

14

Nothing but Net? Networks and Status in Corporate Governance

GERALD DAVIS AND GREGORY ROBBINS

Introduction

The argument that corporate action is embedded in social networks has moved from critique to conventional wisdom in organization theory in just over a decade (Granovetter 1985). Organizational scholars have come to pay explicit attention to the causes and consequences of the various ties linking corporations, such as the interlocks created when corporations share directors. Moreover, conceiving of corporations as nodes in networks allows researchers to build on the well-developed concepts and methods of network analysis to uncover unexpected regularities. Several studies find that a corporation's interlock network centrality (i.e. the number of other firms with which it shares board members) has a systematic influence on corporate decisions. Central firms are more likely than peripheral firms to adopt takeover defenses, to make acquisitions and divestitures, to be involved with political policy organizations and to be imitated when they adopt golden parachutes and switch stock markets. Centrality is not simply a proxy for other omitted variables: although correlated with size, it has little relation to corporate performance and at most a modest relation to alternative measures of 'prestige', and its effects persist when measures of size and performance are controlled for (see Davis, Yoo, and Baker 2003 for a review). And centrality proves quite stable over time, both during the 1960s and the 1980s and 1990s: among large US firms, centrality in 1982 was correlated 0.75 with centrality in 1994 (compared to a 0.85 correlation for sales during these years).

Centrality is thus both causally important and stable over time. Why should this be the case? The answer depends on what it is one thinks board members are for. A central board is composed of directors who sit on many other boards. The traditional managerialist view sees directors as 'ornaments on the corporate Christmas tree'—decorative objects chosen by the CEO to burnish the firm's image for the outside world (particularly the financial markets that evaluate them) while interfering as little as possible in the operations of the corporation. Directors who serve on many outside boards—particularly

boards of prestigious firms—make better ornaments. In contrast, agency theorists see director centrality as a form of validation by the market for corporate directors, which rewards effective agents of shareholders with multiple board seats (Shivdasani 1993). A board's centrality is a proxy for its quality as a monitor; thus, the stock market responds differently to the same corporate actions according to who is on the board, indicating that the market 'trusts' some boards more than others (Brickley et al. 1995). But according to the first view, centrality should have little systematic influence on corporate action, while the second view implies that centrality should have a positive influence on corporate performance. Neither of these implications is true: centrality has a systematic influence on corporate decisionmaking but not on performance.

We argue that the construct of board status provides a means to integrate research on the causes and consequences of centrality. A producer's status in the market is the perceived quality of its products compared to those of its competitors (Podolny 1993: 830). What boards 'produce' is governance for the shareholders that elect them and for other constituencies of the corporation. Thus status—as an attribute of boards—is distinct from the reputation of the corporation as a whole. Status is particularly important in cases where more direct evidence of quality is missing. The quality of governance is largely unobservable, and the actual quality of any individual director is almost completely opaque from an outsider's perspective. In the absence of direct measures, shareholders and others have to rely on imperfect indicators of quality—such as what other boards directors serve on. Board centrality, as an indicator of status, can thereby insulate a corporation from shareholder oversight. Once in place, centrality will expose a firm both to a greater volume of information about governance at other firms and to more extensive normative pressures from other boards (Useem 1984), thereby influencing its practices.

This paper empirically unpacks interlock centrality by examining a panel of the several hundred largest US firms observed in four-year intervals from 1982 to 1994. We analyze the factors that contribute to centrality over time by examining the features of firms that prompt them to appoint central directors. Our results suggest that interlock network centrality is self-reproducing: independent of performance, size, and corporate reputation, central boards are better able to attract central directors and CEOs of major corporations, leading to a relatively enduring status order among corporations (White 1981). Moreover, while firms that out-perform their industry are somewhat better able to recruit CEOs and central directors, there is no evidence that boards composed of these individuals enhance subsequent performance. In other words, board composition appears to be an effect of performance, not a cause. We conclude with a discussion of the plausibility of proposed reforms in corporate governance in light of our findings.

Corporate Boards and the Rhetoric of Governance

A recent review defined corporate governance as 'the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment' (Shleifer and Vishny 1997: 737). Theory in the 'law and economics' tradition provides a set of tools for analyzing national systems of corporate governance in financial terms. In an economy where large corporations are typically owned by dispersed shareholders with only nominal control over the corporation's managers, as in the United States, the basic problem of corporate governance is to establish arm's length institutions that secure managerial devotion to increasing shareholder value. The American system is a matrix of such institutions that includes accounting rules, securities regulations, corporate law, the takeover market, and various formal and informal structures (such as compensation systems) adopted by corporations to promote accountability and align managerial and shareholder interests. At the center of this matrix is a shareholder-elected board of directors.

According to theory in law and economics, the institutions of governance mesh to create an environment that rewards managers who maximize share price and punishes those who do not. Both those who own and those who manage have an interest in maintaining these institutions: investors will not part with their money without reason to believe that they will get a return, and managers will not be able to raise capital if they cannot give credible accounts for how they will use it profitably (Easterbrook and Fischel 1991). Thus, those who run corporations spontaneously conform to best governance practices to demonstrate their fitness to the financial markets. 'The corporation and its securities are products in financial markets to as great an extent as the sewing machines or other things the firm makes. Just as the founders of a firm have incentives to make the kinds of sewing machines people want to buy, they have incentives to create the kind of firm, governance structure, and securities the customers in capital markets want' (Easterbrook and Fischel 1991: 4–5). By hypothesis, an invisible hand guides corporate practice to serve shareholder interests, from how to pay executives to who serves on the board.

A body of recent organizational research undermines this optimistic portrayal of a self-help corporate world. The rise of activist shareholders promulgating standards of corporate governance at odds with prevailing practice—and their vehement opposition by corporate executives—calls into question the imagery of an invisible hand. Experienced directors of large corporations are almost unanimous in their opposition to reforms pushed by some of the largest institutional owners, including separating the positions of CEO and Chairman of the Board, allowing shareholders to vote on executive compensation, and having shareholder representatives serve on the board (Neiva 1996). Because boards generally have the final word under the law, the proposed reforms have experienced little success. Either the large

shareholders do not grasp their own interests, or boards are not interested in pursuing them.

A more fundamental challenge comes from research finding that conformity to best practices may be more symbolic than substantive, yet still achieve the ends of maximizing share price. In a series of papers examining the adoption of executive compensation plans, Westphal and Zajac (1998) elaborated a neoinstitutionalist perspective on governance that construes at least some structures as forms of impression management decoupled from actual practice. In part as a reaction to shareholder pressures, many large corporations adopted long-term incentive plans purported to align the interests of executives with those of shareholders. Yet a surprisingly large number of them announced the plans without ever actually implementing them—presumably as a form of shareholder impression management (Westphal and Zajac 1994). Moreover, firms experienced a significant spike in share price when they announced the plans, whether or not they ever followed through in implementing them (Westphal and Zajac 1998). Giving the appearance of conformity to the reigning ‘shareholder value’ model was sufficient to impress the stock market, even in the absence of genuine conformity. Share price increases were substantially larger when the announcement of the plan was accompanied by a rationale emphasizing shareholder value than when the identical plan was justified using a human resource explanation (Westphal and Zajac 1998). These findings suggest that ‘cosmetic’ governance reform and appropriate rhetorical spin can be used effectively to manage the demands of investors. Thus, while activists expect governance reforms to enhance corporate performance, it appears that governance reforms are themselves rhetorical performances, intended to persuade activists and other players in the financial markets of the corporation’s fitness for investment. Creating ‘the kind of firm, governance structure, and securities the customers in capital markets want’ involves marketing through rhetoric, from the letter to the shareholders in the annual report, to how diversified the corporation portrays its operations on the income statement, to the choice of directors.

But choice of directors is distinguished from structural reforms in two ways. First, director choice entails what Aristotle called ethical appeals, which are rooted in the character of the individual, rather than appeals to reason, as in the case of structural reforms (McCloskey 1985: 121–122). Judgments about directors are judgments about character and ability, not about the validity of an argument (e.g. claiming a link between a form of compensation and shareholder interests). Boards are given great discretion under the law because it is assumed that well-chosen directors—being persons of good character—will do the right thing without being required to follow a set of detailed guidelines (which is infeasible in any event). Second, virtually every other structural reform is ultimately under the control of the board. Board composition is the master choice from which other reforms spring, and is therefore the most fundamental decision that shareholders

make about governance. Unlike cosmetic structural changes, such as adopting a new incentive plan, boards cannot be decoupled from the process of governance.

The problem for those evaluating corporate boards is that the mysteries of corporate governance occur behind closed doors, and thus determining the quality of a given board or director from the outside is quite problematic. The legal requirements for board composition and structure are minimal, and boards composed of different individuals organize themselves differently to do what they do, for better or worse. As Pettigrew and McNulty (1998: 250) put it, 'the closer one gets to board process and dynamics, the more real becomes the generalization that all boards are different'. A profusion of academic research on boards in recent years provides little guidance on best practices: even the most basic proposed reforms, such as staffing the board with a majority of 'independent' outsiders, show little relation to subsequent performance. There is thus no template for outsiders seeking to evaluate a board's quality. Director candidates are virtually never made available to shareholders for the interviews that job candidates endure or the debates and press scrutiny expected of political candidates. Corporations are obliged to report certain information when directors are put up for election, but the requirements are scant. Shareholders and others are therefore left to assess director qualifications based on the thumbnail sketches included in proxy statements: the director's age, primary occupation, share ownership—and the other boards he or she serves on. These director characteristics can then serve as proxies (so to speak) for vigilance, dependability, integrity, and intelligence in folk theories about the qualities of good directors.

The concepts of signaling and status provide a useful way to parse the issues of board quality. A signal is an indicator of quality that is under some degree of control by a producer and whose cost goes down as the producer's quality goes up. An indicator that is effortlessly displayed by high-quality producers but extremely costly for low-quality producers to acquire (e.g. some types of health care certification) is a useful signal. Status is 'the perceived quality of (a) producer's products in relation to the perceived quality of that producer's competitors' products' (Podolny 1993: 830). Producers can be ranked into a relatively enduring status hierarchy. Status comes in part from connections to other producers: ties to higher status producers help elevate one's own status, while ties to low-status producers can compromise it (Podolny 1993). By the same token, we suggest that a board's status—the perceptions of quality held by the 'buyers' of the board's 'products'—is shaped by the number and perceived quality of the other boards that directors serve on. That is, the backgrounds of directors and the array of interlocks that they create act as signals in the 'market' for corporate governance.¹

Given little other information to go on, outsiders appear to be swayed by director connections. For new firms, the addition of a prominent director can serve as a seal of approval to address the concerns of dubious investors.

Biotech firm ImClone gained credibility with investors through the appointment of renowned cancer specialist Dr John Mendelsohn to its board. ImClone's CEO later pleaded guilty to insider trading charges in 2002, having dumped much of his ownership stake ahead of the market after learning that the firm's only drug would not even be reviewed by the Food and Drug Administration (FDA).

Large firms can also benefit from prestige board appointments: Time Warner experienced a 5% stock price increase when it announced the appointments of the CEOs of Hilton Hotels and UAL to its board ('The rush to quality on corporate boards', *Business Week*, March 1997). Part of this effect is signaling: the ability to attract and retain prestigious directors indicates a high quality board, while low quality boards hold no appeal for such individuals. (Dissertation committees follow a similar dynamic: doctoral students may seek to signal their quality by inviting prestigious faculty to serve on their committees, but the faculty do not have to accept.)

Yet there is good reason to be skeptical that prestigious boards enhance corporate performance. The counter-examples are legion, as some of the best-known corporate meltdowns occurred on the watch of highly prestigious boards. Morrison Knudsen's board counted among its members the most successful mutual fund manager in history, a former National Security Advisor, a former Reagan administration official and judge, a former baseball commissioner, and other equally accomplished individuals, as it careened toward financial ruin in 1995. The boards of General Motors and American Express were accused of serious laxity during the periods before each fired their chief executives, despite being staffed with several major CEOs and other prominent directors. Money center commercial bank boards were packed with the CEOs of the largest corporations in America during the 1980s, even as the banks made disastrous loans that led some (such as Citicorp) to the brink of insolvency (Davis and Mizruchi 1999). Systematic research on the link between interlocks and overall corporate performance is agnostic at best (see Mizruchi 1996 for a review). From the shareholders' perspective, board status evidently does not merit much potency as a signal. Yet evidence for the effects of interlocks on corporate decisionmaking—if not performance—is compelling. Construing a corporation's portfolio of interlocks in terms of status connects our discussion of governance with the literature on the network created by interlocking boards of directors. We now turn to a brief examination of this network.

The Meaning of Network Centrality

The insight that economic action is shaped by the social structures in which it is embedded helped usher in the widespread use of network methods in organizational research (Granovetter 1985). The core of this approach is the

notion that organizations can be conceived as actors (nodes) connected to other actors through alliances, shared directors, and so on (ties), and that the resulting social structure could be analyzed as a network. Networks can be dense or sparse, centralized or Balkanized, with ties being strong or weak. Networks channel information flow, and thus the structure of a network is consequential: just as viruses spread faster in urban areas than rural ones, information flows more quickly in densely connected networks than sparse ones. Given that organizations are conceived as nodes in networks, an interorganizational network could be analyzed using well-developed theory in the literatures on anthropology, small groups, and diffusion of innovation, as well as sophisticated methodological tools. Notions of 'status', 'opinion leadership', 'contagion', and so on could then be applied fruitfully to firms.

If networks are construed as social systems, then centrality indicates an actor's position in this overall system. For a board, centrality comes from being tied to other boards through shared directors. Two measures of centrality have the most intuitive appeal for boards (see Knoke and Burt 1983, for a compendium). Degree is the simple count of ties—in short, how many other actors one is tied to. For a board, degree is the total number of other boards on which its directors serve. Prestige is the number of received ties (or in-degree)—how frequently the actor is the object of 'sent' relations. Boards 'send' ties when their executives sit on outside boards and 'receive' ties when executives of outside firms serve as directors. CEOs of outside firms thereby contribute to a board's prestige.

Centrality by these measures varies widely among firms. In 1994, Chemical Banking Corporation was the most central American firm, sharing directors with thirty-eight other large corporations.² Three of its officers collectively served on seven boards, and six executives of other firms served on its board. Sara Lee was the third most central with thirty-three ties, and Corning tied Union Pacific for tenth with twenty-eight ties. Conversely, of the seven directors of Microsoft, only one served on the board of another large corporation in 1994 (as an outside director), and Bill Gates (Microsoft's CEO) served on no other boards, making Microsoft one of the least central firms. Walt Disney Corporation was also peripheral, sharing outside directors with only two other large corporations. Like Gates, Disney CEO Michael Eisner served on no outside boards.

As the examples indicate, centrality is not simply a proxy for a firm's current size, performance, or a more nebulous 'importance'. Correlations between a firm's number of interlocks and its sales, assets, market capitalization, and number of employees in 1994 range between 0.39 and 0.45, and thus centrality is not merely an artifact or indicator of size. Correlations with measures of performance are modest or close to zero: centrality is correlated 0.12 with the market-to-book ratio and under 0.05 with return on assets (ROA) and return on equity. Interlock centrality is thus at best modestly related to other aspects of a corporation's importance.

One might then be tempted to dismiss centrality as random or irrelevant. Yet it is neither: a board's centrality is highly stable over time and is demonstrably important in shaping corporate governance. The stability of centrality is quite striking. Of the ten most central corporations outside the insurance industry in 1962, seven of them were still among the ten most central corporations twenty years later (cf. Mintz and Schwartz 1985: table 7.3 with Davis and Mizruchi 1999: table 1). And a corporation's centrality in 1982 was correlated at over 0.70 with its centrality in 1994, in spite of the fact that the median board had experienced 75% turnover in membership during that time. Well-connected boards tend to remain well connected independent of the particular individuals serving as directors. There is thus an enduring status order among corporate boards, indicating that, as in production markets, the interlock network is a self-reproducing social structure (White 1981: 518).

The stability of centrality would be curious but insignificant if being heavily interlocked had no important impact on corporate action. But centrality has documented effects on virtually every significant decision that boards make, and the effects are precisely what one would expect from theory about the impact of social structure on action. The diffusion of innovation literature, for instance, finds that central actors are quicker to adopt innovations that are consistent with the norms of a social system, and that when central actors adopt it triggers subsequent adoptions by others because their adoption helps legitimate the innovation (Rogers 1995). Both effects have been found repeatedly in the interlock literature (Davis Yoo, and Baker 2003). It is as if the firms in the interlock network were individuals in a friendship network, with central firms acting as the opinion leaders. Centrality is thus an indication of status in the world of corporate governance.

The decisions made by boards are also frequently steeped in ambiguity. Whether it is appropriate to engage in takeovers or adopt a poison pill to ward them off; compensate the CEO at a particular level or using a specialized incentive contract; diversify into other industries or pare down to focus on a core competence—all are open to debate, and all have been found to be influenced by interlocks (see Mizruchi 1996 for a review). The micro-level mechanisms by which interlocks have their effects are fairly mundane: experienced directors with relevant information can say 'Here's what we did at my other company, and here's why we thought was a good idea'. Reasonable people can disagree about such matters, and thus precedent—what other boards facing the same questions did—helps resolve the ambiguity. Direct contact with other boards, via shared directors, provides detailed information about others' decision processes; the actions of central (high status) boards provide evidence for the legitimacy of a practice. Thus, one observes a surprising degree of conformity in the governance practices of the largest American corporations, as boards follow the precedents set by their immediate contacts and by high status corporations (Davis and Greve 1997).

Conformity in practice is underlain by a common set of attitudes toward issues of immediate relevance held by directors who serve on multiple boards (Neiva 1996). These seasoned directors are particularly influential in boardroom discussions (Davis and Greve 1997); moreover, they are particularly likely to be called to account by other directors (Useem 1984). The late Harold Geneen of ITT wrote in reference to directors that he called 'asleep at the switch':

What can spur them to action? One thing: the fear of looking foolish. Most didn't join the board to make money or prove themselves; they joined for the prestige. To see that prestige threatened is their worst nightmare. The dread of humiliation is their one great motivating force. Thus, if a board member's golf partners start making wisecracks about the company that he is supposedly guiding, watch out. He'll get into fighting trim, fast. (Geneen 1997: 86).

Collectively, members of central boards have 'passive contact' with many more directors than do members of peripheral boards, and thus more frequently have to make sense of their actions to directors of the other boards they serve on. This makes them especially susceptible to following the 'group standard' of the corporate elite.

This interpretation helps make sense of the array of recent findings documenting the pervasive influence of centrality, and interlocks more generally, on corporate decision making. Boards are embedded in social networks that follow the same regularities as other social networks. Central boards have access to greater information and are more susceptible to normative pressures than peripheral boards. They are therefore more likely than peripheral boards to conform to the norms of the social system in which they are embedded—for better or worse—and are quick to adopt practices and structures considered appropriate. Other boards in turn take their actions as signs of the legitimacy of a practice. Networks thereby channel individual decisions into collective outcomes: one board's decisions about where to place the boundaries of the corporation, how to respond to the threat posed by takeover, or to the opportunities created by a global economy, become inputs into similar decisions by other boards. Yet the 'morphology' of the corporate elite network is still dimly understood, in spite of its evident importance. The process configuring the status order of the interlock network—who becomes central, and why it is so stable—remains unclear.

The Architecture of the Interlock Network

We take centrality to be an indicator of status and seek to understand the microprocess of status attainment: what makes some boards persistently central? A board's centrality results from decisions by the board itself (e.g. to follow a strategy of recruiting central or 'prestigious' directors) and by the

directors it attracts and retains. We consider centrality from both perspectives. Our hypotheses are framed around two questions. First, what distinguishes boards that appoint directors who already serve on many boards (thus increasing the board's degree) from those that serve on few or no other boards? Second, what distinguishes boards that recruit CEOs of major corporations (increasing the board's prestige) from those that recruit non-CEOs?

With the exception of financial hegemony theorists (Mintz and Schwartz 1985), prior theory on boards of directors is largely silent with respect to centrality per se. Centrality could reflect the quality of governance being provided by the board—either positively or negatively. A corporation's managers may try to lure outside directors based on their likely appeal to shareholders and other constituencies, as implied by managerialists. Much like the elaborate false villages that Potemkin constructed to impress Catherine the Great, boards may be assembled as an attractive facade for corporate governance. Directors who serve on the boards of prominent firms, and particularly outside CEOs, may be perceived as providing an implicit endorsement of the organization from these other firms. Corporate managers' incentives to pursue a Potemkin Village approach increase to the extent that external displays of good faith are required (Meyer and Rowan 1977). Corporations that are owned proportionally more by institutional investors are perhaps more susceptible to scrutiny of their boards, and we would expect that such firms would be prone to appoint central directors. More direct forms of activism could also prompt the Potemkin Village approach; thus, firms that have been targets of shareholder activism may also seek to reassure their constituencies by appointing central directors.

Hypothesis 1a: Shareholder scrutiny will increase the likelihood of appointment of central directors to the board.

Hypothesis 1b: Shareholder scrutiny will increase the likelihood of appointment of outside CEOs to the board.

Agency theorists argue that directors become central by demonstrating their expertise at corporate governance. Multiple board seats are rewards for directors associated with superior performance (Shivdisani 1993), while executives become CEOs by compiling records of outstanding achievement at serving shareholder interests (Fama 1980). Thus, central directors and CEOs should be those most able to enhance the governance of a firm. Pressures on the board to recruit central directors and CEOs increase to the extent that prior performance has been poor. Firms with superior performance have little need to recruit 'prestige' directors, either as a signal to outside constituencies or in order to benefit from their expertise. Conversely, firms with poor performance stand to gain the most from improved governance, and thus have the greatest incentive to recruit central directors.

Hypothesis 2a: Poor prior performance will increase the likelihood of appointment of central directors to the board.

Hypothesis 2b: Poor prior performance will increase the likelihood of appointment of outside CEOs to the board.

A third theoretical rationale for seeking to recruit central directors is that, regardless of their signaling value or their impact on governance per se, central directors provide access to a broad range of business intelligence. Board interlocks serve to enhance 'business scan', giving quick and reliable access to insider information across a range of industries (Useem 1984). The studies cited previously find that interlocks embed corporate boards in networks of information flow, supporting the business scan interpretation. Bank boards in particular are commonly composed of 'corporate diplomats' who are executives of major firms and tend to serve on numerous boards (Mintz and Schwartz 1985). Because the Clayton Act of 1914 prevents competing firms from sharing directors, individuals who serve on multiple boards by definition do so across different industries. Such individuals are an invaluable source of business intelligence and are thus attractive directors for banks and other firms. Financial institutions, particularly money center banks, historically used the intelligence brought by their board members to guide their broad investment policies (Mintz and Schwartz 1985). But any corporation that relies on information about diverse industrial sectors would benefit from the expertise of central directors. Thus, we expect to see firms seeking central directors when they are more highly diversified, and when they operate in 'network' industries such as communications, financial services, transportation, and business services.

Hypothesis 3a: Diversified firms will be more likely to appoint central directors to the board.

Hypothesis 3b: Diversified firms will be more likely to appoint outside CEOs to the board.

Hypothesis 4a: Firms in 'network' industries will be more likely to appoint central directors to the board.

Hypothesis 4b: Firms in 'network' industries will be more likely to appoint outside CEOs to the board.

Resource dependence theory argues that interlocks reflect power and dependence relations, and that firms invite executives of organizations on which they are dependent to serve on the board in order to coopt them (Pfeffer and Salancik 1978). Inviting a representative of a constituency that needs to be coopted has a venerable history, but pursuit of such ties can have potentially paradoxical effects for firms' centrality. On the one hand, firms that are in particularly dependent situations should routinely seek to appoint 'constraining' directors. On the other hand, the executives of powerful firms should routinely be sought in order to coopt their employers. If all board invitations were accepted, then both the weakest and most powerful boards

would be central, as the executives of powerful firms joined the boards of many firms that were dependent on them, increasing centrality on both sides. There are two difficulties with this account. First, cooptive ties are quite rare: in the mid-1990s, fewer than 5% of large industrials had executives of firms in major buyer or supplier industries represented on their board. Second, it is unclear what would motivate executives of powerful corporations to serve on the boards of their dependents, whereas the pitfalls of potential co-optation are clear.

The intuition behind this approach, however—that ties to powerful actors are desirable—is surely correct. Powerful actors make useful allies, even if efforts to coopt them are problematic. We thus anticipate that the boards of powerful firms will be able to recruit central and prestigious directors. Other things being equal, whatever benefits board service achieves for oneself or one's employer are more likely to be available on the boards of large firms than small firms. Thus, large firms should be better able to recruit prestigious directors than small firms.

Hypothesis 5a: Large firms will be more likely to appoint central directors to the board.

Hypothesis 5b: Large firms will be more likely to appoint outside CEOs to the board.

Although size in this case is likely to matter, the network properties of the board are also an important consideration for potential directors. A board composed of corporate diplomats is likely to be appealing to potential directors independent of the underlying business: board meetings and the associated social events are an opportunity to hobnob with the elite, which has rewards of its own. A directorship on a central board is often a gateway to other board memberships, as the multiple directors with whom one serves can provide entree to the other boards on which they serve. It is likely that other business and social opportunities spring from the same source. The attractions to ambitious individuals of service on a central board are apparent (Mintz and Schwartz 1985: ch. 7). In addition, because their net is cast broadly, central boards have an advantage in locating and recruiting desirable directors through the first-hand experience of current directors. In short, central boards are more attractive to potential central directors and more likely to have contact with them. We therefore expect to see a network 'Matthew effect' (Merton 1968; Podolny 1993): those that are already central will be able to attract central directors, while those that are peripheral will not.

Hypothesis 6a: Central firms will be more likely to appoint central directors to the board.

Hypothesis 6b: Central firms will be more likely to appoint outside CEOs to the board.

Data

Our interest is in unpacking the sources of interlock network centrality over time. We did this by studying the board compositions of the several hundred largest publicly-traded corporations in the United States in 1982, 1986, 1990, and 1994, examining their centrality at each point in time as well as the character of new board appointments between adjacent panels.

Our sampling frame consisted of public corporations appearing in the Fortune 500 largest industrials or the 50 largest commercial banks, 25 diversified financials, 25 retailers, or 25 transportation firms in 1980, 1986, 1990, or 1994. Firms appearing in earlier panels were included in subsequent panels even if their revenues no longer warranted inclusion among the largest, while the panels were expanded to include new entrants in later panels. Firms were removed from the sample when they were no longer separate public corporations (e.g. due to being absorbed by merger). A total of 647 firms were included in the 1982 panel, 591 in 1986, 591 in 1990, and 822 in 1994. Four hundred and ten firms appeared in all four panels, and their boards formed the core sample (which we refer to as the 'restricted sample'), although information about other sampled firms was included when appropriate for the analysis. Because centrality measures are sensitive to the size and boundaries of the network measured, use of the restricted sample ensures that these measures are maximally comparable over time.

We analyzed several outcomes of interest. Overall centrality was measured in several ways: using degree (i.e. the total number of other boards in a given panel with which a firm shared directors, and the total number within the restricted sample of 410), Bonacich centrality (calculated within the restricted sample to maintain a consistent scaling), and received ties (or in-degree), that is, the number of executives of other sampled firms that served on the board, as an indicator of prestige.

The Bonacich centrality measure is calculated by summing the Bonacich centrality score for each of the other actors to which the focal actor is connected. Since every actor's Bonacich centrality depends on the corresponding centrality scores for the other actors, this requires a simultaneous solution for the N equations. That solution is calculated as the first eigenvector of the 'characteristic equation' of the matrix Z , where Z is formed from the (N,N) matrix of observed ties by normalizing it to be column stochastic (entries are nonnegative and sum to 1 within columns). We used UCINET IV to calculate this measure for each panel year, including only firms in the restricted sample in order to maintain maximum comparability over time.

We determined all new appointments of outside (nonexecutive) directors made by firms appearing in adjacent panels (i.e. between 1982–6, 1986–90, and 1990–4). Two outcomes were of interest: whether the new director was a CEO of one of the other sample firms (in the full or restricted sample), and the number of other sampled boards the new director served on at the beginning

of the period. The analyses asked the following question: Given that a board is making a new appointment, what factors influence the likelihood that the new director is a 'prestige' or central director? The first outcome—appointing a CEO as an outside director—increases the board's prestige, while the second increases its centrality. The character of such appointments thus directly determines the board's centrality.

Our design allowed us to use lagged variables to model centrality and the character of new appointments. Centrality was measured as described previously. Data on board composition came from proxy statements as reported in Standard and Poor's Directory of Corporations, Executives, and Directors (for 1982) and Compact Disclosure (for subsequent panels). Extensive computerized and hand-checking routines ensured that directors and their positions as executives were uniquely and accurately identified across firms and over time.

Size was measured in three ways: using annual sales volume, number of employees, and total assets. There is a slight preference for using employment as an indicator of size, but we ran analyses using all three separately and note any differences in results below. Performance was measured using the market to book ratio (i.e. the market value of the company's common stock divided by its book or accounting value) and ROA (i.e. income before extraordinary items/total assets). Because market to book is a ratio measure, it is susceptible to extreme fluctuations when the denominator (book value of common) is close to zero or negative. We therefore truncated this measure at zero and ten, so that firms with nonmissing values below zero were recoded as zero and those above ten were recoded as ten. Book value of total assets is considerably more stable, of course, but because ROA and its variability differ substantially by industry, we adjusted this measure by taking the z-score of a firm's ROA relative to that of other sampled firms in its primary 2-digit SIC industry for that year. We then averaged this measure over three years to get an indication of sustained performance relative to one's industry competitors. All of these measures were taken from Compustat and Compact Disclosure for various years.

Shareholder scrutiny was measured in two ways. Ownership by institutional investors was the percentage of a firm's common shares held by 13F filers (i.e. entities holding \$100 million in equity assets, primarily banks, insurance companies, mutual funds, and pension funds). This was measured using data reported in the Spectrum directory of ownership for 1980 and Compact Disclosure for 1986 and 1990. Ownership by executives and directors came from the same sources for 1980, 1986, and 1990. Being a target of activist investors was measured using the number of shareholder resolutions on governance issues appearing for shareholder vote at each firm's annual meeting. Resolutions can be included for a vote at the annual meeting by any shareholders meeting certain conditions. Shareholder resolutions are almost always opposed by management, and their rate of passage is quite low, but

they have been used by activists to draw attention to firms that are considered to exhibit lax governance practices. Data on these proxy resolutions came from various publications of the Investor Responsibility Research Center, a not-for-profit organization that monitors issues of corporate governance. Data availability was incomplete for earlier years, and thus we included this variable only for the 1986–90 and 1990–94 panels. The measure was the sum of shareholder resolutions for the first two years of each observation period (i.e. 1986 + 1987 and 1990 + 1991).

Corporate diversification was measured using the entropy measure for 1980, 1985, and 1990. Sales data by segment came from Standard and Poor's, Moody's Industrial Manuals, and Compact Disclosure. Because this measure was only available for industrial firms and thus reduced the sample size, models including this variable were run separately. Industry was coded using a dummy variable for firms operating in telecommunications, transportation, financial services, securities, insurance, and business services. We also ran separate models coding each of these 'network' industries separately. Finally, we coded a measure of corporate reputation using Fortune Magazine's annual survey of 'America's most admired corporations', in which the more admired firms were assigned higher scores. This survey began in 1983, and so we used data for 1983, 1986, 1990, and 1994. Because only a subsample of firms were included in these surveys, its inclusion severely reduces our sample size, and we therefore report results on analyses with and without this variable separately.

Method

First, we analyze new appointments of outside directors for non-banks. We compensate for unmeasured firm-level effects by specifying a random-effects model, with the data clustered by firm. We analyzed a firm's ability to attract a CEO director using a cross-sectional time-series probit regression in which the dependent variable was coded as one if the new outside director was a CEO of one of the other sampled corporations and zero otherwise. When the dependent variable was the number of sampled boards the director served on, the corresponding Poisson regression was used. In each case, we modeled either the appointment of a CEO director or the appointment of a 'central' director as a function of the independent variables described previously. We also controlled for director turnover using the number of new appointments during the observation period.

Results

Table 14.1 reports the results for the analyses of new director appointments. We find that both measures of shareholder scrutiny (ownership by institutions

TABLE 14.1. New Appointments of Outside Directors (Non-banks): Results of Cross-sectional Time-series Models

<i>Variable</i>	New CEO director					Degree of new director				
Employees	0.0005+ (1.68)	0.0000 (0.12)	0.0004 (1.37)	0.0006 (1.52)	0.0004 (1.23)	0.0002 (0.79)	0.0003 (1.19)	0.0002 (0.63)	0.0001 (0.22)	0.0001 (0.29)
Return on assets	0.1220* (2.99)	0.1377* (2.92)	0.1193* (2.76)	0.1387* (3.05)	0.1038 (1.32)	0.0705+ (1.86)	0.1254* (3.08)	0.0658+ (1.67)	0.0811 (1.92)	-0.0081 (-0.13)
Centrality	0.0382* (6.56)	0.0436* (6.43)	0.0387* (6.07)	0.0385* (6.07)	0.0303* (4.16)	0.0438* (10.00)	0.0421* (7.73)	0.0437* (9.62)	0.0454 (10.11)	0.0331* (6.14)
Institutional ownership	0.0034+ (1.78)	0.0051+ (1.94)	0.0028 (1.44)	0.0034+ (1.66)	0.0025 (0.88)	0.0044* (2.60)	0.0047* (2.23)	0.0030+ (1.77)	0.0035 (1.92)	0.0007 (0.28)
Shareholder resolutions		0.0120 (0.61)					0.0294* (2.37)			
Reputation score					0.0629 (1.03)					0.0300 (0.67)
Insider ownership			-0.0012 (-0.38)					-0.0024 (-0.76)		
Diversification				0.0110 (0.18)					0.0352 (0.67)	
Industry	-0.0071 (-0.51)	-0.0130 (-0.85)	-0.0126 (-0.88)	-0.0136 (-0.77)	0.0070 (0.33)	0.0086 (0.56)	0.0082 (0.51)	0.0052 (0.34)	0.0015 (0.08)	0.0102 (0.53)
Constant	-1.5388* (-14.4)	-1.6758* (-11.2)	-1.4726* (-12.4)	-1.5327* (-12.1)	-1.8410* (-4.4)	-0.6100* (-5.9)	-0.6938* (-4.9)	-0.5111* (-4.6)	-0.5705 (-4.9)	-0.4214 (-1.4)
No. of directors	2902	2032	2663	2471	1392	2902	2032	2663	2471	1392
No. of firms	370	367	367	332	213	370	367	367	332	213
Chi squared	143.29	569.78	609.4	186.85	46.43	419.69	205.86	168.87	549.98	141.35
d.f.	10	11	11	9	10	10	11	11	9	10

* $p < .05$. + $p < .10$. Reported significance levels are two-tailed.

and being subject to shareholder resolutions) increased the centrality of new directors recruited, consistent with Hypothesis 1a. Neither measure had a consistent positive influence on CEO appointments, however, in contrast to Hypothesis 1b. The effects of prior performance were quite the opposite of what we predicted in Hypothesis 2: both CEOs and central directors were more likely to join the boards of superior performers, not weak performers. We found little support for Hypotheses 3 and 4: neither diversification nor operating in network industries (those industries requiring the greatest cross-industry information) had a consistent positive influence on appointments of CEOs or central directors. And while there was little support for Hypothesis 5—large firms were not significantly more likely to appoint CEOs or central directors than small firms—there was quite consistent support for Hypothesis 6: centrality strongly and consistently increased the probability that a new director would be a CEO and the number of other board memberships held by the new director. Using alternative measures of centrality (the Bonacich measure) and size (sales or assets rather than employment) yielded substantively identical results.

Effects of Centrality on Performance We wanted to determine what effect centrality has on subsequent performance. Unreported analyses regressing a firm's subsequent performance (measured using the z-score of its ROA relative to its primary industry for three years following the observation year) on its centrality, size, and reputation found no significant effect for any measure of centrality. We did, however, find a positive effect of reputation (the Fortune admiration score) on subsequent performance.

Effects of Centrality on Reputation We also treated a firm's admiration score as the dependent variable. We find that centrality has a significant positive effect on admiration. In other words, net of the more predictable effects of size and performance, central boards enhance a firm's reputation, as one would expect given our interpretation of centrality as status.

Discussion

Our findings indicate that corporate boards seek to appoint well-connected directors to the extent that their need for displays of status are great—when they are owned by institutional investors rather than individuals, and when they have been the subject of governance-related shareholder proposals. They are able to recruit such directors when their firms have a history of superior performance, but most importantly when they are already central. Central boards are presumably attractive to potential directors for several reasons and are able to locate these directors because of their broad scan. Whatever the reason, the one constant across all models was the finding that prior

centrality increased firms' likelihood of appointing a status-enhancing director. This was invariant to model specification and is quite robust to the measure of centrality used.

Theorists have speculated on the process by which outside directors are appointed—whether these individuals are generally quiescent dupes of self-serving managers or vigilant agents of their shareholder principals—but the evidence to date does not support a simple interpretation in either direction (e.g. Zajac and Westphal 1996). What motivates boards to seek particular candidates is undoubtedly a mix of factors. But our results suggest two things that are new to the literature. First, central directors appear to be appointed in part to serve the 'Potemkin Village' function: they are most likely to be appointed by corporations owned proportionally more by institutional investors and those that have previously been subject to shareholder proposals on governance. It is precisely these firms that experience the greatest scrutiny of their governance practices, and whose boards therefore have the greatest pressures to make displays of good faith to the shareholders that elect them. The displays work to deflect scrutiny, if not to enhance governance: centrality evidently increases the corporation's esteem in the eyes of external constituencies while leaving operating performance unchanged. These results parallel those by Westphal and Zajac (1998): symbolic displays appear to be sufficient, even if detached from substantive reform.

Second, focusing on what the appointing firm gets out of recruiting a central director tells only part of the story: one must also consider what is in it for the director. Joining a corporation's board may be attractive as a means to learn from effective managers, because a firm is economically important, for career advancement, or to gain the opportunity to associate with other corporate diplomats and enhance one's business scan (Useem 1984). Central firms, and firms with a history of out-performing their industry, offer the best opportunities to serve these interests and therefore have the most success at attracting central directors, who presumably have their choice of which boards to join. Conversely, firms with a history of poor performance, which might benefit from the experiences of successful outside CEOs, have the least chance of recruiting them to their boards.

Some differences emerged between appointments of CEOs and central directors. Institutional ownership had its greatest effect on the appointment of directors holding multiple seats rather than on the appointment of CEOs, as did shareholder resolutions. To the extent that the appointment of new directors is intended to enhance status in the eyes of shareholders, it appears that central directors are more frequently the object of this strategy than CEOs. Conversely, CEOs may be more motivated by personal concerns—seeing first hand how a successful firm is run, and networking.

The effects of centrality on a firm's performance and reputation were intriguing. Neither central directors nor CEOs appeared to have a discernible impact on corporate performance, bringing into question whether

they are valid signals of superior corporate governance from the perspective of shareholders. This null effect held was consistent across our measures of performance. In short, while good prior performance may allow a firm to bag a CEO or central director, boards composed of such individuals have no discernible impact on subsequent operating performance. One might argue, following the logic of Demsetz and Lehn (1985), that centrality adjusts to meet the level required for acceptable performance; thus, in equilibrium centrality would have no relation to performance. But this would imply that central directors are recruited when performance is poor, bringing up subsequent performance to equilibrium levels. As we have seen, however, the opposite is true. Board composition appears to be a consequence, not a cause, of corporate performance.

Yet the appearance of central directors on the board enhanced the perception of the firm by analysts and other constituencies. They appear to serve as an effective symbol of commitment to shareholder value, even if in fact their relation to this construct is problematic. We must be cautious in interpreting this result, as the Fortune survey appears to change its methodology from year to year, but the result is tantalizing in light of our discussion of status.

The implication of all these results in combination is that interlock network centrality is self-reproducing: central boards appoint central directors, whereas peripheral boards do not (see White 1981). Sustained poor performance will eventually erode centrality by making it difficult to recruit central directors, but the effect is rather modest compared with the impact of centrality. Performing two standard deviations above one's industry average for three years had about the same estimated effect on CEO appointments as being one standard deviation above the mean in centrality. Moreover, turnover rates on large corporate boards were relatively low, particularly for central directors: the median board in this sample replaced roughly 21% of its members every four years, implying a relatively long lag period before a firm's centrality catches up with its performance. As a result, centrality is not a particularly reliable indication of current or future corporate performance, although it may be taken as such by outside constituencies. It is possible that centrality is a valid signal of the quality of governance (as distinct from a corporation's economic performance), but this must be taken on faith, not evidence.

Conclusion

The overall results support construing centrality as status, a signal of governance quality when better information is not available. Outsiders have little direct evidence on whether a board is a good one, at least prior to a governance disaster. They are therefore compelled to rely on indirect indicators, such as what other boards directors serve on, whether they are executives of other major companies, and their age and tenure on the board—in other

words, the things reported on proxy statements. Outsiders take these signals seriously, but there is little evidence that they should.

Boards may seek to appoint central directors because of the need to demonstrate good faith to shareholders and others, but whether intended or not, centrality has a number of consequences. The flow of information and normative influence works both ways: central boards have direct access to information and opinion about the governance practices at many other firms, but they also become susceptible to external demands as their directors are exposed to more occasions to explain the board's actions to outsiders. Central boards are thus quick to adopt governance practices considered appropriate and more prone to conform to the norms of the corporate elite, which need not map on to the expectations of shareholders and other constituencies (Davis and Greve 1997). Attempts to signal status by recruiting central directors may be directed at an audience of shareholders, but centrality also acts as a signal to other boards, which look to central firms for indications of the appropriateness of practices. Just as markets are constituted of mutually-regarding producers arrayed in a status hierarchy, the 'governance market' of interlocking boards is as well (White 1981; Podolny 1993).

Why does centrality appear to affect the most important aspects of corporate governance—including the ability to recruit high-profile directors—yet not operating performance? We would argue that the answer turns on the kind of information that can be transferred through ties such as interlocks. Outside directors can convey concrete information about what other boards do and opinions about the desirability of certain practices based on their experience, and they can locate new director candidates and vouch for their character. But they can't bottle an elixir that will help the firm out-perform its competitors. If this were the sort of knowledge that could be conveyed easily, such as through board meetings or hiring consultants, presumably the firm already would have implemented it. This situation parallels that described in public schools by Meyer and Rowan (1977): in the absence of cause-and-effect knowledge of how education occurs, schools seek to demonstrate their fitness by external displays of conformity to procedure. Central boards serve their legitimating function by being central, which signals their fitness to govern. Absent more reliable signals, their constituencies appear to buy it.

Activist investors have forwarded proposals for reforming corporate boards in order to enhance their performance. Two things are notable about most of these proposals: (1) they almost always prescribe standards for the small number of director attributes reported in the proxy statement (imposing a mandatory retirement age; preferring CEOs to others as outside directors; limiting the number of insiders; and so on) and not other attributes, and (2) they are rooted not in solid evidence about what works but 'common sense'. Our results suggest that boards can engage in displays of good faith (e.g. recruiting high-profile directors), but these displays may not

have the intended consequence (improving performance) and may well have unintended ones. For better or worse, boards are social institutions first, positioning the firm in a larger network that influences what information it gets and what kinds of normative pressures it is susceptible to. The influence of network position on governance practices is indisputable, but its impact on quality per se is subtle at best.

Notes

1. There are several disanalogies between the governance market and other markets, although scholars have discussed a market for corporate directors (Fama and Jensen 1983). To start, any competition among governance producers is muted at best. The boundaries of the market are largely unimportant, in contrast to the boundaries of industrial markets. What is produced is intrinsically intangible and evaluations of quality are particularly ambiguous. Finally, economic cost is largely irrelevant. Yet the notion of board status is intuitively plausible and helps explain several empirical regularities both in shareholder perceptions of board quality and in the dynamics of the interlock network.
2. The sample network for the descriptive statistics in this paragraph consists of 822 American corporations that were the publicly-traded members of the 500 largest manufacturers (by revenues), 100 largest commercial banks, 100 largest service firms, 50 largest retailers, 50 largest diversified financials, and 50 largest transportation companies in 1994, as well as 76 firms that had been among the largest during the 1980s but had dropped off the list.

References

- Brickley, J., Jeffrey, A., Coles, L., and Terry, R. 1995. 'Outside Directors and the Adoption of Poison Pills', *Journal of Financial Economics* 35: 371–390.
- Davis, G. F. and Greve, H. R. 1997. 'Corporate Elite Networks and Governance Changes in the 1980s', *American Journal of Sociology* 103: 1–37.
- and Mizruchi, M. S. 1999. 'The Money Center Cannot Hold: Commercial Banks in the U.S. System of Corporate Governance', *Administrative Science Quarterly* 44: 215–239.
- Yoo, M., and Baker, W. E. 2003. 'The Small World of the American Corporate Elite, 1982–2001', *Strategic Organization* 1: 301–326.
- Demsetz, H. and Lehn, K. 1985. 'The Structure of Corporate Ownership: Causes and Consequences', *Journal of Political Economy* 93: 1155–1177.
- Easterbrook, F. H. and Fischel, D. R. 1991. *The Economic Structure of Corporate Law*. Cambridge, MA: Harvard University Press.
- Fama, E. 1980. 'Agency Problems and the Theory of the Firm', *Journal of Political Economy* 88: 288–307.
- and Jensen, M. C. 1983. 'Separation of Ownership and Control', *Journal of Law and Economics* 26: 301–325.

- Geneen, H. 1997. *The Synergy Myth: and Other Ailments of Business Today*. New York, NY: St. Martin's.
- Granovetter, M. 1985. 'Economic Action and Social Structure: The Problem of Embeddedness', *American Journal of Sociology* 91: 481–510.
- Knoke, D. and Burt, R. S. 1983. 'Prominence', in *Applied Network Analysis: A Methodological Introduction*, Burt, R. S. and Minor, M. J. (eds.). Beverly Hills: Sage, 195–222.
- McCloskey, D. N. 1985. *The Rhetoric of Economics*. Madison: University of Wisconsin Press.
- Merton, R. K. 1968. 'The Matthew Effect in Science', *Science* 159: 56–63.
- Meyer, J. W. and Rowan, B. 1977. 'Institutionalized Organizations: Formal Structure as Myth and Ceremony', *American Journal of Sociology* 83: 340–363.
- Mintz, B. and Schwartz, M. 1985. *The Power Structure of American Business*. Chicago: University of Chicago Press.
- Mizruchi, M. S. 1996. 'What do Interlocks do? An Analysis, Critique, and Assessment of Research on Interlocking Directorates', *Annual Review of Sociology* 22: 271–298.
- Neiva, E. M. 1996. 'The Current State of American Corporate Governance', Unpublished, Institutional Investor Project, Columbia University Law School.
- Pettigrew, A. and McNulty, T. 1998. 'Control and Creativity in the Boardroom', in *Navigating Change: How CEOs, Top Teams, and Boards Lead Corporate Transformation*, Hambrick, D. C., Nadler, D. A., and Tushman, M. L. (eds.). Boston: Harvard Business School Press, 226–255.
- Pfeffer, J. and Salancik, G. R. 1978. *The External Control of Organizations: A Resource Dependence Perspective*. New York, NY: Harper & Row.
- Podolny, J. M. 1993. 'A Status-Based Model of Market Competition', *American Journal of Sociology* 98: 829–872.
- Rogers, E. M. 1995. *Diffusion of Innovations*. New York, NY: The Free Press.
- Shivdasani, A. 1993. 'Board Composition, Ownership Structure, and Hostile Takeovers', *Journal of Accounting & Economics* 16: 167–198.
- Shleifer, A. and Vishny, R. M. 1997. 'A Survey of Corporate Governance', *Journal of Finance* 52: 737–783.
- Useem, M. 1984. *The Inner Circle*. New York, NY: Oxford University Press.
- Westphal, J. D. and Zajac, E. J. 1994. 'Substance and Symbolism in CEOs' Long-Term Incentive Plans', *Administrative Science Quarterly* 39: 367–390.
- 1998. 'The Symbolic Management of Shareholders: Corporate Governance Reforms and Shareholder Reactions', *Administrative Science Quarterly* 43: 127–153.
- White, H. C. 1981. 'Where Do Markets Come From?', *American Journal of Sociology* 87: 517–547.
- Zajac, E. J. and Westphal, J. D. 1996. 'Director Reputation, CEO-Board Power, and the Dynamics of Board Interlocks', *Administrative Science Quarterly* 41: 507–529.

AQ: Please check the insertion of the year in Westphal and Zajac 1998.