

SOCIAL CAPITAL AND THE COST OF BUSINESS LOAN CONTRACTING

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Social capital is the stocks of social trust, norms, and networks that persons draw on to solve common problems, and the denser these networks, the more likely that members of a community will cooperate for mutual benefit. Drawing on embeddedness theory from sociology, we argue that embedding commercial transactions in social attachments and networks builds social capital, which in turn should reduce the need for writing contracts and monitoring loan performance — a savings that is shared by the bank and firm in the form of lower spreads and less restrictive loan covenants. To develop our framework, we conducted original fieldwork at 11 Chicago banks and then examined its representativeness using statistical analyses of two national random samples of small-to-medium-sized business. We find that firms tied to their lender through embedded ties, and a network of bank ties that is composed of a complementary mix of embedded and arm's-length ties, are less likely to have collateral taken, pay large spreads, or both as conditions of their loans.

The banker-client relationship is the backbone of community banking. Midcap firms lack the financial wherewithal and slack resources that large firms possess and tactically employ to widely shop financial markets for attractive bank financing. Consequently, small-to-medium-sized firms typically limit their search for capital to local financial institutions, which relative to the localized borrower have more knowledge about capital markets and finance. It has been argued that through close relationships with their local bankers, community-based madcap firms can overcome these search and information disadvantages in two ways. They gain better access to the specialized financial knowledge of

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bankers as well as transmit more private information about their firm to bankers — information that is difficult to communicate through public channels such as certified financial statements or analysts (Beveridge, 1985; Lento, 1994; Petersen and Rajan, 1994; Immergluck and Mullen, 1998; Padhi, Woosley, and Srinivasan, 1999; Uzzi, 1999). A key explanation for these relationship benefits is that local banks build up *social capital* with local corporate borrowers (Putnam, 1993; Uzzi, 1999). The World Bank defines social capital as “the norms and social relations embedded in social structures that enable people to coordinate action to achieve desired goals.” This suggests that much of the value of social capital is not embedded in formal governance arrangements such as contracts or hostage taking but in informal governance arrangements that can potentially replace formal governance mechanisms that are more costly to monitor and enforce (Macneil, 1980; Granovetter, 1985; Uzzi, 1997; 1999).

In this paper, we develop and test an explanation of how social capital provides governance benefits for firms and banks engaged in lending transactions. We examine how social capital between the firm and the bank affects the governance costs incurred in borrowing, specifically how social capital increases or decreases the likelihood that the firm has to pledge collateral and/or pay a high spread on a loan.

To contribute to this new area of financial research, this study draws inferences from multiple original data sources and qualitative and quantitative analyses to better specify the embeddedness framework and to increase descriptive and inferential validity. First, we conducted fieldwork at 11 banks to better understand embeddedness’ properties and functions, illustrate causal mechanisms, and provide an empirical basis for conjectures about embeddedness’ effect on governance. Second, we analyzed two national samples of U.S. firms, linked by a repeated survey design, to statistically test our framework’s representativeness.

Social Embeddedness Theory

Social embeddedness theory explains how social capital arises in commercial relationships and provides governance benefits in financial exchanges (Granovetter, 1985; Uzzi, 1997). It holds that mutual dependencies or ambiguity prompt exchange partners to embed their exchanges in social attachments that furnish common expectations of governance. A social attachment is an affiliation of mutual interests and fidelity that develops when actors enact behavior that is culturally asso-

ciated with familiar, noncommercial activities and exclusively shared with select others (Blau, 1964). Social attachments within which commercial exchanges are embedded include social gatherings, dining, entertainment, sports competitions, shows, or other events enacted collectively. The embedding of commercial transactions in social attachments provides governance over business dealings by associating the routines used to govern commercial transactions with the protocols of exchange that are used among actors who come to know each other well (Granovetter, 1985). These protocols of exchange reside in pre-existing social structures and are learned and internalized through socialization so that they become espoused norms of proper behavior that provide order and anticipated rewards between exchange partners. Thus, by promoting shared expectations of trust and reciprocity between transactors that reduce the degree to which formal control arrangements are preferred, embeddedness builds social capital which enables resources that are otherwise used for formal governance mechanisms to be serviced more productively (Putnam, 1993; Fukuyama, 1995).

Social embedding can also create new value in the relationship by facilitating the transfer of private information, which can further strengthen expectations of trust and reciprocal obligations (Uzzi, 1997). In contrast to public information, private information refers to knowledge that is not publicly reported or accessible through standard market means such as company reports, audited financial statements, regulatory filings, bid and ask prices, price quotes, or other forms of prepared information. It references the firm's strategy, distinctive competencies, undocumented product capabilities, management conflicts, succession plans, or other critical supplier or customer dependencies that can furnish prospects for exchange partners to create mutual benefits by selectively matching their capabilities or by motivating Pareto improved solutions to transacting problems. Moreover, because private information is difficult to benchmark in a competitive market, actors typically share it with exchange partners they trust to protect it from misappropriation (Udell, 1999). This can increase the value of exchanges based on private information because transactors outside the relationship lack access to the private information or resources needed to imitate the firm's competitive advantage. In contrast, while public information is a vital source of value creation for other reasons, it is more easily imitated by rival firms that can access similar information available in the public domain. Thus, social embeddedness can create governance benefits relative to formal means by enabling a preexisting system of social

governance to be serviced in a commercial context and by motivating Pareto improved solutions to exchange problems.¹

Anecdotal evidence suggests that investment banks tied to their clients through embedded rather than arm's-length ties access more classified client information and develop more customized client products (Eccles and Crane, 1988; Baker, 1994). Statistical analyses, however, have shown that embedded ties have no effect on a firm's ability to acquire credit but do lower its interest rate on a loan (Uzzi, 1999). At the level of the network rather than the dyad, work suggests that a network composed of different types of ties permits a fuller range of action than is possible if either type of tie existed alone. In markets where loan provisos may be dispersed among banks with varying capabilities, a mix of ties may enable firms to both "shop the market" for novel provisos *and* collaborate with their close lenders to reduce governance costs that can arise when adopting novel yet unfamiliar loan stipulations. Consistent with this argument, small businesses that had networks with a complementary mixture of embedded and arm's-length ties were less credit-rationed and paid lower interest rates on loans (Uzzi, 1999). These results suggest that embeddedness can produce important stocks of social capital that banks and borrowers capitalize on to reduce the governance costs of their loans. In the next section, we report on field research that helps clarify how these social capital benefits translate in reduced governance costs on loans.

Field Research Findings²

We found that midmarket banks and firms face specific informational and behavioral governance problems in loan agreements that promote embeddedness and make social capital highly productive for community banks. Midcap firms depend heavily on banks for both capital and financial advice because unlike large corporations, they normally lack significant retained earnings, access to money markets, or the financial expertise needed to insure the bank's credibility. An RM explained, "In the Fortune 500, they know what price to pay and what information qualifies them for different alternatives. Midmarket companies can't afford a treasury department, let alone three finance people. So, imperfect awareness means most conversations are negotiations. The entrepreneur says, 'I need X.' The bank says 'No, you need Y, and we'll structure it Z.'" "They're somewhat suspicious," stressed another RM, "lots of entrepreneurs feel like, 'we're just a small guy, they're a big bank.'"

Although midmarket banks have comparatively deeper pockets of resources and expertise, they also face exchange problems. Because most midmarket firms are not debt-rated or publicly-certified, public information about the firm is often “opaque.” A typical view of RMs was, “Take a company and based on different accounting treatments you have different looking balance sheets. If all you did was look at the numbers, you would make different decisions on the same company!” Also, the bundling together of the entrepreneur’s personal life and the professional activities of the firm also make it difficult for RMs to assess the firm’s creditworthiness and motivations with standard, prepared data. One RM revealed, “One of the challenges as a banker in this segment of the market is being trusted. [I] may have to listen to, ‘I want to divorce my wife,’ or heart-wrenching things like — ‘my son’s a knucklehead, my daughter’s a ditz,’ or ‘if I do that deal my wife’s going to leave me.’ So, you really must be able to have those kinds of conversations to be successful and those are the kinds of conversations that frequently entrepreneurs will need RMs to have with them.”

Consistent with the social embeddedness framework, we found that banks and firms attempted to redress the above governance problems by embedding their commercial transactions in social attachments, even though well-conceived contracts might make social ties superfluous. Typical accounts focused on how social embedding injected protocols of trust and reciprocity that add predictability to the commercial transaction. One RM said, “A relationship gets the client to perceive me differently. I’ve found that if you can get clients to invest in time outside of the office, they’ve got more of an emotional investment in your relationship, [a] bond that goes outside a pure business relationship. So, when they’re considering your bid, they’ve got an emotional attachment with me that they don’t have with LaSalle, American, or Harris Bank, which should help me keep the business. It’s part of mitigating risk from my perspective.”

We found that social capital produced three distinct governance benefits. First, preferences for formal control mechanisms were ostensibly eliminated — freeing up resources for other productive uses. These regulative benefits followed from embeddedness’ability to instill self-enforcing motives for cooperation and trustworthiness, which are themselves reinforced by anticipated benefits. An RM stated, “If I develop a relationship, it’ll be easier for me to ask you penetrating questions. It’ll also be more difficult hopefully, for you [the client] to screw me in a deal because you’ll be hurt [emotionally] and feel that there’s something of value, which you would jeopardize. As a banker-

businessperson, the more relationship there is the less I'll be viewed as commodity." By contrast, arm's-length ties held up these benefits. "It goes both ways," said a RM of arm's-length relationships, "I have a customer that I'm really getting tired of, it's just not a very close relationship, it's very transactionally-oriented. They're giving us the information and talking to us when they need us. Otherwise, they keep us in the dark. That's just not good. But they need us and our management and our bank to believe in them. At some point, we're going to say, [as he gestured as if holding a scale in his hands], 'Is it worth doing business with these guys?'"

Second, embeddedness was associated with efficient information search, which lowered transaction costs. In contrast to arm's-length ties, this efficient information search was not related to the costs of information search across separate relationships. Rather it was related to the costs of identifying and gathering information relevant to transactions *within* the relationship. In this sense, embedded ties appeared to increase the depth, rather than breath, of information search, enabling access to different kinds of competitive information. For example, RMs revealed that an embedded tie reduced the number of separate relationships they needed to contact in order to check the credibility of information. One RM said, "I call one person and I deal with them as opposed to having to call three people at the firm. It lowers my transaction costs."

Third, embedded ties facilitated the transfer of *private* knowledge. This consequence is especially noteworthy because the value and need for private information can often arise *after* contractual stipulations have delimited which actions are compulsory — reducing motives to voluntarily share proprietary information. "These are not publicly traded companies," said an RM, "so the closer our relationship the more willing he is to share with me whether his long-range goal is in jeopardy, if he's getting divorced, bringing his kids into the business, or buying out his partner. Is he comfortable with the status quo?"

Finally, our findings suggest that embedded ties not only can create unique governance benefits for banks and firms, but also *motivate Pareto improved solutions to how those benefits are distributed*. This property is significant in lending because the value generated by governance benefits is primarily allocated at the bank's discretion, which conventional arguments say provide banks with information monopolies over small firms that they exploit (Angbazo *et al*, 1998). A typical method of Pareto improvements used by bankers was to offer their embedded ties lower premiums for at least the first year of the loan —

reserving the right to widen the premium only if the firm failed to maintain *its* projected performance level, which disagreed with the bank's forecast. This simple governance structure gives the firm special low cost financing during the beginning of the loan — the period of highest interest returns for bank. It also suggests that embeddedness motivates Pareto improved solutions because both the bank and firm potentially gain above what they would if a standard governance structure of a flat spread was applied. The firm is spurred on to increase its efficiency to maintain the special rate — actions that make firms and banks better off, and only make banks worse off for one year if the firm's estimate is incorrect. In the following citation, a lead RM explained the nature of this process, noting particularly how the governance benefits of embeddedness are mutually shared. "Because we knew this guy [I said]... 'Tell you what we'll do: We'll give you a price of X today. We'll base our pricing as if those expenses were not in your financial statements. But after twelve months, if it's all flushed through you will continue on in this price level. If you don't, boom, your pricing will go up.' So, because of the relationship, because we knew the guy and we really believed in him and trusted him, we gave him the benefit of the doubt on the pricing for the first year. He has to continue to perform or it goes up. So, that's a way we would sort of marry the two, the objective and the subjective, if you will."

These findings suggest that *the greater the degree to which bank-firm transactions are embedded in social attachments*, the greater the borrower's social capital, which should decrease the need for the bank to monitor and enforce the loan agreement through formal means. Two quantifiable indicators of this effect are whether banks take collateral and the size of the premium on the loan (Carruthers and Halliday, 1997; Spulber, 1999). Thus, *the greater a borrower's social capital (as measured by the degree to which it embeds its commercial transactions with its bank in social attachments), the less likely it is to pledge collateral, pay heavy premiums, or both as conditions of a loan.*

While we have focused on the relative advantages of embedded versus arm's-length ties between a bank and a firm engaged in loan deal, our argument also addresses how the structure of a firm's banking network can affect its social capital. Conventional financial wisdom argues that firms optimize their borrowing potential by developing an expansive banking network of arm's-length ties (Mintz and Schwartz, 1985; Williamson, 1988). Extending previous work, we argue that network benefits depend more exactly on the *complementarity* among the types of ties in a firm's network rather than the size (Baker, 1990; Uzzi,

1996). Complementarity refers to the notion that the characteristics of different types of ties can reinforce each other's strengths while compensating for each other's weaknesses so that a fuller range of action is possible than if either tie existed alone. By analogy, the concept of network complementarity builds on portfolio theory, which argues that the value of a portfolio's assets are not absolute but fluctuate with the mix of assets in the portfolio (Kolb and Rodriguez, 1996). In social networks, complementarity suggests that a tie's value is greatest when there are other ties in the portfolio that strengthen its benefits and compensate for its weaknesses, while the portfolio's value as a whole rises if the benefits of different ties do not coincide.

Theory and our fieldwork suggest that complementarity varies in the degree to which networks have an integrated mix of embedded and arm's-length relationships rather than one type of tie (Baker, 1990; Uzzi, 1999). On the one hand, arm's-length ties provide wide access to public information about prices and loan structures that is dispersed throughout the market, yet lack the distinctive cooperative mechanisms of embedded ties (Eccles and Crane, 1988; Baker, 1990). Consequently, a firm with a network of arm's-length ties may be highly effective at garnering public market information but is ill equipped to motivate a lender to collaborate on a deal that integrates innovative, but unfamiliar, data from other bankers. For instance, an RM recounted a situation in which a firm with an arm's-length tie to the bank approached him with competing bids. She noted that without an embedded relationship there was no motivation to negotiate for an integrative outcome, even if she was willing to offer the firm a price quote on the loan. She said, "Do I want to be doing this term loan when there are other banks out there?" I kind of said, "Why don't you ask one of your other banks? [So], I priced it too high, figuring one of the other banks will come in with a lower bid. I won't insult them by saying, 'No, I don't want the business,' but I know they're not gonna give me it."

On the other hand, while embedded ties effectively motivate risk sharing and integrative agreements *within* a relationship, they attend to local resources and historical solutions, limiting the firm's ability to recognize solutions and resources in the market. Consequently, a firm with a network of only embedded ties risks becoming insensitive to innovations available at other banks. This can be problematic in banking markets where it is infeasible for any single bank to know the full scope of market prices or loan structures. This suggests that while embedded ties can create comparative advantages over arm's-length

ties at the dyad level, their potential benefits are compromised if the firm's network lacks arm's-length ties to other banks. *Thus, the above lines of theory imply that an integrated mix of both types of ties, rather than the simple number of contacts, positively affects governance.*

We found inferential evidence that networks high in complementary create optimal governance benefits. Frequently, bankers noted that entrepreneurs used their arm's-length ties to gather public market information on loan structures or pricing, assembled this information, and then presented it to their close lender who incorporated the premium ideas into the deal. This also strengthened the embedded tie by keeping it market-sensitive and expanding its collaborative gains. In the example below, an RM recounts the dynamics of a recent deal in which he was one of the arm's-length banks in a firm's network. The RM noted how the entrepreneur used arm's-length ties to access market information and diverse expertise and then passed that information on to his embedded bank, which in turn used it to create a custom loan structure low in governance costs. He said, "Three banks were pitching on the same deal, and the company said, 'give us a creative idea on how you would structure this.'" We provided a very creative idea with term loans and revolving credit (factors affecting price and structure). They said, "We really like this structure but X has been our bank for 50 years and we don't want to pull the agency from them." When the term sheet came back from X bank, X bank had basically our term sheet with their name on it. The CFO laughed and said to me, "Look, your bank came up with the idea. So, we'd like to give you the first shot at our trust business or the private banking of the owners" (business worth less than the original deal). So, we gave the banking insight on the marketplace to the firm (but the firm made the deal with its close bank).

Thus, the greater a borrower's social capital (as measured by the degree of complementary between embedded ties and arm's-length ties in the firm's network of bank relationships), the less likely it is to pledge collateral, pay heavy premiums, or both as conditions of a loan.

Quantitative Data and Methods

We test the generalizability of the fieldwork with data from the National Survey of Small Business Finances, which was administered by the Federal Reserve Bank and the Small Business Administration (see Uzzi, 1999 for a description). We analyzed these data using the repeated survey design method, which pools together different samples of firms that are polled on the same items at different times. The tech-

nique is designed to “use the cumulated cross sections to analyze the size and stability of individual-level relationships” by dummy coding the different samples and then interacting the dummy variable with independent variables of interest (Firebaugh, 1997: 5). In our analysis, we included a dummy variable for Year and interactions between year and our embeddedness measures to uncover changes in the effects of embeddedness that might exist between the 1989 and 1993 data.

Dependent Variables: In order to test our hypotheses, we modeled the joint probability of the firm’s likelihood of pledging collateral and/or paying a high premium on its most recent loan. We created an ordered three-category discrete variable that reflects the spectrum of governance cost on loans from best to worst from the firm’s perspective. *Best deal* was defined as loans with no collateral and small premiums; *worst deal* was defined as loans with collateral and large premiums; and *intermediate deal* was defined as loans with collateral and a small premium, or with no collateral and a large premium. Large and small premiums were defined as above or below the medium premium for firms in the same sample (*i.e.*, 1989 or 1993). We also ran analyses with large and small premiums defined at the 75th and 25th percentiles to check for sensitivities to different specifications and found none.

Independent Variables: To develop valid measures of embeddedness that captured the ethnography’s richness and yet were parsimonious enough for statistical analysis, we applied methods that look for convergence between theory on relationships and the narratives of interviewees (face validity) by asking RMs how embedded ties could be quantitatively measured and distinguished from other variables (discriminant validity) (Miles and Huberman, 1994; Bollen and Paxton, 1998). For instance, we probed RMs with inquiries such as, “If you wanted to determine if your colleague had a close tie with a client like the one we have been discussing, what quantitative information would you use?”

Embedded ties have been operationalized as the duration of the relationship and the multiplexity of the relationship (Dore, 1983; Marsden and Campbell, 1984; Gambetta, 1988; Iacobucci and Ostrom, 1988; Gulati, 1994; McAllister, 1995; Dyer 1999; Lazega and Pattison, 1999; Uzzi, 1999). Duration is the length of the relationship and multiplexity refers to the degree to which a single relationship has multiple dimensions — particularly business and personal dimensions because these counterparts can foster trust and a wider range of reciprocal obligations. In banking, the personal dimension of a multiplex tie often refers to whether the RM manages the entrepreneur’s personal banking,

which invites intimate dialogues that deepen social attachments. Consistent with theory, RMs independently suggested that duration and multiplexity were reasonable proxy measures of embedded ties. We measured *duration* as the log of number of years and *multiplexity* as the log of the number of business and personal bank services (log) used by the firm. Services included brokerage, leases, cash management, transfers, credit card processing, letters of credit, revolving credit, night depository, pension funds, and personal estate, trust, and retirement planning.

Our measure of network complementarity also relied on convergence among network theory on banking and face and discriminant validity. Research has shown that firms with networks of arm's-length ties tend to disperse their banking in small parcels among many banks, whereas firms with networks of embedded ties tend to consolidate their banking in a relationship, a finding consistent with our interview data. RMs said that banks were likely to share risks and collaborate with clients that consolidated their business with the bank because interaction and prospects for retention and new business were enhanced with these clients. RMs also stated that they typically supply public information on prices or structures to clients that did at least some business at the bank, but rarely for customers without at least an arm's-length tie (such as cold callers) because they must ration their time among certain customers. Baker (1990) showed that a Herfindahl index, a relative of the Gibbs-Martin index of social heterogeneity, parsimoniously summarizes in a single measure the distribution of different ties in a firm's ego-network, has high face validity, precedent in network studies of banking. Following Uzzi (1999), we defined this measure as (P_j^2) , where j goes from 1 to n banks and (P_j) is the share of the firm's banking business that is dedicated to bank j . (P_j) is the sum of savings, checking, and line of credit accounts, which RMs use to indicate the level of business between a firm and a bank. Hence, if a firm apportions 70 percent of its transactions to one bank, 20 percent to a second bank, and the remaining 10 percent to a third bank, then its network complementarity score is equal to $[(.70)^2 + (.20)^2 + (.10)^2] = .54$. This index varies between 0.0 and 1.0. Near zero, a firm's network is composed of many arm's-length ties (low complementarity); near one, a firm's network is composed of one or a few embedded ties (low complementarity). An intermediate value of about 0.50 indicates that a firm has an integrated mix of embedded ties and arm's-length ties (high

complementarity). A possible drawback of the measure is that it loses comparability across cases if there is a large variance in the size of firms' banking networks. In our sample, there are small differences in the size of networks. Moreover, we control for network size, measured as the number of institutions a firm uses for banking services. This measure correlates highly with key indices of network structure that our data do not allow us to directly construct and has been used to control for standard arguments about network structure and governance (Borgatti and Feld, 1994; Powell, Koput, and Smith-Doerr, 1996). Control variables used in this study are described elsewhere (Uzzi, 1999; Uzzi and Gillespie, 1999).

Statistical Results

Table 1 presents the results of our ordered three-category dependent variable. Models 3 through 5 display the baseline models of financial theory (Petersen and Rajan, 1994; 1995). These models indicate that the cost of governance arrangements on a loan are positively associated with the loan term, fixed rate loans, and debt ratio, and negatively associated with the Prime Rate, age of firm, and cash in retained earnings. These results offer consistent if uneven support for financial perspectives on governance before embeddedness is taken into account. The year indicator variable suggests that 1993 firms were significantly less likely to pledge collateral and pay larger premiums than 1989 firms as a condition for the loan. However, the interaction terms between year and our embeddedness variables were statistically non-significant, aside from multiplexity's effect on the spread. While the effects suggest that no differences exist in the coefficients between periods, a finding most likely due to the similar economic conditions in each period, the dissimilarities in the composition of the two samples do provide additional evidence in support of the generalizability of embeddedness' main effects.

Consistent with our expectations about the effect of social capital, the duration and multiplexity of the bank-firm relationship *increases* the probability of obtaining a best deal and decreases the probability of incurring a worst deal in the nested models and the full model (2-sided test at $P < .01$). Similarly, as hypothesized, network complementary *increases* the probability of receiving a best deal and decreases the probability of incurring a worst deal. The linear coefficient of network complementarity is negative and significant and the quadratic term is positive and significant in line with our hypothesis that a network with

a complementary mix of embedded and arm's-length ties provide premium governance benefits. That is, firms with predominantly arm's-length ties and those with predominantly embedded ties get worse deals than those with a complementary network utilizing both embedded and arm's-length ties.

These inferences are supported by the results of network size, which present the conventional argument that network size is positively related to governance benefits. Contrary to conventional arguments but consistent with the embeddedness approach, the models show that network size is negatively related to governance benefits. This suggests that those firms with large networks lose *rather than gain* governance benefits. A large number of ties may expand a firm's capacity to identify potential deals but the governance characteristics of those deals are lower. These two findings suggest that embeddedness not only promotes governance benefits for individual elements of loans, but that it also promotes governance benefits for the entire loan package.

The results also indicate that embeddedness has a proportionately larger effect on reducing the probability of a worst deal than on increasing the probability of a best deal, in terms of both the probability of occurrence (*i.e.*, the y-intercept) *and* magnitude of effect (*i.e.*, slope). Thus, while banks can share the benefits of embeddedness by refraining from imposing worst deal contracts and granting best deal contracts, they are empirically more likely to share governance benefits through the former course of action. This effect is consistent with the inference that embeddedness promotes Pareto improved deal-making, rather than the financial theory argument that banks use relationships to exploit information monopolies over firms. Banks appear likely to mutually share the governance benefits of embeddedness in ways that make firms better off but themselves no worse off. Presumably, a decrease in the probability of giving a firm a worst deal heightens the bank's risk of underwriting an unprofitable loan, but only in case of foreclosure. In contrast, sharing the benefits of embeddedness for best deals, while still a statistically significant outcome, more immediately affects the loan's income streams. Thus, midcap firms avert the worst case scenario that can arise as a consequence of their unilateral dependence on banks. Our inference is that these Pareto improved outcomes would not occur in the absence of embeddedness. Embeddedness improves governance and motivates attempts to productively mutually redistribute its benefits.

Discussion

In contrast to the current literature on community development, which focuses on how formal governance devices such as contracts reduce credit costs, we qualitatively and quantitatively examined the role of social capital in lowering capital costs using a social embeddedness approach. Consistent with our embeddedness argument, banks and firms that rely on embedded ties appear to gain benefits that surpass formal mechanisms, even if they work in concert with formal mechanisms. The fieldwork suggested that embedded ties create expectations of trust and reciprocity that facilitate governance by eliminating the need for costly formal governance arrangements — thereby freeing resources for other productive uses. Embeddedness also promotes private knowledge transfer, which communicates where the distinctive competencies of the firm reside, enabling network partners to find Pareto improved solutions to exchange problems. Specifically, statistical analyses showed that firms tied to their lender through embedded ties and that have a banking network with a complementary mix of embedded and arm's-length ties are less likely to have collateral taken or pay high premiums as a condition of a loan. The benefits of embedded ties can become self-compromising at the network level if a firm maintains only embedded ties because they limit access to novel information in the market, even if they encourage open bilateral exchange. This criticism of networks suggests that one liability of embeddedness is that the benefits of its self-organizing governance may also be a source of compromise that can undermine its advantages.

These results suggest that social capital is not as straightforward a benefit as has been thought (Putnam, 1993). Having more social capital within a community is important, but if the community loses access to information within the larger lending market, the returns to social capital reverse. Too much social capital prevents businesses from knowing about new governance arrangements used by other banks because of their over-embeddedness with local community banks or branches, and so end up having higher costs on the loan than they would if they also had arm's length relationships with banks outside of the community. This implies that small- and medium-sized businesses need access to both local sources of capital, who know the local conditions and local entrepreneurs, but also access to the larger lending market which provides access to market information. Thus, community development is fostered both by local banks with high levels of social capital within the community and giving firms access to banks outside the community for greater access to market information.

These results have important implications for understanding the role of capital in community development. The recent trend in consolidation of the banking industry threatens those local banks that are more likely to lend in their local community (Immergluck and Mullen, 1998; Squires and O'Connor, 1998). While consolidation does not necessarily reduce the ability of small business to acquire capital (Strahan and Weston, 1996), it can reduce the ability of firms to access credit from a number of banks, the costs of credit could increase, adversely affecting both firms and banks by not applying Pareto optimal governance structures on loans.

Recent research on the use of credit scoring technologies used by large banks has shown that these technologies increase the access of credit from large banks for small and mid-sized firms, and make these loans more attractive to large banks (Peek and Rosengren, 1998). Our results indicate that this decreases the cost of credit for firms that are able to access larger institutions. However, there is a danger from these practices becoming too widespread, since the benefits of complementary networks would be eliminated if there were not the same access to private information that is difficult when credit scoring is used, because of its reliance on public and standardized information.

Finally, the economic benefits for embedded ties might not be the same for all entrepreneurs, especially women and minorities who might not be able to develop the same social relations with banks that white men are able to. As Uzzi (1999) argues:

The "scripts" that white male RMs use to forge ties with white male entrepreneurs are "coded differently by minorities and women because relationship-building involves contextually defined activities. These differences may therefore unintentionally hamper the formation of embedded ties between groups that use alternative scripts. Thus, one tentative conclusion is that prejudices against an out-group may explain only part of the discrepancy in lending because collaboration among in-group members improves access for in-group members, even if out-group bias does not exist. Thus, if these provisos are correct they suggest that in-group effects may be as important as out-group effects in explaining market stratification. They also suggest that the systems lenders use to select and train RMs in relational practices can improve minorities' access to credit, as well as lenders' ability to attract the business of undervalued firms. (1999: 801-802).

Thus, while the use of embedded ties and complementary networks might be advantageous to entrepreneurs seeking credit, these same relations might also hinder members of under-represented groups. Using formal rating procedures, such as credit scoring to prevent this effect might also fail in bringing access to capital and credit, might still disproportionately affect minorities (Ladd, 1998). However, the value of informal governance arrangements in motivating Pareto improved outcomes suggests that it is better for banks, and the firms with whom they trade, if they recruited RMs from these under-represented groups and modified their training with an eye to potential in-group bias, than if they adopted only formal rating procedures without using relationships to access private information.

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Table 1 (continued)
Ordered Probit Estimates of the Effects of Embeddedness on Joint Loan Governance Costs.
SSBF 1989 and 1993, Pooled Repeated Survey Design.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Independent Variables									
Organization Characteristics									
Employment size									
Age of firm					-.038 (.020)	-.059** (.021)	-.045* (.021)	-.058** (.021)	-.046* (.022)
Sales change					-.007*** (.001)	-.004** (.001)	-.007*** (.001)	-.007*** (.001)	-.004* (.001)
Corporation (0/1)					.000 (.002)	-.000 (.002)	-.000 (.002)	-.000 (.002)	-.000 (.002)
Cash on hand					.065 (.056)	.058 (.056)	.061 (.056)	.067 (.056)	.057 (.056)
Size of deposit accounts With lender					-.025** (.008)	-.025** (.008)	-.026*** (.008)	-.024** (.008)	-.023** (.008)
Debt ratio					-.020 (.011)	-.020 (.011)	-.019 (.011)	-.020 (.011)	-.019 (.011)
Loan Characteristics					.061* (.029)	.049 (.029)	.057* (.029)	.056 (.029)	.051 (.029)
Prime rate					-.272*** (.029)	-.269*** (.029)	-.272*** (.029)	-.274*** (.029)	-.270*** (.029)
Loan term					.002*** (.000)	.002*** (.000)	.002*** (.000)	.002*** (.000)	.002*** (.000)
Fixed rate loan (0/1)					-.424*** (.045)	.357*** (.047)	.340*** (.047)	.354*** (.047)	.348*** (.047)

Table 1 (continued)
Ordered Probit Estimates of the Effects of Embeddedness on Joint Loan Governance Costs.
SSBF 1989 and 1993. Pooled Repeated Survey Design.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Independent Variables									
Market Characteristics									
Bank competition			.077 (.047)	.070 (.048)	.049 (.048)	.053 (.048)	.050 (.048)	.047 (.048)	.049 (.048)
MSA location (0/1)			-.073 (.051)	-.031 (.052)	-.000 (.053)	-.017 (.054)	-.007 (.053)	-.007 (.053)	-.025 (.054)
Year (1=1993)			-.363*** (.048)	-.723*** (.080)	-.683*** (.082)	-.695*** (.082)	-.750*** (.085)	-.687*** (.082)	-.757*** (.085)
Cut Point 1			-2.125 (.125)	-1.912 (.160)	-1.093 (.212)	-3.224 (.335)	-3.887 (.352)	-3.917 (.354)	-3.831 (.370)
Cut Point 2			-.661 (.121)	-.440 (.158)	-.348 (.212)	-1.705 (.332)	-2.336 (.348)	-2.437 (.350)	-2.272 (.360)
Number of observations	2,805	2,805	2,829	2,767	2,763	2,740	2,763	2,763	2,740
Chi-squared	123.58	143.17	55.37	269.69	359.49	375.57	377.70	380.25	393.52

*p < .05 ; **p < .01; ***p < .001 (two-tailed tests). Coefficients reported with standard errors in parentheses. Estimates for 2 digit SIC codes are included in equation but not shown. The dependent variable has 3 categories: 1 = Loan has no collateral and a small spread; 2 = Loan has either no collateral and a large spread or collateral and a small spread; or 3 = Loan has collateral and a large spread.

Notes

¹ While these arguments suggest that embeddedness can provide governance benefits, current reasoning holds that arm's-length ties, which are low in embeddedness, generate governance benefits by increasing and actor's access to public information. The strategic implication is that actors that construct expansive networks of arm's-length ties can reduce their bilateral dependence and costs of monitoring and enforcing agreements with less informed actors (Burt; 1997). Consistent with this argument, Mizruchi and Stearns (1994) reported that big firms with large networks of arm's-length ties to their banks gained better access to financing.

² See Uzzi (1999) for a complete description of the field methods.

References

Angbazo, Lazarus A., Jianping Mei, and Anthony Saunders. "Credit Spreads in the Market for Highly Leveraged Transaction Loans." *Journal of Banking and Finance*, 1998, 22, pp. 1249-1282.

Arrow, Kenneth J. "What Has Economics to Say About Racial Discrimination." *Journal of Economic Perspectives*, 1998, 12, pp. 91-100.

Baker, Wayne E. "Market Networks and Corporate Behavior." *American Journal of Sociology*, 1990, 6, pp. 589-625.

Baker, Wayne E. *Networking Smart: How to Build Relationships for Personal and Organizational Success*, New York: McGraw-Hill, Inc, 1994.

Beveridge, Andrew A. "Local Lending Practice: Borrowers in a Small Northeastern Industrial City, 1832-1915." *Journal of Economic History*, 1985, 45, pp. 393-403.

Blau, Peter M. *Exchange and Power in Social Life*. New York: Wiley, 1964.

Borgatti, Stephan P., and Scott L. Feld. "How to Test the Strength of Weak Ties Theory." *Connections*, 1994, 17, pp. 45-46.

Burt, Ronald S. "The Contingent Value of Social Capital." *Administrative Science Quarterly*, 1997, 42, pp. 339-365.

Carruthers, Bruce G., and Terence G. Halliday. *Rescuing Business: The Making of Corporate Bankruptcy Law in England and the United States*, Oxford: Oxford University Press, 1998.

Davis, Gerald F., and Mark S. Mizruchi. "The Money Center Cannot Hold: Commercial Banks in the U.S. System of Corporate Governance," *Administrative Science Quarterly*, 1999, 44, pp. 215-239.

Dore, Ronald. "Goodwill and the Spirit of Market Capitalism," *British Journal of Sociology*, 1983, 34, pp. 459-482.

Dyer, Jeffrey H. "Improving Performance by Transforming Arms-Length Relationships to Supplier Partnerships: The Chrysler Case," *Organization Science*, 1999.

Eccles, Robert G., and Dwight B. Crane. *Doing Deals: Investment Banks at Work*, Boston, MA: Harvard Business School Press, 1988.

Firebaugh, Glenn. *Analyzing Repeated Surveys*, Thousand Oaks, CA: Sage, 1997.

Fukuyama, Francis. *Trust, Social Virtues and the Creation of Prosperity*, New York: Free Press, 1995.

Gambetta, Diego. *Trust: The Making and Breaking of Cooperative Relations*, London: Blackwell, 1988.

Granovetter, Mark. "Economic Action and Social Structure: The Problem of Embeddedness," *American Journal of Sociology*, 1985, 91, pp. 481-510.

Gulati, Ranjay. "Does Familiarity Breed Trust? The Implications of Repeated Ties for Contractual Choice in Alliances," *Academy of Management Journal*, 1994, 38, pp. 85-112.

Iacobucci, Dawn, and Amy Ostrom. "Commercial and Interpersonal Relationships; Using the Structure of Interpersonal Relationships to Understand Individual-to-Individual, Individual-to-Firm, and Firm-to-Firm Relationships in Commerce," *International Journal of Research in Marketing*, 1996, 13, pp. 53-72.

Immergluck, Daniel and Erin Mullen. *Getting Down to Business: Assessing Chicago Banks' Small Business Lending in Lower-Income Neighborhoods*, Woodstock Institute, 1998.

Kolb, Robert W., and Ricardo J. Rodriguez. *Financial Markets*, Cambridge, MA: Blackwell Publishers, Inc, 1996.

Lazega, Emmanuel, and Philippa E. Pattison. "Multiplexity, Generalized Exchange and Cooperation in Organizations: A Case Study," *Social Networks*, 1999, 21, pp. 67-90.

Lento, Rochelle. "Community Development Banking Strategy for Revitalizing Our Communities," *University of Michigan Journal of Legal Reform*, 1994, 27, pp. 773-812.

Macneil, Ian. *The New Social Contract*, New Haven, Conn.: Yale University Press, 1980.

Marsden, Peter V., and Karen E. Campbell. "Measuring Tie Strength," *Social Forces*, 1984, 63, pp. 482-501.

Mayer, Martin. *The Bankers: The Next Generation*. New York: Truman Talley Books/Dutton, 1997.

McAllister, Daniel J. "Affect- and Cognition-Based Trust as Foundations for Interpersonal Cooperation in Organizations," *Academy of Management Journal*, 1995, 38: pp. 24-59.

Mintz, Beth, and Michael Schwartz. *The Power of Structure of American Business*, Chicago: The University of Chicago Press, 1985.

Mizruchi, Mark S., and Linda B. Stearns. "Money, Banking, and Financial Markets," In Neil J. Smelser and Richard Swedberg (eds.), *Handbook of Economic Sociology*, pp. 313-341. Princeton, NJ: Princeton University Press, 1994.

Padhi, Michael S.; Lynn W. Woolsey, and Aruna Srinivasan. "Credit Scoring and Small Business Lending in Low- and Moderate- Income Communities," In Jackson L. Blanton, Alicia Williams, Sherrie L.W. Rhine (eds.), *Access to Capital and Credit: A Federal Reserve System Research Conference Proceedings*, 1999.

Peek, Joe and Eric S. Rosengren. "The Evolution of Banking Lending to Small Business," *New England Economic Review*, 1998, 2, pp. 27-36.

Petersen, Mitchell A., and Raghuram G. Rajan. "The Benefits of Lending Relationships: Evidence from Small Business Data," *The Journal of Finance*, 1994, XLIX, pp. 3-37.

Petersen, Mitchell A., and Raghuram G. Rajan. "The Effect of Credit Market Competition on Lending Relationships," *Quarterly Journal of Economics*, 1995, 110, pp. 407-443.

Powell, Walter W.; Kenneth W. Koput, and Laurel Smith-Doerr. "Interorganizational Collaboration and the Locus of Innovation: Networks of Learning in Biotechnology," *Administrative Science Quarterly*, 1996, 41, pp. 116-145.

Putnam, Robert D. *Making Democracy Work: Civil Traditions in Modern Italy*, Princeton, NJ: Princeton University Press, 1993.

Rogers, David. *The Future of American Banking: Managing for Change*, New York: McGraw-Hill, Inc., 1993.

Scott, Richard W. *Institutions and Organizations*. Thousand Oaks, CA: SAGE Publications, 1995.

Smelser, Neil J., and Richard Swedberg. "The Sociological Perspective on the Economy," In Neil J. Smelser and Richard Swedberg (eds.), *The Handbook of Economic Sociology*, pp. 3-26. Princeton, NJ: Princeton University Press, 1994.

Spulber, Daniel F. *Market Microstructure*. Cambridge: Cambridge University Press, 1999.

Squires, Gregory D. and Sally O'Connor. "Access to Capital: Milwaukee's Small Business Lending Gaps." In Jackson L. Blanton, Alicia Williams, Sherrie L.W. Rhine (eds.), *Access to Capital and Credit: A Federal Reserve System Research Conference Proceedings*, 1999.

Stinchcombe, Arthur L. "Contracts as Hierarchical Documents," In Arthur L. Stinchcombe and Carol Heimer (eds.), *Organizational Theory and Project Management*: pp. 121-171. Oslo: Norwegian University Press, 1985.

Strahan, Philip E. and James Weston, "Small Business Lending and Bank Consolidation: Is There a Cause for Concern?" *Current Issues in Economics and Finance*, 1996, 2(3).

Udell, Gregory F. "The Small Business Lending Relationship." In Jackson L. Blanton, Alicia Williams, and Sherrie L. W. Rhine (eds.), *Business Access to Capital and Credit: A Federal Reserve System Research Conference Proceedings*, pp. 503-514. Chicago: Federal Reserve Bank of Chicago, 1999.

Uzzi, Brian. "The Sources and Consequences of Embeddedness for the Economic Performance of Organizations," *American Sociological Review*, 1996, 61, pp. 674-698.

Uzzi, Brian. "Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness," *Administrative Science Quarterly*, 1997, 42, pp. 35-67.

Uzzi, Brian. "Embeddedness and the Making of Financial Capital: How Social Relations and Networks Benefit Firms Seeking Financing" *American Sociological Review*. 1999, 64, pp. 481-505.

Uzzi, Brian and James Gillespie. "What Small Firms Get Capital and at What Cost: Notes on the Role of Social Capital and Banking Networks." In Jackson L. Blanton, Alicia Williams, Sherrie L.W. Rhine (eds.), *Access to Capital and Credit: A Federal Reserve System Research Conference Proceedings*, 1999.

Williamson, Oliver E. "Corporate Finance and Corporate Governance," *The Journal of Finance*, 1988, XLIII, pp. 567-591.