The Money Center Cannot Hold: Commercial Banks in the U.S. System of Corporate Governance

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This paper examines how the place of banks in the intercorporate network has changed as a result of their decreasing role as financial intermediaries in the U.S. economy. An analysis of comprehensive data on the boards of the fifty largest banks and their connections with the several hundred largest nonbank corporations from 1982 to 1994 shows that the centrality of banks has significantly declined as executives of major corporations, particularly those representing central firms, joined bank boards at a substantially lower rate. Declining centrality reflects a strategic choice on the part of the banks: as the returns available from lending to major corporations have declined, the largest banks have moved into other forms of business and reduced their recruiting of centrally located directors. We conclude with a discussion of the role of financial intermediation in shaping the social organization of the economy.•

In corporate governance, the economic and the social are inextricably linked. Board members are typically recruited from among friends and acquaintances of current directors. Conversely, relations that begin as economic ties often become overlaid with social relations, and the resulting social structures shape corporate decision making. Board interlocks, created when two firms share a director, may reflect a number of economic and social influences ranging from coopting powerful suppliers to extending relations from golf course to boardroom. Regardless of their origins, they lend a social organization to the economy that in turn influences economic and political decisions (Mizruchi, 1996). Chief Executive Officers (CEOs) get higher salaries when their outside directors are well paid (O'Reilly, Main, and Crystal, 1988), and firms adopt takeover defenses or engage in takeovers themselves when they share directors with other firms that have done so (Davis, 1991; Haunschild, 1993). Corporations tied to the same financial institutions make the same sorts of political contributions (Mizruchi, 1992). More heavily interlocked firms are opinion leaders whose actions are more likely to be imitated (Davis and Greve, 1997), while they are also more susceptible to normative pressure in the social system of corporations (Useem, 1984). Specific interlocks, and the overall configuration of the interlock network, thus shape economic decisions in important ways. Researchers' burgeoning interest in the role of board interlocks in corporate governance attests to the economic influence of those social ties, but less attention has been paid to changes in the intercorporate network in recent years that may affect the prominence of one central institution in the network, the commercial bank.

Virtually all research has found banks to be the most central firms in the network, arguably reflecting the importance of their influence in directing capital flows (Mintz and Schwartz, 1985; Mizruchi, 1996). By providing a stable core to the intercorporate network, researchers have argued, banks have anchored the social organization of business. Yet the centrality of banks to corporate capital flows has changed substantially in the past 15 years, spurred by technological advances and regulatory changes that have opened up a variety of alternative methods of financing for U.S. corporations and at-

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tractive alternative institutions in which households can place their savings (Kaufman, 1993). Large bank mergers and notable bank dissolutions have reshaped the banking industry, including the identities and strategies of the most important players (Barth, Brumbaugh, and Litan, 1992). How has this industry restructuring affected the place of banks in the intercorporate network and the shape of this network more generally? This paper seeks to answer these questions by analyzing comprehensive data on the boards of the fifty largest bank holding companies in the United States and their connections with the several hundred largest nonbank corporations from 1982 to 1994.

THE ROLE OF COMMERCIAL BANKS IN GOVERNANCE

Historical Role

Research on bank interlocks can claim perhaps the most distinguished lineage in the field of economic sociology. Concern about concentrating economic power in the hands of banks runs deep in American history. When he issued the veto that killed the first bank with a national scope in the U.S. in 1832, Andrew Jackson stated, "It is easy to conceive that great evils to our country and its institutions might flow from such a concentration of power in the hands of a few men irresponsible to the people" (quoted in Roe, 1994: 58). In the 70 years that followed, however, commercial banks grew in size and strength.

One concomitant of the wave of mergers that consolidated national industries at the turn of the twentieth century was the increasing national prominence of the banks that helped arrange the mergers. Woodrow Wilson argued in 1911 that "the great monopoly in this country is the money monopoly. A great industrial nation is controlled by its system of credit. Our system of credit is concentrated. The growth of the nation, therefore, and all our activities are in the hands of a few men" (quoted in Brandeis, 1914: 1). Brandeis (1914) detailed the use of board interlocks as a means of domination by investment bankers (particularly J. P. Morgan and his associates) and the insurance companies and depository banks that they controlled.[1] "When once a banker has entered the Board—whatever may have been the occasion—his grip proves tenacious and his influence usually supreme; for he controls the supply of new money" (p. 11). In discussing interlocking directorates, Brandeis argued that "the practice of interlocking directorates is the root of many evils. It offends laws human and divine," creating an "endless chain" of ties that is "the most potent instrument of the Money Trust" (pp. 51, 52).

Although intimations of sinister networks controlled by moneyed elites are now taken as evidence of paranoia, Brandeis was not far wrong in his characterization of the endless chain of interlocks. In 1912, partners from New York's five largest investment banks collectively held 341 directorships on 112 large corporate boards (Neiva, 1996), and control of commercial and investment banks was substantially intermingled through the operations of the "Morgan interests" (Brandeis, 1914). By the late 1920s, the distinction between commercial and investment banks had begun to blur, as al-

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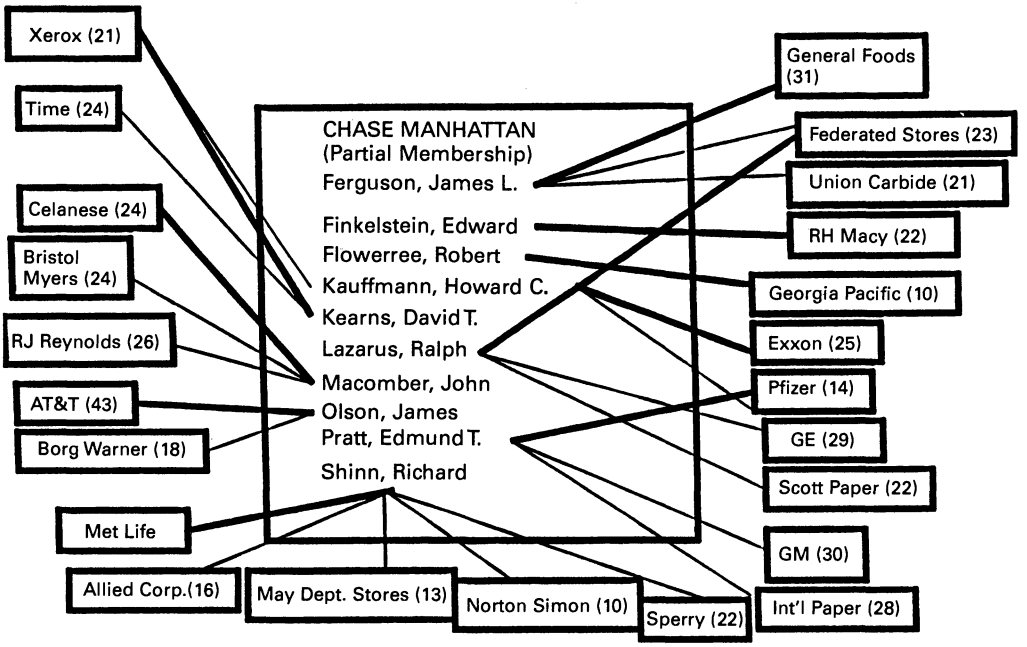
Brandeis counted 34 banking institutions "in which the Morgan associates [held] a predominant influence" (1914: 63–64).

most half of new securities offerings went through affiliates of commercial banks (Roe, 1994: 95). This practice halted with the Glass-Steagall Act of 1933, which prevented commercial bank affiliates from dealing in securities. Along with prior legislation preventing banks from operating branches in more than one state and from owning stock in industrial corporations, the potential size and scope of commercial banks—and thus their potency in influencing corporate decision making—were severely limited.

Yet theorists and politicians continued to point to the potential power in corporate governance wielded by so-called money-center banks—banks located in Chicago, San Francisco, Los Angeles, and particularly New York that have historically transacted the most business with major U.S. corporations. Bank-control theorists argued that through ownership stakes held via their trust departments and their control over loan capital, banks controlled a substantial number of the largest American corporations (Kotz, 1978). Financial hegemony theorists held that banks rarely used their power overtly but that because of their unique control of short-term lending they were able to exercise broad power (Mintz and Schwartz, 1985). In flush times, firms can rely on internal financing (by retaining earnings) or use nonbank sources of short-term debt (such as commercial paper). But when cash flows are tighter, they must turn to commercial banks, which control quick capital. Banks thus can constrain the actions of firms during contraction periods of the business cycle and are able to shape the subsequent direction of the economy in subtle but important ways. Stearns (1986) elaborated this line of thinking, finding that the two decades after the Second World War saw high levels of internal corporate financing coupled with increasing household savings deposited in financial institutions, both of which enhanced managerial control. Subsequent years (1966–1980) saw a greater reliance on external financing, particularly short-term bank loans, which increased financial control. In short, the financial dependence of corporations, and thus the power of financial institutions, varied with the relative availability of internal and external funds (Stearns, 1986).

An indication of the privileged position of banks in the American system of governance is the fact that, for decades, commercial banks shared directors with many more firms on average than did nonbanks (Mariolis and Jones, 1982). Bank directors in turn tended to be executives and directors of heavily interlocked nonbanks. The result was that banks habitually dominated the list of the most central corporations. Figure 1 shows the composition of the board of the Chase Manhattan Corporation, parent company of Chase Manhattan Bank NA, in 1982. At that time, the Chase board had top executives from Ford Motor Company, General Foods, R. H. Macy, Exxon, Xerox, Federated Department Stores, Celanese, AT&T, Pfizer, Cummins Engine, Continental Group, Bethlehem Steel, Armco, and Chesebrough-Ponds, and the retired chairmen of Georgia-Pacific, Metropolitan Life Insurance, and Standard Oil of Indiana (later renamed Amoco). Chase's directors collectively sat on the boards of 42 separate large corporations, and the directors of these 42 corporations in turn sat on the boards of 239 other large corpora-

Figure 1. Chase Manhattan board of directors, 1982.*



* Thick lines denote executives of the linked board. Numbers in parentheses are the number of interlocks of the linked board.

tions. Thus, of the 648 largest American corporations in 1982, directors of 43 percent of them either served on the Chase board or served on other boards with Chase directors. Among the 42 direct ties were several firms in competing industries: six firms in pharmaceuticals and chemicals; four department stores; four paper manufacturers; two auto companies and two auto suppliers; three oil companies; and three computer makers. In spite of almost seven decades of restrictive banking regulations, Brandeis's "endless chain" was a surprisingly apt term even in 1982.

It is possible, of course, that the chronic centrality of banks is meaningless. Director interlocks, with banks or other organizations, may map onto nothing more important than geographic proximity: a board has to have directors, and executives who live in the neighborhood are at least as appropriate as anyone else to fill the board's slots. But a series of studies documents the pervasive influence of bank interlocks on significant corporate decisions. Strong bank ties—those created when the shared director is either an executive of the bank or of the nonbank firm on whose board he or she serves—have received the most attention. One study found that corporations tended to appoint bankers to their boards when the firms' solvency and profitability were low and when their need for capital corresponded with macroeconomic conditions such as declining interest rates or a contraction stage in the business cycle (Mizruchi and Stearns, 1988; cf. Stearns, 1986). In contrast, firms whose executives were appointed to bank boards tended previously to have been more profitable, suggesting that banks recruited directors from among the executives of successful firms (Richardson, 1987). When ties to financial institutions were disrupted

by the death or retirement of the director, they were much more likely to be reconstituted than were ties to nonfinancials, suggesting that such ties served a business function and were not merely social (Palmer, Friedland, and Singh, 1986; Stearns and Mizruchi, 1986).

Bank ties have two types of effects. The most obvious ones are linked to the business relations between banks and nonbanks. Firms' choices regarding levels of debt tend to reflect who is on their board: firms with executives of financial institutions on their boards are more likely to borrow than those without (Mizruchi and Stearns, 1994b). Financial ties influence the specific form of financing as well: corporations with investment bankers on the board are more likely to issue bonds, whereas firms with commercial bankers on the board are likely to take on short-term debt (Stearns and Mizruchi, 1993). Moreover, these business relations are often with the financial institution represented on the board (Mizruchi, Potts, and Allison, 1993), although there is some variation in the prevalence of business relations between financials and nonfinancials that share directors (see Baker, 1990, on investment banks).[2] On the bank's side, ties to businesses are correlated with the types of loans banks do: banks that are heavily interlocked with business are more likely to emphasize commercial and industrial loans, whereas banks less tied to businesses focus more on home mortgages (Ratcliff, 1980). In other words, the level of bank centrality reflects the corporate strategy of the bank, with major corporate lenders more central. To date, however, we know of no research that has directly disentangled which is cause and which is effect—that is, whether centrality drives banks to lend to business or whether going after corporate business drives banks to seek centrality.

Bank ties also have less obvious unintended consequences. For an individual firm, corporate interlocks provide business scan—access to information about other sectors of the economy—which is more expansive to the extent that the tie is with a central firm (Useem, 1984). Because of their central location in the interlock network as well as their unique role in the economy, commercial banks are privileged in the types of information to which they have access. Historically, they have been uniquely successful in recruiting outside directors from heavily interlocked firms who themselves serve on several boards (Mintz and Schwartz, 1985: 154). They are better able to recruit such "corporate diplomats" than even the largest nonfinancial firms because bank board membership provides information about capital flows as well as access to other corporate diplomats on the board. Thus, banks and the firms their outside directors represent mutually benefit from banks' network centrality.

Some theorists have argued that providing an institution for regular interaction among corporate diplomats has unintended effects in knitting together the corporate elite as a whole. Useem (1984) argued that institutions that bring together multiple directors, such as business policy groups (the Business Roundtable, the Business Council) and bank boards, provide a means for the corporate elite to aggregate their collective political interests and hammer out differences outside the public eye. As a result, the elite could present a

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Mizruchi, Potts, and Allison's (1993) study revealed that in cases of officers of financial firms sitting on the boards of Fortune 500 manufacturing firms in 1981, 48.5 percent were accompanied by a business transaction. This figure was only 26.5 percent for ties in which officers of a nonfinancial firm sat on the board of a financial. In cases of interlocks created by directors who were officers of neither firm, only 15.1 percent were accompanied by a business transaction.

unified front to governmental bodies. Although the evidence on class-conscious action by the corporate elite is mixed at best, evidence for the importance of specific mechanisms for facilitating cohesion in political activism is fairly strong. Mizruchi (1992) found that firms in economically interdependent industries, and particularly those interlocked with the same banks, were more similar in the portfolios of candidates to which their political action committees contributed. His argument does not suggest that firms create economic interdependence, or even bank interlocks, in order to establish a social infrastructure for political cohesion, but these relations nonetheless promote cohesion fortuitously. By anchoring the interlock network, bank boards provided a mechanism for political and governance cohesion among the corporate elite, albeit unintentionally. They thus served a unique social function in the American system of corporate governance beyond the specific role of banks in the economy until about 1980.

Changing Role of Commercial Banks

In the fifteen years after 1980, the U.S. banking industry changed dramatically (Berger, Kashyap, and Scalise, 1995: 55). To overstate slightly, large American corporations ceased looking to commercial banks for loans, and banks could no longer make such loans profitably, while businesses that were traditionally the exclusive domains of banks were opening to a variety of new competitors. These changes in the fundamental economics of the industry, coupled with substantial shifts in the regulatory regime, led the largest banks either to change strategies or to disappear. Indications of industry transformation are many. The number of commercial banking organizations declined by one-third, from 12,463 in 1979 to 7,926 in 1994 (Berger, Kashyap, and Scalise, 1995: table 1). Loans from U.S. banks dropped from 20.5 percent to 14.5 percent as a percentage of corporate debt among nonfinancial firms between 1980 and 1994 (James and Houston, 1996: 11); correspondingly, business loans declined and real estate loans increased almost to the point of parity within banks' portfolios (Kaufman, 1993). The nominal value of commercial and industrial loans held by FDIC-insured U.S. banks in 1994 ($589 billion) was only modestly larger than it was in 1982 ($504 billion) and roughly equaled the value of outstanding commercial paper (Federal Deposit Insurance Corporation, 1996: table CB-11; Mayer, 1997: 210).

Banks' stagnant corporate lending business resulted not from a flat economy but from the proliferation of alternative funding sources for corporate borrowers. "What were once the safest borrowers—blue-chip corporations—essentially have deserted banks as sources of funds, finding it cheaper instead to borrow directly by issuing commercial paper," and non-blue-chip borrowers increasingly gained access to the corporate paper market as well (Barth, Brumbaugh, and Litan, 1992: 65). By the mid-1990s, the largest American commercial lender and leaser was not a bank but GE Capital, which (unlike the banks) could provide other management services that help prevent loans from going bad (Mayer, 1997).

As a result of their declining franchise among large corporate borrowers, money-center banks pursued riskier clients in the

1980s, resulting in large increases in charge-offs due to uncollectable loans. In contrast to the earlier part of this century, the primary concern expressed by politicians about banks was not whether they were too powerful, but whether they could survive at all. In July 1991, Congressman John Dingell, chairman of the House Committee on Energy and Commerce, went as far as to claim that Citicorp—then the nation's largest bank—was "technically insolvent" and "struggling to survive" (quoted in Barth, Brumbaugh, and Litan, 1992: 54). The industry restructured through bank failures (Continental Illinois in 1984; First Republic and Mcorp in 1988; the Bank of New England in 1991) and through mergers too numerous to recount. The prospects of the banks that remained were uncertain: while nine U.S. banks had a long-term AAA debt rating from Moody's in 1986, by 1993 only Morgan still did (Mayer, 1997: 220).

By the early 1990s, pronouncements about the extinction of commercial banking were commonplace. Dick Kovacevich, CEO of Norwest, summarized what had almost become conventional wisdom: "The banking industry is dead, and we ought to just bury it" (quoted in James and Houston, 1996: 8), but bank profits rebounded in the mid-1990s. For many banks, the upturn did not result from a large-scale return of corporate borrowers but, rather, from a shift away from pursuing net interest income (revenues from lending funds at a higher interest rate than it costs to acquire them) and toward fee-based businesses (e.g., securities underwriting, advisory work, money management). The notable success stories among commercial banks were precisely those that came to look most like investment banks, such as J. P. Morgan and Bankers Trust New York (Rogers, 1993). J. P. Morgan, for instance, began advertising itself as the "fastest growing equities house on Wall Street"—a remarkable claim for a commercial bank holding company that had traditionally been barred from such activities. Bankers Trust also moved into territory traditionally held by investment banks (most notoriously through its participation in derivatives markets). By 1995, sources other than lending accounted for most of the operating revenues of Citicorp and First Chicago, and there was general agreement that the future of banking was in fee-based businesses such as cash management services, not lending. Moreover, what corporate lending the money-center banks continued to do was often outside the U.S. Citicorp's balance sheet reported $36.9 billion in commercial and industrial loans in offices outside the U.S. and only $8.7 billion in U.S. offices at the end of 1996; for J. P. Morgan the comparable figures were $12 billion and $1.9 billion.

Underlying the shift in strategies of commercial banks was a structural shift in the nature of the industry. Banks' historical competitive advantage consisted in part of having extensive information about potential borrowers, who were also often depositors. Geographic proximity and shared directors complemented business ties as information channels (Friedland and Palmer, 1994). But as a result of technological changes, extensive credit files on major U.S. borrowers became widely available at low cost, obviating the need for banks and their loan officers. Developments in information

technology continued to erode the information advantages held by banks, whether the information was attained through business relations, spatial proximity, or director interlocks. John Reed, CEO of Citicorp, forecast in 1996 that he expected banking to become "a little bit of application code in a smart network" (quoted in Mayer, 1997: 34).[3] Banks increasingly sold loans out of their portfolios by securitizing them (that is, bundling loans into packages and selling shares of them as securities). Technology enabled international markets for these and other financial assets, and markets with more potential players reduced the returns available (Barth, Brumbaugh, and Litan, 1992). On the other side, depositors who had settled for low interest-bearing accounts at banks found increasingly attractive alternatives such as mutual funds, money market funds, pension funds, and financial service firms offering better returns than bank deposits. In short, banks lost both depositors as a low-cost source of funds and high-quality borrowers as a profitable use of those funds, forcing the banks to look for alternative types of business.

When put in this context, the commonly cited measures of banking decline (dwindling numbers of banking organizations, declining assets relative to other financial institutions, and a shrinking share of corporate debt financing) are more appropriately seen as signs of banks' move toward more profitable off-balance-sheet activities (James and Houston, 1996). To be sure, this shift was most evident among the money-center banks that were the traditional lenders to large corporations. But the traditional money-center banks no longer monopolized the ranks of the industry giants. By the mid-1990s, regional banks outside the traditional money centers had achieved superregional scale by pursuing aggressive acquisition programs that were enabled by lowered regulatory barriers to operating across state boundaries. In 1997, the third- and sixth-largest U.S. banks were headquartered in Charlotte, North Carolina (NationsBank and First Union), number eight was in Cleveland (Banc One), but none was in Los Angeles. Deregulation also enabled both money-center and regional banks to become more universal in scope and engage in traditional investment banking activities, as is common elsewhere in the world (Berger, Kashyap, and Scalise, 1995; Calomiris and Ramirez, 1996).

The changes that occurred in this 15-year period left many of the players that remained with substantially different strategies and structures. It is crucial to recognize that this was not simply a low point for commercial banks in the cycle described by Stearns (1986) but, rather, a fundamental structural shift for the industry. The system of financial intermediation in the U.S.—traditionally highly decentralized—has become dispersed to a degree unique in the industrialized world. As former Securities and Exchange Commission Chairman Richard Breeden put it, in other industrialized countries "investment decision-making is concentrated in the hands of just a few dozen gatekeepers at banks and investment firms," whereas the U.S. has "literally hundreds of gatekeepers in our increasingly decentralized capital markets" (*Wall Street Journal,* 1996: A1). The prospect that a few financial institutions will exercise a chokehold on the

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GE Capital, in contrast, has access to extensive proprietary data gathered by the GE Corporation on corporate clients across all lines of business worldwide, which for GE includes a vast range of industries (Curran, 1997: 134).

flow of capital, as envisioned by Wilson and Brandeis, appears quite remote.

But what are the consequences for the social organization of the economy? What about the old gatekeepers—the commercial banks? One possibility is that, without an economic infrastructure to support them, bank boards will wither in importance. A more intriguing possibility is that banks will continue to serve their social role as congealer of the corporate elite. Natural history is replete with instances of adaptations that initially served one purpose but then evolved to serve another for which they were fortuitously appropriate. Moreover, centrality tends to be quite stable over time because heavily interlocked firms have broader networks for recruiting central directors—firms' number of interlocks in 1982 and 1994 are correlated at about .7, roughly the same as firms' assets, indicating that banks' declining centrality is not a foregone conclusion. Our hypotheses thus focus on the consequences of the structural changes in the banking industry for the structure and connectedness of bank boards.

A primary source of evidence used to support the argument that commercial banks are pivotal in the social organization of the business community has been the repeated finding of bank centrality in networks of interlocking directorates. From the early part of the century (Mizruchi, 1982; Bunting, 1983; Roy, 1983) through the 1930s (Dooley, 1969; Allen, 1978), and the 1960s and 1970s (Mariolis, 1975; Mizruchi, 1982; Mintz and Schwartz, 1985), banks have continuously been the most central firms in the network.

If the centrality of banks to corporate capital flows declined during the 1980s and 1990s, as we have suggested, then it is plausible to expect that the centrality of banks in the interlock network has declined as well. No longer sought after either for their resources, which are available elsewhere, or their prestige, which presumably has declined, banks should have less ability to attract leading executives of nonfinancial firms to their own boards or to have their own executives sought after as board members of other firms. This discussion suggests the following hypotheses:

Hypothesis 1a (H1a): The centrality of bank boards has declined since the early 1980s.

Hypothesis 1b (H1b): The number of executives of nonfinancial corporations sitting on bank boards has declined since the early 1980s.

Determinants of Interlocks between Banks and Nonfinancials

In addition to changes in the centrality of banks in the larger network in the 1980s and 1990s, there may have been changes in the antecedents of specific interlocks between banks and nonfinancials that would affect both appointments of bank executives to the boards of nonfinancial firms and appointments of nonfinancial executives to the boards of banks.

Bank executives on nonfinancial boards. A number of researchers have examined the determinants of the presence of bankers on the boards of nonfinancial corporations. Most of these studies, beginning with Dooley (1969) but also in-

cluding Pfeffer (1972), Allen (1978), Pfeffer and Salancik (1978), Pennings (1980), Richardson (1987), Mizruchi and Stearns (1988), and Lang and Lockhart (1990), have operated within the resource dependence model. In this view, bankers are invited onto the boards of highly indebted nonfinancial firms to ensure continuing flows of capital as well as to allow banks to influence the firm's decision-making structure. Other theorists have argued that such interlocks are a form of infiltration as well as cooptation, as banks may be able to demand input into firms that are heavily dependent on them (Aldrich, 1979: 296; Mizruchi, 1982; Palmer, 1983; Mintz and Schwartz, 1985). The growing evidence that bankers tend to join the boards of firms that are experiencing financial difficulty (Bunting, 1976; Richardson, 1987; Mizruchi and Stearns, 1988; Lang and Lockhart, 1990) seems consistent with infiltration, because banks in these situations are often concerned with protecting their investments. Many researchers now acknowledge that cooptation and infiltration can exist simultaneously (Mizruchi and Stearns, 1988: 195). This discussion suggests that firms that are performing poorly or that have high levels of debt will be more likely to appoint bankers to their boards:

Hypothesis 2a (H2a): The lower a firm's performance, the greater the probability that it will appoint a banker to its board.

Hypothesis 2b (H2b): The higher a firm's indebtedness, the greater the probability that it will appoint a banker to its board.

A firm's size is also likely to affect its ability to attract bankers to its board. Not only are large firms highly visible, but size is an indicator of prestige. Several authors have found positive associations between firm size and interlocking in general (Allen, 1974; Dooley, 1969; Levine, 1977; Mariolis, 1977; Pennings, 1980; although see Mizruchi and Stearns, 1988). The appointment of bankers, especially those from large banks, may increase not only the firm's legitimacy (Scott, 1992) but also the prestige of the bankers themselves (Zajac, 1988). To the extent that bankers would, ceteris paribus, prefer to sit on the boards of prestigious firms, we hypothesize the following:

Hypothesis 3 (H3): The greater a firm's size, the greater the probability that it will appoint a banker to its board.

Nonfinancial executives on bank boards. Although there has been a considerable amount of research on how bank representatives come to be on the boards of nonfinancial firms, little systematic research has been done on the determinants of the presence of nonfinancial executives on bank boards. Historically, the relative balance of the two has shifted. In the early decades of the twentieth century, bankers were more likely to sit on the boards of nonfinancial firms than vice versa. In three different years between 1912 and 1935, approximately 60 percent of officer interlocks between banks and nonfinancial firms involved bank officers sitting on the boards of the nonfinancials, but by the 1960s and 1970s, about 43 percent of such ties involved bank officers (Mizruchi, 1982: 128), and by 1982 only 27 percent did.

There are several possible reasons for this shift, but it is consistent with the views of both managerialists (Galbraith, 1967) and their critics (Mintz and Schwartz, 1985) that direct

bank control of nonfinancial corporations declined over time. Meanwhile, there is little debate about why the executives of certain firms would be attractive candidates for the boards of banks. Mintz and Schwartz (1985) noted that bankers, who are concerned with the state of the economy as a whole, will want on their boards representatives of a range of leading nonfinancial corporations, who can provide valuable information about the status of their industries. Board members may also be chosen for their experience and expertise (Stokman, Van der Knoop, and Wasseur, 1988; Zajac, 1988). Therefore, we should expect bank boards to appoint officers from strong, well-performing nonfinancial firms. This inference suggests the following:

Hypothesis 4 (H4): The better a firm's performance, the greater the probability that its CEO will be appointed to a bank board.

As noted above, there has been an increase over time in the proportion of bank-nonfinancial interlocks that involve officers of nonfinancial firms on the boards of banks. This is consistent with the view that banks' high centrality is a result of their ability to attract the executives of central firms—corporate diplomats—to serve on their boards (Mintz and Schwartz, 1985). Executives of highly interlocked firms not only lend prestige to the boards of banks, they also provide access to a greater volume of information than do executives from less central firms. To the extent that banks have sought directors who could provide a wide business scan on a range of industries (Useem, 1984), we would expect the following:

Hypothesis 5 (H5): The higher a firm's centrality in the network of interlocking directorates, the greater the probability that its CEO will be appointed to a bank board.

Finally, just as we expect large firms to be more likely to appoint bank officers to their boards, we expect that the officers of large firms will be attractive to bank boards:

Hypothesis 6 (H6): The greater a firm's size, the greater the probability that its CEO will be appointed to a bank board.

Although we do not hypothesize its effects, a firm's indebtedness may also influence board appointments and needs to be considered in an analysis of the appointments of bankers to nonfinancial boards.

To the extent that banks' economic dominance has declined, we would expect bank directorships to be less prestigious and thus less sought after by nonfinancial officers. If this is the case, then we would expect nonfinancial officers appointed to bank boards to constitute a less elite group in the 1990s than in the early 1980s and the individual qualities associated with appointments to bank boards to be less pronounced. We are not saying that banks no longer select and invite to their boards officers from leading nonfinancial firms. Rather, we suggest that these nonfinancial officers are less likely than in the past to view bank board appointments as highly desirable and would be more likely to decline such invitations. To the extent that banks are less likely to secure the services of their first-choice outside directors, we expect that the nonfinancial officers who do join bank boards will constitute a less elite group in more recent years than in the

past. Our prediction, then, is that the effects of home firm performance, debt structure, network centrality, and size on appointment to bank boards will be less pronounced in the post-1990 period than in the early 1980s. We tested our predictions with comprehensive time-series data on the boards of directors of the 50 largest commercial banks in the U.S. as well as on network ties between these banks and the several hundred largest nonbank corporations.

METHODS

Sample

The network sample consisted of the 50 largest commercial bank holding companies and the 500 largest industrial firms (the Fortune 500), 25 largest diversified financials, 25 largest retailers, and 25 largest transportation firms in the U.S. during each of four panel years: 1982, 1986, 1990, and 1994. For simplicity, we refer to these as "Fortune firms." These years were chosen to capture both the beginning and the end of our hypothesized transition period. The two intermediate years allow us to examine whether the changes we observe represent a trend.

The sampling frame included contemporaneous members of the Fortune lists and those who had appeared on the list in prior periods but were not large enough to be listed subsequently. Only firms issuing securities are required to disclose board data, so we did not include firms that were foreign subsidiaries, co-ops, joint ventures, or privately held. The network sample size was 648 in 1982 (of which 43 were commercial banks), 592 in 1986 (43 banks), 591 in 1990 (48 banks), and 634 in 1994 (48 banks). The network sample was used primarily to calculate measures of centrality to determine changes in centrality. The analytic sample used in the regression analyses consists of a subset of this larger group, namely the Fortune 500 largest industrials. We focus on manufacturers and exclude retailers, transportation firms, and diversified financials because manufacturers are maximally comparable on the independent variables.

Data

Board of director data came from proxy statements, as reported in Standard and Poor's *Directory of Corporations, Directors, and Executives* for 1982 and the Compact Disclosure database for 1986, 1990, and 1994. The basic information included the director's name and age and whether he or she was an executive of the firm. From these raw data, we determined all interlock ties among firms in the sample for each of the four years (i.e., all instances in which a director served on the boards of two or more firms in the sample). Several measures came from the basic board and interlock data. For each bank we determined the size of its board, the number of Fortune-firm executives who sat on its board (bank received ties), the number of Fortune boards on which its executives sat (bank sent ties), and the total number of interlocks. For nonbanks, we located each bank tie and changes in them (from 1982 to 1986 and from 1990 to 1994). For inside directors of nonbanks (executives of the firm who also served on the board) we noted whether they served on a bank board and, if not, whether they joined one before the next panel period.

We calculated three measures of centrality (see Freeman, 1979, for a discussion). The number of interlocks (degree) is the total number of other firms in the sample with which the firm shared at least one director. The Bonacich measure of centrality, popular in interlock research because of its plausible representation of power relations (Bonacich, 1972; Mizruchi and Bunting, 1981), weights interlock ties according to the interlock partner's number of ties such that sharing a director with a firm whose other directors serve on many boards is weighted more heavily than sharing a director with a firm with few ties. This measure also controls for the size of bank boards, which is significant, given that, as we show below, the average size of bank boards changed over time. Finally, the Freeman betweenness measure indicates the extent to which a node in a network is on the shortest path between many pairs of nodes, and it most closely identifies informational gatekeepers. These measures were calculated using UCINET IV, a network software program.

We also collected and calculated several indicators of corporate size (total assets, sales, number of employees, and market capitalization), performance (market/book ratio, the *z*-score of return on assets relative to Fortune firms in the corporation's primary 2-digit SIC category averaged over three years), capital structure (debt/equity ratio), and solvency (the quick ratio, defined as [total current assets – inventories]/[total current liabilities]) for the sample period, as well as the firm's headquarters location. These measures came from Compact Disclosure, COMPUSTAT, and other archival sources.

Estimation Methods

Because our primary interest was in finding how bank boards have changed during the sample period, we used several techniques, including simple descriptive statistics about static characteristics (such as the centrality of bank boards in 1982 and 1994) and dynamics (such as the numbers of Fortune-firm executives appointed to bank boards over our time period). We also used logistic regressions for two types of analyses. The first group of analyses examined the factors that accounted for the appointment of major bank executives to the boards of industrial firms between 1982 and 1986 and between 1990 and 1994. The second group of analyses examined factors that distinguished industrial firms whose CEOs were appointed to the board of a major bank between 1982 and 1986 and between 1990 and 1994.

Because CEOs are not allowed to sit on two bank boards simultaneously, and the boards of our nonfinancial firms rarely included more than one banker, virtually all of the results we observed involved cases in which a new tie was created. We therefore defined risk sets of all firms that were "at risk" of appointing bankers to their boards, because they did not have one on the board in 1982, and CEOs who were not on a bank board in 1982 and were thus "at risk" of joining a bank board. Executives who moved from one bank board to another following a bank merger, for example, the directors of Manufacturers Hanover who became directors of Chemical Bank following their merger, however, were not

included in the risk set. We believe that defining the at-risk populations in this way provides a more grounded analysis of the determinants of interlocking. Models including all firms in the risk set and controlling for prior ties yielded comparable results for the hypothesized variables.

RESULTS

The composition of bank boards shows several striking changes. First, the median bank board size dropped from 22 in 1982 to 17 in 1994, compared with a drop from 12 to 11 among Fortune 500 industrials. The mean number of bank interlocks dropped from 16.4 in 1982 to 10.3 in 1994 ($t = -2.65$, $p < .01$), compared with a drop from 8.5 to 7.5 for nonbanks ($t = -2.34$, $p < .01$). For industrial firms considered alone, the comparable figures are 8.4 and 7.2. Consistent with hypothesis 1a, an analysis of variance crossing time (1982 vs. 1994) with bank status (banks vs. nonbanks) revealed a significant interaction effect, showing that, while both types of firms declined in their mean centrality, the decline for banks was significantly greater than that for nonbanks ($F(1, 1278) = 9.69$, $p < .01$). In addition, the median bank board in 1982 included four Fortune-firm executives (mean = 4.0), whereas by 1994 the median had dropped to two (mean = 2.1), a significant decline ($t = -3.65$, $p < .01$), supporting hypothesis 1b.

The composition of the population of the largest firms changed over the course of the study period as a result of mergers and acquisitions among both banks and nonbanks. Thus, of the 648 firms in the 1982 panel (of which 43 were banks), 411 appeared in each of the four panels through 1994, of which 28 were banks. Analyses focusing on only these 28 banks but including their ties to the larger network sample for each panel period yield essentially similar results, showing a significant drop in overall bank centrality and a significant drop in bank received ties (that is, the average number of Fortune-firm executives on the banks' boards). Analyses that focus only on ties among the 28 banks and the other 383 nonbanks that survived the entire sample period show a significant drop in bank received ties but a nonsignificant drop in overall centrality. This outcome is attributable to the tendency for existing ties among firms to be relatively long-lived and to the relative absence of newly formed ties among newly large banks and newly large industrial firms.

The decline in the average centrality of banks is reflected at the peak of the interlock network. Table 1 shows the most heavily interlocked firms in 1982 and 1994, as well as the most central firms according to the Bonacich measure. In both cases, the prevalence of commercial banks, which have occupied the core of the interlock network in all prior research in the U.S. (Mizruchi, 1996), has dropped substantially. Eight of the eleven most interlocked firms were banks in 1982, but by 1994 only four of the top thirteen were. Using the Bonacich measure, the numbers were six and three of the ten most central, respectively; the Freeman betweenness measure yields nine and two of the top ten. The level of network centralization overall, indicated by the Bonacich network centralization index, declined from 22,622 in 1982

to 14,526 in 1994. That is, as banks declined in centrality, the degree of hierarchy in the network overall also declined. This indicates that no comparable institution has arisen to take the place of the banks.

An instructive comparison is with the interlock network in 1962. Mintz and Schwartz (1985: table 7.3) reported the 20 most central corporations in 1962, using a measure similar to the Bonacich index we report. Of the ten most central corporations that were not insurers (which were not included in our analysis), seven were banks in 1962, compared with six in 1982. What is most striking is that six of the seven banks in 1962 were still on the list of the ten most central firms in 1982. Thus, prior to 1982, the relative centrality of the money-center banks had evidenced virtually no change over the previous two decades.

In short, between 1982 and 1994, bank boards became smaller and less central, in part because they had fewer executives of large corporations on them, and they lost the privileged position at the core of the interlock network that they had held for decades. The analyses give some clues as to what is behind this change.

Table 2 shows descriptive statistics and a correlation matrix, using data from both 1982 and 1990. Table 3 shows the results of analyses comparing "at-risk" industrial firms that appointed bankers to their boards with those that did not. In 1982, 9.6 percent of all firms, and 9.2 percent of industrial firms, had bankers on their boards, while 8 percent of all

Table 1

Ten Most Central Firms in the Interlock Network, 1982 and 1994*

1982	1994
Bonacich centrality	
American Telephone & Telegraph	American Telephone & Telegraph
J. P. Morgan & Co., Inc.	American Express Co.
Chase Manhattan Corp.	Sara Lee Corp.
Citicorp	Chemical Banking Corp.
International Business Machines	Citicorp
General Foods Corp.	Chase Manhattan Corp.
Chemical New York Corp.	General Motors Corp.
Bankers Trust New York Corp.	J. C. Penney Co., Inc.
Manufacturers Hanover Corp.	Minnesota Mining & Manufacturing
Mobil Corp.	Xerox Corporation
Number of interlocks	
J. P. Morgan & Co., Inc.	Chemical Banking Corp.
Citicorp	American Telephone & Telegraph
American Telephone & Telegraph	American Express Co.
Chase Manhattan Corp.	Sara Lee Corp.
Bankers Trust New York Corp.	Minnesota Mining & Manufacturing
Chemical New York Corp.	General Motors Corp.
International Business Machines	Citicorp
Manufacturers Hanover Corp.	Chase Manhattan Corp.
American Express Co.	Philip Morris Companies, Inc.
Bankamerica Corp.	*Merrill Lynch & Co., Inc.*
Mellon Bank Corp.	*Corning, Inc.*
	First Chicago Corp.
	Union Pacific Corp.

* Firms in italics are tied for 10th place.

Table 2

Descriptive Statistics and Correlation Matrices for Sampled Firms*

Variable	Mean	1	2	3	4	5	6
			1982				
1. Added banker	0.06						
2. CEO joined bank	0.08	.08					
3. ROA (adjusted)	0.05	.01	.02				
4. Debt/equity	45.22	.03	.02	−.43			
5. Quick ratio	1.23	−.12	−.05	.24	−.19		
6. Assets	3.03	.08	−.02	−.05	.01	−.18	
7. No. of interlocks	8.62	.11	.13	−.04	−.04	−.27	.49
			1990				
1. Added banker	0.03						
2. CEO joined bank	0.04	−.04					
3. ROA (adjusted)	0.02	−.03	.04				
4. Debt/equity	72.23	.01	−.01	−.19			
5. Quick ratio	1.10	−.11	−.03	.20	−.14		
6. Assets	5.12	.17	.00	−.03	.13	.02	
7. No. of interlocks	7.45	.09	.08	.02	−.04	−.25	.41

* Means differ slightly from those reported in text due to missing data on financial variables.

firms and 7.6 percent of industrial firms did in 1994. Of those firms that did not have a banker on the board in 1982, 4.7 percent appointed one by 1986, whereas only 3.0 percent of those at risk in 1990 appointed a banker by 1994. In both periods, only one variable had a significant effect, namely, the quick ratio. Results therefore support H2b (low solvency is associated with the appointment of bankers to boards) but not H2a (performance) or H3 (size). Reported results are for size measured as total assets and performance measured as the *z*-score of a firm's performance relative to its primary 2-digit industry competitors averaged over three years, but the null findings held for alternative measures of performance (return on assets; the market/book ratio) and size (number of employees; sales).

Table 4 reports analyses comparing firms whose CEOs were appointed to a bank board with those whose CEOs were not. Twenty-five percent of large industrials, and 24 percent

Table 3

Logistic Regression: Factors Distinguishing Firms That Added a Bank Executive to the Board

	1982–1986 (N = 379)		1990–1994 (N = 365)	
Variable	Coeff.	t	Coeff.	t
Return on assets	0.2947	0.91	−0.1029	−0.22
Debt/equity ratio	0.0031	0.79	−0.0022	−0.46
Quick ratio	−1.3197•	−2.08	−1.8615•	−1.75
Total assets*	0.0011	0.07	0.0106	0.37
Number of interlocks	0.0408	1.29	0.0088	0.16
Constant	−1.9436	−2.31	−1.8934	−1.63
χ^2	10		5	

• $p < .05$.
* Total assets is expressed in billions.

of nonbank Fortune firms overall, had executives on bank boards in 1982, while these numbers both dropped to 16 percent by 1994. Of the eligible CEOs in 1982 who were not already on a bank board, 6.7 percent joined a bank board by 1986, while 3.0 percent of those eligible in 1990 joined one by 1994. In the first period, executives of more central firms were more likely to join bank boards—supporting H5—but there was no significant effect of board centrality in the second period. In short, being a corporate diplomat no longer increased one's chances of joining a bank board in the 1990s. None of the other hypotheses involving appointments of CEOs to bank boards was supported; again, alternative measures of size and performance yielded similar null results.

Because of our null effects of firm performance and size in predicting the appointment of nonfinancial CEOs to bank boards in the 1982–1986 period, we did not observe the expected decline in the effects of these variables in the later period. As noted above, however, we did observe the expected decline in the effect of nonfinancial firm centrality. Consistent with our expectation, banks were less likely to appoint CEOs from central firms in the 1990–1994 period than in the 1982–1986 period.

One thing that changed little over time was the level of geographic concentration of bank boards. More than other types of corporations, banks tend to be tied to local businesses, perhaps reflecting their distinctive state-based regulation (Friedland and Palmer, 1994). Fifty-five percent of outside directors who were Fortune-firm executives represented firms headquartered within the same telephone area code as the bank in 1982, and this proportion was 53 percent in 1994. When bank executives sat on the boards of Fortune firms, it was a local firm 46 percent of the time in 1982 and 38 percent of the time in 1994. In short, bank ties tended to be local to the same extent in 1994 as in 1982, although there was a modest trend toward greater geographic dispersion in bank-sent ties, perhaps reflecting the more geographically extensive orientation of large banks in the 1990s. The major New York banks had more geographically diverse boards than other banks in 1994: none of the outside directors of Chase or Citicorp represented Fortune firms head-

Table 4

Logistic Regression: Factors Distinguishing Firms Whose CEOs Joined Major Bank Boards

	1982–1986 (N = 358)		1990–1994 (N = 323)	
Variable	Coeff.	t	Coeff.	t
Return on assets	0.2775	1.01	0.2764	0.59
Debt/equity ratio	0.0025	0.72	−0.0024	−0.42
Quick ratio	−0.5235	−1.14	−0.1494	−0.20
Total assets*	−0.1053	−1.73	0.0006	0.02
Number of interlocks	0.1047•	3.45	0.0138	0.21
Constant	−2.5867	−3.66	−3.4804	−2.90
χ^2	15		1	

• $p < .05$.
* Total assets is expressed in billions.

quartered in New York City; J. P. Morgan and Bankers Trust had one each, and Chemical Bank had two.

The results show that large commercial banks' decreased economic centrality has been reflected in the declining centrality of their boards in the interlock network. Bank boards became substantially smaller and less central as they recruited fewer corporate diplomats from among heavily interlocked firms, leaving the network substantially less centralized overall. It is not clear from these results, however, whether corporate diplomats shunned invitations to bank boards at a higher rate in the later period or whether banks changed the composition of their boards of their own accord. We therefore considered several possible explanations for our findings. First, it is possible that bank boards were uniquely attractive to CEOs attuned to a finance conception of control (Fligstein, 1990) but that a demographic shift away from finance CEOs resulted in fewer CEOs willing to serve on bank boards. To examine this argument, we compared the functional backgrounds of CEOs who served on bank boards in 1982 and 1990, using data from *Forbes Magazine*'s annual survey of executive compensation, and found little support for this explanation. The proportion of outside bank directors who were finance CEOs was exactly parallel to the proportion of finance CEOs in the larger population in both years, and this number (roughly 19 percent) was quite stable over time.

Second, it is possible that bank boards became less attractive to potential directors in spite of the manifest benefits of serving on a central board and, thus, that as banks experienced economic difficulties, they were forced to recruit less-prestigious directors. Bank directors typically have greater liability than directors of other kinds of corporations and, according to the Office of the Comptroller of the Currency, " 'may become personally liable for losses sustained by the bank due to . . . a failure to exercise the requisite degree of care and prudence' " (quoted in Mayer, 1997: 14).[4] Surprisingly, we found little support for the contention that bank boards could no longer recruit their top candidates. One can consider two indicators of a director's prestige: whether he or she is a CEO of a major corporation and the number of other major boards on which he or she serves. We found that of the new directors appointed to bank boards between adjacent panels, the chance of being a CEO of a firm in our sample and the average number of boards served on did not change substantially over time. In other words, the average prestige of directors joining bank boards did not decline during our sample period. There were just far fewer new directors joining bank boards at all.

A third possible explanation for the decline in nonfinancial officers on bank boards is that banks voluntarily changed the composition of their boards—that is, that their lower centrality is a strategic choice made by the banks, not simply the outcome of their economic misfortune or depleted status. We believe this interpretation is most consistent with the evidence. In an important study of the role of board composition in firm behavior, Ratcliff (1980) found that centrality was highly correlated with a bank's volume of commercial and industrial (C&I) loans. This finding generalizes beyond

4

Of course banks—like other corporations—commonly provide director liability insurance. An interview with an official of an insurance company that covers a substantial number of bank boards indicated that the proportion of banks with director insurance coverage increased substantially over our sample period, while the cost of a typical policy has correspondingly gone down.

the St. Louis institutions studied by Ratcliff to all large U.S. banks. First, in analyses not shown here, we found that a bank's number of interlocks in 1982 is highly correlated with both its size (total assets) and the value of its C&I loans in 1983. Regression analyses revealed that it is the volume of C&I loans, and not size per se, that drives centrality. This finding is consistent with Mintz and Schwartz's (1985) interpretation of the function of bank interlocks as a means to gather information to guide lending decisions. To further examine this issue, we acquired data on C&I loans of the 100 largest U.S. commercial banks from 1986 through 1996.[5] If the changing composition of bank boards is a product of banks' strategic choice, then the banks that reduced the volume of their domestic corporate lending the most should be those whose board sizes and centrality declined the most.

To test this argument, we computed three regression equations, with change in board size, change in bank-received ties, and change in centrality (number of interlocks) as our dependent variables. The changes we examined occurred between 1986 (the first year such data are available) and 1994. Our principal independent variable in each of the three analyses was change in the bank's level of domestic commercial and industrial lending between 1986 and 1994. Our control variables included the bank's board size in 1986, size (in assets) in 1986, its level of domestic C&I lending in 1986, and its return on assets in 1986. Because a firm had to exist as an independent publicly traded entity in both 1986 and 1994 to report data (some banks are private or foreign and therefore report no board data, and several were acquired or merged during the sample period), we had complete information on only 25 banks. We therefore recommend caution in interpreting our results. Despite this caveat and despite the small sample size, our results, shown in table 5, are consistent with our expectations. For each of the three analyses, the bank's change in domestic C&I lending was associated, in the expected direction, with changes in the dependent variable: a decline in domestic lending was associated with declines in board size, number of corporate executive outside directors, and number of interlocks.[6]

To the extent that lending to U.S. businesses is a diminishing part of what commercial banks do, we thus see the decline by banks of their board sizes and number of interlocks as a strategic choice. Further evidence comes from the fact that it is not the most troubled banks that have lost the most centrality, but the healthiest. J. P. Morgan, which was the most central firm in 1982, dropped off the list of the ten most central firms by 1994 as its number of interlocks dropped from 48 to 19 and its board size shrank from 24 to 14. But Morgan consistently ranks as the most admired commercial bank in Fortune's annual survey and is regarded as a role model for the industry. Bankers Trust also dropped off the most central list as it moved away from lending to U.S. corporations.

If investment bank boards represent a model for fee-based businesses, then commercial bank boards are coming to resemble them. The six largest U.S. investment banks rarely appoint major corporate executives to their boards and thus are not especially central. In 1997 Morgan Stanley had two

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Such data are collected by the Federal Reserve Bank but are not routinely made available to the public. We thank Dr. Philip Strahan of the New York Federal Reserve Bank for his generosity in sharing these data with us.

6

Because we used count variables, and because of concerns about overdispersion of the data, the equations in which change in board size and received directors were the dependent variables were computed with negative binomial regression models after adjusting the values so that the lowest was zero. We computed the equation for change in interlocks using ordinary least squares regression.

Table 5

Effects of Changes in Domestic Lending, 1986–1994*

Variable	Coeff.	*t*
Change in board size (negative binomial regression)		
Board size, 1986	0.0956•	5.10
Assets, 1986	−0.0013	−0.32
Domestic C&I loans, 1986	0.0025	0.05
Change in C&I loans, 1986–94	0.0384•	2.24
Return on assets, 1986	−15.0396	−0.35
Constant	0.0963	0.17
χ^2	20.7•	
Change in received ties (negative binomial regression)		
Received ties, 1986	0.1449•	2.99
Assets, 1986	−0.0028	−0.51
Domestic C&I loans, 1986	−0.0045	−0.06
Change in C&I loans, 1986–94	0.0410•	1.77
Return on assets, 1986	−72.8800	−1.37
Constant	1.3366•	2.10
χ^2	20.3•	
Change in number of interlocks (OLS regression)		
Number of interlocks, 1986	0.5724•	2.98
Assets, 1986	0.0444	0.69
Domestic C&I loans, 1986	−1.3849•	−1.68
Change in C&I loans, 1986–94	0.3370•	1.82
Return on assets, 1986	−246.4909	−0.42
Constant	2.6742	0.39

• $p < .05$.
* Assets, domestic C&I loans, and change in C&I loans are expressed in millions.

nonretired Fortune-firm executives on its board (after its merger with Dean Witter Discover, a Sears spinoff); Merrill Lynch and Bear Stearns each had one; Salomon had three (all affiliated with Berkshire Hathaway, its major shareholder); and Lehman Brothers and Paine Webber had none. If boards reflect the underlying business, as argued by Mintz and Schwartz (1985), then the declining centrality of bank boards reflects a strategic shift by banks away from corporate lending.

DISCUSSION

From the early twentieth century into the 1980s, commercial banks were the most central firms in corporate interlock networks. As our results show, between the early 1980s and the mid-1990s, this situation changed: commercial banks' centrality dropped precipitously. We have tried to both document and explain this decline. Among the several hundred largest American corporations, the relative centrality of commercial banks declined sharply between 1982 and 1994. In 1982, the banks in our sample averaged nearly twice as many interlocks (16.4) as the nonbanks (8.5). By 1994, the corresponding means were 10.3 and 7.5, respectively. Banks thus remained slightly more central than nonbanks, but the difference was significantly reduced.

Mizruchi and Stearns (1988) examined several additional variables, beyond those we examined, as predictors of the ap-

pointment of representatives of financial institutions to nonfinancial boards. Because they had yearly time-series data over a 28-year period, Mizruchi and Stearns were able to examine the effects of contextual variables, such as interest rates and whether the economy was in an expansion or contraction stage, on the formation of interlocks. Because we used data at only four time points, however, we were unable to examine such contextual effects. Of the four variables in our model that matched those used by Mizruchi and Stearns, however, only firm performance, which Mizruchi and Stearns found to be a negative predictor of interlocking, did not have the expected effect here. We do not know whether the difference on this variable is a result of the different time periods of their data and ours or whether it resulted from differences in model specification. Given the ubiquity of the negative performance-interlock association in other studies, however, we believe that the difference in our finding may indicate the reduced presence of banks as monitors of poorly performing firms.

We have argued that banks' decline in centrality is a consequence of the changing nature of the banking industry during the 1980s and 1990s. As commercial bank lending became less central to the capital-raising efforts of large corporations, bank boards became less central in the intercorporate network. Our discussion applies specifically to major U.S. commercial banks. But the changes in American commercial banking represent one aspect of the so-called new economy. As capital flows become more global and information technology becomes widespread, old social structures are transformed. Banks traditionally traded on an information asymmetry that gave them superior intelligence about potential borrowers, and they helped to maintain that asymmetry by staffing their boards with directors of highly central corporations who could give them the most expansive access to economic data. But while U.S. banks have become both more national and more global in scope, their traditional franchise on corporate lending in the U.S. has largely evaporated as high-quality information became widespread across geographic boundaries and corporate finance in the U.S. became increasingly dis-intermediated. The banks, in turn, responded by withdrawing from their role as network centers, resulting in a more fragmented intercorporate network. One might have anticipated that, as deregulation opened the way for banks to participate in a broader range of industries across a larger geographical scope, the banks would become even more central actors (cf. Friedland and Palmer, 1994). But quite the opposite has occurred.

A former chairman of the Federal Deposit Insurance Corporation stated in 1993 that "the banking industry is becoming irrelevant economically, and it's almost irrelevant politically" (*Wall Street Journal,* 1993: A1). The second, of course, does not necessarily follow from the first: although banks' economic function has been largely superceded by alternative financial intermediaries, it was reasonable to anticipate that bank boards would continue to serve their social function. Our results indicate otherwise. Banks were still more central on average than nonbanks in the interlock network, but their

ability to fulfill any significant function in knitting together the corporate elite has become increasingly limited (Davis, 1994). This can be illustrated by noting the sources of this declining bank centrality. On the one hand, nonfinancial firms were less likely to appoint bankers to their boards in 1994 than in 1982. On the other hand, there was a much sharper decline in the appointment of nonfinancial officers to bank boards. This latter finding corresponds with a decline in the size of bank boards, but it also may reflect a declining willingness of nonfinancial officers to serve on bank boards. Our evidence suggests, however, that the decline in nonfinancial officers on bank boards reflects changes in the banks' own strategies. Their move away from traditional lending toward fee-based business has led commercial banks increasingly to resemble investment banks. As commercial banks' modes of operation approach those of investment banks, their board structures have followed suit. A result of this development has been that social ties among firms have become as dispersed as economic ties, creating an even more decentralized system of governance that can be seen as part of a general trend toward disorganized capitalism (Lash and Urry, 1987).

It is by now well established that the social organization of the economy, including interlock ties, shapes corporate decision making. It is thus important that organizational researchers understand the significance of financial intermediation in generating the social organization of the economy and that further research unpack the links between decentralized capital flows and social structures. This is a task for which macro-organizational researchers are uniquely qualified. Perspectives that emphasize social networks and the cultural embeddedness of economic action will play an important part in developing new accounts of the contemporary financial world.

CONCLUSION

Corporate governance comprises a shifting configuration of economic, social, and legal institutions that provides some semblance of order to economic life. In the United States, scholarly attention has focused primarily on large public corporations and the agency costs attending the separation of ownership and control (Berle and Means, 1932). According to some legal and economic scholars, the institutional structure of the economy consists in large part of the mechanisms that evolved to limit these agency costs. Efficient markets price firms' shares to reflect expected corporate performance accurately, providing a metric for managerial quality and a basis for compensation (Jensen and Meckling, 1976). Shareholder-elected directors monitor top management in the interests of shareholders, and threats of shareholder suits and tarnished reputations prevent them from falling down on the job (Fama and Jensen, 1983). When all else fails, the market for corporate control allows outsiders to displace the boards and top managers of poorly run firms by buying control from shareholders at a premium (Manne, 1965). In short, an array of complementary markets—for se-

curities, managers, directors, corporate control, and so on—evolved to ensure that public corporations are run as well as they can be, from the shareholders' perspective (see Easterbrook and Fischel, 1991, for a discussion; see also Davis and Thompson, 1994, for a critique).

Framing the core problem of corporate governance in terms of minimizing agency costs, however, reflects a distinctly American genealogy in which neutered financial intermediaries and liquid capital markets cultivated the managerialist corporation and its associated institutions (Gilson and Roe, 1993). Such a capital-market-based system, in which firms rely on relatively dispersed securities issuance for capital and commercial banks provide short-term debt financing, stands in contrast to the credit-based systems more characteristic of most of the world's industrial economies. Credit-based systems, as in Germany or Japan, give commercial banks a central role in financing companies through both direct ownership and long-term lending relationships (see Zysman, 1983; Mizruchi and Stearns, 1994a). Discussions of takeovers, independent outside directors, and so on have far less resonance in such systems. But the more general implication is that the form of financial intermediation most typical of a national economy drives the typical patterns of corporate governance observed and, in particular, the social organization of the economy. In credit-based systems, banks often sit at the center of densely connected business groups, occasionally brokering business relations among member firms (see Granovetter, 1995). Capital-market-based systems are more atomized, lacking central actors that can provide an organizing principle for the social organization of business.

A national economy's system of financial intermediation defines the characteristic problems of corporate governance and generates a social structure by which the institutions of governance evolve. The U.S. arrived at a decentralized managerialist system of governance in large part because banks were prevented by interstate banking regulations from growing as large as they might and from owning and dealing in securities (Roe, 1994). Money-center banks nonetheless maintained a central social location because of their need for information to guide their capital choices. The result was a substantially centralized network connecting the boards of the largest American corporations. Our study shows that as capital market developments reduced banks' share of domestic corporate lending during the 1980s and 1990s, the banks sought business elsewhere and reduced the presence of CEOs from major firms on their boards. The unintended consequence is that a decentralized social structure has arisen to mirror the underlying decentralized system of financial intermediation. The U.S. has historically occupied one pole of the continuum of systems of financial intermediation, but contemporary evidence indicates a shift toward broader reliance on capital markets more globally, even among paragons of credit-based systems. Our findings suggest that we can expect the social organization of business to move toward decentralization as economies move from relying on banks to relying on capital markets.

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