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# Corporate Elite Networks and Governance Changes in the 1980s<sup>1</sup>

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Changes in corporate governance practices can be analyzed by linking the adaptations of individual firms to the structures of the networks in which firms' decision makers are embedded. Network structures determine the speed of adaptation and ultimate patterns of prevalence of governance practices by exposing a firm to particular role models and standards of appropriateness. The authors compare the spreads of two governance innovations adopted in response to the 1980s takeover wave: poison pills (which spread rapidly through a board-to-board diffusion process) and golden parachutes (which spread slowly through geographic proximity). The study closes with a discussion of networks as links between individual adaptation and collective structures.

Researchers examining organizational adaptation to changing institutional environments have documented the spread and persistence of discrete practices and structures across organizational fields, including the multidivisional form (Fligstein 1985), corporate diversification (Fligstein 1990), accounting standards (Mezias 1990), and corporate affirmative action offices (Edelman 1992), among others. In many accounts, these practices are not adopted by organizations as social atoms but rather through a process of social construction by networks of managers groping to respond to changes in the legal and political environment (Dobbin et al. 1993). While networks are often part of the explanation, however, they are rarely examined explicitly as the link between the actions of particular organizations and the collective structure that results.

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This article explores an approach to linking individual adaptation and collective structure through structural embeddedness in networks (Granovetter 1985). We consider the corporation as a governance structure—a set of contracts—and examine how two forms of social proximity (based in interlocking boards of directors and geographic proximity) influenced the evolution of the terms of those contracts during the takeover wave of the 1980s, a point when the governance regime for large American corporations was being renegotiated (Campbell and Lindberg 1990; Useem 1996). Using the literatures on neoinstitutionalism and diffusion through networks as points of departure, we argue that both structural embeddedness—the configuration of the networks in which firms are embedded—and cultural embeddedness—in particular the repertoire of accounts available to the firms' decision makers to justify actions—shape individual actions and the process of aggregation. At the micro level, decision makers in firms are discriminating in whom they look to when determining the appropriateness of a given practice; whom they look to varies with the content of the practice. In other words, not all referents count the same, and some referents are more appropriate for deciding about some practices than about others. At the macro level, the configuration of the networks shapes the process by which individual choices aggregate into the overall structure of the field.

We develop our account by examining the spread of two particular governance practices, the golden parachute and the poison pill, among the several hundred largest industrial corporations in the United States during the 1980s. Both pills and parachutes were adopted by the boards of a majority of large U.S. corporations during this time in response to the wave of hostile takeovers. Golden parachutes are contracts that award generous severance packages (typically three years' salary) to top executives whose employment ends following a takeover. Poison pills are securities that prohibitively raise the cost of hostile takeovers (those made without gaining the approval of the target's board of directors) by giving target shareholders the right to buy shares at a 50% discount if an acquirer passes a certain ownership threshold. At the time it appeared, the pill was considered the strongest available defense against hostile takeover. Several studies have documented that the individual profiles of firms adopting both tend to be similar—in short, firms that were most susceptible to takeover and where executives stood to lose the most if the firms were acquired were likely to have each (e.g., Wade, O'Reilly, and Chandratat 1990; Davis 1991). But the dynamics of adoption were quite different (see fig. 1). The pill spread extremely quickly: in under three years, adoption of the strategy grew from 5% to 50% of firms. In contrast, it took seven years for the use of parachutes to grow from 5% to 50% of firms.

## Elite Networks and Governance Changes

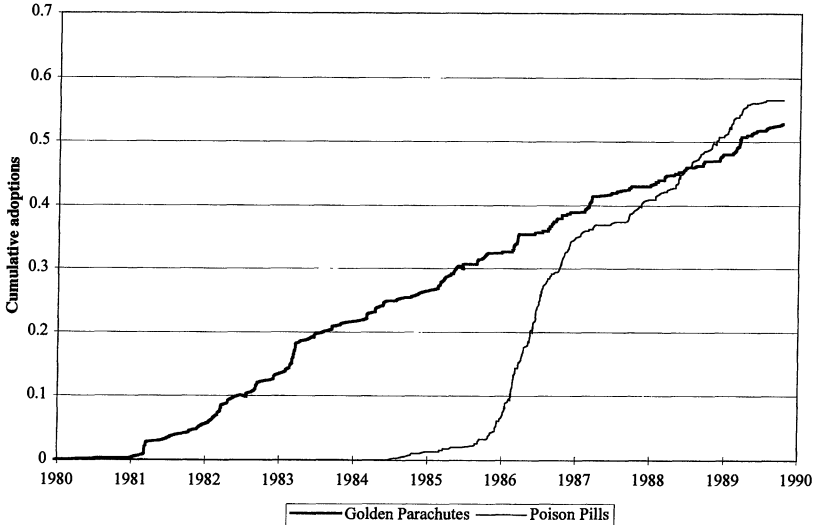


FIG. 1—Diffusion of poison pills and golden parachutes among 1986 Fortune 500 firms, 1980–89.

Comparing the divergent processes by which pills and parachutes spread is particularly informative because, absent a controlled experiment, these practices are as similar on important dimensions as one is likely to encounter in the real world. Both pills and parachutes were initially controversial practices that were eventually adopted by most (50% or more) major corporations. Moreover, both were adopted at the sole discretion of boards of directors. Thus, the experiences of corporate directors, either through the direct exposure of serving on other boards that had contemplated these innovations or by observing what other corporations had done from a distance, were immediately relevant to their adoption decisions, and prior evidence suggests that boards were influenced by network contacts in considering the poison pill (Davis 1991). But though the decision makers were the same and the practices very similar, pills and parachutes differ in intriguing ways that make their comparison particularly valuable. The earliest evidence on pills indicated that they were harmful to shareholders (SEC 1986). The reason is straightforward: shareholders typically get windfalls of upward of 50% when the firm they own is taken over, and pills could in principle be used by managers of a corporation to deprive shareholders of this windfall, thereby giving themselves the corporate equivalent of tenure. In contrast, the evidence on parachutes suggested that they increased share price (Lambert and

Larcker 1985), the rationale being that parachutes allowed managers to negotiate the best deal for shareholders without having to worry about their own financial well-being after the takeover. In light of this, one would have expected directors concerned with shareholder welfare to rush to implement parachutes but to be extremely wary of pills; yet quite the opposite happened. As this article demonstrates, structural embeddedness provides an explanation for this puzzle.

This article makes four contributions. First, it contributes to the recent literature on changes in governance regimes by examining how large corporations changed practices in response to the takeover wave of the 1980s. This period has been characterized as a shift from “managerial capitalism” to “investor capitalism” (Useem 1996). Further, by unpacking some of the microstructural changes made by managers of individual corporations, we hope to contribute to an understanding of the macrochanges that took place. Second, Hedström (1994, p. 1177) notes that “much more analytical work is needed on the role of multiplex networks, particularly on how multiple, overlapping networks of varying density and reach are likely to influence the diffusion of information.” This article takes one step toward that goal by simultaneously analyzing the effects of the board interlock network and the geographical proximity of firms.<sup>2</sup> Third, we do so by using unusually comprehensive time-series data on a large network of corporations over several years. This stands in contrast to most diffusion data, which is plagued by incomplete network data or imprecise information on the timing of adoption (e.g., the canonical data on physician adoption of Tetracycline, originally reported in Coleman, Katz, and Menzel [1966] and reanalyzed by Burt [1987], Marsden and Podolny [1990], and Strang and Tuma [1993]). Fourth, although Rogers notes that there have been approximately 4,000 papers on diffusion—which warrants extreme caution in undertaking another one—“There have been relatively few studies of how the social or communication structure affects the diffusion or adoption of innovations in a system. It is a rather tricky business to untangle the effects of a system’s structure on diffusion, independent from the effects of the characteristics of individuals that make up the system” (Rogers 1995, p. 25). Marsden and Friedkin (1993) review several recent studies of network influences, noting some of the methodological problems raised by these studies and suggesting alternative designs (e.g., using longitudinal data sets). Recent statistical innovations have dealt with several of the problems with prior studies quite effectively (Strang and Tuma 1993; Greve, Strang, and Tuma 1995) and allow researchers to distinguish

<sup>2</sup> Prior studies have looked at multiple network measures (Burt 1987; Strang and Tuma 1993) or multiple origins of influence (Greve 1995, 1996), but still with only one network transmitting the influence.

the individual characteristics that affect adoption from network effects on adoption, as well as discerning who decision makers look to in order to judge the appropriateness of a practice (cf. Burt 1987).

The article is organized as follows: We first discuss recent neoinstitutional work on changes in governance practices and link it to the broader literature on diffusion of innovations. We then describe how takeovers prompted a reordering of the governance practices of large corporations in the 1980s and describe the practices we study and the networks through which they spread. We present analyses of the diffusion of these practices, finding that different alters mattered differently for the two practices and speculating on how their normative statuses conditioned how they spread. Finally, we conclude with a discussion of the microstructural bases for changes in governance regimes in the United States.

### CHANGING ENVIRONMENTS AND THE EVOLUTION OF GOVERNANCE STRUCTURES

How organizational fields come to have particular governance regimes is an underdeveloped topic in organizational sociology. Governance regimes are “combinations of specific organizational forms, including markets, corporate hierarchies, associations, and networks . . . that coordinate economic activity among organizations in an industry or economic sector” (Campbell and Lindberg 1990, p. 636). In the United States, governance regimes are largely constructed from the ground up, by individual organizations adopting discrete practices and structures. This is because American corporate law is enabling rather than mandatory (Easterbrook and Fischel 1991): the state (or, more accurately, states; see Abzug and Mezas 1993) rarely requires specific forms, but issues broad directives to be interpreted by the managers of organizations, individually or collectively (Edelman 1992).

If U.S. corporate law is a blank slate, and if managers of organizations can in principle assemble highly customized structures ideally suited to their situation, then why—to paraphrase DiMaggio and Powell (1983, p. 148)—are there so few types of organizations? Recent work on the effect of legal changes on organizational structures has provided useful guidance by examining how organizations respond when old practices are proscribed or when new types of practices are required to meet demands in the legal environment. Fligstein (1990) examined how large businesses responded to changes in antitrust law, as horizontal and then vertical integration were limited as legal means to achieve corporate growth, finding that new approaches (e.g., diversification) were typically initiated by deviant innovators and then spread to become essentially conventional wisdom. Edelman (1992) examined the spread of employment practices in

the wake of the 1964 Civil Rights Act, arguing that the meaning of compliance was sufficiently vague that organizations were called on to define it themselves. Forms of compliance that were sufficient to meet legal demands but encroached least on managerial power and interests (e.g., adopting formal rules against employment discrimination) were most likely to spread widely. Dobbin et al. (1993) studied the diffusion of internal labor market practices, finding them to be spread through personnel professionals in response to equal employment opportunity laws. And Abzug and Mezias (1993) looked at the failure of comparable worth protections (“equal pay for comparable work”) to spread widely, arguing that the failure of comparable worth legal reforms at the federal level left reformers to focus on local levels with varying success, resulting in fairly minimal organizational change.

The collective implication of these studies is that changes in the legal environment create problems for organizations, either by creating new demands or limiting their repertoire for action. In response, fields of organizations experiment with new solutions that, once they meet a minimum standard of acceptability in the eyes of the courts or other relevant constituencies, diffuse widely. Yet the process of aggregation is not well defined. How, exactly, do organizations engage in this collective enterprise? Who are the relevant decision makers, and what leads them to decide what practices will meet the minimum standard of appropriateness? If the major motivation is the “quest for legitimacy” (Edelman 1990, p. 1403) employing organizational structures as symbols to “demonstrate appropriateness and rationality” (Sutton et al. 1994, p. 948), then who constitutes the audience for these acts? Moreover, what is the source for models of legitimate practices?

Some order is brought to this jumble of questions by Scott’s (1995, chap. 3) typology distinguishing three “pillars” of institutions and their related bases of legitimacy. Scott defines institutions as “cognitive, normative, and regulative structures that provide stability and meaning to social behavior” (p. 33). The cognitive approach focuses on the actors’ shared frameworks of interpretation, which allow them to acquire a common definition of the situation. Thus, legitimacy comes from adopting a common frame of reference consistent with the one that prevails in a social system. The normative conception is more evaluative in nature, and legitimacy takes on a moral tone—doing what others expect as “appropriate” for one’s role. The regulative view looks to formal and informal rules as constraining and regularizing behavior, and legitimacy consists in conforming to those rules. Evidence for the legitimacy of an organizational practice (and thus what those seeking it would look for) differ according to which aspect of institutions is featured: conformity to laws and other rules for the regulative pillar, moral endorsement or certification that one meets the obliga-

tions of one's role for the normative pillar, and following the prevalent practices in one's field for the cognitive pillar.

Legitimacy can be thought of as a perception or assumption that a practice meets some minimum constraint (Suchman 1995). But practices and structures do not spread simply because they are legitimate, but because organizational decision makers regard them as acceptable solutions to the particular problems they face (Scott 1995, p. 143). Matching problems with solutions is problematic because solutions are too abundant: managers are deluged with plausible-sounding but often contradictory "best practices," each with convincing evidence in the form of vivid case studies—culture, quality, reengineering, financial restructuring, downsizing, and so on. Recognizing genuinely best practices amid this invidious welter is an imposing task, particularly given that it is almost always easier to find out whether a practice was adopted than whether it subsequently worked as advertised (Greve 1996). Under these conditions, as the vast literature on the diffusion of innovation attests, managers will look to the experiences of others—alters—to determine what is appropriate (see Rogers's [1995] comprehensive review). Alters that are closest in social distance—those in direct contact or those who occupy a similar role—provide the most vivid models (Burt 1987), although the process by which organizations determine the relevant reference set is somewhat underspecified (Scott 1995, p. 123). Alters that are most similar to the focal organization are the most likely to be influential, particularly when their status is high (e.g., because of their prior success or centrality). Moreover, the relevant alters will vary with the type of practice, depending on what type of logic is driving the action and who the relevant audience is.

If adjustments are strongly influenced by what local alters do, then what explains their tendencies to flow in the same direction, militating in favor of "isomorphism" across fields (DiMaggio and Powell 1983)? First, network structures—the density of ties among individual actors and the aggregate structure created by those ties—determine the route and speed with which practices will spread. Practices will spread more rapidly in dense networks than in thin ones, just as viruses spread faster in urban areas than in rural ones. And, as is well known (e.g., Burt 1982), practices that start at the center will spread faster and farther than those that start at the periphery. Thus, knowing the structure of the network is necessary to map the spread of practices and their ultimate prevalence.

Second, cultural embeddedness enables some practices by giving ready accounts to justify them and constrains others by providing a limited menu of rationales. Accounts explaining how practices help actors rationally pursue some valued goal are an important condition for diffusion (Strang and Meyer 1994), but which kinds of accounts are acceptable depends on the culture of the social system and the content of the practice.



The network is a “community of practice” with its own more-or-less shared understandings (ideologies, assumptions, scripts, norms) that form a background for constructing economic strategies and goals and that determine what will count as appropriate or deviant (Hirsch 1986; Zukin and DiMaggio 1990). Normatively appropriate practices that fit with the cultural backdrop of a network spread faster and farther than deviant ones—which may in fact be more efficient—in part because they are taken up early on by central actors or opinion leaders, whose actions weigh more heavily in individual judgments (Burt 1982, pp. 199–201).

This brief account summarizes how the literatures on diffusion and embeddedness can help link individual action and collective outcomes, an association that has not been addressed in prior research on governance practices. In the wake of changes in the legal environment, decision makers in organizations look to what those that are proximate to them—socially or spatially—are doing, as well as what the most central or visible actors in the system are doing. Practices that have a ready rationale and are sufficiently convincing to outside constituencies are adopted by organizations that are central in the relevant network and spread quickly through direct contact. Practices that lack a legitimating account spread either slowly among peripheral organizations or not at all. The structure of the diffusion network will condition whether and when practices spread widely. We next turn to a discussion of the corporate environment of the 1980s, a period of considerable ferment in governance practices.

#### TAKEOVERS AND GOVERNANCE CHANGES IN THE 1980s

Times of turbulent change are particularly useful for studying the construction and spread of new practices, and the 1980s was a decade of turbulent change for American corporations. The relations between those who own and control large U.S. corporations—shareholders, managers, and boards of directors—underwent what was arguably an epochal transition in the 1980s and early 1990s, from an era of “managerial capitalism” to one of “investor capitalism” (Useem 1996). The traditional American system of corporate governance was marked by the separation of ownership and control made famous by Berle and Means in 1932, with dispersed (and powerless) shareholders having essentially no voice in running the firm while concentrated (and powerful) managers exercised great discretion. According to the traditional account, managers faced little constraint from the directors charged with overseeing them in the shareholders’ interest, as directors were typically selected by the managers themselves. This traditional system of managerial capitalism was challenged first by the wave of hostile takeovers, in which nearly one-third of the largest public corporations were subject to outside takeovers, and second by the

rise of shareholder activism, in which investors (primarily pension funds) demanded a greater voice in issues of corporate governance (Useem 1996). The result has been a widespread fixation on the creation of shareholder value to the virtual exclusion of other, potentially competing, corporate goals.

Takeovers were the most dramatic force for bringing about changes in the governance practices of corporations in the 1980s. Takeovers are usually accomplished by outside raiders making a “tender offer”: shareholders of the target firm are approached with an offer to buy their shares at a significant premium—typically upward of 50% over the market price. Tender offers made without gaining the approval of the board of directors are considered hostile. The standard theory holds that corporations are prone to being taken over when their share price is low due to poor management (Manne 1965). Tender offers allow outsiders to unilaterally buy control of the firm and oust the directors and the managers who were presumably responsible for the firm’s poor performance. The interests of the different constituencies in a takeover are straightforward: shareholders benefit from takeovers because they get a premium for tendering their shares; raiders benefit by “rehabilitating” the business; and managers typically lose their jobs (Gilson and Black 1995). During the 1980s, conglomerate firms operating businesses in several industries were the most frequent takeover targets because the sum of the value of the parts, typically sold to buyers in the same industries, was worth more than the stock market price of the whole. This “bust-up value” allowed raiders to make money simply by buying conglomerates and selling off the component businesses (Davis, Diekmann, and Tinsley 1994).

Changes in the legal environment were crucial in bringing about the takeover wave. First, the vast majority of firms were at least partially protected from hostile takeovers prior to 1982 by state corporate laws. These laws were struck down by the U.S. Supreme Court in *Edgar vs. MITE*. Second, the Justice Department issued revised merger guidelines in 1982 that significantly lowered the regulatory barriers to within-industry mergers. This made it much easier for raiders to find interested buyers for the parts of conglomerates they intended to bust up, as it was now possible for firms to buy competitors that were off-limits during the previous decades.<sup>3</sup>

Corporate managers and directors were the critical decision makers in

<sup>3</sup> In contrast to the governance innovations previously discussed (e.g., Edelman 1992; Dobbin et al. 1993), the legal environment for poison pills and golden parachutes was relatively homogeneous, and proximity to the state (e.g., through dependence on government contracts) was of relatively little importance in explaining the spread of these practices.

determining how corporations responded to the takeover wave. State governments had little leeway until late in the decade to craft a legislative response to takeovers, although local businesses strongly lobbied for such protection (Roe 1993). At the federal level, Reagan's appointees at the Securities and Exchange Commission (SEC) and the Justice Department steadfastly refused to intervene in the so-called market for corporate control on the theory that takeovers were an essential tool for enforcing economic efficiency. Congress, facing the virtual certainty of a presidential veto for any significant legislation seeking to limit takeovers, passed none, in spite of lobbying by the Business Roundtable and other business constituencies (Roe 1993).

Given no legal template to work with, the managers and directors of firms had to construct organization-level governance practices in response to takeovers (cf. Edelman [1992] on corporate responses to civil rights legislation). Ultimately, the response to takeovers was a substantial shift in how firms were run, emphasizing industrial "focus" rather than diversification (Davis et al. 1994) and measuring success in terms of share price appreciation (Useem 1996). But the more immediate problem facing corporate directors in the early 1980s was what to do about takeovers.

One type of response was to protect those who were perceived as standing to lose the most by providing severance benefits for top executives unemployed after a takeover. These agreements were labeled "golden parachutes" almost immediately and received highly visible coverage in the business press (e.g., Morrison 1982). A typical parachute provided three years' salary and benefits to the CEO and occasionally a handful of other executives in the event of a takeover that would leave them unemployed, voluntarily or otherwise. Parachutes, like other forms of compensation (contingent or otherwise), are set by the board of directors, and their adoption would traditionally be protected from shareholder legal challenges by the "business judgment rule." The SEC began to require disclosure of parachute agreements in 1980, and while one large firm (Hammermill Paper) implemented a parachute in 1976, no others did until 1980; the diffusion of parachutes did not begin in earnest until 1982 (see fig. 1 above).

A second type of response was to make hostile takeovers as difficult as possible by implementing takeover defenses. The Shareholder Rights Plan, known universally as the "poison pill," was created by attorney Martin Lipton to make tender offers not vetted by the board of directors prohibitively costly. Like the parachute, the pill is adopted at the discretion of the board of directors. The typical pill is issued as a dividend giving shareholders the right to buy shares at a two-for-one rate if a raider buys or seeks to buy a significant stake in the firm (commonly 20%), thereby

“poisoning” the target with this onerous obligation. The rights usually exclude the acquiring entity and transfer to the acquirer in the event that the takeover is completed—in other words, the acquirer could be compelled to honor the two-for-one obligation with its own shares. Pills usually have a grace period during which the board can—at its discretion—redeem the rights for a nominal fee, thus allowing a takeover without triggering the pill. The first major corporation to implement a pill was Crown Zellerbach in July 1984. Questions regarding its legality caused the pill to spread fairly slowly. But the Delaware Supreme Court’s decision in *Moran vs. Household International* legalized it for Delaware corporations, which includes the majority of large firms, in November 1985.

Several studies have uncovered the characteristics of boards adopting parachutes and pills, finding that many of the same factors predict the use of both. Given our portrayal of the winners and losers in takeovers—shareholders and raiders win, boards and managers lose—the picture of what types of organizations are likely to adopt is straightforward. Boards are expected to adopt each to the extent that their firms are susceptible to being taken over (due to small size, poor stock market performance, and being owned largely by institutional investors who are perceived as favorably disposed toward takeover); managers and directors own little stock (and thus will lose more than they gain if a takeover is successful); and boards are powerful relative to shareholders (because there are no large shareholders with the incentives and power to influence the board). Empirically, firms with parachutes tended to be susceptible to takeover due to poor performance, to have boards with proportionally fewer executives on them, to be smaller, to have less concentrated ownership, and to be owned proportionately less by their executives than those firms without parachutes (Wade et al. 1990). Similarly, compared to those without, firms with pills tended to be owned less by their executives and directors, to have less concentrated ownership, to be owned by institutional investors, to be smaller, and to have fewer executives on the board (Davis 1991).

Yet while the individual characteristics of firms are not irrelevant to whether or not they adopted pills or parachutes, neither can the spread of governance practices be reduced to atomistic decision making detached from social context. As anticipated by our previous discussion, although firm adaptation was primarily local in character, it was also embedded in larger social structures and culture. Where would directors turn in evaluating parachutes and pills? In deciding whether a practice is appropriate, decision makers in firms look to what decision makers in other firms have done, either through direct contact or observation—in other words, they look to corporate elite networks.

CORPORATE ELITE NETWORKS: INTERLOCKS AND REGION

Boards of directors are embedded in two prominent types of social networks, based on interlocks and geographic location. The interlock network is composed of the ties formed through shared board members. Interlocks are pervasive: during the time period of this study the median firm shared directors with seven other large corporations, and some shared directors with over 40 others. Relatively few large firms have no interlocks—only about 7% of the largest corporations in 1982 were “isolates.” The interlock network is perhaps the most-studied social structure in organization theory, as dozens of studies in the past 20 years attest (Mizruchi 1996). It is well established at this point that interlocks have a substantial influence on governance: research has shown shared board members to be linked to compensation levels (O’Reilly, Main, and Crystal 1988), to changes in corporate structure (Palmer, Jennings, and Zhou 1993), to susceptibility to takeover (in the 1960s, not the 1980s; cf. Palmer et al. 1995; Davis and Stout 1992), to the propensity to acquire (Haunschild 1993), and, most germane to this topic, to the likelihood of adopting a poison pill (Davis 1991). The question is not whether interlocks matter for corporate governance, but how.

Our answer is that the effects of interlocks are “mundane but consequential,” providing conduits for the flow of information and norms of corporate governance (see Useem 1984). For instance, as interviews with directors attest, when evaluating whether it is appropriate to adopt an innovation such as a poison pill, it only makes sense that directors who have experience with such decisions will bring their experience to bear on the decision. To believe otherwise would be to imagine that directors sit silent while decisions with which they have direct experience are made. It is in the process of aggregation, and in distinguishing between appropriate and deviant practices, that the structure of the network becomes significant by determining how quickly and in what direction the field will evolve.

The accounts given by experienced directors can help legitimate practices more directly than the sort of broadcast information available from mere outside observation of corporate action. For instance, both AT&T and IBM completed highly visible hostile takeovers in the 1990s (AT&T bought NCR in 1991, and IBM acquired Lotus in 1995). Whatever their business merit, these acquisitions indicated to the press and other commentators that hostile takeovers had achieved a status as fully legitimate tactics for growth, even for blue-chip firms (e.g., “Suddenly, the hostile takeover is a benevolent act,” *New York Times*, June 7, 1995). Perhaps more important than press coverage, however, is the fact that members of AT&T’s board of directors at the time of the NCR acquisition sat on

the boards of upward of 40 other corporations, while members of IBM's board of directors sat on more than 20 other boards. The other directors of these interlocked companies could hear directly of the rationales behind AT&T's and IBM's actions from those in the best position to transmit "important data concerning costs, problems, political risks, likelihood of opposition from interest groups, efficacy of the innovation when initiated, and so forth—a kind of information only available from peers who have already adopted" a practice (Becker 1970, p. 269). In light of this information, these decision makers are more likely to see takeovers in a more positive light, potentially increasing the prevalence of takeovers generally (see Haunschild 1993). This is how individual actions aggregate into structural consequences, in this case helping legitimate initially controversial practices.

A second corporate elite network is based on geographic proximity. While there is a national corporate elite, perhaps consisting of the top executives of the largest firms who belong to the Business Roundtable, there are also geographically clustered segments of the elite. This is partially reflected in the interlock network: for corporations other than banks, 32% of the outside directors who were executives of other large corporations (received ties) came from firms headquartered in the same telephone area code, and 39% came from the same state in 1982. Executives from the same area need not be represented on the same boards to be in contact with each other, so it is likely that the local interlock ties capture only part of the contact within the local corporate elite: "Directors who maintain intraclass bonds with one another by virtue of their common residence in elite neighborhoods and membership in social clubs and public policy-making groups need not sit on one another's boards in order to facilitate coordination between the firms they command" (Palmer, Friedland, and Singh 1986, p. 794). Directors who are not corporate executives are often not members of the local elite, so the total interlock network is largely nonlocal: when all interlock ties are considered, 23% of the average firm's contacts (sent, received, and neutral ties) were with companies headquartered in the same area code, and 29% were in the same state. Local corporate elite networks, then, are somewhat different from the interlock network.

It is easy to understand why interlocks would influence governance—directors bring the experiences gained on one board to bear on the decisions made at another. But local elite members who are not on the board will not be present when decisions are made, so why should mere physical proximity play a role in governance? The country club cliché—that much business gossip is traded over golf games—is in fact surprisingly accurate, according to discussions with directors. There are localized patterns of corporate political donations (Mizruchi 1989) and legislative lobbying

(Roe 1993) that suggest coordinated action by local elites, and a range of formal and informal institutions facilitating interaction among elites, from local charitable organizations to chambers of commerce.

Local alters may also be more influential in prompting *de facto* coordination simply because their actions are easily observed, whether or not the gossip was literally shared over golf games. For instance, executives in St. Louis are likely to be particularly attuned to the practices of Anheuser Busch, a highly prominent local business, even if they do not share drinks with the latest scion of the Busch family to run the company. Regional corporate elites, although less studied than the national corporate elite network tied through interlocks, are thus potentially important bases for the spread of practices. While regional effects often have alternative interpretations (Marsden and Friedkin 1993), they nonetheless provide a basis for direct forms of influence (see, e.g., Hedström [1994] on the spatially based spread of unions in Sweden).

#### WHOSE OPINION COUNTS?

Until recently, methodological limitations have prevented empirical work from specifying the processes by which firms (or individuals) choose referents in any detail. When network data on direct contacts among members of a population are absent, for instance, researchers modeling the influence of role models on rates of adoption commonly use indirect indicators such as the proportion of prior adopters in the organization's industry (e.g., Fligstein 1985) or region (e.g., Burns and Wholey 1993). Those with network data typically assume that the degree of influence is directly proportional to the contact among corporations, or at most is mediated by some form of structural similarity in the intercorporate network (e.g., Mizruchi 1989; Davis 1991; Haunschild 1993). In either case, the assumption that each contact is as influential as the other may be a convenient approximation when the goal is only to show that the influence occurs, but it is likely to hide substantial variation. Not all referents carry the same weight in evaluating a course of action: AT&T will have a greater legitimating effect on hostile takeovers than Mesa Petroleum, while a commercial bank's governance practices may have little apparent relevance to a software firm. On a practical level, this suggests that the authority granted a director in board decision-making processes is in part a function of the social characteristics of the other firms on whose boards he or she sits; for instance, a company director who also sits on the board of IBM is likely to be particularly influential in discussions about launching hostile takeovers.

On what basis are firms likely to choose referents in evaluating the desirability of a practice? The adoption of a new practice is a salient organizational act, and to satisfy the institutional environment and make sense

to the decision makers, it needs to have a legitimating account (Strang and Meyer 1994). These accounts include cognitive elements such as definitions of relevance that describe what kind of innovation is done by what kind of actor and normative elements that prescribe why certain acts are good and desirable (see Scott 1995). The question of legitimacy highlights the fact that governance practices must be evaluated in relation to the cultural accounts that may support or undermine them. A large part of the costs and benefits of a solution is determined by how well the solution can be explained and justified to the various referees that examine what corporations do. Thus, decision makers will be attentive to the legitimacy of a practice.

Evidence for the “cognitive” legitimacy of a practice comes from its prevalence among those occupying similar positions. Prevalence indicates that the practice is taken for granted among those in such a role. Criteria for deciding who is “similar” are problematic, but we expect that managers and directors will rely on easily evaluated characteristics that reflect a firm’s type of business or status in the network of firms. A characteristic with obvious relevance to judgments of similarity is the industry, since industry groupings describe firms doing roughly similar kinds of business. Thus, Fligstein (1985) found that firms adopted the M-form to the extent that others in their industry had done so. Size and centrality may also be the basis of similarity judgments, since they reflect status groupings among firms. For example, large savings and loan (S&L) associations were more likely to follow the lead of other large S&Ls into new markets (Haveman 1993).

The normative view focuses on the moral and obligational bases of legitimacy. Evidence of legitimacy on this dimension comes not simply from sheer numbers but from the status of prior adopters. The actions of high-status actors take on a halo of approval quite apart from their actual merit. Some organizational fields have well-defined status orders that lend themselves well to measurement, such as the “brackets” in investment banking (Podolny 1993), and measuring such a status order would certainly be helpful in determining the how a firm’s status can legitimate its actions within its organizational field. Evaluating a firm’s potential to legitimate a practice across organizational fields is much more difficult, and it is unlikely that any single measure will be completely acceptable. Among very large business firms, large size, superior economic performance, and great prominence may confer status on a firm. Firm size can be seen as a measure of importance, power, and success, and so large firms may strongly legitimate the practices they adopt (Burns and Wholey 1993; Haveman 1993). Current economic performance gives the firm attention and admiration in the business press and may help legitimate its actions (Haveman 1993). Network position has been argued to reflect status



groupings (Burt 1987, 1992) and may shape how strongly a firm influences others (Burt 1987; Galaskiewicz and Burt 1991; Podolny and Stuart 1995). An important aspect of network ties is that firms are selective about establishing visible ties (Podolny 1993), so network position directly shows how other firms evaluate the focal firm. Position in a network of boards of directors also shows, of course, how well positioned the firm is to explain its actions directly to other firms.

While our discussion has focused on decisions at the level of individual firms, prior research also suggests an aggregate diffusion pattern. Practices consistent with the prevailing norms of the social system will be adopted early by high-status actors, which will quickly legitimate those practices and accelerate their diffusion (Burt 1982, p. 199). Early adoptions are extremely important for the ensuing contagion pattern. Even if the contagion pattern were to follow the same point-to-point influence pattern, diffusion from noncentral actors will be slower (see Becker [1970] for a comparison of diffusions of “high adoption potential” and “low adoption potential” innovations within the same social system). In short, the content of a practice—the extent to which it can be accounted for within the relevant social system—will influence the network location of early adopters and thereby the speed of diffusion.

## METHOD

### Sample

The initial sample included all firms in the 1980 and 1986 Fortune 500 largest U.S. industrials. Firms that were not publicly traded, and thus immune to adoption, were eliminated from the sample, leaving an effective sample size of 442 in 1980. In addition to this full data sample, we had network data for most publicly traded members of the 50 largest commercial banks, 25 diversified financials, 25 retailers, and 25 transportation firms in 1986. While organizations with missing data were not included in the analysis, their adoption times were recorded where available, and they were used to update the variables describing contagious influences.

### Data

*Dependent measures.*—Information on the dates that U.S. firms initially adopted a poison pill or golden parachute (if ever) came from the Investor Responsibility Research Center, a not-for-profit institution that tracks issues of interest to the investor community, and from proxy statements. Because pills are issued to shareholders as a dividend, the timing of their adoption is known with great precision—namely, the date that

the announcement was sent to shareholders—a substantial advantage in diffusion studies.

We define a “golden parachute” to be a formal obligation to pay cash compensation to one or more top executives that is specifically contingent on a “change in control” in the corporation. Severance agreements that do not explicitly include a change in control clause, and change in control provisions that do not involve cash compensation (e.g., continued medical coverage or accelerated vesting of options) were not considered golden parachutes. Such agreements are considered to be “adopted” at the time the contingent contract is put in place, not at the time they are paid out (if ever). Since 1980, firms have been required to report golden parachutes in proxy statements or 10K statements (Cochran and Wartick 1984). We coded dates of adoption by locating the first proxy statement for every adopting firm in which compensation contingent on a change in control was mentioned. If the date of adoption was specifically listed in the proxy statements, we recorded it; otherwise the date was interpolated (e.g., if the parachute was mentioned as having been adopted “last November,” we used November 1; if it was listed as having been adopted “within the past year,” we used the date six months prior to the date of the proxy statement). The time period covered by the poison pill data begins with the first adoption by a Fortune 500 firm (Crown Zellerbach, July 1984) to August 1989, at which point roughly 57% of the surviving firms in the sample had adopted the pill. The first adoption of a golden parachute by a Fortune 500 firm for which we could find documentation was in July 1976 (Hammermill Paper), but it attracted little notice at the time. We include this adoption as influential, but let the rest of the population become at risk of adoption from January 1, 1980, until the end of 1989. By this point, the takeover wave had largely run its course, as the spread of state antitakeover laws and the collapse of the junk bond market largely eliminated firms’ propensity to seek further protection from takeover.

*Network measures.*—Interlock network data and board composition data were constructed using lists of board members from proxy statements, as reported in Standard and Poor’s *Directory of Corporations, Executives and Directors* for 1982. The expanded network included all firms in the 1980 or 1986 Fortune 500 largest industrials as well as firms among the 50 largest commercial banks, 25 diversified financials, 25 retailers, or 25 transportation firms in 1986 for which valid board data were available, giving a total of 648 corporations. In principle, firms could share one or more directors with any of these other firms for which such a tie was not legally prohibited. We used the most straightforward measure of centrality: *degree*, that is, the total number of contacts (interlocks) a firm has with others in the sample. (Alternative measures of centrality, such as the Bonacich [1972] measure or Freeman’s [1979] betweenness measure, are

very highly correlated with degree and did not improve on the models estimated using this simpler measure.)

Geographic proximity was measured using the headquarters location of the prior adopters and the focal firm. We operationalized this using telephone area codes in 1982. For most urban areas, this included suburbs as well as central cities, while for rural areas it encompassed a broader area.

*Independent measures.*—Data on the proportion of shares owned by insiders (executives and directors), financial institutions, and the five largest ownership blocks collectively came from the *Spectrum* 3, 5, and 6 guides for 1980 and from the *CDE Stock Ownership Directory*. Insider ownership and institutional ownership data were updated from Compact Disclosure for the first quarter of 1986. The CDE data on ownership concentration were not readily replicable for subsequent years using a comparable methodology, so these figures were not updated.

Data on the market value of the firm's common equity (the stock market price for all the firm's shares outstanding, an indicator of size), the market-to-book ratio (the ratio of the market value of the firm's equity to its book or accounting value, an indicator of performance), the number of employees, total sales, and the firm's primary standard industrial classification (SIC) code came from Standard and Poor's Compustat.

## Model

Our discussion hypothesizes a diffusion process characterized by spatial heterogeneity (Strang and Tuma 1993). An adoption by one actor may affect other actors differently depending on their social similarity, and an adoption by one actor may affect all other actors differently depending on variables that describe how influential it is. Heterogeneous diffusion models can measure such effects by specifying a hazard rate of adoption that depends on the actors' propensity to adopt (i.e., their own intrinsic rate of adoption independent of social influences), susceptibility to influence from other adopters, infectiousness of previous adopters, and social proximity to previous adopters (see Strang and Tuma [1993], where the model is spelled out in considerable detail). The model specified by Strang and Tuma and a modified model introduced by Greve, Strang, and Tuma (1995) are used. Following their notation, we let  $X_n$  be a vector of variables affecting propensity to change,  $V_n$  be susceptibility variables,  $W_s$  be infectiousness variables, and  $Z_{ns}$  be social proximity variables. The original model specified the following hazard rate:

$$r_n(t) = \exp(\alpha' X_n) + \exp(\beta' V_n) \sum_{s \in S(t)} \exp(\gamma' W_s + \delta' Z_{ns}). \quad (1)$$

Although the model appears complex, its interpretation is fairly intuitive. First, an individual actor (firm) has an intrinsic propensity to adopt a particular type of innovation flowing from its own characteristics. Firms that are prone to be taken over are more likely to adopt a takeover defense than those unlikely to be a target regardless of what other organizations in the environment are doing. Second, when other actors in the environment adopt an innovation, the extent to which it influences the adoption behavior of the focal actor depends on several factors. The focal actor may be more or less susceptible to outside influence, just as individuals vary in their immunity to a virus. This susceptibility can either reduce or magnify the influence of prior adoption by other organizations in the environment. Prior adopters can be more or less influential according to their individual characteristics (their “infectiousness”) and their similarity to (or “social distance” from) the focal organization. The influence of each prior adoption on the focal organization is a multiplicative combination of these things; that is, for a firm that is highly susceptible, adoptions by infectious alters that are maximally similar will be particularly influential. Conversely, some firms may be virtually immune to outside influence, and prior adoptions will have a minimal impact. For example, firms that are likely takeover targets and that have no countervailing influences (e.g., from strong owners) may be particularly susceptible to influence by other firms seeking to avoid hostile takeover. Similarly, each time a central or similar alter with whom a firm interlocks adopts a poison pill, the likelihood of adoption increases on the part of the interlocking firm. Conversely, firms unlikely to be taken over (due to their size or ownership structure) may be effectively immune to outside influence, no matter how many of their contacts adopt these strategies.

A modification of the basic model was suggested by Greve et al. (1995) for situations where socially proximate actors are much more influential than nonproximate actors, so that the influence from nonproximate actors is negligible. This model specifies that only proximate actors have any influence, which simplifies the estimation because the maximum-likelihood routine does not attempt to find out exactly how close to zero the effect of nonproximate adopters is. If we let  $Z_{ns} = 1$  denote the existence of a direct tie, and  $Z_{ns}^*$  denote the social proximity variables remaining after deleting the direct tie variable, the new model becomes:

$$r_n(t) = \exp(\alpha' X_n) + \exp(\beta' V_n) \sum_{s \in S(t) \cap (z_{ns} = 1)} \exp(\gamma' W_s + \delta' Z_{ns}^*). \quad (2)$$

Preliminary tests showed that the adoption of the pill was overwhelmingly guided by whether a direct tie existed between a prior and a potential adopter, so in the case of poison pills the simplified model was used (though we also ran the usual model to verify that the results were not

sensitive to model choice). For parachutes, the models allow all prior adopters to be influential. The models were estimated using a modified version of RATE (Tuma 1994).

The ownership, market value, and market-to-book variables were entered into the propensity vector, along with an indicator variable for the pre-Household International period (for pills). For our purposes, these are control variables to allow a better specification of the contagion process. A selection of variables found to affect susceptibility was entered in the susceptibility vector. In this model, a variable can have an effect in multiple vectors (Strang and Tuma 1993), so final model specification should be preceded by exploratory analysis that includes variables in both propensity and susceptibility vectors (Greve et al. 1995). We followed this procedure, finding that inside and concentrated ownership and market value should be included as susceptibility variables in the golden parachute model. To facilitate comparison, we specified the same set of control variables for both outcomes, so these variables were also included in the susceptibility vector of the poison pill models.

Measures of similarity were constructed from the size (log employees) and centrality (number of interlocks) variables.<sup>4</sup> The measures had the following functional form. Given a previous adopter  $s$  and a focal organization  $n$ , the social difference of these based on variable  $u$  is  $z_{ns} = |u_n - u_s|$ . In other words, the social distance is the absolute value of the difference in variable value for the two corporations. A negative sign for these variables indicates decreasing influence as the difference increases.<sup>5</sup>

We defined a social distance variable to be “0” if the corporations were in the same one-digit SIC group, and “1” if they were in different SIC groups. Most likely social difference judgments based on industry do not have such a discrete structure; rather a decision maker is likely to see gradations of differences among industries. This means that this discrete measure will be imperfect. If it is based on the commonly used two-digit definition of industries, then there is likely to be substantial unmodeled influence from neighboring industries. If it is based on a coarser one-digit definition of industrial groups, there are likely to be industries modeled as influential that have little influence on the focal organization. Modeling less influential industries as influential may weaken the results, but it is unlikely to miss substantial influences, so the one-digit measure was chosen to measure the social differences of industries.

<sup>4</sup> Substituting a log sales measure of similarity for log employees yielded similar but weaker results. Because using sales as a measure of size gives disproportionately high weight to oil companies (with very high sales per employee), we report the results for employees as our size measure.

<sup>5</sup> Using the square root of the absolute difference yielded the same results; we use the linear measure of difference for parsimony.

We also defined social distance by geography. Firms were coded “0” if they were headquartered within the same telephone area code in 1982 and “1” otherwise, so a negative coefficient is expected.

### RESULTS

Table 1 shows descriptive statistics and a correlation matrix for the “at risk” population. Because of potential problems of collinearity between measures of size and network centrality revealed by this table, we avoided entering variables built on these measures in the same vector.

#### Poison Pills

Table 2 shows the results of the poison pill analysis. The models have four different types of effects—propensity, susceptibility, infectiousness, and social similarity—so for easy reference the estimates are shown in this order and labeled with effect name and coefficient symbol. The contagion effects were overwhelmingly mediated by whether the prior adopter was connected through a shared director. In other words, we found that adoption by other firms only mattered to the extent that those other firms shared a director with the potential adopter. Thus, the analyses in table 2 follow equation 2 (i.e., nonconnected adopters are not influential). The interpretation of the contagion effects is articulated in this question: Among the firms with which a focal firm shared directors, what made their prior adoption more or less influential? The table concludes with log-likelihood ratios for the models and chi-square tests of the models against a baseline model (constant rate, no covariates) and of model 2 against model 1 and model 4 against model 3.

The results for propensity affirmed what prior analyses have uncovered (Davis 1991): boards were quicker to adopt poison pills to the extent that the firm was owned proportionally less by insiders and more by institutions, ownership was dispersed rather than concentrated, the firm was relatively small in terms of its market capitalization, and the board was composed of proportionally fewer “inside” directors (i.e., executives of the firm). In other words, the prototypical adopter was a managerialist firm owned by dispersed institutional investors rather than its own managers and directors. These features, along with smaller market capitalization, also made a firm more susceptible to unwanted takeover, and thus its board was more prone to finding takeover protection attractive. Finally, firms were much more likely to adopt a pill after it was legally sanctioned by the Delaware courts in the Household International decision.

In contrast to the propensity vector, only one effect in the susceptibility vector approached significance: ownership concentration. This effect im-

TABLE 1  
DESCRIPTIVE STATISTICS FOR 1982

VARIABLE	MEAN	SD	CORRELATION COEFFICIENTS								
			1	2	3	4	5	6	7	8	
1. Golden parachute .....	.57	.49									
2. Poison pill .....	.58	.49	.38								
3. Inside ownership .....	9.61	13.32	-.15	-.25							
4. Institutional ownership .....	40.26	18.31	-.12	.15	-.28						
5. Concentrated ownership .....	28.68	18.02	-.20	-.25	.36	-.09					
6. Market value* .....	213.73	585.72	-.19	-.12	-.16	.12	-.15				
7. Market-to-book ratio .....	1.54	1.03	-.19	-.08	-.02	.27	.00	.17			
8. Inside directors .....	30.06	14.02	-.18	-.18	.12	-.02	.11	-.01	.08		
9. No. of interlocks .....	8.64	7.45	.00	.17	-.35	.23	-.22	.43	.03	-.27	

NOTE.—*N* = 422. This includes all firms that were in the risk sets for adopting both a golden parachute and a poison pill.

\* This figure is given in tens of millions of U.S. dollars.

plies that boards of firms with more dispersed ownership were more susceptible to influence by prior adopters, while conversely those with large ownership blocks were largely immune to outside influences.

Model 1 in table 2 includes no infectiousness variables, while model 2 enters the market-to-book ratio (as a measure of performance) and network centrality. (Size and centrality measures were highly collinear, and inclusion of both in the infectiousness vector led to deterioration of the estimates.) A positive effect for centrality would imply that adoption by more central interlock partners had a greater influence than adoption by more peripheral contacts. We were surprised to find no statistically significant effect on infectiousness.<sup>6</sup> We did, however, uncover significant effects for social distance, namely, that adoption by an interlock partner was more influential to the extent that the partner was in a similar broad industry sector (e.g., manufacturing rather than agriculture or retail) or was similar in terms of centrality (measured by number of interlocks).<sup>7</sup> Finally, we found no effect for geographic proximity—the coefficient estimate in model 2 was positive, contrary to prediction, and much smaller than its standard error. The high standard error suggests that the inclusion of “headquarters city” made the model difficult to estimate, so to check the results this variable was omitted and the models reestimated (models 3 and 4). The results on the other variables did not change, as comparison of the models shows.

To see the effect of variables on the hazard rate of adoption, recall that the heterogeneous diffusion model defined in equation (2) is the sum of two terms: the firm’s intrinsic propensity to adopt and the contagion term. Within the contagion sum, each adoption by an interlocked firm adds to the hazard rate, and all variables in the susceptibility, infectiousness, and social proximity vectors have a multiplicative effect on each other in determining the effect of each adoption. The easiest way to interpret the results in the contagion term is then to consider how changes in covariates would multiply the effect of prior adoptions. Concentrated ownership had a standard deviation of 18.02 and a coefficient of  $-0.065$  in model 3, which means that a one-standard-deviation increase would reduce the effect of all adoptions to  $\exp(18.02 \times [-0.065]) = 0.31$ , or to less than one-third. Although the variable is borderline significant, it has a large effect in “immunizing” firms to the influence of their interlock partners. We found no

<sup>6</sup> Omitting the market-to-book ratio from the infectiousness vector did not change these results or the results of the analysis of golden parachutes.

<sup>7</sup> When the measure based on one-digit SIC codes was replaced with a measure based on two-digit SIC codes, this result was not obtained, indicating either that specifying a two-digit SIC code as the range of influence is too narrow or that the corporations have limited opportunity to interlock within the two-digit SIC code.



TABLE 2

## MAXIMUM-LIKELIHOOD ESTIMATES OF POISON PILL ADOPTION

	MODEL			
	1	2	3	4
Propensity ( $\alpha$ ):				
Intercept .....	-6.603 (.328)	-6.688 (.325)	-6.623 (.333)	-6.653 (.341)
Pre-Household International decision .....	-2.275*** (.260)	-2.299*** (.261)	-2.267*** (.262)	-2.264*** (.265)
Inside ownership .....	-.037*** (.010)	-.035*** (.010)	-.036*** (.010)	-.035*** (.011)
Institutional ownership .....	.018*** (.005)	.018*** (.005)	.017*** (.005)	.018*** (.005)
Concentrated ownership .....	-.015*** (.004)	-.017*** (.004)	-.015*** (.004)	-.015*** (.004)
Market value .....	-.0016*** (.0004)	-.0011*** (.0003)	-.0016*** (.0004)	-.0016*** (.0005)
Market-to-book ratio .....	-.101 (.072)	-.124 <sup>+</sup> (.071)	-.103 (.073)	-.106 (.074)
Inside directors .....	-.017** (.005)	-.015** (.005)	-.017** (.005)	-.017** (.005)
Susceptibility ( $\beta$ ):				
Intercept .....	-5.146 (.580)	-15.11 (488.2)	-5.346 (.568)	-5.249 (1.147)
Inside ownership .....	-.139 (.145)	-.303 (.185)	-.130 (.120)	-.127 (.101)

Concentrated ownership .....	-.071 <sup>+</sup> (.039)	-.057* (.025)	-.065 <sup>+</sup> (.036)	-.060 <sup>+</sup> (.031)
Market value .....	-.0014 (.0010)	-.0017* (.0007)	-.0016 (.0011)	-.0017 (.0012)
Infectiousness ( $\gamma$ ):				
Market-to-book ratio .....		.376 (.479)		.135 (.294)
No. of interlocks .....		-.166 (.104)		-.032 (.058)
Social distance ( $\delta$ ):				
Industry group .....	-2.019* (.929)	-1.363 <sup>+</sup> (.699)	-1.870 <sup>+</sup> (1.020)	-1.756 <sup>+</sup> (.923)
Log employees .....	.241 (.306)	-.752 (.637)	.198 (.336)	.235 (.350)
No. of interlocks .....	-1.139* (.503)	-.779* (.317)	-1.029* (.449)	-.878* (.431)
City of headquarters .....	-.527 (.671)	14.64 (488.2)		
Log likelihood .....	-2,100.07	-2,099.23	-2,100.39	-2,100.10
$\chi^2$ (against baseline) .....	309.51***	311.20***	308.86***	309.45***
$df$ .....	17	19	16	18
$\chi^2$ (against previous model) .....	...	1.69	...	.59

NOTE.—Nos. in parentheses are SEs. There are two degrees of freedom between models 1 and 2 and between models 3 and 4.

<sup>+</sup>  $P < .10$ , two-tailed test.

\*  $P < .05$ .

\*\*  $P < .01$ .

\*\*\*  $P < .001$ .

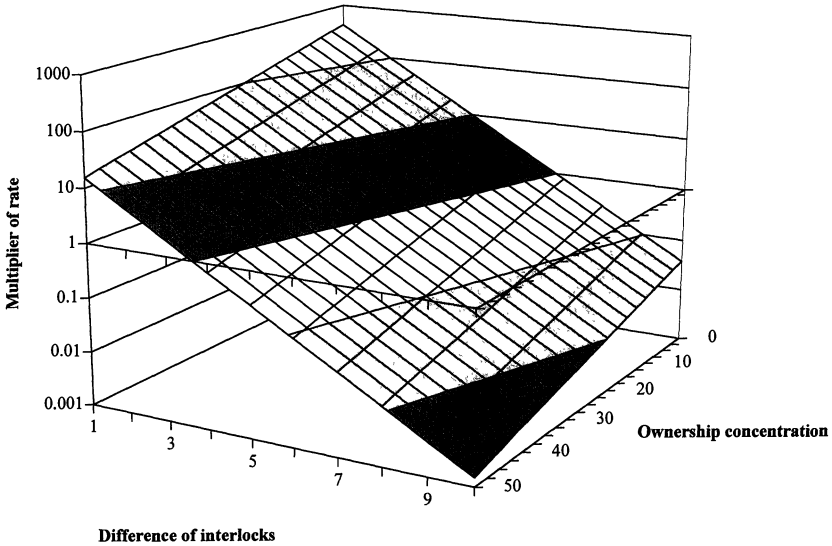


FIG. 2—The effect of ownership concentration and interlock similarity on poison pill adoption.

significant effect for the centrality or performance of prior adopters, while their similarity to the potential adopter firm (in terms of industry and centrality) does modify their influence. If two firms are in the same broad type of industry, then the effect of one's adoption on the other's hazard rate is multiplied by  $\exp(1.87) = 6.49$ . The number of interlocks is also an important modifier, as a difference of three interlocks will reduce the effect of an adoption to  $\exp(3 \times -1.029)$  or about one-twentieth.<sup>8</sup> These effects are depicted in figure 2, which shows how a firm's ownership concentration and similarity in status to prior adopters (as measured by number of board interlocks) interacted to modify the influence of prior adoptions by interlocked firms. Clearly, a firm with highly dispersed ownership was susceptible to influence, particularly when connected to a firm of similar status that had already adopted the strategy.

### Golden Parachutes

Table 3 shows the results of the golden parachute analysis. For this table, the model in equation (1) was used (noninterlocked adoptions were al-

<sup>8</sup> Since this model specifies only interlocked adoptions as influential, these effects modify the influence of adoptions by interlocked firms. Noninterlocked firms have an influence of zero regardless of covariate values.

TABLE 3  
MAXIMUM-LIKELIHOOD ESTIMATES OF GOLDEN PARACHUTE ADOPTION

	MODEL	
	1	2
<b>Propensity (<math>\alpha</math>):</b>		
Intercept .....	-7.364 (.634)	-7.383 (.678)
Inside ownership .....	-.032 (.026)	-.025 (.021)
Institutional ownership .....	-.013 (.013)	-.012 (.015)
Concentrated ownership .....	-.017 (.013)	-.018 (.014)
Market value .....	-.0024 (.0029)	-.0016 (.0013)
Market-to-book ratio .....	-.233 (.260)	-.155 (.258)
Inside directors .....	-.026 (.017)	-.016 (.018)
<b>Susceptibility (<math>\beta</math>):</b>		
Intercept .....	-10.540 (.428)	-17.570 (2.050)
Inside ownership .....	-.022* (.009)	-.021* (.008)
Concentrated ownership .....	-.014** (.006)	-.014** (.005)
Market value .....	-.0017** (.0005)	-.0019*** (.0004)
<b>Infectiousness (<math>\gamma</math>):</b>		
Market-to-book ratio .....		.112 (.387)
No. of interlocks .....		.377*** (.077)
<b>Social distance (<math>\delta</math>):</b>		
Log employees .....	-.230 (.290)	-.331* (.158)
No. of interlocks .....	.015 (.032)	.014 (.014)
City of headquarters .....	-2.217*** (.353)	-1.146* (.455)
<b>Social ties (<math>\delta</math>):</b>		
Board interlock .....	.563 (2.688)	-.755 (1.813)
Log likelihood .....	-2,626.17	-2,616.67
$\chi^2$ (against baseline) .....	176.90***	195.92***
<i>df</i> .....	15	17
$\chi^2$ (against model 1) .....		19.02***
<i>df</i> between models .....		2

NOTE.—Nos. in parentheses are SEs.

- +  $P < .10$ .
- \*  $P < .05$ .
- \*\*  $P < .01$ .
- \*\*\*  $P < .001$ .

lowed to be influential), as previous adopters that were not interlocked with the focal firm had substantial effects.

The findings are quite different from those in the previous analysis. First, we found that effects previously interpreted as propensity effects (e.g., Wade et al. 1990) are revealed by this model to be susceptibility effects. In other words, ownership by insiders and by large blockholders and firm size had their effects not by directly influencing adoption but by making the firm more susceptible to social influence. Second, prior adoptions by central firms (indicated by number of ties) increased rates of adoption. That is, boards were more likely to adopt parachutes in the wake of adoptions by central firms than by peripheral firms. The social distance effects indicate that adoptions by firms of similar size (as indicated by number of employees) were more influential. Moreover, prior adoptions by firms in the same headquarters city were particularly influential. In contrast, we found no direct effect of interlocks with prior adopters. In other words, being tied to a prior adopter through a shared board member had no more discernible effect than adoptions by unconnected firms.<sup>9</sup>

For golden parachutes, inside ownership and concentrated ownership have moderate effects, as a one-standard-deviation increase in each variable reduces the susceptibility by one-fourth or less ( $\exp[13.32 \times -0.022] = 0.75$ ;  $\exp[18.02 \times -0.014] = 0.78$ ). The largest susceptibility effect is market value, where an increase of one standard deviation decreases the contagious effects of prior adoptions by not quite two-thirds ( $\exp[585.72 \times -0.0017] = 0.37$ ). The largest social proximity effect on golden parachute adoption is headquarters location, where an adoption by a firm headquartered in the same telephone area code is nine times ( $\exp[2.217] = 9.18$ ) more influential than one outside. In model 2, centrality (number of interlocks) shows a strong effect on contagiousness, as a one-standard-

<sup>9</sup> Estimated models including measures of centrality in the propensity vector as well as the infectiousness vector uncovered null results for poison pills. For parachutes, we found a borderline significant negative coefficient for the Bonacich measure of centrality in the propensity vector in some specifications, indicating that more central firms may have been less likely to adopt. We also estimated models with industry social structures for golden parachutes, but we found no effect and some deterioration in estimates for other social structures (SEs were inflated, probably because of the inclusion of too many variables with no effect). Models with the same infectiousness and social structure variables but only those propensity and susceptibility variables that were significant or nearly significant were also estimated, yielding the same results as those shown. We also estimated models with log employees in the infectiousness vector and found a positive effect for poison pills and an unexpected negative effect for golden parachutes. The social structure coefficient of log employees became positive and significant for poison pills and nearly significant for golden parachutes, while other social structure results were unchanged. We suspect that entering this variable as an infectiousness effect and a basis for social comparison creates estimation problems, making these results questionable.

deviation difference increases the influence on all potential adopters by a factor of 16.59 ( $\exp[7.45 \times 0.377]$ ). The effects are multiplicative, so an out-of-town adopter that was one standard deviation higher in its centrality was 1.8 times ( $16.59/9.18$ ) more influential than an in-town, less interlocked adopter. Since this model specifies all adoptions as influential, these effects modify the influence of adoptions by all firms, not just interlocked ones.

### DISCUSSION

The results on the diffusion processes for pills and parachutes can be summarized as follows: pills spread rapidly through a board-to-board (cohesive) diffusion process in which firms adopted to the extent that their contacts had done so. Contacts varied in their influence such that those in similar industry sectors, and those with similar levels of centrality, were particularly influential. This indicates that, during boardroom discussions, directors who sat on the boards of other manufacturing firms were more influential than directors that sat on the boards of, say, financial firms.

In contrast, parachutes spread slowly, and there was little evidence of board-to-board diffusion. Rather, the medium for diffusion was geographic proximity: firms adopted to the extent that other firms in the same metropolitan area had done so. Prior adoptions by central firms were also more influential than adoptions by less central firms.

Figure 1 shows the cumulative adoptions of poison pills and golden parachutes. The vertical axis shows the proportion adopters in the population, and the horizontal axis shows historical time. The difference in diffusion speed is quite dramatic. Poison pills went from 5% to 50% adoption in three years, from late 1985 to late 1988, and thus we found the classic S-curve predicted when innovations diffuse through a network-based contagion process. For golden parachutes it took seven years, from late 1981 to early 1989, to achieve a prevalence of 50%. In marked contrast to the adoption curve for the pill, the adoption curve for the parachute was essentially flat.

What accounts for these highly divergent diffusion processes? It is important to keep two things in mind in comparing the spreads of these two practices. First, the same actors—boards of directors—were responsible for deciding whether or not to adopt both practices. Second, by the end of the decade each had been adopted by a majority of firms. In other words, eventually most boards would decide to adopt a parachute, and most boards would decide to adopt a pill. But the question remains: Why one would be readily adopted and spread from board to board, whereas one would spread slowly through observation rather than direct contact?

The diffusion literature suggests several possibilities (Rogers 1995).

First, complex innovations spread slower than simple ones. But in this case, parachutes are fairly simple and require no special expertise to adopt, whereas pills are designed to be complicated, in part to increase the uncertainty facing potential acquirers, and thus require sophisticated legal counsel to draft. On this count, parachutes should have spread faster.

Second, practices that are observable spread faster than those that are not. Pills are readily observable by a firms' shareholders—they are typically notified by mail that the board has adopted a pill—while parachutes are observed only when they are reported on the proxy statement. To nonshareholders, however, which would include most directors of other firms, it is not clear which is more observable, and observation of the effects probably privileged parachutes. There is little doubt that parachutes work as advertised because they are legal contracts adopted through a process fully within the purview of the board of directors. Knowing whether pills work at preventing takeovers, on the other hand, is more problematic. Some firms with pills were in fact taken over, so pills do not render their adopters impervious to hostile takeover. At best, they might be compared to the automotive antitheft devices that attach to steering wheels and are particularly popular in the United States. These devices are quite easy for a determined car thief with a hacksaw to bypass—steering wheels are easy to cut through and replace—yet one would be anxious to own the only car parked on the street without one. In short, pill adoption was undoubtedly driven in part by anxiety around being one of the last to adopt, regardless of any direct evidence for its efficacy (cf. Burt 1987).

Finally, innovations that are compatible with the norms of a social system spread faster than those that are not (Rogers 1995). That is, legitimate innovations should spread faster than illegitimate ones. Again, at first blush this would appear to favor parachutes. Adoption of a parachute is associated with increases in share prices (Lambert and Larcker 1985) and, from the perspective of shareholders, a few years' severance pay is a trivial amount to pay if it means that a takeover that would otherwise be resisted is allowed to go through. Academics could construct a ready account for why parachutes were appropriate as a Coasean solution to the conflicts of interest created by takeovers—in essence, the winners (shareholders) would pay off the losers (managers), who may well have devoted their careers to building the corporation and thus merited protection (Coffee 1988). A relatively low-cost solution that benefits shareholders and allows (by the received wisdom) a more efficient allocation of resources should hardly be illegitimate. If the problem were simply one of constructing a public account to justify parachutes for consumption by shareholders, it should have been easy to accomplish, as the producers of these accounts are remarkably adept at framing justifications of identical practices in

different terms depending on the tenor of the times (Westphal and Zajac 1994).

In contrast, pills depressed share prices (SEC 1986), and, “when they first appeared, all the wise men (this author included) said that pills were patently illegal” (Lowenstein 1988, p. 167), an impression shared by the large number of shareholders who sought to have them removed very early on (Davis 1991). The potential consequences of pills were portrayed in dire terms by their opponents: “Protected by impenetrable takeover defenses, managers and boards are likely to behave in ways detrimental to shareholders. . . . The end result, if the process continues unchecked, is likely to be the destruction of the corporation as we know it” (Jensen 1988, p. 347). Thus, if the norms of the system were founded on the notion of protecting shareholder interests, then parachutes should have spread rapidly while pills should never have gotten off the ground. Yet as Katz (1961, pp. 71–72) noted long ago, “The innovation must be characterized with respect to the patterns of thought and action of the people to whom it is directed”; their decisions are based on the best evidence available to them at the time. Thus, the question is not how parachutes and pills looked to outsiders (whose impressions were presumably malleable), but how they looked to members of the corporate elite.

In hindsight, successful diffusions have an air of inevitability, and it is difficult to recapture the sense of contingency that initially accompanied them. While we cannot reconstruct the debates that occurred among directors, accounts published at the time suggest that, in contrast to their receptions by the stock market and by academics guided by market reaction, parachutes were considered highly suspect by many outside directors, whereas pills were considered to be entirely appropriate.

Parachutes appeared as naked self-interest on the part of management, and adoption was often apparently driven by management itself, not the board. Thus, when CEO William Agee portrayed the \$4 million parachute he received when Bendix was taken over as a kind gesture by the outside directors, one of them responded, “Bullshit. The golden parachutes were initiated by management” (Morrison 1982, p. 84). Prominent investment banker Felix Rohatyn, director of six firms at the time, found the rationale for parachutes unconvincing: “If an executive needs a multimillion-dollar contract to get his mind clear in a takeover situation, then maybe he should see a psychiatrist,” while the chairman of one firm stated, “I and my board hold the opinion that golden parachutes are an unconscionable rape of a shareholder’s assets” (Morrison 1982, pp. 83, 87). Not all opinion on them was negative, of course, or they would not have spread so widely, but it was ambivalent early on. As Andrew Sigler, CEO of Champion International and head of the Business Roundtable’s task force on governance, stated, “I think that you could make a pretty good case that the



person who has to deal with it deserves an employment contract just like anybody does. . . . I don't think that anybody is willing to stand up and say those are great things, because they are not great things. But I think that when you calm the system down, a lot of objections will fall away" (Sigler 1985, p. 20). The problem was not that parachutes were bad *per se*, but that they were difficult to provide a legitimating account for—no one was willing to stand up and say they were great things. To be sure, our results indicate that in some locales they were considered legitimate by local standards: most (seven of 13) corporations headquartered in Dallas had a parachute in place by the end of 1983. But this perception was not shared nationally; for instance, only one of the seven firms in the San Jose area had one as late as 1990. (The notion of strong local norms is consistent with Rogers's [1995] discussion of the wide variation among South Korean villages in the prevalence of different birth control techniques.)

The poison pill, in spite of representing a potentially far more radical shift in the relations among managers, boards, and shareholders, was easier for directors to justify as an effort to preserve the integrity of the firm against unscrupulous raiders and, ultimately, to protect the public interest. Protecting the integrity of the firm from the ravages of abusive takeover practices could be portrayed as looking out for the long-term interests of stakeholders, even if this comes at the short-term expense of shareholders. "Fending off outsiders" is perhaps a more readily understood rationale than a Coasean solution of "paying off the losers." Pills also had the advantage that they could be redeemed by the board of directors, allowing takeovers that the board deemed to be in the firm's best interests. In short, unlike parachutes, they had a legitimating account that was plausible to directors, if not to other constituencies.

This helps provide one interpretation of the pattern of results we observed. Pills spread through shared directors, who acted like Johnny Appleseeds to spread practices from board to board, because they could be readily rationalized by outside directors. The national reach of this network facilitated the rapid spread of this practice. Parachutes spread through regional elite networks, perhaps by an informal social comparison process among CEOs. In some cities diffusion was swift, whereas in others the process never took off. Because diffusion was based in local networks rather than national ones, the aggregate effect was a much slower rate of diffusion.

While the process underlying the spread of the pill is readily interpretable from the results, we can only speculate on what is responsible for the regional effect on parachutes, as region can proxy for many things (see Marsden and Friedkin 1993). One likely scenario meshes well with the finding that boards were more likely to adopt to the extent that they

were particularly beholden to the CEO (Wade et al. 1990). It is plausible to assume that awareness of the adoption of parachutes spread among local executives either through direct communication (the golf course effect) or observation. These executives could in turn have proposed adoption of parachutes to their boards, who adopted to the extent that they were weak vis-à-vis the CEO. Thus, the initiators in this case would typically be managers (because it is perceived as most directly in their interest), whereas for pills the initiators could have been any director (because it was perceived as in the interest of all directors collectively).<sup>10</sup>

The distinction between normative and cognitive bases of legitimacy provides additional depth to this discussion. Parachutes required substantial normative legitimation in the eyes of the directors adopting them. Questions of the propriety of parachutes could be settled by looking to what central actors had done and to what other firms located in the same area had done. In contrast, pills did not require a moral endorsement but merely evidence for their cognitive legitimacy—that those in the same role had adopted them. Thus, what mattered was contact with similar firms—those with similar levels of status and those in similar industry sectors. The two innovations relied on two bases of legitimacy for their spread—normative legitimacy for parachutes, verifying that they were morally appropriate, and cognitive legitimacy for pills, indicating that they were appropriate for a particular role.

### CONCLUSION

Understanding how a society arrives at the distinctive configuration of social institutions that orders its economic life is perhaps the central project of economic sociology and requires a mosaic of theories and types of research operating at the macro level of political economy and the meso level of social organization (Zukin and DiMaggio 1990). In the United States, a “blank slate” approach to corporate law implies that governance regimes are built from the ground up by individual organizations adopting discrete practices and structures through a social construction process that involves networks of managers constrained by the broad dictates of the legal environment (Edelman 1992). Thus, the question of how organiza-

<sup>10</sup> If CEOs initiated discussions of parachutes, one might expect that interlocks created by CEOs would be another channel for diffusion—i.e., that when a firm’s CEO sat on outside boards that had adopted parachutes, this would prompt adoption by the focal firm. We tested this and found no effects. This null finding is perhaps due to the fact that the CEO interlock network is relatively sparse: 60% of the firms’ CEOs did not sit on any outside boards, while 21% sat on only one, giving little chance for diffusion.

tional fields come to be characterized by conformity in corporate practices and structures is a vital one (DiMaggio and Powell 1983). Yet while organization theory should by rights play a central role in this project, its contributions have thus far been inchoate, focusing either on individual adaptation or aggregate change in fields, with little attempt to bridge the two levels. We have sought to provide such a bridge by combining the literatures on neoinstitutionalism and diffusion through networks with recent methodological innovations to characterize the spread of two innovations in corporate governance. The results have been fruitful.

In the 1980s, the actions of the state facilitated a wave of takeovers, and the culmination of the shift in ownership from individuals to institutions created new tensions in relations among owners, managers, and boards. Firms adapted in myriad ways, and among these, poison pills and golden parachutes draw special interest because the divergent paths by which they spread provide insights into the broader question of how individual firms adapt and how this aggregates, through social networks, into collective structures. Parachutes, initially regarded by boards as deviant and self-interested, spread slowly and inconsistently through regional corporate elite networks, and there was little evidence for contagion through boards of directors, although adoption by central corporations ultimately helped legitimate them. Pills, regarded by boards as legitimate early on, rapidly spread from firm to firm through shared directors, particularly when those directors represented similar corporations. Thus, both the social ties among firms—structural embeddedness—and the norms of directors—cultural embeddedness—conditioned how quickly and in what direction the field of large corporations adapted. Somewhat ironically, directors' notions of legitimate practices appeared to be precisely contrary to what the shareholders that elected them would want.

Contagion among actors embedded in multiple social structures is a useful way to contemplate the construction of governance regimes. Viewing contagion in this context goes beyond previous work on the spread of governance practices, and we believe our results provide a good first step in specifying more precisely the nature of contagion among large corporations. We have demonstrated a method and articulated a framework for linking individual actions and collective structures. Moreover, we have shown that individual firms do not simply imitate the practices of other firms blindly, but are quite discriminating in their choices of referent according to the type of legitimation required.

More broadly, research that looks at the spread of practices without linking that spread to the structure and culture of the social system in which firms are embedded will misapprehend the nature of the diffusion process. Network and geographical proximity effects were extremely powerful determinants of the diffusion of the governance practices we consid-

ered, and it is unlikely that the same would not be true of other governance practices. It is extremely demanding to assemble complete network data and trace adoptions over time, but our results indicate that the effort is worthwhile.

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