

Spoilt and Lazy: The Impact of State Support on Bank Behavior in the International Loan Market*

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We analyze the syndicated loan market activity of banks with high support ratings. We find evidence that they under-price risk. Controlling for other characteristics, loans arranged by supported banks have, on average, lower spreads. In addition, these banks retain loans that are, on average, priced below market. At the same time, we do not find evidence suggesting that supported banks play any special role through strategic loan participation. Compared with other banks, their loan portfolios are less specialized, are more closely aligned with prevailing market trends, and exhibit lower persistence in their sectoral allocations.

JEL Codes: G15, G21.

1. Introduction

Banking is an economic activity of intense interest to public policy. Banks are subject to extensive prudential and conduct of business regulation. The public sector can also exercise direct and indirect

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influence over banks' business decisions through outright ownership. The objective is often to achieve public policy goals such as the channeling of funds to vulnerable economic sectors or to borrowers with limited access to credit. Public sector involvement is also expressed through financial support to banks that run into trouble. In some cases this support can be explicit in the form of official *ex ante* guarantees, while in others it is implicit in the markets' expectation that some banks will not be allowed to fail. Banking is also a business of taking and managing risk. To the extent that support distorts incentives, the downside of public policy intervention in the field of banking may be inefficiencies in the intermediation process.

This paper focuses on the behavior of banks that market participants perceive as highly likely to receive financial support in the event of distress. Concentrating on the investment decisions of these banks in the international syndicated loan market, it investigates whether the existence of support (in the form of explicit or implicit guarantees) influences the pricing of loans in which these banks participate. It examines both the pricing of loan facilities in which the supported banks act as senior arrangers and the loan portfolios that they retain on their books. The paper also examines whether banks that receive government support invest differently than the typical bank in the syndicated loan market.

In examining these questions, the paper takes an international perspective. This is true not only in terms of the banks analyzed, which come from a number of different countries, but also in terms of the market of focus, which is open to international competition. The benefits are twofold. Firstly, the international syndicated loan market provides a fairly standardized environment where the decisions of banks from different countries can be compared with each other. It is a market where distortions to the "level playing field" in the form of support can give a competitive advantage to players. Secondly, the examination of the behavior of banks in an open, international market also helps to reduce the influence of national circumstances, which can complicate cross-border studies. A further element of cross-border comparability is that support is identified on the basis of specifically assigned ratings issued by an international ratings agency.

We find that supported banks are associated with lower loan spreads in two ways. First, loans where a supported bank acts

as senior arranger carry, on average, lower spreads than a market benchmark. Second, supported banks hold loan portfolios with particularly low spreads. Both results are more pronounced in the case of banks where the public sector has a substantial equity stake.

At the same time, the investment choices of state-supported banks are not significantly different from those of their competitors in any fundamental way. We do not detect clear patterns suggesting that supported status translates into a special role. To the contrary, we find that supported banks are more prone to trend following (i.e., their lending patterns mirror broad market trends) and that their loan portfolios are less sensitive to the strength of their own balance sheet than the typical not-supported bank. Again, these results are more pronounced in the case of state-owned banks and are considerably weaker in the case of large banks, for which the expectation of support may stem from their systemic importance rather than their ownership structure.

The implicit conclusion is that state support has an adverse impact on bank behavior, which is manifested in two ways. First, supported banks are “spoilt,” in the sense that they tend to be careless about the pricing of risk. Second, supported banks also appear to be “lazy,” in the sense that their investment policy tracks very closely broad market trends and does not show signs of specialization.

The paper has three attractive methodological elements. First, it constructs a portfolio of loan participations for each bank on the basis of information on individual loans. This permits the calculation of the average characteristics of the loans included in a bank portfolio and, in particular, the average pricing of these exposures. Second, the behavior of banks with different characteristics (supported banks, large banks, state-owned banks) is benchmarked against the overall market (defined as all non-supported banks participating in international loan syndications) to detect different patterns in investment behavior. Third, information on individual loan participations is matched with balance sheet information to investigate whether individual banks’ characteristics are associated with specific patterns in their syndicated lending activities.

An important limitation of the analysis is the focus on only one facet of banking business: the international syndicated loan market. As such, it cannot claim to characterize the overall behavior of supported banks. Nevertheless, the results do indicate that in this area

of banking activity, supported banks tend to compete on the basis of consistently lower pricing. This suggests that state support may have implications that go beyond the national markets.

The rest of the paper is organized in five sections. The next section reviews the related literature, lays down the main questions, and outlines the analytical approach. The third section gives an overview of the data and the empirical methodology. The fourth section discusses the result of the baseline pricing equation, the workhorse tool for most of the paper. Sections 5 and 6 present the results of the analysis from the perspective of the individual loan and the perspective of individual bank, respectively. The final section concludes and offers some suggestions for further work.

2. The Main Questions and Related Literature

The expectation of financial support in the event of stress can have an adverse impact on individual and collective incentives of banks as recognized in the banking literature. Moral hazard may lead managers to exert lower effort or divert resources for political or personal objectives.¹ In addition, support creates risk-shifting incentives. This idea is crisply explained by Merton (1977, 1978), who interprets deposit insurance as a put option held by the bank's owners on its own assets. The value of the put increases with the bank's leverage and asset volatility (risk).² A number of empirical studies find a positive link between the generosity of the safety net and bank risk taking. For example, Hovakimian and Kane (2000) find evidence that deposit insurance is associated with higher bank risk taking. Their result is echoed in Jiménez and Saurina (2004), Hakenes and Schnabel (2010), and Gropp, Hakanes, and Schnabel (2011), who study the effect of implicit or explicit external guarantees. By contrast, De Nicoló and Loukoianova (2007) do not find evidence that public ownership is associated with riskier banks. Another set of

¹Dinç (2005) shows that government-owned banks increase more than other banks their lending in election years, while Brown and Dinç (2005) provide evidence that political concerns can significantly delay government action (closure, nationalization, etc.) when banks run into trouble. Kroszner and Strahan (1996) provide similar evidence for the U.S. savings and loans crisis.

²See Hovakimian, Kane, and Laeven (2003) for further discussion of this issue.

studies indicate that safety nets weaken the influence of market discipline on risk management and control, allowing capital buffers to be smaller or interest rates on banks' liabilities to be lower and less sensitive to the underlying risk profile of the bank (see for example, Demirgüç-Kunt and Huizinga 2004, Baumann and Nier 2006, Gropp, Hakanes, and Schnabel 2011).³ Risk shifting may also take the form of business expansion into areas where supported banks may have limited or no expertise, as reported in Jiménez and Saurina (2004). Finally, and more closely related to the focus of this paper, Galindo and Micco (2003) present cross-country evidence that state-owned banks do not play a significant role in providing credit to industries that are either opaque (i.e., they are subject to larger informational asymmetries) and/or have difficulty securing loans due to a shortage of collateral and are thus more likely to be shunned by the market.

Our paper complements this literature by focusing on the impact of support on the behavior of banks in a competitive international environment. Being free of national institutional features, the international syndicated loan market provides a good context for the analysis of how state support may affect bank behavior.⁴ The typical lending syndicate structure involves a small group of *senior* banks that provides the seed funds and sets the key facility parameters such as loan terms and pricing. A larger group of *junior* banks takes up shares in the loan but plays only a secondary role in the structure of the loan. Senior syndicate members may voluntarily retain a portion of the loan in addition to sharing among themselves any residual amount that is not placed with junior banks. Syndicate members are compensated for their participation through the interest rate (typically expressed as a spread over LIBOR) and various fees that compensate the participating banks for their specific role in providing funds, organizing the syndicate, and taking on the associated risks.⁵

In this context the paper analyzes two main questions.

³Investors' ability to assess default and to incorporate the resulting information into bond and stock prices makes market discipline a suitable tool to assist regulatory goals in the banking industry (Herring 2004).

⁴For an overall description of the structure and behavior of the international syndicated loan market, see Gadanez (2004).

⁵For a more detailed discussion on the structure of fees, see Altunbaş, Gadanez, and Kara (2006).

The first question is whether the participation of supported banks in a loan syndicate distorts pricing. Banks may use the advantages derived from state support in order to compete with others in terms of the spread on the loans they arrange. A related issue is whether the loans that supported banks retain on their books are priced similarly to those retained by other banks. If a bank originates loans with below-market spreads but does not hold them, it is helping its clients obtain favorably priced financing without bearing the risk. If, however, the supported bank retains a significant portion of these loans, it is using its supported status to take risks that are not properly priced. In this case public sector support is associated with distorted risk-taking incentives.

The second question relates to whether, apart from pricing, the overall investment patterns of supported banks differ in any substantial way from those of other banks. Of particular interest would be patterns indicative of a special role played by these banks as the counterpart to their status. This role would presumably manifest itself in terms of persistently innovative and/or specialized behavior that deviates from that of the average other bank. A close alignment of supported banks' portfolios with the market is more consistent with herding than with innovative lending.

To address these questions, the empirical analysis takes two complementary perspectives. The first perspective takes the individual loan as the unit of analysis and focuses mainly on the impact of support status of the arranger bank on pricing (spread). Loan spreads for facilities arranged by supported banks are compared with a benchmark pricing model to detect systematic differences in pricing. A separate regression examines the drivers of the loan portion that is retained by the senior arrangers. A higher retained share of loans to first-time syndicated market borrowers by arrangers that are supported banks would be consistent with the latter playing a special role. In addition, the sensitivity of the retained portion of the loan to the bank's financial condition may also reveal a tendency of supported banks to be more or less conservative in their risk management.

The second perspective puts banks in the center of the analysis. For each bank/year combination, a portfolio of loan participations is constructed by aggregating the shares retained by the institution in all syndicates in which it participated. The composition and

patterns of change in these portfolios are compared across supported and non-supported banks using three measures. The first measure is the degree of diversification across geographic and industrial sector exposures. While diversification is normally associated with lower risk taking, evidence of supported banks' greater specialization in few sectors or countries would be suggestive of a special role compared with other banks. A second measure relates to the degree of similarity between the individual portfolio and that of the market (the universe of loans arranged by non-supported banks for the given year). The closer the portfolio of supported banks resembles that of the market, the weaker the argument that support is associated with a specialized role. The third characteristic we examine is the degree of turnover of the portfolio in terms of sector and country of exposure. Banks with a mission to address a market failure should be less prone to frequently reshuffle their loan portfolios and should be more likely to display distinctive (idiosyncratic) and persistent patterns in their investment decisions. Beyond portfolio composition, we also look at the risk that supported banks keep on their books by calculating the average (risk-adjusted) spreads on the portfolios of loans that banks elect to retain. Banks that systematically retain loans with lower risk-adjusted spreads should be viewed as taking risk that is not matched by *ex ante* reward.

3. Data

The syndicated loan information was extracted from the Dealogic Loanware database. Each loan facility record identifies the members of the syndicate and their role as senior or junior members. It also contains information about the share of the loan retained by syndicate members. This information is complete for senior syndicate members. On occasion, when only the total amount allocated to the junior syndicate members is identified, we assume an equal distribution among these banks. The database also provides information about several characteristics of the facility (such as currency of denomination, maturity, purpose, etc.) and describes the structure of syndication fees and the spread. We use information on more than 24,000 loan facilities over the period 1993–2001. Since there are no good reasons to believe that specific types of loans might present particularities in their pricing (beyond the characteristics that are

explicitly controlled for in the regression), no particular filtering was applied in the selection of these loans. The data appendix provides a detailed description of all variables used in the analysis and includes a table with summary statistics.

The information on the individual loan facilities was combined with information on the syndicate banks extracted from BankScope. This database contains details about the balance sheet composition and income statement of individual banks. Of particular interest for the questions at hand is the support rating.⁶ In addition to the more traditional type of credit rating, Fitch Ratings rates banks according to the strength of outside support. The so-called *support rating* is an assessment of the likelihood and level of financial support that the bank may receive from outside entities (the government, its owners, or third parties) in case of financial difficulty. The rating scale ranges from very high support (level 1) to no support (level 5). For the purposes of this paper, banks with a rating of 1 or 2 are identified as “supported.” This choice was based on the characterization that Fitch gives to these rating classes in its manual. Level 1 support indicates “a clear legal guarantee or state support would be forthcoming.” Level 2 is assigned in cases where “state support would be forthcoming in the absence of a legal guarantee.” This choice is consistent with other studies in the literature that rely on the same indicator of safety-net support.⁷ The ratings methodology does not strictly identify the government purse as the source of financial support. However, for the higher support rating categories, the methodology points to the existence of a legal commitment or highlights the systemic importance of the institution in the national and/or international arena. For the purpose of this analysis, this is treated as being practically tantamount to government support. No private entity would have the resources or the incentives to provide this support in the case of financial difficulty.

⁶Among rating agencies, Fitch Ratings historically has paid particular attention to rating banking firms.

⁷See, for example, Gropp, Vesala, and Vulpes (2006). Baumann and Nier (2006) use the same threshold to define the banks that have a high support rating. They focus on the potential distorting effects that outside support might have on market discipline, and in their discussion they treat banks in these two support categories as de facto protected by the safety net.

The reliance on ratings information has important advantages over alternative measures of financial support for banks. It guarantees a certain level of international comparability regarding these assessments, which is very important in a study involving cross-country comparisons. There are no a priori reasons to believe that there are systematic biases in the ratings. Support ratings are reviewed continuously by Fitch, and banks can migrate across support rating classes. However, these migrations are much less common than the migrations in the credit ratings of the banks. The support ratings assigned to all banks in the sample used in the paper were hand-matched with banks over the entire period of the analysis (1993–2001) using various vintages of the BankScope database. Figure 1 gives an overview of the distribution of banks across the support ratings. In terms of numbers and total assets, more than half of the banks are classified as *supported* banks (i.e., they have a support rating equal to 1 or 2).

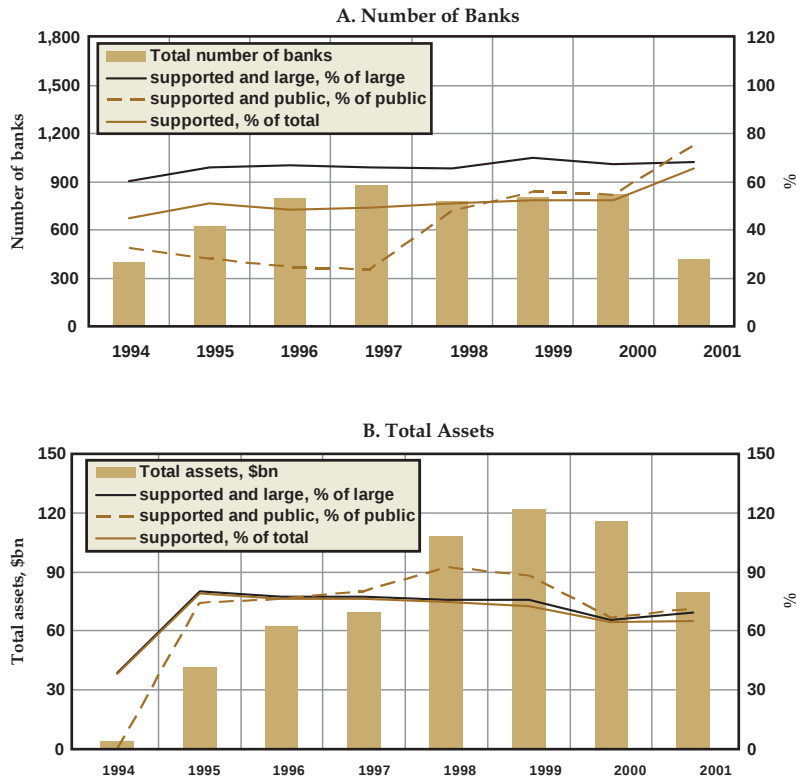
Support is not independent of size or public sector ownership of a bank. The systemic implications from the failure of a bank are typically directly related to its size.⁸ We have thus assigned the indicator variable *large* to institutions that fulfill at least one of the following criteria: (i) they are among the 100 largest institutions (by asset size) worldwide; (ii) they are among the three largest institutions in their own country; or (iii) they have more than 10 percent of domestic banking assets. These criteria are checked on an annual basis. In addition, the effects of government support on bank behavior might be stronger for those institutions that are owned outright by the state. To control for this possibility, we rely on information about bank ownership in BankScope and assign the indicator variable *public* to those institutions in which the public sector ownership exceeds 15 percent.⁹ Ownership data were collected on a yearly basis from different vintages of the BankScope database. Figure 1 shows how size and state ownership are associated with support. Measured by total assets, more than half of large and public banks are also supported.

Table 1 presents a priori evidence that support levels and public ownership of banks have an impact on spreads for loans arranged

⁸See, for example, Tarashev, Borio, and Tsatsaronis (2010).

⁹Multilateral government banks, specialized government credit institutions, and entities indirectly held by the state sector were also counted as public for the purposes of the analysis.

Figure 1. Distribution of Bank Types



Note: Partial data for 1994 and 2001.

and held on the balance sheet. The upper panel of table 1 takes the perspective of the individual loan facility and shows that spreads on loans arranged by supported banks have, on average, lower spreads than other loans. The right-hand-side column shows that the average spread (weighted by loan amounts) for loans where at least one of the senior syndicate members is a supported bank is 26 bps lower than other loans. When a senior bank is state owned, the average spread is even lower by a full 58 bps. When one crosses the different types of senior arranger, the picture becomes less clear-cut. Even though the differences in the spreads have the same sign, they are not always statistically different.

Table 1. Weighted Average Loan Spreads (in bps)

The upper half of the table shows the average loan spreads (weighted by loan amounts) for different categories in the universe of loans: with and without supported bank presence. This partitioning is interacted with two others: loans with and without the presence of a large bank, and loans with and without the presence of a public bank. For instance, the intersection of “Supported Presence” and “Large Presence” denotes the average spread on those loans where there is at least one supported and one large bank present in the syndicate. The lower half of the table shows average loan spreads (weighted by loan amounts) for the various types of banks—supported and not supported—interacted with size and public ownership. All numbers in individual contiguous cells of the table (comparing average loans spreads for the various combinations of support, size, and ownership horizontally or vertically) are statistically different at the 5 percent level, except when comparing two numbers that are both in an area shaded in grey.

For All Loans, by Bank Presence in Senior Arranger Group					
	Large Presence	No Large Presence	Public Presence	No Public Presence	Average for All Loans
Supported Presence	153	205	113	161	154
No Supported Presence	179	181	126	180	180
Total	162	181	114	172	
By Bank Type, Portfolio Averages for All Participations					
	Large	Small	Public	Private	Average for All Banks
Supported	137	131	112	139	136
Not Supported	160	201	155	182	179
Total	144	198	133	161	

The lower panel of table 1 presents average spread statistics for loan portfolios, taking the bank as the unit of analysis. The statistics are suggestive of significant price differentials in the holdings of supported and non-supported banks. The loan size-weighted average spread on portfolios of supported banks is about 43 bps lower than the comparable spread on loan portfolios of non-supported banks. The differences between supported and not-supported banks are also evident when support is interacted with state ownership (43 bps)

and especially with small size (70 bps). At the same time, the differences across these ownership and size classifications of banks are not statistically meaningful conditional on the bank being identified of having supported status.

These simple statistics suggest that the pricing of loans arranged and held by supported banks differs from other loans. Clearly, these statistics do not control for a number of loan attributes that can potentially explain the difference in pricing. In the next section we estimate a loan pricing model that we use as the benchmark for comparison in order to analyze the link between supported banks and spreads.

4. Baseline Pricing Regression

The spreads presented in table 1 are averages across all facilities and have not been adjusted for risk and other loan characteristics. In order to account for the observable differences across loans, this section estimates a benchmark pricing equation for loan spreads. The drivers of spreads relate to the specific characteristics of each loan and the attributes of the individual borrower but also to the general conditions prevailing in the global loan market at the time when the loan was arranged. We refer to this as the *baseline model* and use it as a benchmark for the evaluation of loan pricing. We interpret the discrepancies between actual and model-implied spreads as measuring the extent to which a particular loan might be priced more richly or more tightly than the market average. We also estimate a similar model for the “all-in” cost that includes the level of various fees as well as the spread. This is a more comprehensive measure of the final cost to the borrower than the spread alone, especially because many fee components are payable up front and are independent of whether the borrower draws on the loan or not.

The control variables in the pricing regression are of three types: attributes of the loan contract, characteristics of the borrower, and variables that describe the overall market conditions at the time of signing.¹⁰

Among the characteristics of the loan facility, the regression includes variables that are linked to the loan’s size and maturity

¹⁰The complete list of variables is described in the appendix, which presents summary statistics.

length, as well as identifiers for the presence of various risk mitigants in the form of collateral or guarantees (either explicit or implicit).¹¹ In addition, following the work of Carey and Nini (2007), who identify a spread gap between the European and U.S. loan market, it includes two dummy variables to indicate whether it was signed in Europe before the introduction of the single currency (i.e., up to 1998) or afterwards (1999–2001).

The second set of variables in the benchmark pricing regression relates to the characteristics of the borrower. It includes dummies that control for credit rating, the business sector of the borrower, and the declared purpose of the loan, since it is observed that capital markets demand a premium for financing facilities related to corporate actions and restructurings. It also includes an indicator variable that identifies the first time that a borrower appears to in the Loanware database. Borrowers that are new to the market arguably face higher borrowing costs compared with borrowers that are more familiar to the lenders.

The third set of controls relates to broad market conditions. We include a set of year dummies for the period 1994–2001 to capture the overall financial environment. We also include a number of more specific controls to capture syndicated loan market factors. For example, the overall volume of activity in the syndicated loan market proxies for the liquidity in the specific market, while the level of the LIBOR interest rate and the GDP-weighted average of short-term interest rates in the G3 economies are proxies for global market liquidity.

Table 2 shows the results of this baseline model estimation.¹² The coefficients are in line with the existing literature on the pricing of syndicated loans. Spreads increase with maturity¹³ and decrease with the size of the facility. Everything else equal, externally guaranteed loans carry lower spreads, while the presence of collateral

¹¹For a discussion of the role of guarantees on pricing, see Sorge and Gadanecz (2008).

¹²Coefficients on facility types and borrower sector (we controlled for basic industry, cyclical consumer goods, cyclical services, financials, general industries, government/sovereign, information technology, non-cyclical consumer goods, non-cyclical services, resources, and utilities) are not reported.

¹³See Sorge and Gadanecz (2008) for a discussion of the convexity in the relationship between maturity and pricing.

Table 2. Baseline Regression: Selected Variables

The LIBOR spread, the fees, and spread + fees (expressed in bps) are used as the dependent variables. Independent variables are as follows: log (loan size) is the natural logarithm of the loan size in millions of USD. There are three dummy variables for maturity (loans with maturities from one to three years, from three to six years, and greater than six years; maturities up to one year were excluded as the case by default). Guarantees and collateral are dummy variables signaling the presence of a guarantor or collateral for the loan. First-time borrower is a dummy variable to denote the fact that a particular borrower appears in the sample of loans (starting in 1993) for the first time. Corporate control loan and capital structure loan are two loan purpose dummy variables for corporate control loans (e.g., M&A) and capital structure loans (e.g., recapitalization). The 150+ borrower base sector codes in Loanware have been mapped into eleven FTSE sector classifications (coefficients on the dummy variables not reported): basic industry, cyclical consumer goods, cyclical services, financials, general industries, government/sovereign, information technology, non-cyclical consumer goods, non-cyclical services, resources, utilities (the latter sector was excluded from the regressions as the case by default). The following facility types were controlled for through dummy variables (coefficients not reported): A-loan, B-loan, guarantee/CP backup facility, lease finance facility, loan facility, multiple-purpose facility, note issuance facility, revolving loan, swap facility, bridge facility, trade finance loan, tax-spared loan (the latter type was excluded from the regressions as the case by default). European deal 1993-98 and European deal 1999-01 are dummy variables for deals signed in Europe before and after the introduction of the euro, respectively. Global liquidity is the weighted average of short-term interest rates in the G3 economies, with weights based on GDP measures of Germany, Japan, and the United States. LIBOR level at signing is the level of the London Interbank Offered Spread on the day of signing of the loan. Global market activity is the total amount (in millions of USD) of syndicated loans signed in the same year as the particular loan. Dummy variables for borrower rates at signing were included for AAA, AA, A, BBB, BB, B, and unrated, with CCC being excluded as the base case.

Dependent Variable (bps)	LIBOR Spread	Fees	Spread + Fees
Constant	125.6* (17.23)	22.6* (10.84)	148.5** (20.50)
Log (Loan Size)	-18.9** (0.47)	1.7 (1.53)	-17.2** (1.59)
Maturity 1 to 3 Years	-29.3** (2.53)	-6.7 (8.00)	-36.0** (8.37)

(continued)

Table 2. (Continued)

Dependent Variable (bps)	LIBOR Spread	Fees	Spread + Fees
3 to 6 Years	-18.0** (2.33)	-9.8 (7.68)	-27.7** (8.01)
>6 Years	7.4** (2.53)	-11.7 (8.03)	-4.4 (8.40)
Guarantees	-18.8** (2.24)	1.3** (0.42)	-17.9** (2.30)
Collateral	40.7** (1.34)	-0.4 (0.42)	40.2** (1.41)
First-Time Borrower	11.0** (1.25)	1.9 (2.43)	13.0** (2.72)
Corporate Control	121.8** (3.51)	-1.7 (2.29)	120.3** (4.17)
Loan			
Capital Structure	95.3** (3.51)	-2.53 (2.01)	92.9** (4.02)
Loan			
[Borrower Sectors, Facility Types, and Year Dummies Not Reported]			
European Deal 1993-98	-44.6** (1.81)	2.8** (0.51)	-41.8** (1.93)
European Deal 1999-2001	-70.8** (2.57)	3.9* (1.69)	-66.9** (3.08)
Global Liquidity	-1.9 (2.95)	-0.8 (1.16)	-3.0 (3.18)
LIBOR Level at Signing	-1.3 (1.92)	-3.1 (2.84)	-4.3 (3.42)
Global Market Activity	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)

(continued)

Table 2. (Continued)

Dependent Variable (bps)	LIBOR Spread	Fees	Spread + Fees
Borrower Rating:			
AAA	-132.8** (11.91)	-10.8** (2.90)	-143.6** (11.99)
AA	-124.4** (11.30)	-10.8** (3.25)	-135.2** (11.53)
A	-115.5** (11.08)	-9.7** (2.84)	-125.1** (11.21)
BBB	-94.9** (11.16)	-7.6** (2.60)	-102.5** (11.24)
BB	-49.9** (11.20)	-4.9* (2.44)	-54.8** (11.24)
B	-17.3 (11.25)	-4.4 (2.44)	-21.6 (11.28)
Unrated	-61.1** (11.04)	-4.7 (2.72)	-65.8** (11.14)
Adj. R ²	42.96	0.28	20.91
N	23,925	23,925	23,925
Notes: Robust standard errors are in parentheses. ** and * denote significance at the 1 percent and 5 percent level, respectively.			

tends to be associated with higher interest rates.¹⁴ Similarly, first-time borrowers in the international loan market borrow at somewhat higher spreads (11 bps) than more seasoned borrowers. Like Carey and Nini (2007), we find that loans originated in the European market carry significantly lower spreads.¹⁵ Surprisingly, the proxies for overall market conditions do not have an important effect on pricing. Finally, and critically for the purposes of this paper, we note that the model fit is quite good. The value of R^2 at 43 percent for the spread regression is near the top of the range of similar goodness-of-fit measures reported in the literature.

The results for the all-inclusive measure of cost are very similar to those of the spread, but less precise. The fit is not as good (R^2 at 20 percent), and only a few regressors have significant explanatory power. In view of these results, we will concentrate exclusively on loan spreads for the remainder of our analysis.

5. Looking at Individual Loans

This section takes individual loans as the unit of analysis and focuses on the presence of supported banks in the senior group of syndicate members. The section asks two questions: (i) Are there systematic effects on pricing that are associated with the presence of supported banks as senior arrangers? (ii) Are there any differences in the share of the loan retained by the senior group of banks for those loans? These issues are examined in turn below.

5.1 *The Influence of Supported Banks on Loan Spreads*

To analyze the behavior of supported banks as loan arrangers on individual loan spreads, we augment the baseline regression with selected variables that indicate the presence of such banks in the

¹⁴The fact that the presence of collateral signals lower-quality borrowers is commonly observed in the literature (see, for example, Jiménez and Saurina 2004).

¹⁵To control more tightly for the possibility that there is cross-country variation in the average spread, we ran a panel version of the baseline regression with country fixed effects (results available upon request). The results are consistent with those in table 2.

lending syndicate. We use both dummies and continuous indicators of bank participation. A dummy variable for the presence of a supported bank in the syndicate (or in some specifications in the group of the senior arrangers) would capture the extent to which this participation might affect the loan spread. Alternatively, the inclusion of the share of the loan retained by supported banks in the benchmark model provides a more incremental gauge of the same effect on loan pricing.

Tables 3–5 report the relevant coefficients from those regressions. The results show that the participation of supported banks in the syndicate is statistically linked to lower loan spreads. Such loans have spreads that are on average 3 bps lower than other loans, after controlling for different loan characteristics and risk (table 3). In the case of large banks, the reduction in the spread is very similar (3.6 bps, table 5). The effect is particularly pronounced in the case of banks where the state has a significant ownership stake. Loans with state-owned banks in the syndicate carry spreads that are lower by 16 bps compared with the benchmark, and the coefficient is statistically more significant (table 4).

The second columns in tables 3–5 show a similar pattern of results, but using the retained share of various bank types as a proxy for influence on pricing. For every 1 percent of the loan retained by a supported bank, there is, on average, a quarter of a basis point reduction in spread. This implies that if supported banks hold 50 percent of a loan, the spread could be as much as 12.5 bps lower than a similar loan with no supported bank participation in the syndicate. Similarly to the regressions using the participation dummy, when we use this continuous measure, we estimate the impact on spreads to be strongest when state-owned banks are the arrangers. For every 1 percent of the loan retained by such banks, the spread over LIBOR tends to be 0.9 bps lower, implying that if 50 percent of the loan is retained by state-controlled banks, the spread could be 45 bps lower.

The right-hand-side columns of tables 3–5 report the results from the same regressions but using variables that indicate the presence of supported or state-controlled banks only in the senior group of arrangers. The results are qualitatively very similar and, if anything, stronger. The presence of supported banks in the senior arranger group has a negative effect on loan spreads, and the effect is much more pronounced in the case of state-owned institutions. We

Table 3. Effect of Supported Banks on Spreads

This table shows the same regression as table 2 (dependent variable: LIBOR spread) but augmented with controls for the presence and retained loan share of supported banks. The presence dummy is a binary variable denoting that a supported bank was a member of the syndicate (“All Participations” column) and/or a member of the senior arranger group (“Senior Participations Only” column).

	All Participations		Senior Participations Only	
	Presence Dummy	Retained Loan Share	Presence Dummy	Retained Loan Share
Supported Constant	-3.0* 125.2** -18.6**	(1.31) (17.39) (0.49)	-5.59** 124.2** -18.4**	(1.27) (17.17) (0.48)
Log (Loan Size)				
Maturity				
1 to 3 Years	-29.0**	(2.54)	-28.7**	(2.54)
3 to 6 Years	-17.6**	(2.35)	-17.2**	(2.35)
>6 Years	7.9**	(2.55)	8.4**	(2.55)
Guarantees	-18.6**	(2.24)	-18.5**	(2.24)
Collateral	40.61**	(1.34)	40.5**	(1.34)
First-Time	11.0**	(1.25)	11.1**	(1.26)
Borrower				
Corp. Control	121.6**	(34.50)	121.4**	(3.50)
Loan				
Cap. Structure	94.9**	(3.50)	94.5**	(3.49)
Loan				

[Borrower Sectors, Facility Types, and Year Dummies Not Reported]

(continued)

Table 3. (Continued)

	All Participations		Senior Participations Only	
	Presence Dummy	Retained Loan Share	Presence Dummy	Retained Loan Share
European Deal 93–98	–44.2** (1.81)	–44.4** (1.82)	–43.7** (1.81)	–44.6** (1.81)
European Deal 99–01	–70.2** (2.59)	–70.2** (2.64)	–69.2** (2.61)	–70.2** (2.63)
Global Liquidity	–2.0 (2.94)	–1.9 (2.97)	–2.0 (2.95)	–1.9 (2.96)
LIBOR at Signing	–1.4 (1.92)	–1.6 (1.93)	–1.4 (1.92)	–1.7 (1.93)
Global Market Vol.	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
Borrower Rating:				
AAA	–132.9** (11.88)	–141.1** (11.37)	–133.8** (11.84)	–133.7** (11.82)
AA	–124.4** (11.28)	–132.4** (10.71)	–124.9 (11.24)	–125.0** (11.19)
A	–115.4** (11.06)	–123.5** (10.47)	–115.5** (11.02)	–116.5** (10.96)
BBB	–94.6** (11.15)	–102.3** (10.56)	–94.8** (11.11)	–95.1** (11.04)
BB	–49.6** (11.19)	–57.3** (10.59)	–49.5** (11.15)	–50.3** (11.09)
B	–17.14 (11.24)	–25.7* (10.63)	–17.3 (11.20)	–17.99 (11.13)
Unrated	–61.0 (11.03)	–68.8** (10.41)	–61.0** (10.99)	–61.4** (10.92)
Adj. R ²	42.97	43.15	43.01	43.10
N	23,914	23,566	23,914	23,724
Notes: Robust standard errors are in parentheses. ** and * denote significance at the 1 percent and 5 percent level, respectively.				

Table 4. Effect of State-Owned Banks on Spreads

This table shows the same regression as table 2 (dependent variable: LIBOR spread) but augmented with controls for the presence and retained loan share of state-owned banks. The presence dummy is a binary variable denoting that a state-owned bank was a member of the syndicate (“All Participations” column) and/or a member of the senior arranger group (“Senior Participations Only” column).

	All Participations			Senior Participations Only	
	Presence Dummy	Retained Loan Share	Presence Dummy	Retained Loan Share	
State-Owned	−16.2** (2.35)	−0.9** (0.12)	−16.0** (2.48)	−0.8** (0.12)	
Constant	124.1** (17.21)	126.6** (17.21)	124.5** (17.23)	126.6** (17.21)	
Log (Loan Size)	−18.5** (0.47)	−18.9** (0.47)	−18.6** (0.47)	−18.9** (0.47)	
Maturity					
1 to 3 Years	−28.4** (2.52)	−29.0** (2.52)	−28.5** (2.52)	−29.1** (2.52)	
3 to 6 Years	−17.3** (2.33)	−17.6** (2.33)	−17.4** (2.33)	−17.4** (2.33)	
>6 Years	7.4** (2.52)	7.5** (2.52)	7.4** (2.52)	7.5** (2.52)	
Guarantees	−18.0** (2.25)	−18.1** (2.24)	−18.0** (2.25)	−18.1** (2.24)	
Collateral	40.6** (1.33)	40.4** (1.34)	40.56** (1.34)	40.4** (1.33)	
First-Time	10.8** (1.25)	10.9** (1.25)	10.87** (1.25)	10.9** (1.24)	
Borrower					
Corp. Control	119.5** (3.5)	119.5** (3.52)	119.4** (3.50)	119.6** (3.52)	
Loan					
Cap. Structure	92.9** (3.5)	93.0** (3.51)	93.0** (3.50)	93.1** (3.51)	
Loan					

[Borrower Sectors, Facility Types, and Year Dummies Not Reported]

(continued)

Table 4. (Continued)

	All Participations		Senior Participations Only	
	Presence Dummy	Retained Loan Share	Presence Dummy	Retained Loan Share
European Deal 93-98	-43.6** (1.81)	-44.6** (1.80)	-43.9** (1.81)	-44.6** (1.80)
European Deal 99-01	-67.3** (2.68)	-69.6** (2.59)	-67.3** (2.69)	-69.6** (2.59)
Global Liquidity	-2.1 (2.95)	-2.1 (2.95)	-2.0 (2.94)	-1.96 (2.95)
LIBOR at Signing	-1.3 (1.92)	-1.2 (1.92)	-1.4 (1.92)	-1.27 (1.92)
Global Market Vol.	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
Borrower Rating:				
AAA	-132.9** (11.92)	-132.7** (11.92)	-132.8** (11.92)	-132.7** (11.93)
AA	-124.9** (11.29)	-124.6** (11.30)	-124.8** (11.30)	-124.6** (11.30)
A	-115.3** (11.07)	-115.5** (11.08)	-115.3** (11.08)	-115.5** (11.08)
BBB	-94.6** (11.16)	-94.9** (11.16)	-94.8** (11.16)	-94.8** (11.16)
BB	-49.5** (11.20)	-49.9** (11.20)	-49.6** (11.20)	-49.9** (11.20)
B	-17.0 (11.25)	-17.4 (11.25)	-17.1 (11.25)	-17.4 (11.25)
Unrated	-60.6** (11.04)	-61.0** (11.05)	-60.7** (11.04)	-61.0** (11.05)
Adj. R ²	43.09	43.13	43.08	43.11
N	23,914	23,906	23,914	23,908
Notes: Robust standard errors are in parentheses. ** and * denote significance at the 1 percent and 5 percent level, respectively.				

Table 5. Effect of Large Banks on Spreads

This table shows the same regression as table 2 (dependent variable: LIBOR spread) but augmented with controls for the presence and retained loan share of large banks. The presence dummy is a binary variable denoting that a large bank was a member of the syndicate (“All Participations” column) and/or a member of the senior arranger group (“Senior Participations Only” column).

	All Participations		Senior Participations Only	
	Presence Dummy	Retained Loan Share	Presence Dummy	Retained Loan Share
Large	−3.6*	(1.59)	−1.7	(1.38)
Constant	125.1**	(17.45)	125.5**	(17.32)
Log (Loan Size)	−18.6**	(0.50)	−18.8**	(0.49)
Maturity				
1 to 3 Years	−29.3**	(2.53)	−29.3**	(2.53)
3 to 6 Years	−17.7**	(2.34)	−17.9**	(2.33)
>6 Years	7.7**	(2.53)	7.53**	(2.53)
Guarantees	−18.7**	(2.24)	−18.8**	(2.42)
Collateral	40.5**	(1.34)	40.6**	(1.34)
First-Time	11.06**	(1.25)	11.1**	(1.25)
Borrower				
Corp. Control	121.8**	(3.50)	121.7**	(3.51)
Loan				
Cap. Structure	95.07**	(3.50)	95.1**	(3.51)
Loan				

[Borrower Sectors, Facility Types, and Year Dummies Not Reported]

(continued)

Table 5. (Continued)

	All Participations		Senior Participations Only	
	Presence Dummy	Retained Loan Share	Presence Dummy	Retained Loan Share
European Deal 93-98	-44.4** (1.81)	-45.1** (1.83)	-44.5** (1.81)	-45.2** (1.82)
European Deal 99-01	-70.6** (2.57)	-71.3** (2.65)	-70.7** (2.57)	-70.7** (2.64)
Global Liquidity	-2.0 (2.94)	-0.7 (3.01)	-1.9 (2.95)	-1.8 (2.97)
LIBOR at Signing	-1.3 (1.92)	-2.18 (1.96)	-1.3 (1.92)	-1.6 (1.94)
Global Market Vol.	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
Borrower Rating:				
AAA	-132.5** (11.91)	-141.5** (11.34)	-132.7** (11.90)	-132.5** (11.86)
AA	-124.4** (11.30)	-133.1** (10.66)	-124.5** (11.29)	-123.9 (11.24)
A	-115.5** (11.08)	-124.0** (10.42)	-115.5** (11.07)	-115.2** (11.01)
BBB	-94.7** (11.17)	-102.7** (10.50)	-94.8** (11.15)	-93.7** (11.10)
BB	-49.61** (11.21)	-58.33** (10.54)	-49.8** (11.20)	-49.1** (11.14)
B	-47.2 (11.26)	-27.0* (10.58)	-17.3 (11.25)	-16.7 (11.18)
Unrated	-61.1** (11.04)	-69.7** (10.36)	-61.1** (11.04)	-60.4** (10.98)
Adj. R ²	42.97	43.46	42.96	43.06
N	23,914	22,959	23,914	23,673
Notes: Robust standard errors are in parentheses. ** and * denote significance at the 1 percent and 5 percent level, respectively.				

also note that in all regressions the coefficients are never statistically smaller than in the corresponding cases of participation in the broader syndicate. In one case they are twice as large (table 3).¹⁶

In sum, the results in this section point towards a small but quite significant effect associated with the presence of banks with high support ratings in international loan syndicates. Their participation either as junior members or senior arrangers tends to reduce the loan spread by a few basis points even after controlling for loan characteristics and risk. The effect is much more pronounced in the case of banks in which the public sector has significant ownership stake (and, hence, presumed control). By contrast, the impact on spreads is the weakest in the case of large banks, indicating that support affects more clearly the behavior of smaller banks that are arguably also less competitive in the international syndicated loan market than their larger peers.

5.2 *Do Supported Banks Retain a Higher Share of the Loan?*

Senior arrangers play a key role in shaping the terms and structure of a loan facility and determining its pricing, with junior participants acting as price takers. Having observed that support is associated with lower risk-adjusted spreads, we turn now to the question of whether supported senior arrangers behave differently than other banks in terms of the portion of the loan they retain. We examine three different hypotheses.

The first hypothesis is whether senior banks engage in risk shifting within the syndicate. The issue of risk shifting between syndicate members is examined by Ivashina (2009), who finds that information asymmetry between junior and senior banks can be reduced effectively by senior syndicate members retaining larger shares of

¹⁶ As a robustness test and to entertain the possibility that supported banks' presence and share retention are endogenous, hence co-determined by borrower risk and loan pricing, we ran versions of the regressions in tables 3–5, treating the supported bank presence and share retention as endogenous. We chose the part of the loan spread not explained by the baseline regression of table 2 as the instrument for this variable. The results (available upon request) are largely consistent with those reported in tables 3–5.

the loan. To analyze whether there are any differences in the behavior of supported versus non-supported banks, we regress the share of the loan retained by senior banks on the unexplained proportion of the spread (the residuals of the benchmark pricing equation) and on various variables related to the composition of the syndicate. We interpret a positive relationship between the difference of the actual and risk-adjusted loan spread, on the one hand, and the share retained by a senior arranger, on the other, as indicative of risk shifting. It would suggest that arrangers retain smaller portions of underpriced loans.

The regression setup also allows us to look into another aspect of supported bank behavior related to the possible certification role they play. In particular, we examine whether the retained share of senior banks is systematically higher when the borrower is a newcomer in the international market or comes from the home market of the bank. A higher retained share by supported banks in the senior arranger group of such loans would be consistent with a special role.

The third hypothesis we examine is whether the retained share of senior syndicate members varies systematically with their own financial condition. To this end, we construct indicators of the syndicate banks' health (capitalization, loan provisions-to-asset ratio and liquid asset ratio) in the form of weighted averages of the indicators for the member banks, using as weights the shares of their participation. To avoid simultaneity problems, those indicators are lagged by one year. The basic assumption is that a bank whose capital position has been weakened by losses (or expected losses in the form of provisions) or one that is experiencing liquidity problems is expected to be more cautious in extending new loans.

Given the presence of a generated regressor (the residual from the benchmark pricing equation) the estimation is performed using GMM. In particular, following Newey and McFadden (1994), we stack the moment conditions that correspond to the baseline pricing regression and to the retained shares regression and estimate them jointly using a weighting matrix that allows for the possibility of non-zero covariance between the cross-equation error terms. The regression of retained shares on these variables is estimated over a sample of more than 16,000 loans facilities that possess all the necessary information, as well as in sub-samples that are determined according to whether a supported bank is a member of the senior

group of arrangers or not. The pattern of significantly estimated coefficients across groups reveals some interesting points (table 6).

While senior banks typically retain a little more than one-quarter of the loan (23.61 percent), syndicates that include supported banks tend to retain about half that proportion (12.74 percent), and those that include state-owned banks retain as little as 5.26 percent. This evidence could be consistent with risk shifting within the syndicate. However, when examining directly the relationship between the estimated mispricing of the loan and the share retained by senior supported banks, we do not find strong corroborative evidence in the form of a significant negative relationship. The coefficient is negative but very small and never statistically significant. Altogether, these results suggest that there is a limit to supported banks' willingness to hold larger shares of underpriced loans.

There is only scant evidence that senior banks provide certification for first-time borrowers in the international market. Their retained share in these facilities is not very different from other facilities offered to more seasoned borrowers, as evidenced by small and statistically insignificant coefficients. The interaction term of the first-time borrower dummy with the proxy for the reputation of the banker (their share of the overall loan volume in the previous year) is not statistically significant even if it is positive for all supported and state-owned banks. Lastly, there is no systematic bias in the retained shares of loans granted to borrowers from the same country as the senior bank. The interaction term is negative or statistically insignificant. Taken together, these results suggest that supported banks, and state-owned banks in particular, do not engage systematically in borrower certification.

Finally, we turn to the links between the portion of the loan retained by the senior banks and their own financial health. Looking at the left-hand-side column, we see a pattern suggesting that, on average, the lower the quality of the syndicate's overall loan book (as measured by the average level of loan loss provisions of the participating banks) and the higher its liquidity ratio, the lower the share of the loan they retain. Senior banks may be using their relationship with the borrower to bring a loan to the market (and collect the fees), but they might refrain from taking large participations if their balance sheet is weakened by low-quality loans. State-supported banks, however, do not conform to this pattern of behavior. The estimated

Table 6. Determinants of Share Retention by Senior Arrangers

This table shows the results of a regression where the dependent variable is the share of a loan (in % of the USD amount) retained by senior arranger banks (first column) or by senior arranger banks of a particular type (supported, state owned, or large, provided at least one bank of that type is present [three subsequent columns]). The independent variables are loan characteristics, and the characteristics for the year preceding the signature of the loan of the senior banks shown in the column header. The unexplained risk from the baseline regression is the deviation of the loan spread from the spread predicted by the baseline loan pricing model based on the micro characteristics of the loan (see table 2), in basis points. The number of banks in syndicate is the number of banks in syndicate, including junior banks. First-time borrower and nationality match are binary variables to indicate first-time borrowers (that appear for the first time in the sample, starting in 1993) and for cases where there is at least one arranger bank of the same nationality in the syndicate as the borrower. We also control for the share, in %, in the senior loan holdings, of senior banks of a particular type (supported, state owned, large). The senior banks' characteristics for the previous year are the weighted average characteristics, within the syndicate, of all supported, public, large senior banks, respectively (equity-to-assets ratio, loan loss provisions to loans, liquidity ratio—defined as the ratio of liquid assets to short-term liabilities—league table position). The weighting was done using loan participation shares, treating the total loan amount retained by each senior bank category as 100. These characteristics were taken for the year preceding the signature of the loan. The first-time borrower dummy variable has been interacted with the share in the arranger league table. The estimation uses stacked GMM of the baseline regression and the retained shares regression reported here, using the right-hand-side variables in their respective equations as instruments and the loan size as an extra instrument in the retained shares regression.

Loan Characteristics	All Facilities, Share of Senior Banks	Facilities with at Least One Supported Bank in Senior Group, Share of Supported Senior Banks	Facilities with at Least One State-Owned Bank in Senior Group, Share of State-Owned Senior Banks	Facilities with at Least One Large Bank in Senior Group, Share of Large Senior Banks
Unexplained Risk from Baseline Regression	−0.02*** (0.00)	−0.01 (0.01)	0.01 (0.01)	−0.00 (0.00)
Number of Banks in Syndicate	0.05 (0.05)	0.42** (0.06)	0.02 (0.09)	0.20** (0.05)

(continued)

Table 6. (Continued)

Loan Characteristics	All Facilities, Share of Senior Banks	Facilities with at Least One Supported Bank in Senior Group, Share of Supported Senior Banks	Facilities with at Least One State-Owned Bank in Senior Group, Share of State-Owned Senior Banks	Facilities with at Least One Large Bank in Senior Group, Share of Large Senior Banks
First-Time Borrower	-0.07 (0.68)	1.69 (1.38)	0.65 (1.79)	2.90** (0.97)
First-Time Borrower × Share in Arranger League Table	0.67** (0.24)	2.34 (1.30)	5.41 (2.85)	0.56 (0.36)
Nationality Match between Borrower and Lender	-0.35 (0.60)	-2.45** (0.93)	2.12 (1.40)	-0.09 (0.88)
Loan Held by Supported/State-Owned/Large Senior Banks as a Share of All Senior Bank Holding		31.80** (1.60)	46.93** (5.16)	24.26** (1.37)

(continued)

Table 6. (Continued)

Senior Banks' Characteristics for Previous Year	All Facilities, Share of Senior Banks	Facilities with at Least One Supported Bank in Senior Group, Share of Supported Senior Banks	Facilities with at Least One State-Owned Bank in Senior Group, Share of State-Owned Senior Banks	Facilities with at Least One Large Bank in Senior Group, Share of Large Senior Banks
Equity/Assets Ratio	0.14** (0.05)	0.18 (0.31)	-0.26 (0.14)	0.66** (0.20)
Loan Loss Provisions to Loans	-1.62** (0.53)	1.97* (0.88)	0.42 (1.56)	0.10 (0.57)
Liquidity Ratio	-0.09** (0.01)	-0.03 (0.03)	0.03 (0.05)	-0.11** (0.02)
Share in Arranger League Table	-1.74** (0.15)	-4.70** (0.77)	-2.32 (1.58)	-0.67** (0.26)
Constant	23.61** (0.89)	12.74** (2.43)	5.26* (2.50)	18.58** (1.73)
Observations	16,091	2,979	584	4,610
Notes: Robust standard errors are in parentheses. ** and * denote significance at the 1 percent and 5 percent level, respectively.				

coefficients for supported and state-owned banks are either insignificant, indicating that these banks' investment decisions are insensitive to their own condition, or of the opposite sign, indicating risk taking from a weak position. Large banks, however, follow patterns that are more aligned with the broader group of banks (right-hand-side column).

Overall, the results in this section constitute weak evidence that external support for banks is related to risk-seeking behavior. This relationship appears somewhat stronger in the case of state-controlled institutions and, in particular, those that are not major players in the international syndicated loan market (as proxied by their lower share in the arranger league tables).

6. Looking at Individual Banks

In the previous section we focused on the analysis of individual loans, their pricing, and structure. We established that the presence of state-supported banks has a compressing impact on spreads without any evidence that these institutions display either more prudent or more innovative behavior. In this section we shift the focus to the institutions themselves and analyze the impact of state support from the perspective of the individual bank. To this end, we construct for each bank in our data a portfolio of its retained shares in all the loans it participated in during a calendar year and compare it with the composition of the overall market. In particular, we look at three characteristics of the portfolio: the degree of diversification, the similarity to the market portfolio of loans, and the degree of turnover from one year to the next. Finally, we examine the pricing of their overall portfolio of new loan participations for each year with a view to establishing whether they hold loan assets that are fairly priced.

6.1 *Patterns in Portfolio Composition*

How does the portfolio composition of supported banks differ from that of other banks? Do these banks show evidence of innovative behavior, or do they simply follow market trends? If state support is provided as a quid pro quo for paying closer attention to borrower categories that are overlooked by the market, one should observe that supported institutions exhibit distinct investment patterns. If, on the other hand, supported bank lending patterns are not very

different from those of the average non-supported bank, the rationale for offering public sector support appears more tenuous.

To examine these issues in the context of the international syndicated loan market, we grouped loans depending on the borrower's nationality and main sector of activity. For the geographic classification, we distinguish among individual advanced countries and classified emerging-market economies into broader regional groups.¹⁷ For the sectoral classification, we rely on the FTSE scheme that distinguishes between eleven broad industrial sectors. Figures 2 and 3 show the sectoral and regional breakdown of supported and non-supported banks' loan-signing portfolios. Borrowers from the financial and service sectors (cyclical and non-cyclical) account for the largest shares of overall loan volume. The only sizable difference between the loan portfolio composition of supported and non-supported banks is the relatively higher weight on U.S. borrowers by the latter (by 10–15 percentage points during the period under study) and their correspondingly lower exposure to industrial countries outside of the United States and Western Europe. Supported banks also originated larger loan volumes for the government sector during the period 1995–97.

6.1.1 Specialization

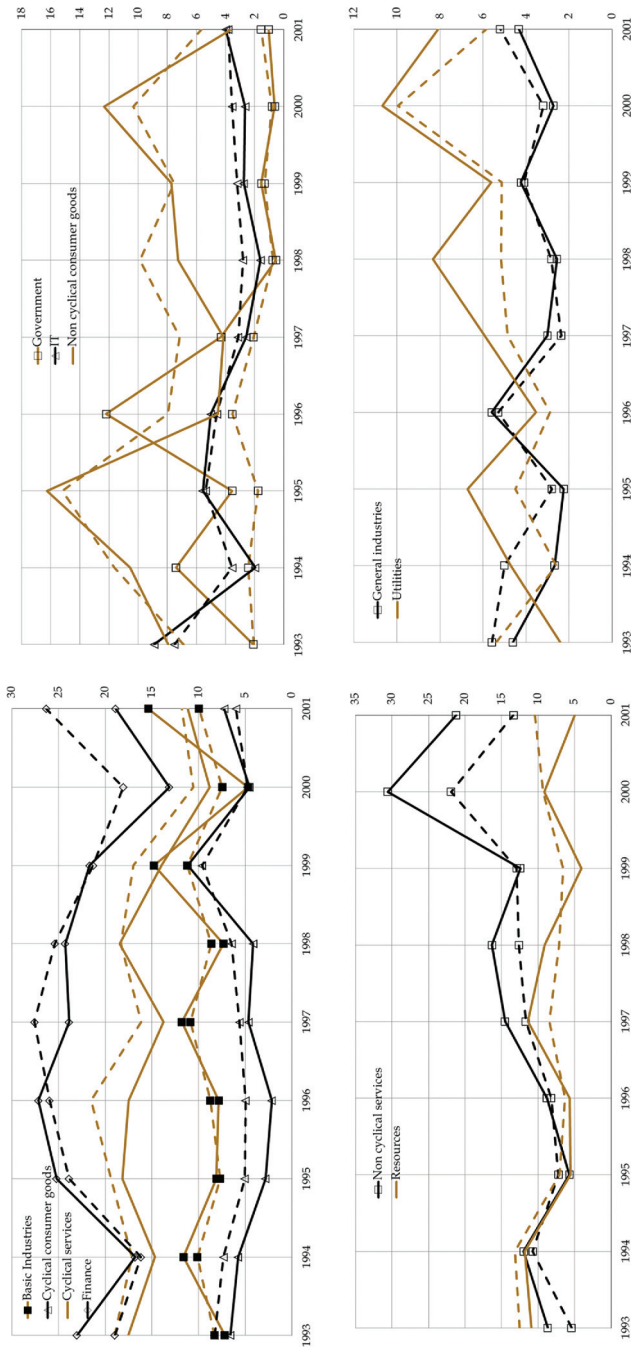
Concentration in a particular type of borrower can signal that a bank seeks specialization in its investment. Of course, concentration is neither a necessary nor a sufficient condition for the bank to play a beneficial social role in lending to borrowers with limited access to funding. Nevertheless, concentration is consistent with individuality in the bank's investment approach. We have calculated for each bank/year portfolio a Herfindahl index for country and sector concentration with values ranging between 0 and 100.¹⁸ We then compute the average index value for supported, large, or publicly owned banks for each year and compare them with the overall sample.

Table 7 reports the average value of the concentration index for each bank category and the statistical significance of the difference in the averages across categories. Under the heading "Unconditional,"

¹⁷See the appendix for a more detailed explanation, including a list of sector and country groupings.

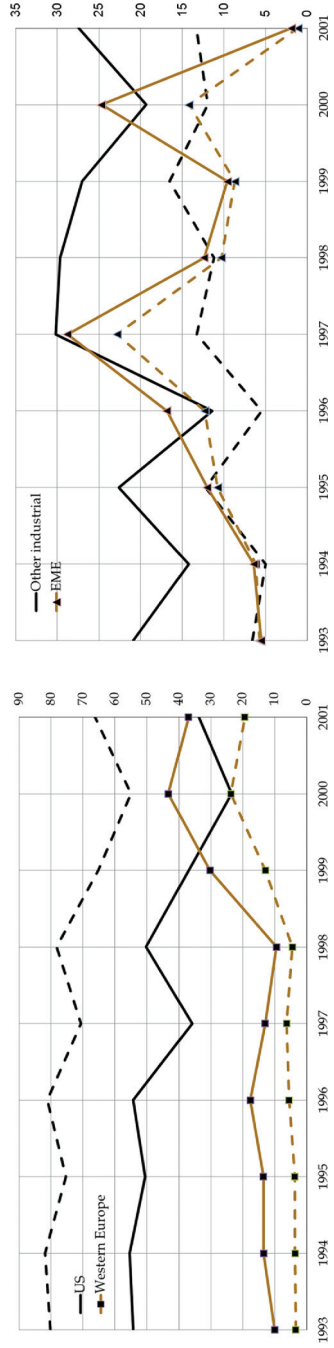
¹⁸The appendix provides more details on the calculation.

Figure 2. Sectoral Breakdown (in percent) of Loan-Signing Portfolios by Bank Type (supported banks shown with solid lines, non-supported with dashed lines)



Notes: Supported banks are represented by solid lines, non-supported ones by dashed lines. A 20 percent figure on the solid (dashed) line for “Utilities” should be read to mean that 20 percent of supported (non-supported) banks’ total portfolio of signings was directed to the utilities sector. Partial data for 1993 and 2001.

Figure 3. Geographical Breakdown (in percent) of Loan-Signing Portfolios by Bank Type
(supported banks shown with solid lines)



Notes: Supported banks are represented by solid lines, non-supported ones by dashed lines. A 20 percent figure on the solid (dashed) line for “Western Europe” should be read to mean that 20 percent of supported (non-supported) banks’ total portfolio of signings was directed to Western European borrowers. Partial data for 1993 and 2001.

Table 7. Specialization in Lending

This table shows banks’ sectoral and country specialization, based on the Herfindahl indices of their portfolios. These are computed for various types of bank status (supported, unsupported [rows]) interacted with size and ownership (columns). Each loan is classified into a country and industrial sector group on the basis of the identity of the borrower. The 150+ base sector codes in Loanware have been mapped into eleven FTSE sector classifications; see notes to table 2. The countries have been mapped into country groupings as described in the appendix. For each bank/year portfolio, we have then calculated Herfindahl indices of country and sector concentration by adding the squared percentage shares across the categories. The index value ranges between 0 and 100, with more concentrated (less diversified) portfolios having higher scores. We finally compute and report the average index value for “supported” and other banks for each year in our sample.

Concentration Countries	Unconditional	Size		Ownership	
		Small	Large	Private	State
Unconditional Status		96.97**	92.22	93.96**	90.64
Non-Supported	95.40**				
Supported	91.74	94.86*	91.53	92.06	88.68
Concentration Sectors	Unconditional	Size		Ownership	
		Small	Large	Private	State
Unconditional Status		76.71**	73.01	73.48	78.95**
Non-Supported	74.61				
Supported	73.46	79.99**	73.06	73.13	76.62*
Note: * and ** indicate that the differences between two comparable means are statistically significant at the 5 percent or 1 percent level, respectively.					

the table reports the differences in investment concentration between supported and non-supported banks, between larger and smaller banks, and between those that are government controlled and those that are not. The table also reports conditional means for supported banks across different size and ownership groups. The upper panel of the table refers to the geographical concentration of loan portfolios, whereas the lower panel relates to the concentration in terms of the sector of the borrower. We observe that the concentration figures are overall quite high, as a relatively large number of banks have a

small number of loan participations each year. Moreover, loan portfolios tend to be more concentrated geographically than by industrial sector.

Against this background, the differences between supported and non-supported bank portfolios are much less pronounced. The values of the index are broadly similar across the two groups of banks. The statistical tests of equality between group means indicate that supported banks' portfolios are less concentrated in the country dimension. The same is true for the portfolios of supported banks with significant public sector ownership.

The main message from the point of view of our main question is that supported banks do not stand out as having more specialized portfolios. If anything, in terms of their country exposure, they tend to be more diversified than non-supported banks.

6.1.2 Herding

Banks that play a specialized role in financing should be less inclined to follow market trends. We examine whether patterns of year-to-year changes in supported banks' portfolios are similar to changes in the portfolios of non-supported banks. In other words, we are looking for evidence of supported banks' "herding" behavior by comparing the changes in the share allocation of the loan portfolios along the geographical and sector groups described above.

More specifically, we calculate for each bank-year pair the share of the retained loan portfolio that consists of loans to a particular class of borrowers. We then calculate the changes in these shares from one year to the next. We repeat the same exercise for the aggregate portfolio of all loans granted in a given year by non-supported banks. Finally, we calculate the rank correlation between those changes in portfolio shares between individual banks and the universe of non-supported banks.¹⁹ The resulting measure will be higher the higher the degree of similarity in the changes in the exposures between the individual banks and the "average" non-supported bank in the sample. A negative correlation indicates that the bank increases (decreases) its exposure to the groups to which the market

¹⁹The construction of the rank correlations is described in the appendix in greater detail.

has decreased (increased) its lending. A high positive correlation would be interpreted as evidence of herding.

Table 8 reports the rank correlation values for different groups of banks. There are no pronounced differences in the behavior of supported and non-supported banks. The overall unconditional comparison between non-supported and supported banks' lending patterns shows that individual supported banks correlate more closely with the universe of non-supported banks than individual non-supported banks. The average rank correlation for the two groups is 0.21 percent and 4.59 percent, respectively, for the country allocation and 3.07 percent and 4.25 percent for the sector allocation. The differences along the size and ownership categories, unconditionally as well as conditionally on support status, are not statistically significant, but they show similar patterns as with the portfolio concentration statistics: state-owned banks have a somewhat higher tendency to herd.

Overall, the message from this comparison is that supported banks tend to be somewhat less idiosyncratic than the average non-supported bank. A greater tendency to follow broad market trends casts some doubt on whether these banks play a special role in channeling funds to borrowers that, due to market failures, are shunned by other lenders.

6.1.3 *Churning*

The third aspect of behavior relates to the degree of turnover in loan portfolios. Year-to-year changes in portfolio allocation would be indicative of frequently changing direction in investment strategy. We label this behavior "churning" (borrowing a term from the asset-management jargon) and contrast it to a focused long-term strategy. The measure of turnover is based on the calculations we made for the herding statistics. We take the absolute values of the changes in the allocation shares we computed in our investigation of herding and compute averages for the different groups of banks for each year in the sample. This turnover measure can take values between 0 (an unchanged portfolio) and 200 (a portfolio where there are no common exposures between the two years).²⁰

²⁰The construction of the turnover measures is described in the appendix in greater detail.

Table 8. Trend Following

This table shows banks’ sectoral and country trend following, based on the rank correlation of their yearly portfolio changes with those of the universe of non-supported banks. These are computed for various types of bank status (supported, unsupported [rows]) interacted with size and ownership (columns). We calculate year-on-year changes in the share of total portfolio exposure that is accounted for by loans to the particular class of borrowers for the individual bank and the universe of non-supported banks. We then calculate the rank correlation of those year-on-year changes in shares between individual banks and the universe of non-supported banks. The resulting measure will be higher the higher the degree of similarity in the movement of exposures between the banks and the average non-supported bank in the sample. A negative correlation indicates that the bank increases (decreases) its exposure to the groups to which the market has decreased (increased) its lending. For each bank, the correlation can range from –100 percent (bank does the complete opposite of the market) to 100 percent (bank is perfectly correlated with the universe of non-supported banks). We finally compute and report, by bank type, the average correlations with the universe of non-supported banks.

Herding Countries	Unconditional	Size		Ownership	
		Small	Large	Private	State
Unconditional Status		1.10	3.15	2.31	3.89
Non-Supported	0.21				
Supported	4.59**	2.42	4.76	4.38	6.55
Herding Sectors	Unconditional	Size		Ownership	
		Small	Large	Private	State
Unconditional Status		2.50	4.43	3.82	3.26
Non-Supported	3.07				
Supported	4.25	5.36	4.22	4.45	2.33
Note: * and ** indicate that the differences between two comparable means are statistically significant at the 5 percent or 1 percent level, respectively.					

Table 9. Portfolio Churning

This table shows the degree of sectoral and country turnover (“churning”) in bank portfolios. These are computed for various types of bank status (supported, unsupported [rows]) interacted with size and ownership (columns). We take the absolute values of the changes in the country or sector shares we computed in our investigation of herding, and compute averages for the two groups of banks for each year in the sample. The turnover measure can take values between 0 (an invariant portfolio) and 200 (a portfolio where there are no common exposures between the two years).

Turnover Countries	Unconditional	Size		Ownership	
		Small	Large	Private	State
Unconditional Status		53.33	61.20**	57.07	74.60**
Non-Supported	55.05				
Supported	62.94**	63.48	62.92	61.60	75.71**
Turnover Sectors	Unconditional	Size		Ownership	
		Small	Large	Private	State
Unconditional Status		112.5	115.4	115.3**	108.5
Non-Supported	113.1				
Supported	116.0*	123.3	115.5	116.7*	109.2
Note: * and ** indicate that the differences between two comparable means are statistically significant at the 5 percent or 1 percent level, respectively.					

Table 9 indicates that supported banks tend to churn more than their non-supported peers. The effect is more pronounced for the turnover measured in the geographical allocation dimension of their loan portfolios. This tendency of high turnover in terms of the geographic composition of the portfolio is also more pronounced among banks under public sector ownership.

Overall, the comparison of investment patterns of supported and non-supported banks does not hint at any specialized lending role by the former. If anything, the differences in behavior point towards a less idiosyncratic strategy that sticks more closely to general market trends. State support tends to be associated with more diffused portfolios, greater tendency to move with the market, and higher turnover. These characteristics are not trademarks of a determined

and specialized investment policy or one that favors specific types of borrowers that are overlooked by non-supported banks.

6.2 *Underpricing of Portfolios*

The final question we ask is whether state-supported banks tend to hold, on average, loan portfolios that are underpriced. In section 5 we established that supported status and, in particular, state ownership of arranger banks is associated with loans that tend to carry spreads that are lower than the average for their risk characteristics. The question asked here is whether supported banks tend to hold in their portfolios a larger proportion of such loans or whether they tend to balance them with loans that are more richly priced.

To examine this effect, we calculate the average mispricing of the portfolio of loans held by each bank as a weighted average of the residuals from the baseline pricing equation we described in section 4, using as weights the loan participation amounts for each bank. By construction, these residuals will tend to cancel each other out to the extent that they are due simply to idiosyncratic pricing errors. However, a large negative value of these residuals for a particular bank portfolio would be an indication that it contains a large proportion of underpriced loans.

We then regress these measures of portfolio mispricing on a number of bank characteristics (lagged by one year) and indicator variables signaling supported status, large size, and state ownership. In separate regressions we also include interaction terms between support status on the one hand and size categories or state ownership on the other hand.

Table 10 presents the results. The regression has very low explanatory power. This is not very surprising, given that the dependent variable is a variable that represents mainly idiosyncratic risk.

Nevertheless, one clear result emerges. Supported banks tend to systematically hold loan portfolios that are underpriced by about 9 bps compared with the market (first column). The coefficient is not only statistically significant but also economically important, given that it refers to entire portfolios of loans and not single exposures. For comparison, we recall that a similar difference separates the interest rate of AA-rated loans from the A-rated loans in our benchmark regression. To better gauge the effect of public support, we also

Table 10. Loan Underpricing and Bank Characteristics

By bank type, this table shows the results of a regression where the dependent variable is the portfolio of weighted average pricing errors (deviation of the loan spread from the spread predicted by the baseline loan pricing model based on the micro characteristics of the loan; see table 2), in basis points, for each bank, for each year. The weighting was done using loan participation amounts. Liquidity, capital, provisions, and reputation are, respectively, the liquidity ratio, the ratio of equity to assets, the ratio of loan loss provisions to loans, and the league table ranking of the bank for the year preceding the year of signature of the loan. In addition, there are bank type and year dummies featured as independent variables.

	I		II		III	
Liquidity	−0.06	(0.07)	−0.06	(0.07)	−0.07	(0.07)
Capital	0.57	(0.56)	0.72	(0.55)	0.50	(0.56)
Provisions	0.80	(2.54)	0.97	(2.64)	0.77	(2.50)
Reputation	2.84**	(1.04)	2.81**	(1.04)	3.06**	(1.04)
Bank Type						
Supported	−8.78*	(3.59)				
Large	0.27	(4.64)			−0.48	(4.63)
Public	−10.74	(5.56)	−10.29	(5.53)		
Supported and Large			−7.20*	(3.37)		
Supported and Small			−29.56**	(9.28)		
Supported and State					−15.62*	(6.84)
Supported and Private					−8.02*	(3.65)
[Year Dummies Not Reported]						
Constant	−19.93	(23.45)	−20.99	(23.34)	−19.51	(23.38)
Adj. R ²	3.13		3.49		3.73	
N	1,741		1,741		1,741	

Notes: Robust standard errors are in parentheses. ** and * denote significance at the 1 percent and 5 percent level, respectively.

run the regression with interaction dummy terms flagging those supported banks that are also large or publicly owned (two right-hand-side columns). The results strengthen our conclusions. Among the supported banks, those that are smaller and/or owned by the public sector seem to systematically hold portfolios that are underpriced

(by 30 and 16 bps, respectively). Loan investment decisions by larger and/or privately owned banks that may also enjoy an implicit public guarantee do not seem to be as distorted. It seems that it is the direct impact of explicit public support that leads to a more relaxed attitude towards credit risk.²¹

7. Concluding Remarks

In this paper we examine participation in the international syndicated loan market of banks that are expected to receive financial support if they run into trouble. We look into their behavior as senior arrangers of, and as general investors in, syndicated loans.

The overall picture that emerges suggests that supported banks are not fundamentally different from other banks in a number of dimensions. They are much like a typical bank in the sense that their portfolios track closely (more closely than other banks) general market trends. They show little evidence of contrarian, persistent, or innovative investment patterns. In fact, when these patterns differ from those exhibited by non-supported banks, it is because supported banks resemble more, not less, the market average.

This conformism of banks is not per se a negative attribute. It suggests, however, that there is very little that is special in terms of the investment decisions of supported banks. This is inconsistent with a description of a mission for those institutions that emphasizes the public good nature of their activity. Supported banks are not very special and do not seem to seek out borrowers that are shunned by others.

The pricing of supported bank loan portfolios is, however, substantially different from that of their non-supported peers. They hold loan portfolios that are priced lower than a market benchmark. As senior arrangers, they are involved in initiating loans that carry thinner spreads than the average loan with similar characteristics. Finally, their loan portfolios seem to be less responsive to indicators of the banks' balance sheet strength compared with those of other lenders.

²¹We also experimented with including the three variables that characterize the investment behavior of banks (concentration, turnover, and herding) in this regression. The results (not reported) did not indicate any statistical link between these variables and overall loan portfolio underpricing.

A possible interpretation of this behavior is that supported banks have a relatively relaxed attitude towards risk. This is especially problematic from a policy perspective. It suggests that state support distorts the incentives of banks and encourages risk taking that is not remunerated by the interest rate on the loan. Combined with a “lazy” attitude (trend following) towards investment, it also suggests that these banks use their supported status in order to compete by offering low prices in the international loan market. This is not compatible with the rationale for government support and is akin to an abuse of their privileged status.

These results shed a skeptical light on the beneficial impact of state support. Clearly, the data used in this paper cannot examine the overall behavior of the banks but, instead, only a small component in their activities in the international arena (the syndicated loan portfolios examined accounted for between 1 and 2 percent of their total assets). More research is needed to produce a more comprehensive picture of the impact of support on the banks. Nevertheless, the results suggest that there are externalities from state support that go beyond the national markets. Hence, they warrant a more careful consideration of the conditions at which support is made available and the governance structures in these institutions.

Appendix. Data Description

Baseline Regression: Standard Case and Controlling for Involvement by Type of Bank (Tables 2–5)

LIBOR Spread: Spread over LIBOR, expressed in basis points.

All-In Spread: The sum of the LIBOR spread and drawn fees.

Involvement by Bank Type: We controlled for the involvement of the following bank types in the syndication: supported, public, and large. For each of these bank types, we ran separate regressions with separate controls for their involvement. On the one hand, we included in the baseline regression a binary variable to indicate whether one or more bank(s) of a specific type had been present in the syndicate. On the other hand, we included the share (in percentage of the USD loan amount) retained by these types of bank(s) on their books. A final control was to distinguish between the case where these bank types had been involved in all capacities

(junior or senior) and the one where they had acted as senior arrangers.

Log (Loan Size): Natural logarithm of loan size, in millions of USD.

Maturity: Dummy variables for maturity buckets: one to three years, three to six years, and greater than six years (the less-than-one-year bucket was omitted).

Guarantees: Dummy variable for guaranteed loan facilities: either in the form of explicit guarantees or implicit ones (e.g., borrower is a subsidiary of another corporation).

Collateral: Dummy variable for collateralized loans.

First-Time Borrower: Binary variable equal to one if the borrower has not appeared before in the database. (Note: this is delimited by the beginning of the sample, i.e., January 1, 1993.)

Loan Purpose: We have included control variables for the following loan purposes (not all of them reported): corporate control (e.g., loan arranged to finance a merger), capital structure (e.g., for recapitalizations), general corporate purpose loan, project finance loan, and property finance loan.

Borrower Sector: The 150+ base sector codes in Loanware were mapped into eleven FTSE sector classifications: basic industry, cyclical consumer goods, cyclical services, financials, general industries, government, information technology, non-cyclical consumer goods, non-cyclical services, resources, and utilities. The last sector was excluded from the regressions as the case by default.

Facility Type: The following loan facility types were controlled for (not reported in the regression output): A-loan, B-loan, guarantee/CP backup facility, lease finance facility, loan facility, multiple-purpose facility, note issuance facility, revolving loan, swap facility, bridge facility, trade finance loan, and tax-spared loan (the latter type was excluded from the regressions as the case by default).

Year Dummies

European Market, 9398, 9901: Dummy variables to indicate that the deal was signed in Europe, before (9398) or after (9901) the introduction of the euro.

Liquidity Proxy: Weighted average of short-term interest rates in the G3 economies; weights based on GDP measures of Germany, Japan, and the United States.

LIBOR Level at Signing: LIBOR interest rate at the time of signing the loan.

Total Loan Number and Amount: Total number and amount (in millions of USD) of syndicated loans granted during the year in which the facility was signed; proxies for activity on the syndicated loan market.

Borrower S&P Rating at Signing: The following borrower ratings were controlled for: AAA, AA, A, BBB, BB, B, CCC, and unrated. (Note: S&P rating was preferred to Moody's, as Loanware gets it via a direct feed and claims it is more reliable. In any case, it is more widely available in Loanware than Moody's.)

Determinants of Share Retention (Table 6)

Share of Loan Retained by All Senior Banks, and by Supported, State-Owned, and Large Senior Banks: Dependent variable (in percentage of the USD loan amount), for all facilities, and, respectively, for facilities with at least one supported, state-owned, or large senior bank present.

Unexplained Risk: Deviation of the loan spread from the spread predicted by the baseline loan pricing model based on the micro characteristics of the loan (see above), in basis points.

Number of Banks in Syndicate: Number of banks in syndicate, including junior banks.

First-Time Borrower: Binary variable for first-time borrowers. We also interact this variable with the weighted average arranger league table position of senior banks present in the syndicate.

Nationality Match: Dummy variable equal to one if there is at least one arranger bank of the same nationality in the syndicate as the borrower, and zero otherwise.

Share of Special Senior Banks/Share of Senior Banks: Share of loan retained by supported, public, large senior banks (respectively) divided by share of the loan retained by all senior banks (independent of their type).

Senior Banks' Characteristics for the Previous Year: Weighted average characteristics (equity-to-assets ratio, loan loss provisions to loans, liquidity ratio—defined as the ratio of liquid assets to short-term liabilities, league table position) of all supported, public, large senior banks, respectively, treating the total loan amount retained by each senior bank category as 100. Characteristics were taken for year preceding the signature of the loan.

Specialization, Herding, and Turnover (Tables 7, 8, and 9, Respectively)

Specialization: Each loan is classified into a country and industrial sector group on the basis of the identity of the borrower. The 150+ base sector codes in Loanware were mapped into eleven FTSE sector classifications; see the discussion above in the appendix referring to the baseline regression (tables 2–5). The countries have been mapped into country groupings as described below. For each bank/year portfolio we have then calculated Herfindahl indices of country and sector concentration by adding the squared percentage of shares across the categories. Thus calculated, the index value ranges between 0 and 10,000 with more concentrated (less diversified) portfolios having higher scores. We finally compute and report the average index value for “supported” and other banks for each year in our sample. The values presented in table 7 range from 0 to 100, as we have divided the corresponding Herfindahl indices by 100 for easier readability.

Herding: We calculate year-on-year changes in the share of total portfolio exposure that is accounted for by loans to the particular class of borrowers for the individual bank, and the universe of non-supported banks. We then calculate the rank correlation of those year-on-year changes in shares between individual banks and the universe of non-supported banks. The resulting measure will be higher the higher the degree of similarity in the movement of exposures between the banks and the average non-supported bank in the sample. A negative correlation indicates that the bank increases

(decreases) its exposure to the groups to which the market has decreased (increased) its lending. For each bank, the correlation can range from -100 percent (bank does the complete opposite of the market) to 100 percent (bank is perfectly correlated with the market). We finally compute and report, by bank type, the average correlations with the universe of non-supported banks.

Turnover: We examine the degree of turnover in bank portfolios. We take the absolute values of the changes in the country or sector shares we computed in our investigation of herding and compute averages for the two groups of banks for each year in the sample. This turnover measure can take values between 0 (an invariant portfolio) and 200 (a portfolio where there are no common exposures between the two years).

Underpricing versus Bank Type (Table 10)

Portfolio of Pricing Errors: Dependent variable. Weighted average pricing error (deviation of the loan spread from the spread predicted by the baseline loan pricing model based on the micro characteristics of the loan; see above), in basis points, for each bank, for each year. The weighting was done using loan participation amounts.

Liquidity, Capital, Provisions, Reputation: Liquidity ratio, equity to assets, loan loss provisions to loans, and league table ranking of bank for the year preceding the year of signature of the loan.

Year Dummy

Bank Type Dummies (Supported, Large, Public)

Country Groups

1. United States
2. United Kingdom
3. Japan
4. Euro-area countries
5. Other Western Europe (Andorra, Denmark, Faroe Islands, Greenland, Iceland, Liechtenstein, Norway, Sweden, Switzerland)

6. Other industrialized countries (Australia, Canada, New Zealand)
7. Offshore centers (Anguilla, Antigua, Aruba, Bahamas, Bahrain, Barbados, Bermuda, British Virgin Islands, Cayman Islands, Cook Islands, Lebanon, Liberia, Netherlands Antilles, Panama, St. Kitts & Nevis)
8. Africa and Middle East (Ajman, Algeria, Angola, Benin, Botswana, Burkina Fasso, Burundi, Cameroon, Cape Verde Islands, Central African Republic, Chad, Comoros, Congo, Congo Democratic Republic, Djibouti, Egypt, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Iran, Iraq, Israel, Ivory Coast, Jordan, Kenya, Kuwait, Lesotho, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Middle East, Morocco, Mozambique, Namibia, Niger, Nigeria, Oman, Qatar, Rwanda, Saudi Arabia, Senegal, Seychelles, Sharjah, Sierra Leone, Somali Republic, South Africa, Sudan, Swaziland, Syria, Tanzania, Togo, Tunisia, Uganda, United Arab Emirates, Yemen, North, Yemen, South, Zambia, Zimbabwe)
9. Asia/Pacific (Afghanistan, Armenia, Azerbaijan, Bangladesh, Bhutan, Borneo, Brunei, Burma, China, Fiji, French Polynesia, Georgia, Hong Kong, India, Indonesia, Kazakhstan, Korea, North, Korea, South, Kyrgyzstan, Laos, Macau, Malaysia, Maldives, Mongolia, Nauru, Nepal, New Caledonia, Pakistan, Papua New Guinea, Philippines, Singapore, Solomon Islands, Sri Lanka, Taiwan, Tajikstan, Thailand, Turkmenistan, Uzbekistan, Vanuatu, Vietnam, Western Samoa)
10. Eastern Europe (Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Czechoslovakia, Estonia, Gibraltar, Hungary, Latvia, Lithuania, Macedonia, Malta, Moldova, Montenegro, Poland, Romania, Russia, Serbia and Montenegro, Slovakia, Slovenia, Turkey, Ukraine, former USSR, Yugoslavia)
11. Latin America/Caribbean (Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Falkland Islands, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Paraguay, Peru, St. Lucia, Surinam, Trinidad & Tobago, Uruguay, Venezuela)

Table 11. Descriptive Statistics for Selected Variables

Variable	Total		Supported		Public		Large	
	Mean	Std.	Mean	Std.	Mean	Std.	Mean	Std.
European Deal 93–98	0.116	0.320	0.144	0.351	0.219	0.414	0.125	0.331
European Deal 99–01	0.072	0.259	0.109	0.312	0.270	0.444	0.088	0.284
Log (Loan Size)	4.415	1.497	4.821	1.418	4.995	1.448	4.669	1.437
Collateral	0.360	0.480	0.321	0.467	0.264	0.441	0.331	0.471
First-Time Borrower	0.486	0.500	0.458	0.498	0.438	0.496	0.471	0.499
<i>Maturity</i>								
1 to 3 Years	0.251	0.433	0.241	0.428	0.314	0.464	0.240	0.427
3 to 6 Years	0.404	0.491	0.403	0.491	0.379	0.485	0.408	0.491
>6 Years	0.246	0.431	0.285	0.451	0.272	0.445	0.263	0.440
<i>Loan Purpose</i>								
Corporate Control	0.233	0.423	0.251	0.251	0.169	0.375	0.245	0.430
Capital Structure General	0.464 0.203	0.499 0.402	0.436 0.192	0.436 0.394	0.299 0.274	0.458 0.446	0.451 0.198	0.498 0.399
Corporate Purpose								
Project Finance	0.063	0.243	0.080	0.271	0.175	0.380	0.069	0.253
Property Finance	0.010	0.098	0.008	0.088	0.006	0.074	0.009	0.092

(continued)

Table 11. (Continued)

Variable	Total		Supported		Public		Large	
	Mean	Std.	Mean	Std.	Mean	Std.	Mean	Std.
<i>Borrower Sector</i>								
Basic Industry	0.116	0.320	0.116	0.320	0.104	0.305	0.112	0.316
Cyclical	0.074	0.261	0.062	0.240	0.044	0.206	0.070	0.255
Consumer Goods								
Cyclical Services	0.209	0.407	0.196	0.397	0.144	0.351	0.204	0.403
Financials	0.179	0.383	0.189	0.392	0.297	0.457	0.185	0.389
General Industry	0.028	0.165	0.028	0.165	0.014	0.118	0.027	0.162
Government	0.008	0.090	0.010	0.102	0.030	0.170	0.009	0.095
Information	0.047	0.211	0.038	0.191	0.024	0.153	0.042	0.201
Technology								
Non-Cyclical	0.106	0.308	0.098	0.298	0.043	0.203	0.104	0.305
Cons. Goods								
Non-Cyclical	0.096	0.295	0.108	0.311	0.090	0.286	0.103	0.304
Services								
Resources	0.078	0.269	0.082	0.275	0.101	0.301	0.079	0.269
Global Market	2.236	0.464	2.249	0.460	2.265	0.436	2.247	0.462
Liquidity								
LIBOR Level at	5.496	0.821	5.535	0.787	5.678	0.741	5.529	0.805
Signing								

(continued)

Table 11. (Continued)

Variable	Total		Supported		Public		Large	
	Mean	Std.	Mean	Std.	Mean	Std.	Mean	Std.
<i>Loan Type</i>								
A-Loan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
B-Loan	0.000	0.009	0.000	0.008	0.000	0.000	0.000	0.007
Guarantee Facility	0.011	0.103	0.013	0.114	0.017	0.128	0.012	0.107
Lease Facility	0.003	0.058	0.004	0.062	0.005	0.067	0.004	0.060
Loan Facility	0.406	0.491	0.437	0.496	0.633	0.482	0.416	0.493
Multiple Facility	0.001	0.022	0.001	0.027	0.000	0.000	0.001	0.024
Note Facility	0.005	0.070	0.005	0.072	0.004	0.063	0.005	0.070
Revolving Loan	0.557	0.497	0.519	0.500	0.305	0.461	0.544	0.498
Swap Facility	0.000	0.006	0.000	0.008	0.000	0.000	0.000	0.007
Temporary Facility	0.013	0.114	0.015	0.122	0.021	0.142	0.014	0.119
Trade Financing	0.005	0.068	0.005	0.073	0.016	0.126	0.005	0.070
<i>Borrower S&P Rating at Signing</i>								
AAA	0.003	0.057	0.004	0.061	0.003	0.055	0.004	0.063
AA	0.014	0.119	0.017	0.128	0.011	0.102	0.016	0.127
A	0.062	0.242	0.075	0.264	0.075	0.263	0.069	0.254
BBB	0.063	0.243	0.076	0.265	0.061	0.239	0.072	0.258
BB	0.055	0.229	0.064	0.245	0.040	0.195	0.062	0.242
B	0.052	0.223	0.051	0.219	0.024	0.152	0.051	0.221
CCC	0.003	0.058	0.003	0.052	0.001	0.022	0.003	0.057
Not Rated	0.741	0.438	0.707	0.455	0.787	0.410	0.717	0.450
Observations	23,914		13,996		1,991		18,864	

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