPD/AMT	Undifferentiated		-			
	Developing - Developed country	-	N/A	-	N/A	-
	Syndicated - Non-syndicated		+	+	N/A	
	Emerging/syndicated - Developed/non-syndicated	+	N/A	N/A	N/A	+
SPD/MTY	Undifferentiated	+	+			
	Developing - Developed country	-	N/A		N/A	-
	Syndicated - Non-syndicated	-	-		N/A	-
	Emerging/syndicated - Developed/non-syndicated	+	N/A	N/A	N/A	+

Table 2.2 Number of loan facilities per year according to the listing situation of the borrower

This table presents the distribution of the loan facilities between 1994 and 2004 according to the cross-listing situation of the borrower. A borrower is categorized as being cross-listed in the U.S. [U.K.] if it is traded on major U.S. [U.K.] trade venues and is categorized as being cross-listed in the U.S. and the U.K. if it is cross-listed on trade venues in both countries. Borrowers are classified as depositary receipts (DRs) if traded as DRs in either the U.S. or the U.K. Public borrowers that are not cross-listed in either the U.S. or the U.K. directly or indirectly using DRs are categorized as being not cross-listed.

	Cross-listed U.K.		Cross-listed U.S.		Cross-listed U.S.-U.K.		Depositary Receipts		Not Cross-listed		Total	
Year	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1994	1	0.16	8	3.98	2	7.69	11	0.97	63	2.72	85	2.00
1995	2	0.31	4	1.99	8	30.77	12	1.06	35	1.51	61	1.43
1996	10	1.57	7	3.48	1	3.85	49	4.32	139	5.99	206	4.84
1997	4	0.63	9	4.48	0	0.00	89	7.86	189	8.15	291	6.84
1998	13	2.04	9	4.48	1	3.85	93	8.21	162	6.98	278	6.54
1999	26	4.09	7	3.48	0	0.00	126	11.12	235	10.13	394	9.26
2000	48	7.55	29	14.43	2	7.69	166	14.65	307	13.23	552	12.98
2001	106	16.67	30	14.93	2	7.69	163	14.39	316	13.62	617	14.50
2002	136	21.38	36	17.91	0	0.00	147	12.97	316	13.62	635	14.93
2003	139	21.86	32	15.92	8	30.77	162	14.30	290	12.50	631	14.83
2004	129	20.28	30	14.93	2	7.69	105	9.27	238	10.26	504	11.85
Total	636	100.00	201	100.00	26	100.00	1133	100.00	2320	100.00	4254	100.00

Table 2.3 Descriptive statistics for the dependent and explanatory variables

This table presents definitions and summary statistics for the explanatory and dependent variables. All statistics are calculated for the total sample of 4,254 loan facilities originated between January 1994 and December 2004. All dummy variables are equal to 1 as noted in the table and are equal to 0 otherwise.

Variables	Variable Description	Mean	Std Dev	Min.	Max.
Spread	Basis points over LIBOR (includes all fees)	102.3154	95.9738	-274.64	800.00
LISTING	Dummy = 1 if borrower cross-listed in U.S. &/or U.K.	0.4617	0.4986	0	1
USCROSS	Dummy = 1 if borrower cross-listed in U.S.	0.0472	0.2122	0	1
UKCROSS	Dummy = 1 if borrower cross-listed in U.K.	0.1443	0.3515	0	1
USUKCROSS	Dummy = 1 if borrower cross-listed in U.S. & U.K.	0.0061	0.0779	0	1
DUMDR	Dummy = 1 if borrower traded as depositary receipt in U.S. or U.K.	0.2640	0.4408	0	1
SIZE	Log of the book value of the borrower's assets	21.9691	1.7655	16.41	27.51
LEVERAGE	Borrower's debt-to-equity ratio (in book values)	209.0270	712.7216	0.06	35348.1
PROFIT	Borrower's ROE ratio	11.8243	75.6584	-2075.61	1308.61
VOLATILITY	Volatility of the borrower's stock return over the 6 months before the loan (in %)	2.4748	1.1572	0.27	15.731
RETSTOCK	Return on the borrower's stock over the 6 months before the loan (in %)	5.6142	35.8843	-94.84	383.63
INDUSTRY-AG	Dummy = 1 if borrower in agricultural sector	0.0078	0.0877	0	1
INDUSTRY-CON	Dummy = 1 if borrower in construction sector	0.0252	0.1566	0	1
INDUSTRY-FIN	Dummy = 1 if borrower in financial sector	0.1864	0.3895	0	1
INDUSTRY-MAN	Dummy = 1 if borrower in manufacturing sector	0.3693	0.4827	0	1
INDUSTRY-MIN	Dummy = 1 if borrower in mining sector	0.0559	0.2298	0	1
INDUSTRY-RE	Dummy = 1 if borrower in retail sector	0.0461	0.2097	0	1
INDUSTRY-SER	Dummy = 1 if borrower in services sector	0.0839	0.2773	0	1
INDUSTRY-TRAN	Dummy = 1 if borrower in transport & communications sector	0.1883	0.3910	0	1
ICRG	ICRG composite rating for the borrower's country	79.6889	7.2611	41.5	93.5
AUSTRALIA-NZ	Dummy = 1 if borrower's country is Australia or New Zealand	0.0397	0.1953	0	1
ASIA	Dummy = 1 if borrower's country is China, Indonesia, Malaysia, Pakistan, Philippines, Singapore, Taiwan or Thailand	0.0708	0.2564	0	1
HONG KONG	Dummy = 1 if borrower's country is Hong Kong	0.0350	0.1839	0	1
INDIA	Dummy = 1 if borrower's country is India	0.0277	0.1642	0	1
JAPAN	Dummy = 1 if borrower's country is Japan	0.0668	0.2496	0	1
KOREA	Dummy = 1 if borrower's country is South Korea	0.0654	0.2472	0	1

Table 2.3 Cont'd.

Variables	Variable Description	Mean	Std Dev	Min.	Max.
CANADA	Dummy = 1 if borrower's country is Canada	0.0738	0.2615	0	1
EAST-EUROPE	Dummy = 1 if borrower's country in Czech Republic, Hungary, Poland, Russia or Serbia and Montenegro	0.0153	0.1227	0	1
CAYMAN-BERMUDA	Dummy = 1 if borrower's country is Cayman Islands or Bermuda	0.0261	0.1594	0	1
LATIN-AMERICA	Dummy = 1 if borrower's country is Argentina, Brazil, Chile, Mexico, Peru or Venezuela	0.0545	0.2271	0	1
WEST-EUROPE	Dummy = 1 if borrower's country is Austria, Belgium, Denmark, Finland, Greece, Ireland, Italy, Luxembourg, Norway, Portugal, Spain or Switzerland	0.1255	0.3314	0	1
FRANCE	Dummy = 1 if borrower's country is France	0.0898	0.2859	0	1
GERMANY	Dummy = 1 if borrower's country is Germany	0.0515	0.2210	0	1
NETHERLANDS	Dummy = 1 if borrower's country is the Netherlands	0.0350	0.1839	0	1
SWEDEN	Dummy = 1 if borrower's country is Sweden	0.0256	0.1580	0	1
TURKEY	Dummy = 1 if borrower's country is Turkey	0.0242	0.1537	0	1
U.K.	Dummy = 1 if borrower's country is the U.K.	0.1641	0.3704	0	1
EMERGING	Dummy = 1 if borrower in emerging country	0.1735	0.3787	0	1
CIVIL	Dummy = 1 if borrower in civil law country	0.5679	0.4954	0	1
SOCIALIST	Dummy = 1 if borrower in socialist country	0.0157	0.1245	0	1
INFO	Number of times of syndicated loan market borrowings by firm during the 5-year period prior to loan date	2.9060	3.7475	0	27
MTY	Number of months until loan expiration	48.3742	30.8447	1	348
AMT	Natural logarithm of the facility amount in U.S. dollars	18.7604	1.3989	13.14	23.49
TYPE-364	Dummy = 1 if 364-day facility	0.1340	0.3407	0	1
TYPE-FRN	Dummy = 1 if a floating rate note	0.0181	0.1333	0	1
TYPE-LC	Dummy = 1 if a letter of credit	0.0160	0.1254	0	1
TYPE-TERM	Dummy = 1 if term loan	0.4140	0.4926	0	1
TYPE-REV	Dummy = 1 if revolver/line of credit facility	0.3474	0.4762	0	1
PURPOSE-GEN	Dummy = 1 if for general corporate purposes	0.3009	0.4587	0	1
PURPOSE-LBO	Dummy = 1 if for a LBO	0.0317	0.1753	0	1
PURPOSE-RECAP	Dummy = 1 if for recapitalization purposes	0.0256	0.1580	0	1
PURPOSE-ACQ	Dummy = 1 if for asset acquisition	0.0646	0.2459	0	1
PURPOSE-TAKE	Dummy = 1 if for a takeover	0.1110	0.3141	0	1
PURPOSE-WC	Dummy = 1 if for working capital purposes	0.0616	0.2404	0	1
PURPOSE-REST	Dummy = 1 if for debt restructuring	0.3474	0.4762	0	1
PURPOSE-PROJ	Dummy = 1 if for project finance	0.0259	0.1587	0	1
SYNDICATE	Dummy = 1 if loan distributed with lender syndicate	0.9274	0.2596	0	1

Table 2.3 Cont'd.

Variables	Variable Description	Mean	Std Dev	Min.	Max.
LOAN-US/CANADA	Dummy = 1 if loan arranged in US/Canada	0.0769	0.2664	0	1
LOAN-WESTEUROPE	Dummy = 1 if loan arranged in Western Europe	0.4859	0.4999	0	1
LOAN-ASIA	Dummy = 1 if loan arranged in Asia	0.3206	0.4668	0	1
LOAN-EASTEUROPE	Dummy = 1 if loan arranged in Eastern Europe	0.0233	0.1508	0	1
LOAN-AFRICA	Dummy = 1 if loan arranged in Africa/MiddleEast	0.0339	0.1809	0	1
INTRAREGIONAL	Dummy = 1 if borrower's and syndicate's region are the same	0.9057	0.2922	0	1
LENDERS	Number of lenders	12.2971	9.8339	1	80
YIELD-CURVE	Loan market's yield curve slope (in %)	1.0353	1.1669	-4.08	4.00
DEFAULT-RATE	Loan market's average corporate default rate (in %)	1.8417	1.1023	0.01	4.92
LOAN-INDEX	Natural log of corporate borrowing index based on total loan amount reported by Dealscan for each month	25.8775	0.3270	24.21	26.49
RETMARK	Average daily return on market index over 6 months prior to loan date (in %)	1.8205	20.0404	-52.73	190.87
VOLMARK	Standard deviation of daily returns on market index over 6 months before loan date (in %)	1.3612	0.6283	0.40	5.00
DUMMY-1995	Dummy = 1 if loan made in 1995	0.0143	0.1189	0	1
DUMMY-1996	Dummy = 1 if loan made in 1996	0.0484	0.2147	0	1
DUMMY-1997	Dummy = 1 if loan made in 1997	0.0684	0.2525	0	1
DUMMY-1998	Dummy = 1 if loan made in 1998	0.0654	0.2472	0	1
DUMMY-1999	Dummy = 1 if loan made in 1999	0.0926	0.2899	0	1
DUMMY-2000	Dummy = 1 if loan made in 2000	0.1298	0.3361	0	1
DUMMY-2001	Dummy = 1 if loan made in 2001	0.1450	0.3522	0	1
DUMMY-2002	Dummy = 1 if loan made in 2002	0.1493	0.3564	0	1
DUMMY-2003	Dummy = 1 if loan made in 2003	0.1483	0.3555	0	1
DUMMY-2004	Dummy = 1 if loan made in 2004	0.1185	0.3232	0	1

Table 2.4 Summary of regression results for the loan spreads and for the loan amounts or sizes conditioned on the listing situations of the borrowers

This table summarizes the impact of (not) being cross-listed on loan spreads and on loan amounts for the total sample of observations using models (2.1) and (2.2), respectively. Two regressions are run for each model: one using the undifferentiated cross-listing dummy and one using the four differentiated cross-listing dummies. Coefficients are estimated using OLS and t-values are corrected for heteroskedasticity. "[a]", "[b]" and "[c]" indicate significance at the 10%, 5% and 1% levels, respectively. The dependent and independent variables are defined in table 2.3. Number of observations is 4,254.

Dependent Var.	Spread				Absolute Loan Amount			
Independent Var.	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Intercept	827.5031	6.72[c]	831.5461	6.75[c]	4.5014	2.93[c]	4.6351	3.02[c]
LISTING	5.3494	1.90[a]			0.0406	1.16		
USCROSS			0.8972	0.12			0.0907	1.02
UKCROSS			13.1180	2.97[c]			0.1261	2.30[b]
USUKCROSS			10.7406	0.71			-0.1809	-0.96
DUMDR			3.6669	1.16			0.0071	0.18
SIZE	-8.2872	-7.79[c]	-8.7086	-8.05[c]	0.3466	28.47[c]	0.3439	27.65[c]
LEVERAGE	0.0032	1.95[a]	0.0033	2.00[b]	0.0000	-0.16	0.0000	-0.14
PROFIT	-0.0639	-4.24[c]	-0.0643	-4.27[c]	0.0002	1.15	0.0002	1.20
VOLATILITY	15.1580	12.06[c]	15.0954	12.00[c]	0.0076	0.48	0.0061	0.38
RETSTOCK	-0.0608	-1.56	-0.0600	-1.54	-0.0005	-1.06	-0.0005	-0.99
INDUSTRY-AG	11.9428	0.85	13.0535	0.93	0.5603	3.21[c]	0.5780	3.31[c]
INDUSTRY-CON	23.5434	2.57[b]	24.0973	2.63[c]	0.1072	0.94	0.1103	0.97
INDUSTRY-FIN	-19.4107	-2.90[c]	-18.2032	-2.71[c]	-0.1139	-1.37	-0.1078	-1.29
INDUSTRY-MAN	-4.9031	-0.80	-3.5966	-0.58	0.2361	3.09[c]	0.2453	3.20[c]
INDUSTRY-MIN	6.4425	0.83	7.8224	1.00	0.3267	3.39[c]	0.3335	3.45[c]
INDUSTRY-RE	1.5337	0.20	2.4898	0.32	0.2522	2.59[c]	0.2599	2.67[c]
INDUSTRY-SER	6.4618	0.92	7.4500	1.06	0.2071	2.39[b]	0.2154	2.48[b]
INDUSTRY-TRAN	13.0525	1.97[b]	13.9198	2.10[b]	0.4368	5.33[c]	0.4469	5.44[c]
ICRG	-3.0195	-9.15[c]	-2.9674	-8.97[c]	0.0045	1.07	0.0049	1.17
AUSTRALIA-NZ	30.4645	1.50	33.9236	1.67[a]	0.6733	2.68[c]	0.7221	2.87[c]
ASIA	-47.5021	-2.56[b]	-45.8518	-2.47[b]	-0.1675	-0.73	-0.1426	-0.62
HONG KONG	18.8441	0.92	16.5918	0.81	0.3559	1.40	0.3334	1.31
INDIA	-80.9066	-4.23[c]	-78.2581	-4.08[c]	-0.5662	-2.38[b]	-0.5247	-2.20[b]
JAPAN	16.7752	0.82	15.9780	0.78	0.2301	0.91	0.2257	0.89
KOREA	-18.0353	-0.86	-15.4719	-0.73	-0.6623	-2.53[b]	-0.6300	-2.41[b]
CANADA	-5.8368	-0.28	-0.3134	-0.01	0.0684	0.26	0.0878	0.33
EAST-EUROPE	1.0689	0.03	1.6298	0.04	1.3253	2.51[b]	1.3175	2.50[b]
CAYMAN-BERMUDA	-15.9600	-0.72	-14.6898	-0.66	0.2582	0.93	0.2932	1.06
LATIN-AMERICA	-10.0927	-0.43	-7.0548	-0.30	0.3516	1.20	0.3833	1.30
WEST-EUROPE	4.3552	0.23	6.2686	0.33	0.2007	0.85	0.2169	0.92
FRANCE	8.1758	0.42	10.1111	0.52	0.0793	0.33	0.0938	0.39
GERMANY	12.9273	0.66	13.8108	0.70	0.3501	1.44	0.3513	1.44

Table 2.4 Cont'd.

Dependent Var.	Spread				Loan Amount			
Independent Var.	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
NETHERLANDS	41.6338	2.10[b]	42.9848	2.17[b]	0.2831	1.15	0.2889	1.18
SWEDEN	4.1507	0.20	6.3016	0.31	0.4060	1.61	0.4231	1.67[a]
TURKEY	-104.3138	-5.79[c]	-103.5047	-5.74[c]	0.1383	0.62	0.1454	0.65
U.K.	29.5502	1.64	33.9208	1.87[a]	0.4753	2.12[b]	0.5193	2.31[b]
EMERGING	23.7240	2.51[b]	24.9160	2.63[c]	0.2410	2.06[b]	0.2529	2.15[b]
CIVIL	-2.7924	-0.36	-1.6602	-0.21	-0.1094	-1.12	-0.0957	-0.98
SOCIALIST	26.1159	0.71	26.6186	0.73	-0.0931	-0.21	-0.0819	-0.18
INFO	0.9681	2.44[b]	0.9625	2.42[b]	-0.0225	-4.58[c]	-0.0224	-4.55[c]
MTY	0.1959	4.29[c]	0.1933	4.23[c]	-0.0010	-1.74[a]	-0.0010	-1.78[a]
AMT	-9.5387	-7.71[c]	-9.6026	-7.76[c]				
SPREAD					-0.0015	-7.71[c]	-0.0015	-7.76[c]
TYPE-364	-39.7273	-6.71[c]	-40.2195	-6.79[c]	0.0921	1.25	0.0896	1.21
TYPE-FRN	0.3272	0.03	-0.5800	-0.06	0.1358	1.12	0.1286	1.06
TYPE-LC	-24.1793	-2.45[b]	-24.7524	-2.51[b]	-0.0236	-0.19	-0.0271	-0.22
TYPE-TERM	-1.9714	-0.42	-2.1707	-0.46	-0.0363	-0.62	-0.0350	-0.60
TYPE-REV	-30.8575	-6.19[c]	-31.1867	-6.26[c]	0.1402	2.26[b]	0.1399	2.25[b]
PURPOSE-GEN	13.1488	1.94[a]	13.3586	1.97[b]	0.0347	0.41	0.0382	0.45
PURPOSE-LBO	143.0362	15.06[c]	142.9336	15.05[c]	-0.6031	-5.00[c]	-0.6024	-4.99[c]
PURPOSE-RECAP	57.8351	5.95[c]	57.6801	5.93[c]	-0.2046	-1.69[a]	-0.1968	-1.62
PURPOSE-ACQ	37.0666	4.68[c]	36.9013	4.66[c]	0.1174	1.19	0.1204	1.22
PURPOSE-TAKE	31.7852	4.24[c]	31.9569	4.27[c]	0.4435	4.77[c]	0.4446	4.78[c]
PURPOSE-WC	29.3239	3.68[c]	29.3686	3.69[c]	-0.0332	-0.34	-0.0247	-0.25
PURPOSE-REST	12.8534	1.88[a]	12.4374	1.82[a]	0.2753	3.25[c]	0.2763	3.26[c]
PURPOSE-PROJ	45.8887	4.69[c]	45.0494	4.60[c]	0.0492	0.40	0.0486	0.40
SYNDICATE	15.3124	3.42[c]	15.4131	3.44[c]	-0.0240	-0.43	-0.0204	-0.37
LOAN-US/CANADA	49.6517	2.86[c]	49.5850	2.86[c]	0.7270	3.37[c]	0.7164	3.33[c]
LOAN-WESTEUROPE	-34.7218	-2.22[b]	-35.1560	-2.24[b]	0.5742	2.96[c]	0.5681	2.92[c]
LOAN-ASIA	-57.8506	-3.44[c]	-56.8462	-3.38[c]	0.0472	0.23	0.0429	0.21
LOAN-EASTEUROPE	-58.1037	-3.08[c]	-56.5239	-2.99[c]	-1.1778	-5.04[c]	-1.1505	-4.92[c]
LOAN-AFRICA	-79.9832	-3.83[c]	-78.1591	-3.74[c]	0.0017	0.01	0.0241	0.09
INTRAREGIONAL	-29.7595	-4.32[c]	-29.6981	-4.29[c]	0.2734	3.19[c]	0.2799	3.26[c]
LENDERS	-0.0941	-0.65	-0.0812	-0.56	0.0371	21.84[c]	0.0371	21.79[c]
YIELD-CURVE	3.1496	2.11[b]	3.1165	2.09[b]	0.0900	4.88[c]	0.0896	4.86[c]
DEFAULT-RATE	2.9473	1.60	2.9468	1.60	0.0189	0.83	0.0191	0.83
LOAN-INDEX	-8.4291	-1.81[a]	-8.4948	-1.82[a]	0.1863	3.22[c]	0.1806	3.12[c]
RETMARK	0.3373	4.29[c]	0.3449	4.38[c]	-0.0006	-0.61	-0.0005	-0.54
VOLMARK	14.8509	5.15[c]	14.6657	5.09[c]	0.0520	1.45	0.0504	1.41
DUMMY-1995	3.0193	0.24	2.4447	0.19	0.6268	3.96[c]	0.6540	4.10[c]
DUMMY-1996	9.6753	0.97	9.4943	0.96	0.0703	0.57	0.0655	0.53

Table 2.4 Cont'd.

Dependent Var.	Spread				Loan Amount			
Independent Var.	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**
DUMMY-1997	5.4832	0.53	5.5322	0.53	0.0517	0.40	0.0508	0.39
DUMMY-1998	35.3528	3.26[c]	35.3417	3.26[c]	0.0978	0.73	0.0963	0.71
DUMMY-1999	50.2477	4.67[c]	50.4739	4.69[c]	-0.0894	-0.67	-0.0884	-0.66
DUMMY-2000	57.4511	5.05[c]	57.6617	5.07[c]	-0.0523	-0.37	-0.0503	-0.36
DUMMY-2001	67.3293	5.93[c]	66.9787	5.90[c]	-0.2102	-1.49	-0.2164	-1.53
DUMMY-2002	68.4651	6.17[c]	67.9610	6.12[c]	-0.1732	-1.25	-0.1848	-1.34
DUMMY-2003	68.7667	6.51[c]	67.9773	6.43[c]	-0.1028	-0.78	-0.1125	-0.85
DUMMY-2004	75.0581	6.90[c]	73.9482	6.79[c]	0.0470	0.35	0.0297	0.22
Adjusted R^2	0.4387		0.4390		0.5928		0.5932	
F value	45.92[c]		44.23[c]		84.68[c]		81.55[c]	

Table 2.5 Summary of regression results for the relative loan amount and for maturity on the borrower's cross-listing situation

This table summarizes the relation between being (not) cross-listed with relative loan amounts and on loan maturities for the total sample of observations using models (2.3) and (2.4), respectively. Two regressions are run for each model: one using the undifferentiated cross-listing variable and one using the four differentiated cross-listing dummies. Coefficients are estimated using OLS and t-values are corrected for heteroskedasticity. "[a]", "[b]" and "[c]" indicate significance at the 10%, 5% and 1% levels, respectively. The dependent and independent variables are as defined in table 2.3. Number of observations is 4,254.

Dependent Var.	**Relative Loan Amount (%)**				**Maturity**			
Independent Var.	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**
Intercept	0.6354	3.27[c]	0.6428	3.31[c]	23.5367	0.56	24.9675	0.60
LISTING	0.0084	1.89[a]			1.3338	1.40		
USCROSS			-0.0035	-0.31			0.4444	0.18
UKCROSS			0.0236	3.41[c]			3.0656	2.05[b]
USUKCROSS			0.0228	0.96			0.6812	0.13
DUMDR			0.0056	1.13			0.9586	0.90
SIZE	-0.0406	-26.35[c]	-0.0415	-26.40[c]	-0.3010	-0.83	-0.3862	-1.05
LEVERAGE	0.0000	2.30[b]	0.0000	2.39[b]	-0.0001	-0.17	-0.0001	-0.13
PROFIT	0.0000	1.72[a]	0.0000	1.65[a]	-0.0090	-1.77[a]	-0.0091	-1.78[a]
VOLATILITY	-0.0008	-0.40	-0.0009	-0.43	-2.2354	-5.19[c]	-2.2506	-5.22[c]
RETSTOCK	-0.0001	-2.21[b]	-0.0001	-2.19[b]	0.0075	0.57	0.0078	0.59
INDUSTRY-AG	0.0066	0.30	0.0085	0.38	2.3885	0.50	2.6268	0.55
INDUSTRY-CON	-0.0126	-0.88	-0.0115	-0.80	7.2636	2.35[b]	7.3717	2.38[b]
INDUSTRY-FIN	0.0129	1.23	0.0154	1.46	-6.1984	-2.74[c]	-5.9553	-2.62[c]
INDUSTRY-MAN	0.0028	0.28	0.0054	0.55	0.0326	0.02	0.3012	0.14
INDUSTRY-MIN	0.0475	3.90[c]	0.0503	4.12[c]	1.9797	0.75	2.2597	0.86
INDUSTRY-RE	0.0031	0.25	0.0050	0.41	1.6096	0.61	1.8127	0.68
INDUSTRY-SER	0.0200	1.82[a]	0.0220	2.00[b]	-1.8864	-0.80	-1.6768	-0.71
INDUSTRY-TRAN	0.0228	2.20[b]	0.0245	2.36[b]	9.1404	4.09[c]	9.3467	4.17[c]
ICRG	-0.0003	-0.56	-0.0002	-0.38	0.3537	3.14[c]	0.3646	3.23[c]
AUSTRALIA-NZ	0.0236	0.74	0.0301	0.94	4.9321	0.72	5.7408	0.84
ASIA	-0.0281	-0.97	-0.0251	-0.86	7.0360	1.12	7.4190	1.18
HONG KONG	-0.0524	-1.64	-0.0568	-1.77[a]	20.3250	2.95[c]	19.8381	2.87[c]
INDIA	-0.0738	-2.45[b]	-0.0690	-2.29[b]	24.4485	3.78[c]	25.0439	3.86[c]
JAPAN	0.0094	0.29	0.0078	0.24	-0.5295	-0.08	-0.6777	-0.10
KOREA	-0.0174	-0.53	-0.0124	-0.37	2.0143	0.28	2.5919	0.36
CANADA	-0.0143	-0.44	-0.0018	-0.05	13.8068	1.96[a]	15.0894	2.09[b]
EAST-EUROPE	-0.0203	-0.30	-0.0190	-0.28	-13.4620	-0.94	-13.3429	-0.93
CAYMAN-BERMUDA	-0.0479	-1.37	-0.0459	-1.31	1.2305	0.16	1.5944	0.21
LATIN-AMERICA	0.0103	0.28	0.0163	0.44	-3.5538	-0.44	-2.8710	-0.36
WEST-EUROPE	-0.0001	0.00	0.0037	0.12	11.4454	1.78[a]	11.8437	1.84[a]
France	-0.0054	-0.18	-0.0014	-0.05	16.4157	2.49[b]	16.8152	2.55[b]
GERMANY	0.0245	0.80	0.0265	0.86	9.1601	1.38	9.3520	1.41

Table 2.5 Cont'd.

Dependent Var.	Relative Loan Amount (%)				Maturity			
Independent Var.	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**
NETHERLANDS	0.0127	0.41	0.0156	0.50	14.3476	2.15[b]	14.6200	2.18[b]
SWEDEN	0.0325	1.02	0.0368	1.15	15.0473	2.19[b]	15.5035	2.25[b]
TURKEY	0.0241	0.85	0.0255	0.90	-3.3678	-0.55	-3.1972	-0.52
U.K.	0.0204	0.72	0.0291	1.02	20.3157	3.33[c]	21.2604	3.47[c]
EMERGING	-0.0235	-1.58	-0.0211	-1.42	4.7273	1.48	4.9956	1.56
CIVIL	-0.0391	-3.18[c]	-0.0369	-3.00[c]	6.8194	2.58[c]	7.0646	2.66[c]
SOCIALIST	-0.0572	-1.00	-0.0563	-0.98	19.0499	1.54	19.1621	1.55
INFO	0.0004	0.70	0.0004	0.68	-0.2389	-1.78[a]	-0.2405	-1.79[a]
MTY	0.0001	2.03[b]	0.0001	1.97[b]				
AMT					-0.7321	-1.74[a]	-0.7522	-1.78[a]
SPREAD	-0.0001	-2.90[c]	-0.0001	-3.00[c]	0.0224	4.29[c]	0.0221	4.23[c]
TYPE-364	-0.0133	-1.42	-0.0145	-1.55	-39.6667	-20.70[c]	-39.7519	-20.73[c]
TYPE-FRN	-0.0075	-0.49	-0.0094	-0.61	-6.6215	-2.01[b]	-6.8044	-2.06[b]
TYPE-LC	-0.0199	-1.29	-0.0212	-1.37	-8.7758	-2.63[c]	-8.8980	-2.67[c]
TYPE-TERM	-0.0081	-1.10	-0.0086	-1.16	-0.3551	-0.22	-0.3850	-0.24
TYPE-REV	-0.0026	-0.33	-0.0034	-0.44	-4.9663	-2.94[c]	-5.0304	-2.97[c]
PURPOSE-GEN	0.0031	0.29	0.0035	0.33	0.4648	0.20	0.5120	0.22
PURPOSE-LBO	0.0115	0.75	0.0118	0.77	21.8575	6.66[c]	21.8509	6.66[c]
PURPOSE-RECAP	0.0083	0.54	0.0079	0.52	4.1541	1.26	4.1500	1.26
PURPOSE-ACQ	0.0153	1.23	0.0149	1.20	-0.4636	-0.17	-0.4736	-0.18
PURPOSE-TAKE	0.0646	5.50[c]	0.0649	5.53[c]	-10.2661	-4.05[c]	-10.2290	-4.04[c]
PURPOSE-WC	-0.0006	-0.05	-0.0006	-0.05	-3.9223	-1.46	-3.8802	-1.44
PURPOSE-REST	0.0141	1.32	0.0131	1.23	0.7065	0.31	0.6304	0.27
PURPOSE-PROJ	0.0147	0.95	0.0130	0.84	32.6638	9.96[c]	32.5101	9.91[c]
SYNDICATE	-0.0004	-0.05	-0.0001	-0.02	4.5829	3.03[c]	4.6266	3.05[c]
LOAN-US/CANADA	0.0153	0.56	0.0154	0.57	2.1772	0.37	2.1409	0.36
LOAN-WESTEUROPE	0.0271	1.10	0.0262	1.07	5.4195	1.02	5.3543	1.01
LOAN-ASIA	0.0004	0.01	0.0026	0.10	5.8366	1.03	6.0163	1.06
LOAN-EASTEUROPE	0.0329	1.11	0.0358	1.21	7.0224	1.10	7.3860	1.16
LOAN-AFRICA	-0.0545	-1.66[a]	-0.0512	-1.56	13.2783	1.88[a]	13.6786	1.93[a]
INTRAREGIONAL	0.0109	1.01	0.0107	0.98	-5.3280	-2.28[b]	-5.3273	-2.27[b]
LENDERS	0.0013	6.14[c]	0.0013	6.23[c]	0.1694	3.48[c]	0.1713	3.51[c]
YIELD-CURVE	0.0081	3.45[c]	0.0080	3.42[c]	0.0460	0.09	0.0407	0.08
DEFAULT-RATE	0.0031	1.08	0.0031	1.09	0.6731	1.08	0.6754	1.08
LOAN-INDEX	0.0119	1.62	0.0118	1.61	0.6631	0.42	0.6264	0.40
RETMARK	0.0002	1.76[a]	0.0002	1.89[a]	-0.0405	-1.52	-0.0388	-1.45
VOLMARK	0.0076	1.67[a]	0.0072	1.59	-3.0343	-3.11[c]	-3.0674	-3.14[c]
DUMMY-1995	0.0133	0.66	0.0115	0.57	6.8561	1.59	6.9377	1.59
DUMMY-1996	0.0190	1.22	0.0187	1.20	-1.4793	-0.44	-1.5317	-0.46

Table 2.5 Cont'd.

Dependent Var.	Relative Loan Amount (%)				Maturity			
Independent Var.	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**
DUMMY-1997	0.0290	1.77[a]	0.0291	1.78[a]	-0.9532	-0.27	-0.9553	-0.27
DUMMY-1998	0.0192	1.13	0.0193	1.13	-6.8072	-1.85[a]	-6.8111	-1.86[a]
DUMMY-1999	0.0038	0.23	0.0044	0.26	-8.7820	-2.41[b]	-8.7291	-2.39[b]
DUMMY-2000	0.0233	1.30	0.0239	1.33	-7.7484	-2.01[b]	-7.6880	-1.99[b]
DUMMY-2001	-0.0065	-0.37	-0.0069	-0.39	-13.2475	-3.44[c]	-13.3140	-3.46[c]
DUMMY-2002	0.0017	0.10	0.0011	0.06	-13.5672	-3.61[c]	-13.6809	-3.63[c]
DUMMY-2003	0.0097	0.58	0.0084	0.51	-14.9898	-4.19[c]	-15.1388	-4.23[c]
DUMMY-2004	0.0142	0.83	0.0123	0.72	-12.5530	-3.40[c]	-12.7874	-3.46[c]
Adjusted R^2	0.3310		0.3319		0.3789		0.3788	
F value	29.44[c]		28.44[c]		36.06[c]		34.68[c]	

Table 2.6 Summary of regression results for the relations between the composite measures of cost-per-dollar-of-loan-amount and of cost-per-month-of-loan-maturity with borrower cross-listed status

This table summarizes the relations between being cross-listed versus being noncross-listed with the ratios of the loan spread to the loan amount (SPD/AMT) and with the ratios of the loan spread to the loan maturity (SPD/MTY) for the total sample of observations using models (2.5) and (2.6), respectively. Two regressions are run for each model: one using the undifferentiated listing variable and one using the four differentiated listing dummies. Regressions are run on the listing variables and a number of unreported control variables known to influence the loan terms. Coefficients are estimated using OLS and t-values are corrected for heteroskedasticity. "[a]", "[b]" and "[c]" indicate significance at the 10%, 5% and 1%, respectively. The dependent and independent variables are as defined in table 2.3. Number of observations equals 4,254.

Dependent Var.	**SPD/AMT**				**SPD/MTY**			
Independent Var.	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**
Intercept	0.0480	7.00[c]	0.0481	7.01[c]	0.0407	4.48[c]	0.0410	4.50[c]
LISTING	0.0003	1.98[b]			-0.0001	-0.44		
USCROSS			-0.0001	-0.14			-0.0001	-0.16
UKCROSS			0.0007	2.78[c]			-0.0001	-0.19
USUKCROSS			0.0006	0.77			-0.0016	-1.40
DUMDR			0.0003	1.45			-0.0001	-0.37
Adjusted R-square	0.4387		0.4389		0.1699		0.1697	
F value	46.53[c]		44.77[c]		12.92[c]		12.44[c]	

Table 2.7 Descriptive statistics for the interactive explanatory variables based on the state of economic development of the borrower's home country and the loan's distribution method

This table presents definitions and summary statistics for the explanatory (dependent) variables. All statistics are calculated for the total sample of 4,187 loan facilities originated between January 1994 and December 2004. A borrower is categorized as being cross-listed in the U.S. [U.K.] if it is traded on a U.S. [U.K.] trade venue and is categorized as being cross-listed in the U.S. and the U.K. if its stock is cross-listed on trade venues in both countries. If the borrower is traded as a depositary receipt (DR) in either the U.S. or the U.K., it is categorized as a depositary receipt. Public borrowers that are not cross-listed in either the U.S. or the U.K. directly or indirectly using DRs are categorized as being not cross-listed. Countries are divided into developed and emerging according to their yearly per capita GNP using the World Bank definitions. All dummy variables are equal to 1 based on the criteria noted in the table and equal to 0 otherwise. Minimum and maximum values are 0 and 1, respectively, for each variable.

Variables	Variable Description	Mean	Std Dev
EMER-LISTED	Dummy = 1 if borrower from emerging country and cross-listed in U.S. &/or U.K.	0.0793	0.2702
EMER-UKCROSS	Dummy = 1 if borrower from emerging country and cross-listed in U.K.	0.0043	0.0654
EMER-DUMDR	Dummy = 1 if borrower from emerging country and traded as depositary receipt in U.S. or U.K.	0.0750	0.2634
SYND-LISTED	Dummy = 1 if borrower cross-listed in U.S. &/or U.K. and loan distributed with syndicate	0.4261	0.4946
SYND-USCROSS	Dummy = 1 if borrower cross-listed in U.S. and loan distributed with syndicate	0.0461	0.2097
SYND-UKCROSS	Dummy = 1 if borrower cross-listed in U.K. and loan distributed with syndicate	0.1318	0.3384
SYND-USUKCROSS	Dummy = 1 if borrower cross-listed in U.S. & U.K. and loan distributed with syndicate	0.0062	0.0786
SYND-DUMDR	Dummy = 1 if borrower traded as depositary receipt in U.S. or U.K. and loan distributed with syndicate	0.2419	0.4283
SYND-EMERG-LISTED	Dummy = 1 if borrower from emerging country & cross-listed in the U.S. or U.K. and loan distributed with syndicate	0.0745	0.2626
SYND-EMERG-DUMDR	Dummy = 1 if borrower from emerging country & cross-listed in the U.S. or U.K. and loan distributed with syndicate	0.0702	0.2555

Table 2.8 Impact of the stage of home country development and loan distribution method on the listing coefficients

This table summarizes the differences in the relations between being cross-listed versus being noncross-listed with each of six terms of a loan according to the economic development of the borrower's home country or the distribution method of the loan. Regressions are run on the interactive listing variables and a number of unreported control variables known to influence the loan terms. Coefficients are estimated using OLS and t-values are corrected for heteroskedasticity. "a", "b"and "c" indicate significance at the 10%, 5% and 1%, respectively. The independent variables are defined in table 2.7. The sample size is 4,187.

Dependent Var.	Spread				AMT			
Independent Var.	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**
Intercept	828.5422	6.79[c]	841.7121	6.91[c]	4.3568	2.80[c]	4.3740	2.82[c]
LISTING	-3.6144	-0.41			0.0226	0.20		
USCROSS			-61.3462	-2.31[b]			-1.3806	-4.09[c]
UKCROSS			4.0574	0.35			0.2821	1.91[a]
USUKCROSS			14.1459	0.95			-0.1844	-0.98
DUMDR			2.9418	0.26			-0.0023	-0.02
EMER-LISTED	-49.0146	-2.62[c]			0.5696	2.40[b]		
EMER-UKCROSS			-48.7852	-2.62[c]			0.0047	0.02
EMER-DUMDR			-53.3713	-2.68[c]			0.5927	2.35[b]
SYND-LISTED	9.6115	1.07			0.0194	0.17		
SYND-USCROSS			66.7226	2.49[b]			1.5350	4.52[c]
SYND-UKCROSS			16.2941	1.39			-0.1792	-1.21
SYND-DUMDR			-2.8198	-0.25			0.0063	0.04
SYND-EMERG-LISTED	52.9212	2.86[c]			-0.6351	-2.71		
SYND-EMERG-DUMDR			66.4735	3.36[c]			-0.6280	-2.50[b]
Adjusted R-square	0.4434		0.4465		0.5940		0.5964	
F value	44.87[c]		42.18[c]		81.59[c]		76.43[c]	

Table 2.8 Cont'd.

Dependent Var.	RELAMT				MTY			
Independent Var.	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**
Intercept	0.6173	3.13[c]	0.6215	3.15[c]	9.3484	0.22	12.4673	0.30
LISTING	0.0165	1.15			1.7470	0.57		
USCROSS			-0.0915	-2.14[b]			0.5613	0.06
UKCROSS			0.0370	1.97[b]			2.4441	0.61
USUKCROSS			0.0234	0.98			1.0581	0.21
DUMDR			0.0192	1.06			2.1774	0.56
EMER-LISTED	0.0238	0.79			13.9691	2.17[b]		
EMER-UKCROSS			-0.0188	-0.63			-6.0478	-0.94
EMER-DUMDR			0.0215	0.67			13.7051	2.00[b]
SYND-LISTED	-0.0081	-0.56			-0.4447	-0.14		
SYND-USCROSS			0.0921	2.14[b]			-0.2432	-0.03
SYND-UKCROSS			-0.0124	-0.65			1.2525	0.31
SYND-DUMDR			-0.0151	-0.81			-1.6426	-0.41
SYND-EMERG-LISTED	-0.0309	-1.04			-13.4531	-2.12[b]		
SYND-EMERG-DUMDR			-0.0238	-0.75			-12.0228	-1.76[a]
Adjusted R-square	0.3287		0.3304		0.3815		0.3813	
F value	27.97[c]		26.19[c]		34.97[c]		32.46[c]	
Dependent Var.	**SPD/AMT**				**SPD/MTY**			
Independent Var.	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**	**Coef.**	**t-value**
Intercept	0.0482	7.10[c]	0.0489	7.21[c]	0.0408	4.48[c]	0.0421	4.63[c]
LISTING	-0.0002	-0.48			0.0017	2.53[b]		
USCROSS			-0.0025	-1.68[a]			0.0106	5.33[c]
UKCROSS			0.0000	-0.02			0.0010	1.16
USUKCROSS			0.0008	1.02			-0.0017	-1.51
DUMDR			0.0002	0.27			0.0011	1.35
EMER-LISTED	-0.0030	-2.84[c]			-0.0056	-3.98[c]		
EMER-UKCROSS			-0.0028	-2.67[c]			-0.0003	-0.25
EMER-DUMDR			-0.0033	-2.94[c]			-0.0050	-3.37[c]
SYND-LISTED	0.0006	1.18			-0.0021	-3.15[c]		
SYND-USCROSS			0.0026	1.77[a]			-0.0111	-5.56[c]
SYND-UKCROSS			0.0011	1.74[a]			-0.0012	-1.34
SYND-DUMDR			-0.0001	-0.17			-0.0017	-1.96[b]
SYND-EMERG-LISTED	0.0032	3.12[c]			0.0070	5.07[c]		
SYND-EMERG-DUMDR			0.0040	3.62[c]			0.0067	4.52[c]
Adjusted R-square	0.4456		0.4482		0.1713		0.1756	
F value	45.85[c]		42.98[c]		12.54[c]		12.00[c]	

Table 2.A1 Number of loan facilities according to the borrower's home country

This table presents the distribution of the loan facilities over the 1994-2004 period based on the borrower's home country. The total number of observations is 4,254.

Region	Country	N	Region	Country	N
Africa/Middle East	South Africa	32	Western Europe	United Kingdom	698
	Israel	6		France	382
	Egypt	1		Germany	219
Asia/Pacific	Japan	284		Netherlands	149
	Republic of Korea	278		Sweden	109
	Australia	165		Turkey	103
	Hong Kong	149		Italy	96
	India	118		Spain	94
	Taiwan	70		Norway	74
	Malaysia	64		Finland	62
	Philippines	50		Switzerland	61
	Singapore	46		Greece	40
	Thailand	35		Denmark	33
	Indonesia	26		Portugal	24
	Papua New Guinea	5		Belgium	20
	New Zealand	4		Ireland	20
	China	3		Luxembourg	6
	Pakistan	2		Austria	4
U.S./Canada	Canada	314			
Eastern-Europe	Russia	25			
	Poland	23			
	Czech Republic	11			
	Hungary	5			
	Serbia & Montenegro	1			
Latin America	Bermuda	81			
	Mexico	81			
	Chile	57			
	Brazil	51			
	Argentina	33			
	Cayman Islands	30			
	Peru	6			
	Venezuela	4			

Table 3.1 Number of syndicated deals and bank-deals per year, market of syndication and number of lenders and arrangers in the deals

This table presents the distribution of the loan facilities between 1987 and 2004. A syndicated deal is defined as a loan agreement between at least two lenders and a borrower and may include more than one loan facility. Bank-deal observations are defined as a lender participating in a specific syndicated deal. Lenders reappear in the sample for each deal. Lenders are identified, when possible, by their parent to avoid counting more than one subsidiary from the same holding in the same syndicated deal. The market of syndication is the place of origination of the syndicated deal, as defined by the Loan Pricing Corporation (LPC). The numbers of lenders and arrangers per deal are provided by LPC.

Panel A - Number of deals and bank-deals per year

	Syndicate deals		Bank-deals			Syndicate deals		Bank-deals	
Year	No.	%	No.	%	Year	No.	%	No.	%
1987	373	0.61	3,356	0.68	1997	5,218	8.60	45,348	9.14
1988	740	1.22	6,259	1.26	1998	4,334	7.14	33,936	6.84
1989	781	1.29	7,194	1.45	1999	4,910	8.09	40,720	8.21
1990	931	1.53	8,318	1.68	2000	5,569	9.18	44,985	9.07
1991	862	1.42	7,126	1.44	2001	5,327	8.78	43,389	8.74
1992	1,389	2.29	10,625	2.14	2002	5,621	9.26	43,001	8.67
1993	2,096	3.45	17,454	3.52	2003	6,188	10.20	48,102	9.69
1994	2,727	4.49	24,439	4.92	2004	6,255	10.31	45,630	9.20
1995	3,123	5.15	28,673	5.78	Total	60,692	100.00	496,242	100.00
1996	4,248	7.00	37,687	7.59					

Panel B – Market of syndication of the different deals

Market of Syndication	Deals	%	Market of Syndication	Deals	%
USA/Canada	37,787	62.26	Middle East	796	1.31
Asia Pacific	11,529	19.00	Africa	299	0.49
Western Europe	7,174	11.82	Other	138	0.23
Latin America/Caribbean	1,745	2.88	N/A	44	0.07
Eastern Europe/Russia	1,180	1.94	Total	60,692	100.00

Panel C – Number of lenders and number of arrangers per syndicated deal

Number of lenders	No.	%	Number of Arrangers	No.	%
[2,5]	30,424	50.13	1	10,035	16.53
[6,10]	14,655	24.15	[2,5]	8,315	13.70
[11,20]	10,881	17.93	[6,10]	1,340	2.21
[21,50]	4,510	7.43	[11,20]	438	0.72
>50	222	0.37	>20	37	0.06
N/A	0	0.00	N/A	40,527	66.77
Total	60,692	100.00	Total	60,692	100.00
Min; average; max	2; 8.35; 159		Min; average; max	1; 2.49; 36	
Std dev.	8.21		Std dev.	2.66	

Table 3.2 Univariate analysis of past syndicate deal pairings of the lenders in a current syndicate deal

This table presents statistics on the past syndicated alliances between pairs of lenders. Pair-deals of lenders are obtained by combining bank-deal observations that belong to the same syndicated deal. Thus, the same pair of lenders can appear more than once if the two institutions participated in more than one deal together. The number of past deals is obtained by calculating the number of past alliances between each deal-pair during a specific period of time before the deal date (i.e., 1, 2, 3, 4 and 5 years). N is the sample size.

Period	No.	%	Average	Median	Std. Dev.	Min.	Max.
Panel A: Past alliances with same-role-ordered pairings of lead & participant (N = 1,042,711)							
5 years	898,974	86.22%	49.1916	19	77.9478	1	848
4 years	895,688	85.90%	43.8946	18	68.3360	1	715
3 years	888,773	85.24%	37.0594	16	56.3663	1	548
2 years	873,721	83.79%	28.1491	12	41.4689	1	396
1 year	828,980	79.50%	16.6041	8	23.0190	1	216
Panel B: Past alliances with reversed-role-ordered pairings of lead & participant (N = 1,042,711)							
5 years	677,684	64.99%	25.7967	10	44.3559	1	848
4 years	668,976	64.16%	22.8319	9	38.7600	1	715
3 years	653,740	62.70%	19.2159	8	32.0341	1	539
2 years	624,948	59.93%	14.7205	6	23.8571	1	393
1 year	560,019	53.71%	9.0122	4	13.5561	1	212
Panel C: Past alliances for lead-lead deal pairings (N = 1,045,828)							
5 years	949,557	90.79%	112.2438	40	179.3428	1	1,772
4 years	947,792	90.63%	100.9452	37	158.3971	1	1,653
3 years	943,724	90.24%	84.9187	33	130.5229	1	1,380
2 years	933,673	89.28%	63.7208	27	94.9124	1	937
1 year	904,927	86.53%	36.7829	17	51.9231	1	508
Panel D: Past alliances for participant-participant deal pairings (N = 1,234,148)							
5 years	1,090,085	88.33%	49.0624	22	65.0853	1	534
4 years	1,086,950	88.07%	42.5270	20	54.8803	1	458
3 years	1,079,710	87.49%	34.8254	17	43.4925	1	368
2 years	1,064,643	86.27%	25.5748	14	30.8260	1	274
1 year	1,018,003	82.49%	14.5451	8	16.6307	1	162

Table 3.3 Impact of past syndicate alliances on the probability of joining a syndicate led by a specific lead bank

This table summarizes the relationship between the decision of participant *m* to join lead *n* in a current syndicate and their past syndicate alliances based on the maximum likelihood estimates for the entire time period for regression model (3.1), which is given by the following when the year dummy variables are suppressed for compactness:

$$PARTICIPANT_m = \beta_0 + \beta_1 * RELATION_m + \beta_2 * SHARE_n + \beta_3 * SHARE_m + \beta_4 * DEALS_m / DEALS_n + \beta_5 * DOMESTIC_{mn}$$
$$+ \beta_6 * INDUSTRY_{mn} + \beta_7 * SIZE_j + \beta_8 * ROE_j + \beta_9 * CAPITAL_j + \beta_{10} * COMM-LOANS_m + \beta_{11} * GROWTH_m$$
$$+ \beta_{12} * US_m + \beta_{13} * SAME_{mb} + \beta_{14} * REGION-WEIGHT_{mb} + \beta_{15} * INDUSTRY-WEIGHT_{mb} + \beta_{16} * REL-BORROWER_{mb}$$
$$+ \beta_{17} * COUNTRY_b + \beta_{18} * RATING_b + \beta_{19} * LENDERS_i + ... + \varepsilon$$

Variables are defined in section 3.4.2.1 of the text. $DUMMY_m$ and $NUMBER_m$ are two alternative measures of $RELATION_m$. Year dummy coefficients are not reported to save valuable journal space. Odds ratio (OR) estimates are for one-unit changes in the explanatory variables, while adjusted odds ratios (AOR) are for one-standard-deviation changes in the nondummy explanatory variables. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors (S.Err.) are corrected for heteroskedasticity. N is the number of observations.

	First Regression (N = 474,802)				Second Regression (N = 474,802)			
Variable	**Coef.**	**S.Err.**	**OR**	**AOR**	**Coef.**	**S.Err.**	**OR**	**AOR**
Intercept	-16.6977[c]	1.51			-14.8016[c]	1.30		
$DUMMY_m$	1.2798[c]	0.14	3.596					
$NUMBER_m$					13.6504[c]	1.05	>999	2.153
$SHARE_n$	6.1883[c]	0.56	486.997	1.877	1.1811[b]	0.50	3.258	1.128
$SHARE_m$	9.2792[c]	0.96	>999	2.384	10.7193[c]	0.99	>999	2.728
$DEALS_m/DEALS_n$	-0.0503[b]	0.02	0.951	0.903	-0.0455[c]	0.02	0.956	0.912
$DOMESTIC_{mn}$	1.1245[c]	0.09	3.079		0.7919[c]	0.06	2.208	
$INDUSTRY_{mn}$	0.7433[c]	0.09	2.103		0.4540[c]	0.07	1.575	
$SIZE_n$	0.1103[c]	0.02	1.117	1.158	0.1516[c]	0.02	1.164	1.224
$SIZE_m$	0.0807	0.06	1.084	1.151	0.0561	0.05	1.058	1.103
ROE_n	0.0039[b]	0.00	1.004	1.035	0.0025[a]	0.00	1.002	1.022
ROE_m	0.0091	0.01	1.009	1.083	0.0080	0.01	1.008	1.073
$CAPITAL_n$	0.0060[b]	0.00	1.006	1.053	0.0078[c]	0.00	1.008	1.070
$CAPITAL_m$	0.0157[a]	0.01	1.016	1.153	0.0110	0.01	1.011	1.105
$COMM\text{-}LOANS_m$	1.4447[a]	0.85	4.241	1.206	1.1661	0.91	3.210	1.163
$GROWTH_m$	-0.0068[b]	0.00	0.993	0.894	-0.0075[c]	0.00	0.993	0.883
US_m	-1.0528[c]	0.30	0.349		-0.7841[b]	0.32	0.457	
$SAME_{mb}$	1.1782[c]	0.23	3.248		1.0886[c]	0.21	2.970	
$REGION\text{-}WEIGHT_{mb}$	0.7563[c]	0.17	2.130	1.878	0.8270[c]	0.16	2.286	1.992
$INDUSTRY\text{-}WEIGHT_{mb}$	0.0835	0.05	1.087	1.032	0.0530	0.06	1.054	1.020
$REL\text{-}BORROWER_{mb}$	1.0040[c]	0.06	2.729	2.140	0.9649[c]	0.05	2.625	2.078
$COUNTRY_b$	0.0169[c]	0.01	1.017	1.112	0.0148[b]	0.01	1.015	1.098
$RATING_b$	-0.0416	0.06	0.959		-0.0314	0.05	0.969	
$LENDERS_i$	0.0431[c]	0.00	1.044	1.719	0.0439[c]	0.00	1.045	1.737
Pseudo-R^2	0.4870				0.5180			

Table 3.4 Regression results for the importance of on-ongoing alliance relationships with various potential explanatory variables

The OLS regression results are summarized herein for the importance to a participant of on-going alliance relationships with leads and various potential explanatory variables using data for the entire time period and annually. The regression model (3.2) with the year dummy variables suppressed for compactness is given by:

$$IMPORTANCE_{mn} = \beta_0 + \beta_1 * SHARE_n + \beta_2 * SHARE_m + \beta_3 * DEALS_m / DEALS_n + \beta_4 * DOMESTIC_{mn} + \beta_5 * REGION_{mn} + \beta_6 * COUNTRY_j + \beta_7 * LEGAL_{mn} + \beta_8 * COMMON_j + \beta_9 * DEV_{mn} + \beta_{10} * DEVELOPED_j + \beta_{11} * RELIGION_{mn} + \beta_{12} * PROTESTANT_j + \beta_{13} * CATHOLIC_j + \beta_{14} * MUSLIM_j + \beta_{15} * BORROWER - REL_j + \beta_{16} * PERCENT - SAME_j + \beta_{17} * AVG - LENDERS + \beta_{18} * SIZE_j + \beta_{19} * ROE_j + \beta_{20} * CAPITAL_j + \beta_{21} * COMM - LOANS_j + \beta_{22} * GROWTH_j + ... + \varepsilon$$

The variables are defined in section 3.4.2.1 in the text. Year dummy coefficients are not reported to save valuable journal space. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5% and 1% levels, respectively. Standard errors (S.Err.) are corrected for heteroskedasticity.

	Overall data		Yearly data		Yearly data	
Variables	**Coef.**	**S. Err.**	**Coef.**	**S. Err.**	**Coef.**	**S. Err.**
Intercept	1.5852[c]	0.2804	5.9269[c]	2.1460	27.6991[c]	5.8092
$SHARE_n$	20.6358[c]	0.6083	24.0506[c]	0.7780	25.5538[c]	1.8542
$SHARE_m$	-9.1639[c]	1.0030	-25.4770[c]	1.7484	-17.2972[c]	2.3673
$DEALS_m/DEALS_n$	0.0020[c]	0.0006	0.0041[c]	0.0008	0.0061[c]	0.0012
$DOMESTIC_{mn}$	1.7045[c]	0.1175	2.1865[c]	0.2389	0.8536[b]	0.3825
$REGION_{mn}$	0.4497[c]	0.0794	0.6739[c]	0.1273	1.2214[c]	0.3190
$COUNTRY_n$			0.0186[b]	0.0080	-0.0381	0.0325
$COUNTRY_m$			0.0721[a]	0.0413	0.0154	0.0401
$LEGAL_{mn}$	0.0623	0.0459	0.2146[b]	0.0937	0.0235	0.3027
$COMMON_n$	-0.2750[c]	0.0566	-0.2234[b]	0.1011	0.1510	0.3103
$COMMON_m$	-0.5574[c]	0.1651	-1.4871[c]	0.3685	-1.3971[a]	0.7375
DEV_{mn}	0.2654[b]	0.1234	0.4743	0.3383	0.8052	1.4619
$DEVELOPED_n$	-0.0696	0.1319	-1.1012[c]	0.3906	-2.6141	1.6866
$DEVELOPED_m$	-1.0355[c]	0.2568	-6.7446[c]	1.1429	-6.1777[c]	2.2707
$RELIGION_{mn}$	-0.0624	0.0609	0.0089	0.0928	1.0045[c]	0.2435
$PROTESTANT_n$	-0.0103[c]	0.0012	-0.0078[c]	0.0020	-0.0383[c]	0.0073
$PROTESTANT_m$	-0.0018	0.0032	-0.0242[c]	0.0080	-0.0022	0.0242
$CATHOLIC_n$	-0.0063[c]	0.0008	-0.0066[c]	0.0016	0.0346[b]	0.0150
$CATHOLIC_m$	0.0072[c]	0.0019	0.0051	0.0052	-0.0335[c]	0.0057
$MUSLIM_n$	0.0051[c]	0.0011	0.0020	0.0034	-0.0643[c]	0.0215
$MUSLIM_m$	0.0031	0.0040	-0.0378[b]	0.0171	-0.0597	0.0537
$REL\text{-}BORROWER_{nb}$	0.3400[c]	0.0470	0.1731[c]	0.0525	0.0425	0.0746
$REL\text{-}BORROWER_{mb}$	-0.0932[b]	0.0435	-0.0400	0.0827	0.2687[b]	0.1070

Table 3.4 Continued.

Variables	Overall data		Yearly data		Yearly data	
	Coef.	**S. Err.**	**Coef.**	**S. Err.**	**Coef.**	**S. Err.**
PERCENT-SAME$_{nb}$	0.9319[c]	0.0945	1.2559[c]	0.1476	1.2708[c]	0.2988
PERCENT-SAME$_{mb}$	0.6352[c]	0.1599	1.9869[c]	0.3593	0.4485	0.6163
AVG-LENDERS	-0.0030	0.0038	0.0148[b]	0.0067	0.0060	0.0105
SIZE$_n$					0.0176[a]	0.0105
SIZE$_m$					-0.0518[b]	0.0247
ROE$_n$					0.3516[c]	0.0684
ROE$_m$					-0.9196[c]	0.2433
CAPITAL$_n$					0.0164[a]	0.0087
CAPITAL$_m$					-0.0018	0.0195
GROWTH$_m$					0.0001	0.0011
GROWTH$_m$					-0.0086[c]	0.0026
COMM-LOANSn					-1.5214[b]	0.6091
COMM-LOANS$_m$					-1.4170	1.6168
Adjusted R^2 (N)	0.2615 (47,266)		0.2780 (125,838)		0.3485 (13,525)	
F value	728.74[c]		1310.82[c]		207.72[c]	

Table 4.1 Number of syndicated and bank-deals annually, market of syndication and number of lenders and arrangers in the deals

This table presents the distribution of the loan facilities between 1987 and 2004. A syndicated deal is defined as a loan agreement between at least two lenders and a borrower and may include more than one loan facility. Bank-deal observations are defined as a lender participating in a specific syndicated deal. Lenders can appear more than once in the sample if they participated in more than one deal. Lenders are identified, when possible, by their parent to avoid counting more than one subsidiary from the same holding in the same syndicated deal. The market of syndication is the place of origination of the syndicated deal, as defined by the Loan Pricing Corporation (LPC). The numbers of lenders and arrangers per deal are provided by LPC.

Panel A: Number of deals and bank-deals per year

	Syndicate deals		Bank-deals			Syndicate deals		Bank-deals	
Year	No.	%	No.	%	Year	No.	%	No.	%
1987	373	0.61	3,356	0.68	1997	5,218	8.60	45,348	9.14
1988	740	1.22	6,259	1.26	1998	4,334	7.14	33,936	6.84
1989	781	1.29	7,194	1.45	1999	4,910	8.09	40,720	8.21
1990	931	1.53	8,318	1.68	2000	5,569	9.18	44,985	9.07
1991	862	1.42	7,126	1.44	2001	5,327	8.78	43,389	8.74
1992	1,389	2.29	10,625	2.14	2002	5,621	9.26	43,001	8.67
1993	2,096	3.45	17,454	3.52	2003	6,188	10.20	48,102	9.69
1994	2,727	4.49	24,439	4.92	2004	6,255	10.31	45,630	9.20
1995	3,123	5.15	28,673	5.78	Total	60,692	100.00	496,242	100.00
1996	4,248	7.00	37,687	7.59					

Panel B: Market of syndication of the different deals

Market of Syndication	Deals	%	Market of Syndication	Deals	%
USA/Canada	37,787	62.26	Middle East	796	1.31
Asia Pacific	11,529	19.00	Africa	299	0.49
Western Europe	7,174	11.82	Other	138	0.23
Latin America/Caribbean	1,745	2.88	N/A	44	0.07
Eastern Europe/Russia	1,180	1.94	Total	60,692	100.00

Panel C: Number of lenders and number of arrangers per syndicated deal

Number of lenders	No.	%	Number of Arrangers	No.	%
[2,5]	30,424	50.13	1	10,035	16.53
[6,10]	14,655	24.15	[2,5]	8,315	13.70
[11,20]	10,881	17.93	[6,10]	1,340	2.21
[21,50]	4,510	7.43	[11,20]	438	0.72
>50	222	0.37	>20	37	0.06
N/A	0	0.00	N/A	40,527	66.77
Total	60,692	100.00	Total	60,692	100.00
Min; average; max	2; 8.35; 159		Min; average; max	1; 2.49; 36	
Std dev.	8.21		Std dev.	2.66	

Table 4.2 Number of M&As annually and the region and industry of targets and acquirers

This table presents the distribution of the M&A transactions between 1992 and 2004. Regions are defined as the geographical location of the parent's country for both the acquirer and the target. Industries for the acquirer and target are provided by SDC and correspond to the actual company involved in the transaction, and not its parent.

Panel A: Number of M&A transactions per year

Year	No.	%	Year	No.	%
1992	137	2.73	1999	569	11.35
1993	162	3.23	2000	582	11.61
1994	201	4.01	2001	475	9.47
1995	244	4.87	2002	453	9.03
1996	225	4.49	2003	557	11.11
1997	390	7.78	2004	508	10.13
1998	511	10.19	**Total**	**5,014**	**100.00**

Panel B: Region in which the acquirer and target are located

	Acquirer		Target	
Region	**Number**	**%**	**Number**	**%**
US / Canada	2,054	40.97	1,862	37.14
Western Europe	1,791	35.72	1,840	36.70
Asia / Pacific	934	18.63	1,036	20.66
Latin America	136	2.71	153	3.05
Africa / Middle East	96	1.91	77	1.54
Eastern Europe	3	0.06	44	0.88
Other	0	0.00	2	0.04
Total	5,014	100.00	5,014	100.00

Panel C: Industry of the acquirer and target

	Acquirer		Target	
Industry	**Number**	**%**	**Number**	**%**
Depository Institutions	2,089	41.66	1,966	39.21
Insurance Carriers	848	16.91	782	15.60
Holding & Other Investment Offices	722	14.40	669	13.34
Security & Commodity Brokers, Dealers, Exchange & Services	508	10.13	441	8.80
Real Estate	327	6.52	351	7.00
Other	318	6.34	549	10.95
Non-depository Credit Institutions	148	2.95	198	3.95
Insurance Agents, Brokers & Service	54	1.08	58	1.16
Total	5,014	100.00	5,014	100.00

Table 4.3 Descriptive statistics for variables used in tests of the relation between M&A activity with past syndicated loan alliances

This table presents summary statistics for the dependent and explanatory variables used in regression model (4.1). $TARGET_p$ equals 1 if lender p was the target of the M&A. The following are measured over the 5-year pre-M&A window: $NUMBER_q$ or the ratio of the number of syndicated loans between acquirer q and target p to the total number of syndicated loans that acquirer q participated in (modifiers LP, PL and LL identify the role played by the acquirer (first letter) and the target (second letter) in the syndicated loans; L being for lead, P for participant); $FREQUENCY_q$ or the total number of syndicated loans by acquirer q; and $PASTDEALS_{qp}$ or the number of syndicated loans between acquirer q and target p. $DUMMY_{qp}$ equals 1 if both acquirer q and target p were in at least one syndicated deal together during the 5-year pre-M&A window. $ACTIVITY_q$ is the number of mergers by acquirer q in the year prior to the current M&A announcement. The following are measured for target p: $SIZE_p$ is the log of the book value, M/B_p is the market to book value ratio, $LEVERAGE_p$ is the debt-to-equity ratio (using book values), $MGNT_p$ is the return-on-equity (ROE) ratio, and E/P_p is the earnings yield. *YEAR* equals 1 if the M&A occurred in the designated year (e.g., YEAR = 1993). All statistics are calculated for the total sample of 6,812 M&As (actual and simulated) that were originated between 1992 and 2004.

Variables	Mean	Std Dev	Min	Max
$TARGET_p$	0.4050	0.4909	0	1
$DUMMY_q$	0.1036	0.3048	0	1
$NUMBER_q$	0.0114	0.0563	0	1
DUM_q	0.6362	0.4811	0	1
$ACTIVITY_q$	1.2935	2.3660	0	17
$SIZE_p$	16.2299	2.4679	7.83	21.12
M/B_p	10.3087	113.5355	0.03	6,855.74
$LEVERAGE_p$	468.6741	877.0787	0.01	24,759.60
$MGNT_p$	10.5649	166.6077	-12,690.89	4,489.45
E/P_p	0.0476	0.1344	-0.998	0.80
FREQUENCY	374.7547	898.7091	0	5,944
PAST DEALS	11.6536	81.2605	0	1,906
YEAR = 1993	0.0316	0.1748	0	1
YEAR = 1994	0.0341	0.1814	0	1
YEAR = 1995	0.0445	0.2062	0	1
YEAR = 1996	0.0454	0.2081	0	1
YEAR = 1997	0.0794	0.2704	0	1
YEAR = 1998	0.0909	0.2874	0	1
YEAR = 1999	0.1230	0.3285	0	1
YEAR = 2000	0.1148	0.3188	0	1
YEAR = 2001	0.0925	0.2897	0	1
YEAR = 2002	0.0906	0.2870	0	1
YEAR = 2003	0.1264	0.3323	0	1
YEAR = 2004	0.1023	0.3031	0	1

Table 4.4 Regression of the probability of being a M&A target on the past acquirer-target syndicate alliances

This table summarizes the results of regressions between the decision of lender q to acquire lender p in a M&A transaction with the past syndicate alliances between financial institutions. Maximum likelihood estimates are obtained for the following regression model for the entire sample:

$$TARGET_p = \beta_0 + \beta_1 * RELATION_q + \beta_2 * ACTIVITY_q + \beta_3 * SIZE_p + \beta_4 * M/B_p + \beta_5 * LEVERAGE_p + \beta_6 * MGNT_p + \beta_7 * E/P_p + \beta_8 * YEAR + \varepsilon \quad (4.1)$$

The variables are as defined in table 4.3. $DUMMY_q$ and $NUMBER_q$ are two alternative measures of $RELATION_q$. Unadjusted odds ratio (O.R.) estimates are obtained with one-unit changes in the explanatory variables, and adjusted odds ratios (A.O.R.) are calculated for one-standard-deviation changes in the nondummy explanatory variables. Standard errors are corrected for heteroskedasticity. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5% and 1% levels, respectively. N is the number of observations. S.E. refers to the standard error.

	First Regression (N = 6,812)				Second Regression (N = 6,812)			
Variables	**Coef.**	**S.E.**	**O.R.**	**A.O.R.**	**Coef.**	**S.E.**	**O.R.**	**A.O.R**
Intercept	-3.1204[c]	0.2105			-3.2211[c]	0.2038		
$DUMMY_q$	0.4727[c]	0.1023	1.604					
$NUMBER_q$					6.5551[c]	1.2996	702.847	1.447
DUM_q					0.2195[c]	0.0435	1.246	
$ACTIVITY_q$	-0.0206[c]	0.0078	0.980	0.952	0.0028	0.0068	1.003	1.007
$SIZE_p$	0.1875[c]	0.0133	1.206	1.589	0.1825[c]	0.0130	1.200	1.569
M/B_p	0.0001	0.0002	1.000	1.017	0.0001	0.0002	1.000	1.014
$LEVERAGE_p$	-0.0003[c]	0.0001	1.000	0.749	-0.0003[c]	0.0001	1.000	0.736
$MGNT_p$	-0.0002	0.0001	1.000	0.974	-0.0002	0.0001	1.000	0.972
E/P_p	-1.2031[c]	0.2191	0.300	0.851	-1.2271[c]	0.2164	0.293	0.848
YEAR = 1993	0.1467	0.1055	1.158		0.1523	0.1092	1.164	
YEAR = 1994	0.1924[a]	0.1143	1.212		0.2044[a]	0.1152	1.227	
YEAR = 1995	0.0265	0.0983	1.027		0.0459	0.0987	1.047	
YEAR = 1996	0.0821	0.0900	1.086		0.0846	0.0892	1.088	
YEAR = 1997	-0.1578[a]	0.0846	0.854		-0.1325	0.0849	0.876	
YEAR = 1998	-0.1175	0.0793	0.889		-0.1011	0.0791	0.904	
YEAR = 1999	-0.2497[c]	0.0788	0.779		-0.2509[c]	0.0800	0.778	
YEAR = 2000	-0.1813[b]	0.0807	0.834		-0.1809[b]	0.0808	0.835	
YEAR = 2001	-0.1942[b]	0.0827	0.824		-0.2160[c]	0.0824	0.806	
YEAR = 2002	-0.1792[b]	0.0829	0.836		-0.1635[b]	0.0832	0.849	
YEAR = 2003	-0.2231[c]	0.0788	0.800		-0.1929[b]	0.0799	0.825	
YEAR = 2004	-0.2189[c]	0.0824	0.803		-0.2038[b]	0.0848	0.816	
Pseudo R^2	0.0766				0.0941			

Table 4.5 Impact of past syndicate alliances on probability of being a M&A target differentiating by time period and by lender nationality and industry

This table summarizes the relation between the probability of being a target and past relationships between financial institutions according to the nationality of the lenders, their industry and the time period by adding interactive variables to model (4.1). $CROSS\text{-}INDUSTRY_{pq}$ and $INTERNATIONAL_{pq}$ are dummy variables that are equal to 1 if target p and acquirer q are from the same industry or country, respectively. *RELATION/INDUSTRY* and *RELATION/INT* are interactive variables that combine the respective $RELATION_q$ measure with the respective $CROSS\text{-}INDUSTRY_{pq}$ or $INTERNATIONAL_{pq}$ dummies. Coefficients are estimated using maximum likelihood. Unadjusted odds ratio (O.R.) estimates are obtained with one-unit changes in the explanatory variables, and adjusted odds ratios (A.O.R.) are calculated for one-standard-deviation changes in the nondummy explanatory variables. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5% and 1% levels, respectively. N is the number of observations. S.E. refers to the standard error.

	First Regression (N = 4,053)				Second Regression (N = 4,053)			
Variables	**Coef.**	**S.E.**	**O.R.**	**A.O.R.**	**Coef.**	**S.E.**	**O.R.**	**A.O.R.**
Intercept	-5.2931[c]	0.3421			-5.4162[c]	0.3317		
$DUMMY_q$	0.6830	0.5205	1.980					
$NUMBER_q$					36.3847	30.0378	>999	7.825
DUM_q					0.3844[c]	0.0747	1.469	
$ACTIVITY_q$	-0.0233[a]	0.0124	0.977	0.939	0.0006	0.0107	1.001	1.002
$SIZE_p$	0.3557[c]	0.0210	1.427	2.362	0.3417[c]	0.0200	1.407	2.283
M/B_p	-0.0003	0.0005	1.000	0.986	-0.0005	0.0005	1.000	0.975
$LEVERAGE_p$	-0.0006[c]	0.0001	0.999	0.613	-0.0006[c]	0.0001	0.999	0.596
$MGNT_p$	-0.0003[c]	0.0001	1.000	0.940	-0.0003[c]	0.0001	1.000	0.938
E/P_p	-1.0072[c]	0.3372	0.365	0.873	-0.9831[c]	0.3280	0.374	0.876
$CROSS\text{-}INDUSTRY_{pq}$	-0.6411[c]	0.0959	0.527		-0.5095[c]	0.0996	0.601	
$INTERNATIONAL_{pq}$	0.2398[c]	0.0696	1.271		0.2523[c]	0.0664	1.287	
PERIOD = 1996-1999	-0.3792[c]	0.1178	0.684		-0.4097[c]	0.1173	0.664	
PERIOD = 2000-2004	-0.4091[c]	0.1179	0.664		-0.4243[c]	0.1175	0.654	
RELATION/INDUSTRY	1.0446[c]	0.2288	2.842		3.7857	3.3614	44.066	1.087
RELATION/INT	-0.0229	0.2581	0.977		8.5077[c]	2.0108	>999	1.403
RELATION/1996-1999	-0.3030	0.5889	0.739		-23.7628	29.9109	<0.001	0.530
RELATION/2000-2004	-0.9278[a]	0.4795	0.396		-36.2008	29.8491	<0.001	0.173
Pseudo R^2	0.2028				0.2207			

Table 4.6 Regression of the probability of being a M&A target on the past syndicate alliances between acquirer and target controlling for their past alliance roles

This table summarizes the results for regression model (4.1) where the probability of being a target is regressed against measures of the past relationships between financial institutions while controlling for the roles of the lenders in their past syndicate alliances. Three modifiers to $NUMBER_q$ are used to identify the roles played by the acquirer and the target: PL is when the acquirer was participant and the target was lead, LP is when the acquirer was lead and the target was participant, and LL is when acquirer and target played lead roles. Coefficients are estimated using maximum likelihood. Unadjusted odds ratio (O.R.) estimates are obtained with one-unit changes in the explanatory variables, and adjusted odds ratios (A.O.R.) are calculated for one-standard-deviation changes in the nondummy explanatory variables. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5% and 1% levels, respectively. N is the number of observations. S.E. refers to the standard error.

	First Regression (N = 6,812)				Second Regression (N = 6,812)			
Variables	**Coef.**	**S.E.**	**O.R.**	**A.O.R.**	**Coef.**	**S.E.**	**O.R.**	**A.O.R.**
Intercept	-2.9484[c]	0.2121			-3.1828[c]	0.2043		
$DUMMY_q$-LP	-0.4987[c]	0.1589	0.607					
$DUMMY_q$-PL	1.0056[c]	0.1672	2.734					
$DUMMY_q$-LL	0.5243[c]	0.1750	1.689					
$NUMBER_q$-LP					-0.4120	1.8709	0.662	0.992
$NUMBER_q$-PL					12.7812[a]	7.3245	>999	1.540
$NUMBER_q$-LL					11.3272[c]	3.8557	>999	1.280
DUM_q					0.1972[c]	0.0440	1.218	
$ACTIVITY_q$	-0.0217[b]	0.0087	0.979	0.950	0.0017	0.0071	1.002	1.004
$SIZE_p$	0.1781[c]	0.0135	1.195	1.552	0.1816[c]	0.0131	1.199	1.565
M/B_p	0.0001	0.0002	1.000	1.016	0.0001	0.0002	1.000	1.015
$LEVERAGE_p$	-0.0003[c]	0.0001	1.000	0.739	-0.0003[c]	0.0001	1.000	0.744
$MGNT_p$	-0.0001	0.0001	1.000	0.976	-0.0002	0.0001	1.000	0.972
E/P_p	-1.2023[c]	0.2161	0.301	0.851	-1.2568[c]	0.2147	0.285	0.845
YEAR = 1993	0.1297	0.1061	1.139		0.1525	0.1075	1.165	
YEAR = 1994	0.1935[a]	0.1113	1.214		0.2192[a]	0.1138	1.245	
YEAR = 1995	0.0198	0.0974	1.020		0.0454	0.0979	1.046	
YEAR = 1996	0.0803	0.0892	1.084		0.0906	0.0881	1.095	
YEAR = 1997	-0.1854[b]	0.0866	0.831		-0.1381[a]	0.0832	0.871	
YEAR = 1998	-0.1366[a]	0.0793	0.872		-0.1021	0.0780	0.903	
YEAR = 1999	-0.2785[c]	0.0788	0.757		-0.2560[c]	0.0783	0.774	
YEAR = 2000	-0.2198[c]	0.0816	0.803		-0.1855[b]	0.0802	0.831	
YEAR = 2001	-0.2241[c]	0.0829	0.799		-0.2215[c]	0.0812	0.801	
YEAR = 2002	-0.2200[c]	0.0839	0.803		-0.1928[b]	0.0821	0.825	
YEAR = 2003	-0.2416[c]	0.0792	0.785		-0.2006[b]	0.0784	0.818	
YEAR = 2004	-0.2099[b]	0.0818	0.811		-0.2006[b]	0.0826	0.818	
Pseudo R^2	0.0892				0.0938			

Table 4.7 Regression of the probability of being a M&A target on past acquirer-target syndicate alliances with alternative sample of potential targets

This table summarizes the results for regression model (4.1) where the probability of being a target is regressed against measures of the past relationships between financial institutions using an alternative potential target universe in which each real target is matched to *all* the non-target financial institutions from the same country and industry. The variables are as defined in table 4.3. $DUMMY_q$ and $NUMBER_q$ are two alternative measures of $RELATION_q$, Coefficients are estimated using maximum likelihood. Unadjusted odds ratio (O.R.) estimates are obtained with one-unit changes in the explanatory variables, and adjusted odds ratios (A.O.R.) are calculated for one-standard-deviation changes in the nondummy explanatory variables. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5% and 1% levels, respectively. N is the number of observations. S.E. refers to the standard error.

	First Regression (N = 19,150)				Second Regression (N = 19,150)			
Variables	**Coef.**	**S.E.**	**O.R.**	**A.O.R.**	**Coef.**	**S.E.**	**O.R.**	**A.O.R.**
Intercept	-10.3420[c]	0.5994			-10.2146[c]	0.5906		
$DUMMY_q$	0.1485	0.0960	1.160					
$NUMBER_q$					3.9139[c]	0.9924	50.092	1.166
DUM_q					0.2765[b]	0.1202	1.318	
$ACTIVITY_q$	0.0288	0.0194	1.029	1.068	0.0524[b]	0.0204	1.054	1.128
$SIZE_p$	0.5807[c]	0.0334	1.787	2.981	0.5588[c]	0.0332	1.749	2.861
M/B_p	0.0140[c]	0.0019	1.014	2.083	0.0136[c]	0.0021	1.014	2.046
$LEVERAGE_p$	-0.0003[c]	0.0001	1.000	0.859	-0.0003[c]	0.0001	1.000	0.860
$MGNT_p$	-0.0005[c]	0.0001	0.999	0.920	-0.0005[c]	0.0001	0.999	0.920
E/P_p	-1.4575[c]	0.4606	0.233	0.882	-1.5593[c]	0.4551	0.210	0.875
YEAR = 1993	0.1227	0.2759	1.131		0.1229	0.2872	1.131	
YEAR = 1994	-0.3112	0.3975	0.733		-0.3000	0.4077	0.741	
YEAR = 1995	-0.5604[b]	0.2702	0.571		-0.5359[b]	0.2721	0.585	
YEAR = 1996	-0.3979	0.2851	0.672		-0.3939	0.2849	0.674	
YEAR = 1997	-1.0908[c]	0.2563	0.336		-1.0940[c]	0.2577	0.335	
YEAR = 1998	-0.9954[c]	0.2597	0.370		-0.9865[c]	0.2620	0.373	
YEAR = 1999	-1.1741[c]	0.2612	0.309		-1.1819[c]	0.2628	0.307	
YEAR = 2000	-1.3397[c]	0.2890	0.262		-1.3204[c]	0.2885	0.267	
YEAR = 2001	-1.3385[c]	0.2909	0.262		-1.3153[c]	0.2884	0.268	
YEAR = 2002	-1.2910[c]	0.2640	0.275		-1.2829[c]	0.2663	0.277	
YEAR = 2003	-1.1654[c]	0.2652	0.312		-1.1084[c]	0.2642	0.330	
YEAR = 2004	-1.3746[c]	0.2766	0.253		-1.3540[c]	0.2785	0.258	
Pseudo R^2	0.2038				0.2113			

Table 4.8 Regression of the probability of being a M&A target on the past acquirer-target syndicate alliances for a sub-sample of non-U.S. targets

This table summarizes the results for regression model (4.1) where the probability of being a target is regressed against measures of the past relationships between financial institutions on a sub-sample of non-U.S. targets. The variables are as defined in table 4.3. $DUMMY_q$ and $NUMBER_q$ are two alternative measures of $RELATION_q$. Coefficients are estimated using maximum likelihood. Unadjusted odds ratio (O.R.) estimates are obtained with one-unit changes in the explanatory variables, and adjusted odds ratios (A.O.R.) are calculated for one-standard-deviation changes in the nondummy explanatory variables. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5% and 1% levels, respectively. N is the number of observations. S.E. refers to the standard error.

	First Regression (N = 3,915)				Second Regression (N = 3,915)			
Variables	**Coef.**	**S.E.**	**O.R.**	**A.O.R.**	**Coef.**	**S.E.**	**O.R.**	**A.O.R.**
Intercept	-4.4133 [c]	0.3319			-4.4295 [c]	0.3199		
$DUMMY_q$	0.0728	0.1300	1.075					
$NUMBER_q$					3.7644 [c]	1.1020	43.126	1.280
DUM_q					0.2355 [c]	0.0537	1.266	1.457
$ACTIVITY_q$	-0.0176 [b]	0.0087	0.983	0.956	-0.0009	0.0079	0.999	0.998
$SIZE_p$	0.2656 [c]	0.0197	1.304	1.929	0.2548 [c]	0.0192	1.290	1.878
M/B_p	0.0002	0.0002	1.000	1.023	0.0001	0.0002	1.000	1.019
$LEVERAGE_p$	-0.0003 [c]	0.0001	1.000	0.789	-0.0003 [c]	0.0001	1.000	0.769
$MGNT_p$	-0.0002	0.0001	1.000	0.963	-0.0002	0.0001	1.000	0.962
E/P_p	-0.6637 [c]	0.2381	0.515	0.899	-0.7107 [c]	0.2363	0.491	0.892
YEAR = 1993	0.2760 [a]	0.1633	1.318		0.2682	0.1640	1.308	
YEAR = 1994	0.3720 [c]	0.1368	1.451		0.3585 [c]	0.1350	1.431	
YEAR = 1995	0.3226 [a]	0.1666	1.381		0.3312 [b]	0.1621	1.393	
YEAR = 1996	0.1994	0.1421	1.221		0.1784	0.1402	1.195	
YEAR = 1997	-0.0151	0.1361	0.985		-0.0118	0.1340	0.988	
YEAR = 1998	0.0893	0.1250	1.093		0.0926	0.1246	1.097	
YEAR = 1999	-0.0900	0.1288	0.914		-0.1022	0.1277	0.903	
YEAR = 2000	-0.0624	0.1270	0.939		-0.0633	0.1244	0.939	
YEAR = 2001	0.0067	0.1275	1.007		-0.0104	0.1272	0.990	
YEAR = 2002	-0.0599	0.1339	0.942		-0.0578	0.1326	0.944	
YEAR = 2003	-0.1209	0.1267	0.886		-0.1053	0.1260	0.900	
YEAR = 2004	-0.1146	0.1354	0.892		-0.1078	0.1371	0.898	
Pseudo R^2	0.1069				0.1187			

Table 4.9 Terms of M&As differentiated by past syndicate co-involvements

This table summarizes the terms of the M&As for two samples: financial institutions that were involved in past syndicates in the five-year period prior to the M&A and those not so involved. M&A techniques are tender offer, divestiture, open market purchases (OMPs), leveraged buy-outs (LBOs) and private. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5% and 1% levels, respectively. N is the number of observations.

	Total sample			No alliances			Past alliances			Equality of Means	Equality of Variances
M&A Terms	**N**	**Avg**	**Std Dev**	**N**	**Avg**	**Std Dev**	**N**	**Avg**	**Std Dev**	**t-value**	**F-value**
Premium (1 day)	994	32.60%	411.0733	954	33.02%	419.5600	40	22.57%	37.6250	0.73	205.20[c]
Premium (4 weeks)	1004	37.13%	371.8295	966	37.63%	379.0300	38	24.62%	28.9910	1.00	170.93[c]
Offering P/E ratio	1182	132.63	1733.8800	1113	109.97	1654.7000	69	498.13	2700.7000	-1.81[a]	2.66[c]
Number of bidders	5367	1.0201	0.1591	4790	1.0205	0.1609	577	1.0173	0.1433	0.49	1.26[c]
Defense strategies	5367	0.02%	0.0137	4790	0.02%	0.0144	577	0.00%	0.0000	1.00	Infty[c]
Cash payment method	5755	45.40%	0.4979	5129	47.40%	0.4994	626	29.07%	0.4545	9.42[c]	1.21[c]
Tender Offer	5755	5.20%	0.2220	5129	5.69%	0.2317	626	1.12%	0.1052	8.62[c]	4.85[c]
Divestiture	5755	49.80%	0.5000	5129	47.94%	0.4996	626	65.02%	0.4773	-8.41[c]	1.10
OMP	5755	4.64%	0.2104	5129	4.97%	0.2174	626	1.92%	0.1372	4.87[c]	2.51[c]
LBO	5755	0.24%	0.0493	5129	0.27%	0.0522	626	0.00%	0.0000	3.72[c]	Infty[c]
Private	5755	9.80%	0.2973	5129	10.45%	0.3059	626	4.47%	0.2069	6.42[c]	2.19[c]
% of shares acquired	3768	78.22%	35.2604	3387	77.08%	35.8830	381	88.38%	27.1440	-7.43[c]	1.75[c]

Table 4.10 Market performance for the announcement window for both M&A parties differentiated by past syndicate co-involvements

This table summarizes the average CARs for the three-day announcement window for the sample of M&As differentiated by past syndicate co-involvements during the five-year period prior to the M&As. Abnormal performance (decimal) is measured using a single-factor market model that allows for an event-induced beta change. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5% and 1%, respectively. N is the number of observations.

Panel A: Announcement impact for the acquirers

	Total sample (N=4562)				No alliances (N=3989)				Past alliances (N=573)				Equality of Means	Equality of Median
Day	**Mean**	**t-val.**	**Median**	**z-stat**	**Mean**	**t-val.**	**Median**	**z-stat**	**Mean**	**t-val.**	**Median**	**z-stat**	**t-val.**	**z-stat**
-2	0.0417	1.37	-0.0146	0.78	0.0318	0.95	-0.0251	0.11	0.1108[a]	1.66	0.0853[b]	2.01	-1.06	1.77[a]
-1	0.0211	0.60	-0.0382	-0.95	0.0319	0.82	-0.0316	-0.44	-0.0540	-0.69	-0.0582	-1.53	0.99	-1.29
0	0.0630	1.40	-0.0473	-1.47	0.0937	1.91	-0.0443	-1.06	-0.1510	-1.46	-0.0618	-1.39	2.14[b]	-0.82
1	0.0474	1.20	-0.0344	-0.72	0.0541	1.25	-0.0344	-0.64	0.0008	0.01	-0.0345	-0.33	0.53	-0.09
2	0.0048	0.15	-0.0590[c]	-3.32	0.0102	0.29	-0.0584[c]	-3.01	-0.0330	-0.46	-0.0703	-1.51	0.54	-0.13
[-1;1]	0.1315[a]	1.87	-0.1025	-1.04	0.1797[b]	2.37	-0.0747	-0.25	-0.2040	-1.14	-0.2402[b]	-2.41	1.97[b]	-1.87[a]
[-2;2]	0.1779[b]	2.09	-0.0505	-0.40	0.2216[b]	2.38	-0.0348	0.11	-0.1260	-0.66	-0.1690	-1.47	1.64	-1.20

Panel B: Announcement impact for the targets

	Total sample (N=4470)				No alliances (N=3912)				Past alliances (N=558)				Equality of Means	Equality of Median
Day	**Mean**	**t-val.**	**Median**	**z-stat**	**Mean**	**t-val.**	**Median**	**z-stat**	**Mean**	**t-val.**	**Median**	**z-stat**	**t-val.**	**z-stat**
-2	0.2038[c]	2.69	-0.0172	0.79	0.2276[c]	2.65	-0.0067	1.18	0.0368	0.46	-0.0600	-0.92	1.63	-1.22
-1	0.2651[c]	3.48	-0.0193[b]	2.06	0.3009[c]	3.49	-0.0163	2.28	0.0140	0.16	-0.0328	-0.31	2.32[b]	-1.16
0	1.9334[c]	12.74	0.1483[c]	12.57	2.1086[c]	12.27	0.1531	12.06	0.7049[c]	4.74	0.1078[b]	3.67	6.18[c]	-1.51
1	0.6698[c]	6.39	-0.0067[b]	2.23	0.7434[c]	6.26	-0.0072	2.28	0.1531	1.53	-0.0062	0.35	3.80[c]	-0.41
2	-0.1430	-1.58	-0.0592[c]	-4.28	-0.1759[a]	-1.71	-0.0674[c]	-4.74	0.0875	1.01	0.0159	0.38	-1.96[b]	2.07[b]
[-1;1]	2.8682[c]	12.15	0.4987[c]	15.11	3.1530[c]	11.79	0.5778	15.03	0.8720[c]	3.82	0.2300[b]	2.76	6.49[c]	-3.55[c]
[-2;2]	2.9290[c]	8.91	0.5696[c]	13.97	3.2047[c]	8.58	0.6645	14.00	0.9963[c]	3.93	0.0400	2.24	4.89[c]	-3.50[c]

Table 4.11 Market performance for the first three years post-M&A for the acquirers differentiated by past syndicate co-involvements

This table summarizes the buy-and-hold abnormal (percentage) returns (BHAR) over 1, 2 and 3-year periods for the acquirers following the M&As differentiated by past syndicate co-involvements between the two merging parties during the previous five-year period. Abnormal performance in percent is measured using the Jensen alpha measure. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5% and 1% levels, respectively.

Panel A: Datastream financial indices used as the benchmarks														
	Total sample (N=1716)				**No alliances (N=1606)**				**Past alliances (N=110)**				**Equality of**	
													Means	**Median**
Months	**Mean**	**t-value**	**Median**	**z-stat**	**Mean**	**t-value**	**Median**	**z-stat**	**Mean**	**t-value**	**Median**	**z-stat**	**t-value**	**z-stat**
36	13.5706[c]	6.47	10.5613[c]	10.20	13.9975[c]	6.27	10.9616[c]	9.96	7.3375[b]	2.38	6.1196[b]	2.02	1.75[a]	-1.50
24	9.2554[c]	4.12	5.8243[c]	7.19	9.6269[c]	4.03	6.1985[c]	6.97	3.8296	1.57	3.5635[a]	1.82	1.70[a]	-0.90
12	5.9186[c]	2.63	1.7857[c]	4.01	6.1954[c]	2.58	1.8028[c]	3.98	1.8789	0.85	1.6012	0.59	1.32	-0.71
Panel B: World portfolios of non-acquirers/targets used as the benchmarks														
	Total sample (N=1621)				**No alliances (N=1523)**				**Past alliances (N=98)**				**Equality of**	
													Means	**Median**
Months	**Mean**	**t-value**	**Median**	**z-stat**	**Mean**	**t-value**	**Median**	**z-stat**	**Mean**	**t-value**	**Median**	**z-stat**	**t-value**	**z-stat**
36	18.3103[c]	9.84	21.4546[c]	12.98	18.3755[c]	9.41	22.2174[c]	12.53	17.3016[c]	3.37	17.5148[c]	3.42	0.20	-0.38[c]
24	11.1067[c]	7.03	13.6253[c]	9.77	10.8857[c]	6.58	13.2401[c]	9.26	14.5399[c]	3.06	18.1012[c]	3.31	-0.73	0.88[c]
12	6.7337[c]	5.10	5.3813[c]	6.40	6.7843[c]	4.91	0.4844[c]	6.24	5.9466	1.50	3.5262	1.43	0.20	-0.14[c]
Panel C: Country portfolios of non-acquirers/targets used as the benchmarks														
	Total sample (N=1572)				**No alliances (N=1479)**				**Past alliances (N=93)**				**Equality of**	
													Means	**Median**
Months	**Mean**	**t-value**	**Median**	**z-stat**	**Mean**	**t-value**	**Median**	**z-stat**	**Mean**	**t-value**	**Median**	**z-stat**	**t-value**	**z-stat**
36	18.1602[c]	9.22	17.0248[c]	12.78	18.6181[c]	8.98	17.8909[c]	12.59	10.8731[b]	2.40	7.5866[b]	1.99	1.55	-1.81[a]
24	11.1925[c]	5.92	11.9612[c]	9.09	11.3808[c]	5.72	12.0834[c]	8.82	8.1970[a]	1.81	11.2915[b]	2.22	0.64	-0.53
12	7.5278[c]	3.80	5.9766[c]	7.20	7.4522[c]	3.57[c]	6.3144[c]	7.10	8.7301[a]	1.90	1.2367	1.19	-0.25	-0.74

Table 4.11 Cont'd.

Panel D: Portfolios of 70 [945] acquirers with [without] past syndicate co-involvements with their targets during previous 5 years and control firms matched on size as the benchmarks.						
Months	**Total sample**		**No alliances**		**Past alliances**	
	Alpha	**t-value**	**Alpha**	**t-value**	**Alpha**	**t-value**
36	37.3147[c]	4.01	37.8803[c]	3.97	21.6281	1.61
24	24.1711[c]	3.86	24.0264[c]	3.79	18.2513[a]	1.72
12	10.5252[a]	2.18	10.6120[a]	2.18	9.7808	1.58

Table 4.12 Summary statistics for the measures and potential determinants of M&A performance

This table presents summary statistics for the dependent and explanatory variables used in regression model (4.4). AP is the abnormal performance measured by CAR for the [-1, 1] event window or by the 3-year post-M&A BHAR. The following are measured over the 5-year pre-M&A window: $NUMBER_q$ or the ratio of the number of syndicated loans between acquirer q and target p to the total number of syndicated loans that acquirer q participated in; and $DUMMY_q$ equals 1 if both acquirer q and target p were in at least one syndicated deal together during the 5-year pre-M&A window. REL-SIZE is the relative size of the target, obtained by dividing the target's market value by the acquirer's market value. The following three variables are measured for the acquirer (panels A and C) and the target (panel B): SIZE or the size of lender j (where j = p or q); B/M or lender j's book to market value ratio, and E/P or lender j's earnings yield. PAYMENT is a dummy variable that is equal to 1 if the payment method is cash and is 0 otherwise. DOMESTIC is a dummy variable that is equal to 1 if the acquirer and the target are from the same country and is 0 otherwise. TECHNIQUE is a set of dummy variables to indicate the acquisition technique; namely, tender offers (TENDER), divestitures (DIVEST), open market purchases (OMP), and privately negotiated purchases (PRIVATE). BIDDERS is the number of bidders for target p. YEAR equals 1 if the M&A occurred in the designated year (e.g., YEAR = 1993). N is the number of observations.

	Panel A: CAR - Acquirers (N=2300)				**Panel B: CAR - Targets (N=1588)**				**Panel C: 3-yr BHAR - Acquirers (N=631)**			
Variables	**Mean**	**Std Dev**	**Min**	**Max**	**Mean**	**Std Dev**	**Min**	**Max**	**Mean**	**Std Dev**	**Min**	**Max**
AP	-0.0618	3.7118	-33.74	32.42	1.4289	10.8828	-25.96	342.76	11.2507	62.0562	-238.48	882.70
$DUMMY_q$	0.1548	0.3618	0	1	0.1788	0.3833	0	1	0.0903	0.2869	0	1
$NUMBER_q$	0.0202	0.0690	0	0.60	0.0239	0.0748	0	0.60	0.0155	0.0667	0.00	0.56
REL-SIZE	0.6909	0.9916	0.00	4.99	0.9231	1.1507	0.00	5.00	0.8231	1.0608	0.00	4.85
SIZE	8.8381	2.0919	1.91	13.27	7.8263	2.1822	1.67	12.59	7.6623	2.0337	1.91	12.85
B/M	0.7624	0.6417	0.00	16.94	0.8149	0.8476	0.00	16.94	0.8143	0.7992	0.00	16.94
E/P	0.0501	0.0991	-0.98	0.96	0.0332	0.1456	-0.95	0.84	0.0515	0.1057	-0.98	0.58
PAYMENT	0.4709	0.4993	0	1	0.4855	0.4999	0	1	0.4723	0.4996	0	1
DOMESTIC	0.5330	0.4990	0	1	0.4736	0.4995	0	1	0.6862	0.4644	0	1
TENDER	0.0491	0.2162	0	1	0.0157	0.1245	0	1	0.0586	0.2351	0	1
DIVEST	0.5230	0.4996	0	1	0.6574	0.4747	0	1	0.4834	0.5001	0	1
OMP	0.0583	0.2343	0	1	0.0529	0.2239	0	1	0.0792	0.2703	0	1
PRIVATE	0.0991	0.2989	0	1	0.1115	0.3148	0	1	0.0824	0.2752	0	1
BIDDERS	1.0200	0.1576	1	3	1.0031	0.0663	1	3	1.0269	0.1806	1	3

Table 4.12 Cont'd.

Variables	Panel A: CAR - Acquirers (N=2300)				Panel B: CAR - Targets (N=1588)				Panel C: 3-yr BHAR - Acquirers (N=631)			
	Mean	Std Dev	Min	Max	Mean	Std Dev	Min	Max	Mean	Std Dev	Min	Max
YEAR = 1993	0.0261	0.1594	0	1	0.0264	0.1605	0	1	0.0428	0.2025	0	1
YEAR = 1994	0.0304	0.1718	0	1	0.0372	0.1892	0	1	0.0285	0.1666	0	1
YEAR = 1995	0.0391	0.1939	0	1	0.0384	0.1923	0	1	0.0650	0.2467	0	1
YEAR = 1996	0.0352	0.1844	0	1	0.0416	0.1996	0	1	0.0618	0.2410	0	1
YEAR = 1997	0.0635	0.2439	0	1	0.0611	0.2396	0	1	0.0824	0.2752	0	1
YEAR = 1998	0.0948	0.2930	0	1	0.0718	0.2582	0	1	0.1173	0.3220	0	1
YEAR = 1999	0.1083	0.3108	0	1	0.1008	0.3011	0	1	0.1030	0.3042	0	1
YEAR = 2000	0.1387	0.3457	0	1	0.1348	0.3416	0	1	0.1506	0.3579	0	1
YEAR = 2001	0.0991	0.2989	0	1	0.0989	0.2986	0	1	0.1125	0.3163	0	1
YEAR = 2002	0.1030	0.3041	0	1	0.1121	0.3156	0	1	0.1141	0.3182	0	1
YEAR = 2003	0.1278	0.3340	0	1	0.1316	0.3382	0	1	0.0713	0.2576	0	1
YEAR = 2004	0.1135	0.3172	0	1	0.1234	0.3290	0	1				

Table 4.13 Summary results for regressions of abnormal M&A performance against various potential determinants

This table summarizes the OLS regression results for abnormal performances for the announcement windows for the 2300 acquirers and 1588 targets and for the 3-year, post-M&A period for the 631 acquirers against various potential determinants. The specific model used is:

$$AP = \beta_0 + \beta_1 * RELATION + \beta_2 * REL-SIZE + \beta_3 * SIZE + \beta_4 * B/M + \beta_5 * E/P + \beta_6 * PAYMENT + \beta_7 * DOMESTIC + \beta_8 * TECHNIQUE + \beta_9 * BIDDERS + ... + \varepsilon \quad (4.4)$$

where the variables are as defined in table 4.12 and the year dummies are suppressed for compactness. "**a**", "**b**" and "**c**" indicate significance at the 10%, 5% and 1% levels, respectively. S.E. refers to the robust standard error.

	Panel A: CAR [-1,1] - Acquirers				**Panel B: CAR [-1,1] - Targets**				**Panel C: 3-yr BHAR - Acquirers**			
Variables	**Coef.**	**S.E.**	**Coef.**	**S.E.**	**Coef.**	**S.E.**	**Coef.**	**S.E.**	**Coef.**	**S.E.**	**Coef.**	**S.E.**
Intercept	0.8742	1.0773	0.9911	1.0668	9.7113 [c]	2.6382	9.6656 [c]	2.618	41.8673	31.4275	40.5325	30.9629
$DUMMY_q$	-0.4968 [c]	0.1872			0.5151	0.4092			5.8562	5.5591		
$NUMBER_q$			-1.5683	0.9668			1.8404	1.8394			12.4799	23.4681
REL-SIZE	0.2169 [c]	0.0811	0.2112 [c]	0.0819	0.0007	0.1227	-0.0163	0.1194	0.5878	2.1838	0.6845	2.2234
SIZE	-0.0431	0.0561	-0.0575	0.0551	-0.7695 [b]	0.3131	-0.7514 [b]	0.3062	-4.8581 [a]	2.5446	-4.6627 [a]	2.4595
B/M	-0.2497 [a]	0.1391	-0.2643 [a]	0.1357	-0.2533	0.1895	-0.2379	0.1870	1.7710	3.2421	1.7982	3.2235
E/P	-1.2149	1.5934	-1.2848	1.5914	3.3834	5.4703	3.3771	5.4698	53.4707	46.476	53.5925	46.3136
PAYMENT	0.0201	0.1712	0.0478	0.1715	-0.2579	0.6498	-0.2839	0.6540	0.2047	5.3229	-0.1069	5.3668
DOMESTIC	-0.1599	0.1788	-0.1476	0.1787	0.6556 [a]	0.3982	0.6438	0.3982	2.3567	6.2494	2.3512	6.248
TENDER	-0.4453	0.612	-0.4457	0.6121	4.4754 [b]	2.2399	4.4586 [b]	2.2405	30.0967	23.7608	30.0674	23.7652
DIVEST	0.4368 [b]	0.2203	0.4140 [a]	0.2197	-1.1961	0.9231	-1.1889	0.9243	-1.0688	5.4743	-0.9587	5.4744
OMP	0.1183	0.3868	0.1246	0.3878	-1.9776 [a]	1.0607	-1.9809 [a]	1.0611	0.1918	10.3037	0.1466	10.2927
PRIVATE	0.5698 [a]	0.3108	0.5692 [a]	0.3104	-2.0856 [b]	0.9733	-2.0751 [b]	0.9726	-5.6512	9.6215	-5.6713	9.6257
BIDDERS	-0.4815	0.6934	-0.492	0.6942	-1.9822 [a]	1.1682	-2.0425 [a]	1.1443	-6.6173	10.3988	-6.7546	10.4156
YEAR = 1993	0.3615	0.6081	0.3663	0.6093	1.2612	1.7691	1.2594	1.7703	7.2315	7.8553	7.5621	7.8921
YEAR = 1994	-0.7265	0.517	-0.7165	0.5188	2.5067 [a]	1.4615	2.5180 [a]	1.4629	5.2554	9.3905	5.1265	9.3894
YEAR = 1995	0.1594	0.5079	0.1119	0.5115	0.3464	1.1142	0.3886	1.1096	-6.346	14.023	-5.9712	14.0507
YEAR = 1996	-0.2589	0.5686	-0.276	0.5688	0.8209	1.0573	0.8612	1.059	-13.299	10.2639	-12.861	10.2699
YEAR = 1997	-0.2483	0.5098	-0.2737	0.5135	1.4164	1.2345	1.4512	1.233	-6.0677	9.441	-5.8093	9.4442
YEAR = 1998	0.0728	0.5165	0.0652	0.5199	0.6387	1.2353	0.6687	1.2357	4.8619	9.2919	4.8836	9.3006
YEAR = 1999	0.009	0.5661	0.0177	0.568	0.1428	1.2337	0.1526	1.2354	2.8387	9.3981	2.9036	9.3895

Table 4.13 Cont'd.

Variables	Panel A: CAR [-1,1] - Acquirers				Panel B: CAR [-1,1] - Targets				Panel C: 3-yr BHAR - Acquirers			
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
YEAR = 2000	-0.4787	0.5103	-0.4841	0.5108	1.9234	2.302	1.947	2.3067	3.7405	8.268	4.1206	8.2793
YEAR = 2001	0.0201	0.5266	0.0124	0.528	0.7453	1.1915	0.7591	1.1931	13.2066	8.2079	13.4969[a]	8.1985
YEAR = 2002	-0.0291	0.5155	-0.0583	0.5145	0.0548	1.14	0.1074	1.1442	27.6416[b]	13.0725	28.1796[b]	13.2348
YEAR = 2003	0.1908	0.4788	0.1655	0.4818	-0.0732	1.172	-0.0321	1.1762	12.4756	8.7234	13.4114	8.597
YEAR = 2004	-0.1176	0.5148	-0.1373	0.5166	-0.4251	1.0327	-0.3947	1.0337				
Adjusted R^2	0.0202		0.0190		0.0384		0.0383		0.0766		0.0762	
F value	1.96[c]		1.84[c]		2.60[c]		2.59[c]		2.19[c]		2.18[c]	