

Why Do Banks Syndicate Loans?

Loan syndications have become an increasingly important part of the financial landscape. A syndicate is a group of banks making a loan jointly to a single borrower. Several factors are responsible for the desire to share a large loan among several lenders, chief among them the banks' need to achieve diversification in their loan portfolios. Limitations on interstate banking closely link the fortunes of small and mid-sized banks to those of their local and regional economies. Participating in syndicated loans can give these banks a chance to lend to borrowers in regions and industries to which they might otherwise have no convenient access.

Capital constraints also promote loan syndications. Banks that find themselves with capital-asset ratios below or close to regulatory minimums may not want to increase assets by adding large loans to their balance sheets and may choose, instead, to share them with other banks by syndicating them. Furthermore, banks are limited in the size of the loan they can make to any one borrower. Typically, a bank may not lend to any one borrower an amount in excess of 15 percent of its capital. Participating in a syndicated loan thus allows a small bank to make a loan to a large borrower it could not otherwise make.

While considerations of capital and diversification encourage the development of syndications, they may pose an increased risk for the banking system. Lead banks in syndications are responsible for providing credit information and loan documentation to participating banks. To the extent that lead banks may behave opportunistically and withhold unfavorable information from participating banks, the latter may be misled into making loans that are riskier than they had thought.

This article provides empirical tests to determine the relative importance of the various factors that play a role in bank syndications. Despite a significant number of problem credits among the syndicated loans studied, it finds little evidence of opportunistic behavior by the lead banks in syndications. At the same time, it finds substantial support for

Katerina Simons

Economist, Federal Reserve Bank of Boston. The author thanks Claire Desjardins, Richard Kopcke, Richard Randall, and Eric Rosengren for helpful comments. Michael Jud provided valuable research assistance.

the importance of bank regulation, in the form of capital requirements and lending limits, to the existence of the loan syndication market.

Section I of the article describes the practice of syndication and distinguishes it from other forms of secondary intermediation, such as assignments and participations. Section II discusses loan classifications by examiners, used here to measure the quality of syndicated loans, and describes the new data set, the Shared National Credit Program, that provided the information. Section III reports the empirical tests of the reasons for syndication. The last section discusses implications of the findings.

I. Syndications and Loan Sales

When a syndication is undertaken, one bank, known as the lead bank, acts as syndicate manager, recruiting a sufficient number of other banks to make the loan, negotiating details of the agreement, and preparing documentation. The manager/lead bank handles disbursements and repayments and is responsible for disseminating the borrower's financial statements to the syndicate members. The manager/lead bank is paid a fee by the borrower for these services. Sometimes, the manager hires one or more other banks as co-managers who share in the fee in return for helping with the manager's duties.

Loan syndications must be distinguished from loan sales, where a single bank makes the loan and subsequently sells portions of it to other banks. Loan sales are of two types: "participations" and "assignments." A participation creates a new contract between the original lender and the loan buyer. The contract between the borrower and the original lender remains unchanged. The borrower may not even be aware that the loan has been sold. An assignment, on the other hand, creates a new financial obligation between the borrower and the loan purchaser, which replaces the contract between the borrower and the original lender. In contrast to both types of loan sales, a loan syndication creates a contract from the beginning between the borrower and each syndicate member.

Loan syndications and sales are by no means mutually exclusive ways to accomplish a financing. After a syndication is completed, syndicate members can sell assignments or participations in their shares in the secondary market. While legal and contractual differences exist between syndications and loan sales, their economic function is similar. In all cases, the

bank acts as an intermediary between the borrower and the institution that ultimately holds the loan on its books.

Syndications and loan sales add an extra step to simple financial intermediation and represent what may be termed "secondary intermediation" between the borrower and other financial institutions. Why has this process evolved? Penacchi (1988) suggests one reason might be avoidance of the effective regulatory tax arising from capital and reserve requirements. This explanation applies when the selling bank carries a higher regulatory burden in the form of capital requirements than the buying institution. While this is undoubtedly true in some cases, much of the secondary intermediation takes place among banks facing similar regulatory requirements.

In general, secondary intermediation allows banks to reduce their exposure to any one borrower and to reduce undesirable concentration. By allowing the bank to serve more borrowers, secondary intermediation provides the bank greater geographic and industry diversification. Some of this diversification may be necessary to comply with government regulations. In particular, syndications and loan sales make it possible for a small bank to participate in a loan to a large borrower, which may otherwise not have been possible because of legislatively mandated lending limits.

While secondary intermediation can have undeniable benefits, it may also result in additional risk for

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participating banks. In theory, syndicators and sellers have a legal obligation to make all relevant information about the borrower available to buyers and syndicate participants. Failure to do so constitutes a breach of fiduciary duty that is actionable in court. Moreover, syndicate members and loan buyers are expected to perform their own analysis and credit evaluation rather than rely solely on representations made by syndicators and sellers. In practice, how-

ever, buyers rely on the loan documentation provided by sellers to conduct their credit evaluation. This leaves open the possibility that buyers are not fully informed and are sold loans of inferior quality or are not adequately compensated through interest and fees for the risks they are taking. This potential risk for the buyer, resulting from opportunistic behavior by the seller, may be present in different degrees among the various forms of secondary intermediation, such as syndications, participations, or assignments, because of the varying amount of contractual "distance" they put between the borrower and the ultimate holder of the loan. This distance is the smallest for syndications, where a separate contract exists at the outset between the borrower and each syndicate member, making syndications the form least susceptible to abuse. Assignments occupy an intermediate position because a contract does exist between the buyer and the borrower, though it is not created at the time the loan is underwritten. Finally, participations are the most susceptible to abuse because the buyer must rely exclusively on the selling bank for information, monitoring, and enforcement of the loan covenants.

One mechanism that could protect buyers of participations and assignments is recourse, that is, a contractual obligation by the seller to buy back the loan at face value if it fails to meet certain standards of performance. However, for banks to be able to take the loans they sell off their balance sheets, regulators require that the loans be sold without recourse. If a loan is sold with recourse, the sale is considered a borrowing for regulatory purposes. The bank must then retain the loan on its balance sheet and reserve capital against it, thus defeating the major purpose of the sale. For this reason, most loans are sold without recourse. Nevertheless, it is possible that some sort of implied unofficial recourse takes place in the market, anyway. A bank that sells a loan that subsequently defaults may take it back to preserve its reputation and the good will of the buyer, even if it has no contractual obligation to do so. The evidence for the existence of this practice is mostly anecdotal, and its very nature makes it difficult to ascertain its frequency and importance in protecting buyers.

This article focuses on loan syndications rather than participations or assignments because data on the quality of individual loans sold are not available. In contrast, data exist on the supervisory ratings of syndicated loans, and on the shares retained by agent banks. These data make it possible to compare the way lead banks syndicate high-quality and low-quality

loans. Specifically, it can be determined if lead banks keep a smaller portion of low-quality loans for themselves, letting other banks pick up a larger portion. In addition, the importance of lending limits and capital constraints can be tested by examining relationships between the size of the syndicated loan, the amount the lead bank keeps for itself, and the lead bank's capital.

II. The Data

The Shared National Credit Program is jointly administered by the three federal regulatory agencies—the Federal Reserve, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency—with the participation of state banking regulators. This program was established to ensure efficient and consistent supervision of large multi-creditor loans. Before the program was implemented five years ago, portions of the same syndicated loan could be examined by different agencies in different banks, resulting in an unnecessary duplication of effort. In addition, because evaluations of credit quality inevitably involve an element of subjectivity, multiple examinations could also result in the same loan being given different classifications at different banks. In contrast, under the Shared National Credit Program, each syndicated loan is examined at least once a year at the lead bank (with an additional follow-up examination if the loan is a troubled one), and all the syndicate members then receive the same classification for the loan. Because examiner classifications of individual loans are confidential, this study reports only aggregate results.

Table 1 presents the descriptive statistics for the 1991 Shared National Credit data set analyzed in this study. The data set contains 4,332 credits (which

Table 1
Descriptive Statistics of Syndicated Loans, 1991

Number of Loans	4,332
Number of Borrowers	3,601
Average Size of Loan	\$131,434,000
Average Share Kept by Agent	34.6%
Largest Share Kept by Agent	98.8%
Smallest Share Kept by Agent	0%

Source: Shared National Credit Program.

includes unused portions of credit lines, as well as loans), extended to 3,601 borrowers. The average size of the credit is \$131 million. On average, the agent bank retains on its books a little over one-third of each credit it syndicates, though the agent's share varies from zero to 99 percent.

Loan Classification and Credit Quality

During bank examinations, examiners classify loans into five categories, according to their credit quality. Loans that are deemed to present no credit problems are called "Pass." The rest are problem or "Criticized" loans. They are classified into four categories: "Specially Mentioned," "Substandard," "Doubtful," and "Loss." Specially Mentioned loans have only a small potential weakness, and Substandard and Doubtful have an increasing possibility of sustaining a loss for the bank, while Loss loans are considered uncollectible.

This study uses these examiner loan classifications as a proxy for the riskiness of loans. This approach is open to criticism on the grounds that loan classification is an ex post measure of credit quality rather than an ex ante measure of risk, that is, it reflects outcomes rather than risks as they were perceived at the time the loans were made. While it is undoubtedly true that a bank would not make a loan in the certain knowledge that it would be criticized by examiners, using ex ante measures of risk would fail to capture the asymmetry of information between the lead bank and the other syndicate members that may exist despite the legal obligation to share all information. Such ex ante measures of risk as are available to a researcher, for instance, financial ratios and bond

ratings of the borrower, are also known to the syndicate members, and so cannot reflect the possible disadvantage of syndicate participants. Thus, in order to reflect the fact that lead banks may have private information unavailable to other market participants, loan quality, an ex post measure, is used as a proxy for ex ante credit risk.

Table 2 presents aggregate results for the loan classifications in the data set. The overall credit quality appears to be rather poor, with criticized loans reaching nearly 28 percent of the total number of loans in the sample and constituting 18 percent of the total loan value. The credit quality in the program appears to have worsened in the last few years; criticized loans constituted 19 percent of the total number of loans in 1990 and only 12 percent in 1989. (The percentage of criticized loans by value was not available for the preceding years.) This deterioration could be the result of several factors, among them problems with leveraged buyout loans and commercial real estate loans caused by the economic downturn. In addition, worsening of credit quality in the program may be due in part to the expansion of its scope to include the U.S. branches of foreign banks which, according to an examiner familiar with the program, have somewhat lower underwriting standards than the U.S. banks.

Possible opportunistic behavior by syndicators would be indicated if syndicated loans were of worse credit quality than single-lender loans. Unfortunately, the data do not permit such a comparison because single-lender loans are not examined as frequently as syndicated loans. Moreover, the examined loans are usually not a random sample, but rather are confined to industries or sectors of the loan

Table 2
Credit Quality of Syndicated Loans, 1991

Loan Classification	Number	Percent of Total	Value (\$000)	Percent of Total Value
Pass	3,136	72.39	465,955,006	81.84
Criticized	1,196	27.61	103,417,857	18.16
Specially Mentioned	345	7.96	41,505,043	7.29
Substandard	648	15.79	50,123,046	8.80
Doubtful	164	3.79	11,750,644	2.06
Loss	3	.07	39,124	.01
Total	4,332	100.00	569,372,863	100.00

Source: Shared National Credit Program.

portfolio of particular concern to examiners.¹

Instead of comparing syndicated loans to single-lender loans, a comparison can be made of the percentages kept by the lead banks in syndications of loans of varying quality. As Table 3 shows, lead banks in syndications do not foist a larger share of inferior quality loans on participating banks. On the contrary, the proportion retained by the agent bank actually increases with the severity of credit problems. In fact, the largest proportion retained (47 percent) was of "Loss" loans. However, since the entire sample contained only three "Loss" loans, this observation qualifies, at best, as a casual empiricism.

Several factors could explain syndicators' apparent reluctance to part with inferior loans. First, these loans may look less attractive to participants even before they have been criticized by examiners. Consequently, the lead banks could have difficulty convincing other banks to participate in these deals and be forced to retain a greater share on their own books for the syndications to go through. Second, the lead banks' concern with maintaining their reputations in the marketplace may lead them not only to avoid abuses but to promote risky loans even less aggressively than safe loans.

III. Empirical Analysis

While Table 3 shows a relationship between loan quality and the share of the loan retained by the lead bank, this relationship should be viewed in the context of other factors influencing the behavior of lead banks in syndications. This section provides a more systematic analysis of these factors. In particular, it investigates the effect of the lending limit as measured by the loan-to-capital ratio and the effect of capital requirements as measured by the capital-to-asset ratio. The regressions described below employ two alternative dependent variables. The first is the share of the syndicated loan retained by the lead bank for its own portfolio. The second variable is the ratio of the amount of the loan retained by the lead bank to the lead bank's capital. While less simple and intuitively appealing, it may be a better measure of the lead bank's exposure to a particular borrower because it takes account of the bank's capital. Clearly, for a lead bank with a given capital, a 10 percent share of a billion dollar loan represents a larger commitment than a 90 percent share of a million dollar loan.

If lead banks behave opportunistically, we would expect loan quality to be positively related to the lead

Table 3
Loan Quality of Syndicated Loans and Average Share Retained by Agent, 1991

Loan Classification	Average Share Held by Agent (Percent)
Pass	17.4
Specially Mentioned	18.0
Substandard	29.4
Doubtful	30.5
Loss	47.3

Source: Shared National Credit Program.

bank's exposure to the loan as measured by the dependent variables described above. Since the five loan quality categories—Pass, Specially Mentioned, Substandard, Doubtful and Loss—are qualitative concepts, they must first be converted into a form usable in regressions. The simplest way to do this is to create a binary variable that takes a value of 1 for "good" loans and a value of 0 for all problem loans. However, this method ignores the degrees of severity of credit problems that are conveyed by the different ratings. To capture this information in the regressions the qualitative ratings were converted to numerical equivalents. These equivalents are based on the classified asset weights used by bank examiners to estimate a bank's asset quality ratio. These loss estimates are as follows: "Substandard"—20 percent, "Doubtful"—50 percent, and "Loss"—100 percent. Accordingly, the variable "Quality" was assigned the following values: 1, if the loan is classified as "Pass," 0.8 if it is "Substandard," 0.5 if it is "Doubtful" and 0 if it is "Loss." No commonly used loss estimate is available for "Specially Mentioned," so these loans were

¹ To get a rough idea of relative creditworthiness of syndicated versus single-lender loans, this study compared criticized loans with nonperforming loans, that is, loans that are non-accruing or are 90 days or more past due. At the same time, the nonperforming ratio for business loans only (a group more comparable to syndicated loans) was 6 percent. This is substantially less than the 18 percent of criticized loans for the syndicated loans. Even if one excludes the least impaired category and considers only loans with more serious problems, those classified substandard or worse, these loans still constitute almost 11 percent of the total, as can be seen from Table 2. This comparison is problematic, however, because while all nonperforming loans will be criticized, the reverse is not true—many criticized loans will be still performing, thus biasing the comparison against syndicated loans.

somewhat arbitrarily assigned the value of 0.9 (corresponding to a 10 percent loss) in order to distinguish them from the "Pass" loans.² To test the robustness of the proxy, regressions were run for both the binary and the weighted classification variables. In addition to the quality variable, the regressions included an additional proxy for risk. That proxy was whether or not the purpose of the loan was construction or commercial real estate, since these are generally considered to have been the riskiest of loan categories in the past several years. This variable took the value of 1 if the loan was for construction or commercial real estate, and 0 otherwise.

Two independent variables measure the lead bank's capital constraints. The first is the capital-to-asset ratio. Regulators expect banks to maintain minimum capital-to-asset ratios, and most banks operate with capital ratios above the minimums. A bank that finds itself constrained in its capital-to-asset ratio, either because of regulatory requirements or because of its own internal standards, will be reluctant to lower the ratio by putting a large loan on its balance sheet and may choose instead to syndicate a portion of the loan. Therefore, the capital-to-asset ratio can be expected to be positively related to the lead bank's exposure to the syndicated loan.

The second measure of capital constraint is the size of loans extended to a borrower as a percentage of the bank's capital. In fact, the lending limit mandated by federal law prohibits national banks from lending to any one borrower an amount exceeding 15 percent of the bank's capital.³ While lending limits that apply to state-chartered banks can vary widely from state to state, some, mainly in New York State where many syndicating banks are chartered, follow federal law on lending limits.

Lending limits are sometimes cited as one of the reasons for the emergence of loan syndications and sales, since banks obviously have limited discretion over how much of a large loan they can retain. To test the importance of the lending limit for the sample of loans, this study calculated the ratio of syndicated loans to each borrower originated by each agent bank to that bank's capital.⁴ (Multiple loans to the same borrower were aggregated since the lending limit applies to borrowers, not individual loans.) Somewhat surprisingly, the loan-to-capital ratio exceeded 15 percent for only 20 percent of syndicated loans in the data set. This result understates the importance of lending limits to the extent that agent banks also hold non-syndicated loans to the same borrowers—these

loans also count for the lending limit. And even if the externally imposed lending limit does not present a binding constraint for many syndications, banks themselves often have a self-imposed limit on their exposure to individual borrowers that may be up to 50 percent below the legislated limit. Consequently, the size of the loan relative to the agent-bank's capital can influence the decision to syndicate the loan, even if it does not exceed the lending limit.

The Regressions

The regression results are shown in Tables 4 and 5. In Table 4, the dependent variable is the percentage of the loan retained by the agent bank. In Table 5, the dependent variable is the agent's share of each loan relative to its capital.

Tables 4 and 5 each report two regressions, which differ in the form of the loan quality variable. The first regression in each table, with the coefficients and the t-statistics shown in columns (1) and (2) respectively, has the weighted quality variable that takes account of each loan classification category. The second regression, shown in columns (3) and (4), has the binary quality variable, which takes the value of 1 if the loan is classified as "Pass" and 0 otherwise.

The regressions show clearly the importance of the agent bank's capital. The coefficient for the capital-to-asset ratio is positive and highly significant in all regressions, indicating that the higher the agent bank's capital the more of the loan it will keep, both as a share of the loan and as the ratio of the amount of the loan to capital. The effect is particularly dramatic for the share of the loan retained by the agent (Table 4), where the coefficient implies that a given change in the agent's capital-to-asset ratio results in a fourfold increase in the share of the loan the agent will keep. In contrast, the effect is more muted for the amount of the loan as a share of capital (Table 5), where a given increase in the capital-to-asset ratio results in an increase only 17 percent as large.

The loan-to-capital ratio has a more ambiguous

² In cases where the loan's classification is split between ratings, or where the bank has several loans with different classifications to the same borrower, the value of the "Quality" variable is the weighted average of the component ratings.

³ The limit may be higher for loans secured with certain types of collateral. The federally mandated lending limits are contained in 12 USC 84.

⁴ The data on capital for each bank were obtained from the Call Reports for the 2nd quarter of 1991, the time that would most closely correspond to the Shared National Credit examinations.

Table 4
Dependent Variable—Share of Loan Retained by the Agent Bank
 Regression Results

Explanatory Variables	(1) Coefficient Estimates	(2) T Statistics	(3) Coefficient Estimates	(4) T Statistics
Constant	.292	(8.05)*	.182	(7.76)*
Capital-to-Asset Ratio	4.159	(9.95)*	4.136	(9.89)*
Loan-to-Capital Ratio	-.223	(-4.78)*	-.223	(-4.77)*
Real Estate	.029	(2.49)*	.028	(2.40)*
Loan Quality (weighted)	-.152	(-4.78)*		
Loan Quality (binary)			-.042	(-4.44)*
R squared	.05		.05	
Number of observations	2904		2904	

*Significant at the 1 percent level.

Sources: Loan classifications, Shared National Credit Program; capital, Call Reports.

Table 5
Dependent Variable—Ratio of Agent Bank Loan Exposure to Bank Capital
 Regression Results

Explanatory Variables	(1) Coefficient Estimates	(2) T Statistics	(3) Coefficient Estimates	(4) T Statistics
Constant	-.007	(-3.11)*	-.013	(-8.91)*
Capital-to-Asset Ratio	.174	(6.56)*	.173	(6.51)*
Loan-to-Capital Ratio	.472	(158.97)*	.472	(158.87)*
Real Estate	.002	(2.56)*	.002	(2.47)*
Loan Quality (weighted)	-.008	(-4.18)*		
Loan Quality (binary)			-.002	(-3.92)*
R squared	.90		.90	
Number of observations	2904		2904	

*Significant at the 1 percent level.

Sources: Loan classifications, Shared National Credit Program; capital, Call Reports.

effect. Its coefficient is negative and significant in the regressions in Table 4, meaning that the syndicators retain a lower proportion of the loan, the larger the loan relative to the syndicator's capital. On the other hand, as Table 5 shows, the relationship between loan size and the amount retained by the agent bank becomes positive when both are measured in units of bank capital, so that the larger the loan, the larger the amount the agent bank retains when both are measured in terms of bank's capital.

The coefficient for the real estate variable is positive and significant in all regressions, indicating that syndicators keep a larger share of construction

and commercial real-estate loans than of other, presumably less risky loans. Loan quality has a negative and statistically significant effect on the lead bank's exposure to the loan, whether measured by a weighted or a binary variable. Table 4 shows that syndicators keep lower shares of higher-quality loans, while Table 5 suggests that they have lower exposures to better-quality loans as a percentage of their capital. Clearly, the results of the multivariate analysis confirm that lead banks keep larger shares of riskier and lower-quality loans than they do of safer, higher-quality loans, even after such factors as loan size and bank capital are taken into account.

IV. Discussion

This study found that loan syndications are driven primarily by the lead bank's capital considerations, both in the form of its capital-to-asset ratio and its loan-to-capital ratio. It found no evidence that lead banks exploit participating banks by persuading them to take a larger share of inferior loans. The lack of evidence of such opportunistic behavior in syndications does not necessarily mean that it is also absent in loan sales, which may be more susceptible to it because of their contractual nature. For example, Mester (1992) found diseconomies of scope between the traditional banking activities of originating and monitoring loans and the less traditional activities of selling and buying. Mester found that it is less costly

for a bank to monitor a loan it has originated itself than to monitor a loan it has purchased. The relative absence, however, of such problems in syndications is relevant to the securities activities of banks. Most U.S. banks are prohibited from being directly involved in underwriting corporate securities, by the Glass-Steagall Act and other laws. Therefore, secondary intermediation in the form of syndications and loan sales can be seen, in part, as a substitute for underwriting securities. To the extent that the market for corporate securities is more transparent and less subject to information asymmetries than the market for bank loans, eliminating such restrictions and allowing banks to underwrite and hold corporate bonds would reduce the overall risk of bank portfolios.

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