

The Role of Relationships in Small-Business Lending

by Ben R. Craig, William E. Jackson III, and James B. Thomson

Economists have long recognized the importance of credit markets in the economy. Bank lending in particular is generally thought to be an important driver of economic growth. Moreover, credit-market stability has long been seen to be associated with economic stability. For instance, in the mid-nineteenth-century classic, *Lombard Street*, Walter Bagehot describes a mechanism through which disruptions in credit markets can be transmitted to real economic activity. More than a century later, economists point to the role played by credit markets in the transmission of monetary policy and credit-market disruptions as a factor contributing to economic fluctuations, including the Great Depression.

Studies of credit markets and the role they play in economic growth, development, and fluctuations often focus on the banking system and bank lending. Banks are viewed to be particularly important because, through their lending activities, they may provide important information on production and evaluation services; that is, banks make loans to businesses whose balance sheets lack sufficient transparency to allow direct access to financial markets. As bankers are far from omnipotent, lending to opaque borrowers requires banks to resolve the information-related problems of adverse selection and moral hazard in credit markets. The first effect, adverse selection, affects the ability of markets to allocate credit by the lending rate (price) because it removes the lower-risk borrowers from the set of potential borrowers. The second consequence, moral hazard, reduces the ability of prices to clear the lending markets by influencing the actions of borrowers.

This *Economic Commentary* (September 2004) reviews the analysis of financial market equilibrium in the presence of imperfect information. We review work of Joseph Stiglitz and Andrew Weiss on how the problems posed by imperfect information—in particular adverse selection and moral hazard—can result in credit rationing (the inability to obtain a loan at any price). Our interest is in the market for small-business loans, as the opaqueness of small firms gives rise to concerns of credit rationing. In a previous *Economic Commentary*, we examined whether a particular government intervention, Small Business Administration loan guarantees, could improve the allocation of credit to small businesses. Absent from that discussion was the role that private solutions, such as lending relationships, play in reducing credit rationing by lenders.

Understanding the role that lending relationships play in the allocation of credit is central to any assessment of small-business-credit markets. Mitch Peterson suggests that small-business lending is different from large-business lending on three dimensions: financing costs, information costs, and the importance of lending relationships. Small businesses pay a higher fixed cost per unit of credit than larger businesses. Asymmetric information problems associated with small firms are more severe than with larger firms. Relationships between banks (typically small ones) and small businesses are much closer than those between large companies and banks, and as we explain below, are more valuable to both small businesses and to the banks. Hence, financing costs are different for small firms.

In the presence of imperfect information, both large and small banks try to find alternative ways to identify credit-worthy borrowers. Lending relationships are one way to go about this. Relationships between banks and small businesses tend to be much closer than those between banks and large businesses. This *Commentary* explains why lending relationships are valuable to both small businesses and banks, how they reduce information-lending problems, and what other solutions exist to help in the reduction.

■ Economics of Small-Business-Loan Markets

Many economists, most notably Joseph Stiglitz and Andrew Weiss, contend that private lending institutions may indeed fail to allocate loans efficiently because of fundamental information problems in the market for small-business loans. Stiglitz and Weiss claim that rationing is a likely outcome in credit markets with small-business borrowers because of banks' difficulty in getting sufficient information about them. Banks' lack of perfect information after evaluating loan applications can give rise to adverse selection and moral hazard, both of which allow the interest rate itself to affect the riskiness of the loan pool. Adverse selection affects the ability of markets to allocate credit by price because it removes the lower-risk borrowers from the set of potential borrowers. Moral hazard reduces the ability of prices to clear the lending markets by changing the strategies that borrowers will likely pursue after they receive their loans.

Adverse selection arises from the bank's inability to distinguish between high- and low-risk borrowers. If the bank posts a lending rate that reflects the average risk of the borrowers in the market, it will draw a disproportionate share of loan applications from the less-credit-worthy borrowers. Hence, given the mix of applications, the posted lending rate is too low and the profitability of the bank will suffer. But increasing the lending rate will not solve this problem. In fact, it will exacerbate it by causing lower-risk borrowers to drop out of the pool of potential borrowers. This results in the risk of an average loan applicant at any lending rate to be positively related to the loan interest rate. Higher-risk borrowers are willing to borrow at a higher interest rate because they perceive their probability of repaying the loan to be lower. So, as the interest rate rises, the average "riskiness" of those who borrow increases, and this may actually result in lowering the bank's expected profits from lending. Therefore, markets will be unable to allocate credit on the basis of price alone.

Similarly, as the interest rate and other terms of the contract change, the behavior of the borrower is also likely to change. For instance, raising the interest rate decreases the profitability of projects that succeed. Higher interest rates may thus induce firms to undertake projects that are riskier—ones with lower probabilities of success but higher payoffs when successful. In other words, the price a firm pays for credit can affect its investment decision. This is the moral-hazard problem.

As a result of these two effects, the bank's expected profit may actually decrease if the bank increases its lending rate. Clearly, under these conditions, it is conceivable that the demand for credit may exceed the supply of credit in equilibrium. Traditional analysis would argue that in the presence of an excess demand for credit, unsatisfied borrowers would offer to pay a higher interest rate to the bank, bidding up the interest rate until demand equals supply. This does not happen in this case; the bank would not lend to someone who offered to pay the higher interest rate, as such a borrower is likely to be a worse risk than the average current borrower. The expected return on a loan to this borrower at the higher interest rate is actually lower than the expected return on the loans the bank is currently

making. Hence, in the absence of other screening technologies, there are no competitive forces leading supply to equal demand, and credit is rationed.

■ Lending with a Personal Touch

Lending relationships have been recognized by economists as an important market mechanism for reducing credit rationing. One of the earliest analyses of lending relationships as an (at least partial) antidote to credit rationing was by Ed Kane and Burton Malkiel (1965). Kane and Malkiel reach conclusions similar to Stiglitz and Weiss about the possibility of banks rationing credit, but they go one step further by suggesting that lending relationships are a market response to information problems. Kane and Malkiel conclude that the extent to which loan customers face credit rationing depends on the strength of existing customer relationships and the bank's assessment of the current and future profitability of all its business interactions with the borrower—including the size, stability, and prospects for future growth of deposits and the existence of profitable future lending opportunities. In other words, banks allocate credit to current and prospective borrowers in accordance with the strength of the existing bank-borrower relationships along with expectations about the future profitability of those relationships.

In the lending decision, banks are often viewed as evaluating loan customers using the five "Cs": character (the unconditional willingness of the borrower to repay the loan), capacity (ability of the borrower to repay), conditions (macro-economic and local economic conditions that affect the ability of the borrower to repay), collateral (assets that can be sold to repay the loan), and capital (net worth of the borrower and any external guarantees of the loan). In the simplest terms, a lending relationship embodies the set of information (some of it private information) on a borrower's five Cs that a bank has collected through repeated interactions with the borrower. Mitchell Peterson and Raghuram Rajan (1994) observe that through close and continued interaction, a firm may provide a lender with sufficient information about, and a voice in, the firm's affairs to lower the cost and increase the availability of credit. Much of the information collected and evaluated as part of the lending relationship is "soft information," that is, information that is difficult to quantify statistically and that requires the informed judgment of a loan

officer—specialized human capital—to evaluate it.

Peterson and Rajan suggest that an important dimension of a relationship is its duration. Conditional on its positive past experience with the borrower, the bank may expect future loans to be less risky. This should reduce its expected cost of lending and increase its willingness to provide funds. Moreover, these authors propose that in addition to interaction over time, relationships can be built through interaction over multiple products. That is, borrowers may obtain more than just loans from a bank. Borrowers may purchase a variety of financial services such as checking and savings accounts. These added dimensions of a relationship can affect the firm's borrowing cost in two ways. First, they increase the precision of the lender's information about the borrower. For example, the lender can learn about the firm's sales by monitoring the cash flowing through its checking account or by factoring the firm's accounts receivables. Second, the lender can spread any fixed costs of producing information about the firm over multiple products. Peterson and Rajan report that both effects reduce the lender's costs of providing loans and services, and the former effect increases the availability of funds to the firm.

Allen Berger and Greg Udell (1995) also study the importance of relationships in the extension of credit to small firms. They find that small firms with longer banking relationships borrow at lower rates and are less likely to pledge collateral than are other small firms. These effects appear to be both economically and statistically significant. According to Berger and Udell, these results suggest that banks accumulate increasing amounts of this private information over the duration of the bank-borrower relationship and use this information to refine their loan-contract terms.

Overall, the available evidence points to a significantly positive relationship between factors related to the strength and duration of the lending relationships among banks and small-business customers and both the terms (lower loan rates and fewer loan covenants) and availability of credit. From the perspective of the banks, the stronger the relationship, the more likely the borrower is to select the bank for future credit needs and other banking services.

■ An Impersonal Approach to Lending

An increasing number of small-business loans are made using credit-scoring models to assess the risk of the borrower; this “cookie-cutter approach” involves using the business owner’s credit score as an input into the lending decision. Credit scoring, which involves using a statistical measure of the likelihood a borrower will default, represents an alternative technology to lending relationships that can be used by banks. In terms of the 5 Cs of lending, credit scoring allows lenders to use verifiable data on borrowers to construct a summary measure of the 5 Cs.

Credit scoring can be used by banks as a complement to relationships in the lending process. Much like a college that uses high school grades and college-entrance-exam scores jointly in its admission decision, banks can use the information in a credit score in the context of the bank relationship as part of the lending decision. As in the college-admission example, a strong relationship may allow the bank to safely lend to a borrower who would not receive funding based on the borrower’s credit score alone. Naturally the opposite is true; to the extent that credit scoring reduces the information-related costs of lending (and the attendant agency problems), borrowers are more likely to have access to more credit and to be on better terms earlier in the relationship.

Credit scoring may also be used as a substitute for relationships. There is a growing amount of empirical evidence suggesting that large banks tend to rely on credit scoring for small-business lending—these types of loans are often referred to as transactions-based (or cookie-cutter) loans. Small banks, on the other hand, appear to be primarily relationship-based lenders. Large banks can hold sizeable portfolios of small-business loans, allowing them to diversify away a good deal of idiosyncratic risk associated with individual borrowers (who each make up a minuscule share of the overall small-business-loan portfolio). Hence, for large banks that use credit scoring to screen loan applicants, the cost of building a relationship with a small firm may exceed its value to the bank.

Jeremy Stein (2002) explains why large banks use the cookie-cutter approach to

small-business lending. Stein puts forth the idea that the hierarchical organizational structure of most large banks makes it difficult to utilize soft information in the lending decision. That is, the layers of loan-review and loan-underwriting decisions in large banks often place the lending decision in the hands of a person or committee that is more than an arm’s length away from the lending officer. Stein postulates that the soft information from the relationship is most valuable to the loan officer, and it loses value as it is transmitted through a lending-decision hierarchy. This reduces the value of lending relationships to large banks and thus reduces the incentive to invest in relationships. Small banks, on the other hand, tend to be flat organizations where the loan officer plays a more central role in the lending decision. Hence, due to their organizational structure, small banks can more fully benefit from investing in lending relationships.

Recent studies show that the application of credit scoring to small-business lending may have improved the allocation of credit to small firms. The evidence shows that transactions-based loans are made over greater distances and for longer periods of time than relationship-based loans. As credit scoring does not require a physical presence in the lending market, large banks—through transactions lending—can effectively enter new markets without the cost of establishing branches. This, in turn, should increase the access to credit and reduce the cost of borrowing for small businesses. On the other hand, increased competition posed by large banks may reduce the profitability of community banks as it reduces their ability to extract rents from their lending relationships. In fact, a recent paper by Emre Ergungor provides evidence consistent with this conjecture.

■ Conclusion

Relationships are an important market mechanism banks use to reduce information problems in lending markets. The value of relationships and bank-information production in loan markets has been documented in a number of empirical studies, and the loss of important lending relationships in bank failures provides a rationale for bank regulation.

With advances in information and communication technology, markets certainly have become more informationally efficient. Moreover, reductions in the cost

of data storage, retrieval, and analysis, coupled with advances in credit evaluation technology, have reduced informational frictions in credit markets. This suggests that, in the future, the cost of credit-scoring-based lending will likely decrease, and its use will likely increase. However, whether credit-scoring models will displace lending relationships as an important tool for small-business lending in the future remains to be seen.

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