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Defections from the Inner Circle: Social Exchange, Reciprocity, and the Diffusion of Board Independence in U.S. Corporations

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This study seeks to reconcile traditional sociological views of the corporate board as an instrument of elite cohesion with recent evidence of greater board activism and control over top management. We propose that CEO-directors may typically support fellow CEOs by impeding increased board control over management but that CEO-directors may also foster this change if they have experienced it in their own corporation. Drawing on social exchange theory, we develop and test the argument that these CEO-directors may experience a reversal in the basis for generalized social exchange with other top managers from one of deference and support to one of independence and control. Using data from a large sample of major U.S. corporations over a recent ten-year period, we show (1) how CEO-directors “defect” from the network of mutually supportive corporate leaders, (2) how defections have diffused across organizations and over time, and (3) how this has contributed to increased board control, as measured by changes in board structure, diversification strategy, and contingent compensation. We also provide evidence that a social exchange perspective can explain the diffusion of these changes better than more conventional perspectives on network diffusion that emphasize imitation or learning.*

With few exceptions, organizational researchers and corporate governance experts have historically viewed corporate boards of directors as “rubber stamps” for management initiatives (Herman, 1981) or as “tools” of top management (Pfeffer, 1972: 219). From this viewpoint, boards are populated either by (1) inside directors who can ill afford to criticize their superiors or themselves, (2) uninformed outsiders who are unable to evaluate top management, or (3) more knowledgeable outside directors who are CEOs themselves and whose empathy for their fellow chief executive officers may diminish their willingness to monitor them actively. Interlocking directorships among top managers have also traditionally been viewed as contributing to a cohesive “inner circle” of organizational elites accountable only to themselves (Useem, 1984). From this traditional perspective, overlapping board memberships provide a communication network for managerial elites that helps to preserve their corporate power (Useem, 1984; Davis, 1991; Mizruchi, 1996).

More recently, however, the business press has used numerous vivid cases to illustrate a dramatic shift toward increased board activism and control over top management (e.g., *Fortune*, 1993; *Business Week*, 1994). This apparent change among large corporations is not easily reconcilable with the depiction of corporate boards as a passive group representing a cohesive inner circle of corporate leaders, since it suggests that boards are increasingly likely to act independently of top management’s preferences. Recent attempts to explain the causes of this change toward increased board monitoring, or internal corporate control (Walsh and Seward, 1990), have usually referred to external forces, notably increased activism by large, institutional investors (*Fortune*, 1993; Davis and Thompson, 1994). Several recent empirical studies suggest, however, that the

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magnitude of institutional investor ownership does not necessarily increase the willingness of boards to challenge management (e.g., Daily, 1996; Kim and Ocasio, 1995; Sundaramurthy, 1996; Westphal and Zajac, 1997). While institutional investors may be able to exert their will on specific issues where they have voting power, it is not clear whether and how they can overcome longstanding social relationships and norms of mutual support that are assumed to exist between managers and directors.

The present study proposes a more comprehensive explanation of the rise in board independence that takes into account the social exchange relationships among corporate leaders, bringing into question the cohesiveness of the inner circle. While we do not deny that macro-social forces such as institutional shareholder activism may have played a role in sparking greater board independence from management in large U.S. corporations, we suggest that the diffusion of board independence may have resulted from micro-mechanisms relating to social and psychological dynamics within the inner circle of corporate leaders.

Outside directors who are themselves CEOs of other large corporations may play a pivotal role in determining whether a board has a passive or an active orientation (Lorsch and MacIver, 1989: 18), and they may thus have a more complex role in corporate governance than previously assumed in the literature. Specifically, we propose that although CEO-directors may typically support fellow CEOs by impeding increased board control over management, CEO-directors experiencing increased board control in their own corporations may also experience a reversal in their perceived basis for social exchange with other top managers. This change in the norms of reciprocity underlying generalized exchange could then lead CEO-directors to "defect" from the network of corporate leaders. This study shows how these specific instances of "defection" from a previously mutually supportive network have diffused across organizations and over time, and how this has created the current situation of increased board independence in large U.S. corporations.

When prior governance research has examined diffusion processes, it has been to establish the spread of mechanisms for increased managerial entrenchment such as poison pills or golden parachutes (e.g., Davis, 1991, 1992; Westphal and Zajac, 1994). Governance researchers have not considered how mechanisms for increased board independence or control may diffuse through an interorganizational network. This may be attributable to the fact that most researchers typically view board interlocks in terms of a social cohesion model or "a general communication system" that "allows firms to learn about their business environment" (Davis, 1992: 8). With respect to corporate governance, network ties are thought to spread information about mechanisms that protect the inner circle of business elites from market discipline (Useem, 1984). Increased board independence, however, can weaken rather than protect the inner circle, and thus its diffusion may not be easily explained by traditional network perspectives.

In this study we develop a new perspective on network ties among corporate elites that emphasizes the generalized

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social exchange relationships that exist between CEO-directors and top managers and how social and psychological factors may affect the dynamics of that relationship. This perspective suggests that generalized norms of reciprocity among corporate leaders and changes in those norms can impede or foster the diffusion of board independence. We also control for the conventional communication perspectives on diffusion described above, thus enabling us to distinguish support for the social exchange perspective on diffusion developed in this study from alternative explanations. We then examine the generalizability of our framework to explain the diffusion of two other changes reflecting increased board independence that have generally been considered inimical to managerial preferences and thought to have been driven by external pressures: decreased corporate diversification and increased compensation contingency. We test hypotheses using event history analyses of changes in board structure, corporate strategy, and CEO compensation among the largest U.S. corporations over a ten-year period.

THEORY

Reciprocity and Board Independence

Preventing increased board independence. One reason why boards have traditionally been characterized as rubber stamps or tools of top management is that outside directors who are also CEOs of their own firms may be reluctant to challenge or criticize CEOs on whose boards they sit (Mace, 1971; Lorsch and MacIver, 1989; Lawler, 1990). We propose that generalized norms of reciprocity among CEOs who also serve as outside board members may represent a primary, social psychological mechanism hindering increased board independence. The principle of reciprocity refers to a rule of behavior in social exchange situations, and the more commonly used phrase "norm of reciprocity" highlights the social obligation underlying the principle. Gouldner (1960) used the term to refer to the mutual reinforcement by two parties of each other's actions, but as Ekeh (1974: 48) noted, generalized norms of reciprocity refer to the situation in which "an individual feels obligated to reciprocate another's action, not by directly rewarding his benefactor, but by benefiting another actor implicated in a social exchange situation with his benefactor and himself." In such generalized social exchange relationships, reciprocations are also generalized, involving multiple actors (rather than just two) and indirect (rather than direct) benefits.¹

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There are several alternative theoretical explanations that are sometimes invoked in prior governance research to explain why boards would generally defer to CEOs. One is that outside directors feel indebted to a CEO who has offered them a directorship position and are therefore likely to support the CEO (Main, O'Reilly, and Wade, 1995). Such a cooptation view differs from ours in that it takes a strictly dyadic and intraorganizational focus (i.e., a specific director owes a CEO for the board appointment) and thus does not address the spread of greater or lesser board control across firms.

In such a system of social interaction, A may help B, expecting reciprocation not from B but, rather, from another actor, such as C or D, sometime in the future. This implies that such a system relies on the existence of sufficient trust that the giver believes he or she will be reciprocated by someone else, somewhere else in the future. Lévi-Strauss's (1969: 266) research on social exchange and reciprocity suggests that "for a system [of generalized exchange] to function harmoniously," exchange partners need to be "of equal status and prestige." In addition, social psychological research has shown that high levels of group solidarity or cohesion facilitate cooperative behavior among group

members (cf., Dawes, 1992) and that individuals benefitting from an altruistic or prosocial act are more likely to engage in similar behavior toward others, so that helping behavior spreads through a social structure (Krebs and Miller, 1985; Komorita, Hilty, and Parks, 1991).

The CEO-director network is an arena likely to be characterized by a generalized reciprocity among top managers and CEO-directors. First, given that corporate CEOs are a relatively homogenous and cohesive group (Useem, 1984), they may feel a generalized obligation to support fellow CEOs in board meetings and during periods of poor firm performance (Mace, 1971). Thus, CEOs enjoying minimal board independence at their home companies may, as CEO-directors, hinder any attempts to increase the independence of other boards on which they sit. In the context of the present study, the preceding discussion suggests the following proposition:

Proposition 1: The greater the proportion of CEO-directors on a board, the lower the likelihood of an increase in board independence.

The diffusion of increased board independence. While the discussion thus far has emphasized how generalized reciprocity can result in cooperative behavior among individuals, other possible outcomes, such as mutual noncooperative behavior or defection, are also possible (Axelrod, 1984). Similarly, while social solidarity may promote generalized reciprocal cooperation among individuals, it can likewise provide a context for generalized reciprocal "retaliation," defined broadly as the repayment of injurious or otherwise undesired acts, regardless of emotional content (i.e., retaliation simply represents one category of exchange reciprocity) (Gouldner, 1960: 172; Walster, Berscheid, and Walster, 1973). Where CEO-directors have experienced an increase in board independence at their home companies, their felt obligation to support fellow CEOs (i.e., by resisting increased independence) may diminish or even reverse itself. When generalized exchange partners are no longer of equal status and prestige, such inequality may "force a rupture" in the system of exchange (Lévi-Strauss, 1969: 266). As Ekeh (1974: 48) noted: "the principle of reciprocity has a built-in change-generating factor," since equality in social exchange is needed for continuity of social interaction; when this expectation is frustrated, the social exchange situation is threatened. Given that a CEO's power and influence is closely tied to his or her status among CEOs, a CEO-director who has lost power to the board in his or her home company may perceive himself or herself as unequal in status to those CEOs who enjoy greater control over their boards and thus greater influence over strategy, compensation, or perquisites. While disempowered CEOs may alleviate the resultant inequality in several ways, one response is to diminish their support for CEOs in other organizations where they serve as outside directors, thus reducing the power and status of fellow corporate leaders and returning balance to the social exchange relationship.

The preceding discussion suggests that CEO-directors subjected to increased board independence at their home companies may not only decrease their resistance to greater

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board control but may actually induce such changes in other boards on which they sit. Thus, while CEO-directors may typically help sustain CEO dominance over the board, effectively preventing greater board independence, they may spur increased independence when they have experienced it themselves, resulting in “chains of negative reciprocity” or retaliation (Collins, 1990: 419). In this way, increased board independence can spread through the director network of corporate leaders. As the prevalence of director experience with greater board independence increases, the board’s orientation should tend toward greater independence and activism rather than passivity. This suggests the following proposition:

Proposition 2: The greater the proportion of CEO-directors on a board who have experienced an increase in board independence at their home companies, the greater the likelihood of such change in the focal company.

Hypotheses

Reciprocity and change in board structure. While it is difficult to observe and measure directly the level of board independence in large corporations, a number of structural variables have been used in the governance literature to assess differences in levels of board independence across organizations. We consider three such variables. Managerial hegemony theorists, agency theorists, and the business press have generally all argued that separation of the CEO and board chair positions (i.e., allocation of each position to separate individuals) enhances the board’s independent monitoring capacity (Crystal, 1991; Beatty and Zajac, 1994; Finkelstein and D’Aveni, 1994). In contrast, CEOs holding both positions are thought to possess greater formal authority and heightened informal power over board members (Harrison, Torres, and Kukalis, 1988). More generally, given that the board chairman is responsible for monitoring and evaluating CEO decision making, uniting both roles in one person represents a formalized conflict of interest. Similarly, separating these roles indicates an increase in board independence. This logic suggests the following hypotheses, consistent with propositions 1 and 2:

Hypothesis 1 (H1): The greater the proportion of CEO-directors on a board, the lower the likelihood of a separation of the CEO and board chair positions in the firm.

Hypothesis 1a (H1a): The greater the proportion of CEO-directors on a board who have experienced a separation of the CEO and board chair positions at their home companies, the greater the likelihood of a separation of the CEO and board chair positions in the firm.

Agency theorists and advocates of board reform have also long maintained that outside directors are better able to control management decision making (Zahra and Pearce, 1989). Since insiders are “ beholden to CEOs for their jobs” (Fredrickson, Hambrick, and Baumrin, 1988: 262), they may be less willing to challenge or override CEO initiatives when shareholder interests are threatened (Fama and Jensen, 1983; Kosnik, 1987). Outsiders may also be better positioned to evaluate managerial performance impartially (Beatty and Zajac, 1994). Thus, increases in the ratio of outside to inside directors can be viewed as reflecting increased board

independence from management. This suggests the following hypotheses:

Hypothesis 2 (H2): The greater the proportion of CEO-directors on a board, the lower the likelihood of increases in the ratio of outside to inside directors.

Hypothesis 2a (H2a): The greater the proportion of CEO-directors on a board who have experienced increases in the ratio of outside to inside directors at their home companies, the greater the likelihood of such an increase in the firm's board.

While the two manifestations of board independence discussed above are based on the prevalence and allocation of formal board roles, independence may also be enhanced or reduced through more subtle, demographic mechanisms. Abundant evidence suggests that demographic similarity produces bias in evaluation decisions. For instance, Wayne and Liden (1995) showed how demographic similarity enhanced mutual affect in superior-subordinate dyads, resulting in more positive performance appraisals (see also Turban and Jones, 1988). By contrast, demographic dissimilarity between board members and top managers should minimize bias and enhance independence and objectivity in decision control activities. Recent empirical evidence indicates that greater demographic distance between the CEO and the board can increase the tendency for directors to challenge managerial preferences on behalf of shareholder interests (Westphal and Zajac, 1995). Accordingly, the appointment of demographically dissimilar new directors should enhance the board's attitudinal and social independence from management. In general, therefore, CEO-directors who have experienced a reduction in demographic similarity with the board at their home companies should undergo changes in their perceived social exchange relationships with CEOs of other companies on whose boards they sit who have not experienced this reduction. This suggests the following hypotheses:

Hypothesis 3 (H3): The greater the proportion of CEO-directors on a board, the lower the likelihood of an increase in demographic distance between the CEO and the board.

Hypothesis 3a (H3a): The greater the proportion of CEO-directors on a board who have experienced an increase in demographic distance from the board at their home companies, the greater the likelihood of such an increase in the firm's board.

Reciprocity and unrelated diversification. Social exchange processes may also influence the diffusion of other changes that are thought to reflect greater board independence and that have generally been considered aversive to top management, including reduction in unrelated diversification and greater compensation contingency. The pursuit of diversification as a corporate strategy has been the subject of increasing debate. According to both managerialist and agency researchers, top managers have personal incentives to pursue diversification beyond the level at which shareholder wealth is maximized (Hill and Snell, 1988; Jensen, 1989; Baysinger and Hoskisson, 1990). From these perspectives, top managers may diversify into largely unrelated businesses to enhance their personal power, compensation, and status (Marris, 1964), while stabilizing income streams and minimizing employment risk (Amihud and Lev, 1981). Since stock-

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holders can diversify their investment portfolios more easily than CEOs can diversify their employment, shareholders should favor lower levels of unrelated diversification. One would expect that boards of directors, as representatives of shareholder interests, would resist management's attempts to diversify into largely unrelated businesses and would encourage the reduction of existing levels of diversification where possible.

Jensen (1989) has suggested that passive boards have been unwilling to question or resist top management's preferences for unrelated diversification. From our perspective, such passivity may be understood in terms of the existence of generalized norms of reciprocity among corporate leaders. To the degree that CEO-directors frequently empathize with the focal CEO's desire to minimize employment risk and stabilize income, while also perceiving a general obligation to support the preferences of fellow CEOs, the presence of CEO-directors on the board may inhibit board-initiated efforts to minimize or reduce unrelated diversification. At the same time, however, CEOs who have been forced into reducing unrelated diversification, thus sacrificing their personal preferences for risk reduction, power, and status, may seek to rectify perceived inequities by reducing their support for unrelated diversification or even actively advocating divestiture in those firms on whose boards they sit as directors. As a result, while CEO-directors may, under normal circumstances, typically help sustain strategies of unrelated diversification, they may foster reductions in it when they have experienced it themselves. Taken together, and paralleling the discussion of board independence, we propose the following hypotheses:

Hypothesis 4 (H4): The greater the proportion of CEO-directors on a board, the lower the likelihood of a decrease in unrelated diversification.

Hypothesis 4a (H4a): The greater the proportion of CEO-directors on a board who have experienced a reduction in unrelated diversification at their home companies, the greater the likelihood of such change in the focal company.

Reciprocity and compensation contingency. Contingent compensation contracts that link pay to firm performance serve to align the interests of CEOs as agents with the preferences of shareholders as principals, thus promoting shareholder wealth (Jensen and Murphy, 1990). From an agency theory perspective, the provision of long-term incentives such as stock options, performance shares, or restricted stock is a primary mechanism by which corporate boards effect incentive alignment (Kerr and Kren, 1992; Gibbs, 1993; Beatty and Zajac, 1994). But a significant number of large U.S. corporations make only limited use of long-term incentive compensation in designing CEO compensation contracts (Jensen and Murphy, 1990), which Westphal and Zajac (1994) have attributed to managerial entrenchment. From a normative agency theory perspective, CEOs as risk-averse agents prefer less risk in their compensation contracts (Harris and Raviv, 1979). By making compensation contingent on future firm performance, long-term incentives add uncertainty to a CEO's compensation. Moreover, stock-based compensation effectively increases the CEO's

non tradeable investment in the firm and reduces the diversification of his or her investment portfolio (Beatty and Zajac, 1994).

To the extent that generalized norms of reciprocity among corporate leaders constitute a relatively fundamental source of CEO power over the board (as suggested above), having sympathetic CEO-directors on the board may be a primary mechanism by which CEOs avoid contingent compensation, thus inhibiting increased incentive alignment. By contrast, just as CEOs experiencing a decrease in unrelated diversification at their home companies may reduce their opposition to those changes elsewhere, CEO-directors subjected to greater compensation contingency may likewise reduce their resistance to incentive compensation at other companies. Thus, norms of retaliation among CEO-directors may facilitate the spread of incentive alignment through the director network of corporate leaders. This suggests the following hypotheses:

Hypothesis 5 (H5): The greater the proportion of CEO-directors on a board, the lower the likelihood of an increase in compensation contingency.

Hypothesis 5a (H5a): The greater the proportion of CEO-directors on a board who have experienced an increase in compensation contingency at their home companies, the greater the likelihood of such a change in the focal firm.

METHOD

Sample and Data Collection

The population for this study included the largest U.S. industrial and service firms, as listed in the 1982 *Forbes* and *Fortune* 500 indexes. The *Forbes* 500 uses multiple lists whose overlap depends on the specific size measure used; we included those firms that qualified according to two or more size measures. Firms were excluded from the final sample if complete demographic data were unavailable for more than one-quarter of the outside directors in each year or if complete diversification or compensation data were unavailable. This procedure yielded 422 companies. *T*-tests revealed no significant differences in size, measured as log of sales, or profitability between the initial and final samples.

Data were collected for the years 1982 to 1992, inclusive. Academic research and anecdotal evidence suggest that increases in board independence, as manifested by control-enhancing changes in board structure, greater compensation contingency, and reductions in corporate diversification, may have accelerated during this period (Davis and Thompson, 1994; Westphal and Zajac, 1994). While the spread of such changes has been attributed to increased activism by institutional investors during the 1980s, we analyze the effect of social exchange factors internal to the network of corporate leaders during this period.

Information on CEO and board member characteristics, including the affiliations of CEO-directors, was obtained from the *Dun and Bradstreet Reference Book of Corporate Management*, *Standard and Poor's Register of Corporations, Directors, and Executives*, and *Who's Who in Finance and Industry*; data on board structure and compensation were

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collected from proxy statements. Finally, we obtained diversification data from Standard & Poor's COMPUSTAT Business Segment Tapes; size and performance data were provided by COMPUSTAT and the Center for Research in Security Prices (CRSP).

Dependent Variables

Board structure. To analyze the likelihood of a separation of the CEO and board chair positions (*separation*), we created a dichotomous variable, coded as 1 in a given year if the positions were separate in that year but not in the prior year, and 0 otherwise. Separation of the CEO and board chair positions often occurs when the CEO is replaced (Vancil, 1987; Harrison, Torres, and Kukalis, 1988). As a result, a CEO-director's experience with separation may involve (1) having lost the CEO position as well as the board chair position, (2) having lost only the CEO position and remaining as board chair, or (3) having lost only the board chair position and remaining as CEO. In all three scenarios, however, the CEO witnesses separation of the two positions, experiences the associated increase in board power, and loses the status associated with holding both positions. Thus, we combined all three varieties of separation experience. A separate analysis indicated that when cases of separation accompanying CEO succession are removed (scenarios 1 and 2 above), the results reported below remain unchanged.

Increases in the ratio of outside to inside directors (*increased outsider ratio*) were also measured dichotomously, coded 1 if the ratio of outside to inside directors was greater in the current year than in the prior year, and 0 otherwise.

To analyze the likelihood of increased demographic distance between the CEO and the board (*increased dissimilarity*), we first measured CEO-board similarity across several dimensions for each year. Similarity was assessed in terms of three characteristics commonly employed in the top management team literature (Hambrick and Mason, 1984). Functional background similarity and education similarity were measured with a variant of Blau's (1977) index of heterogeneity, defined as $(P_i)^2$, where P_i is the proportion of CEO-board member dyads sharing the i th category (Murray, 1989). For functional background, this measure indicates the squared proportion of CEO-board member dyads in which both individuals have primary experience in the same core, functional area (Hambrick and Mason, 1984); for educational background, it represents the proportion of such dyads in which both individuals possess the same type of degree. Following prior research (Wiersema and Bantel, 1992), we measured degree type as the highest university degree obtained in five categories: arts, sciences, engineering, management or economics, and law. When specialties were not listed, B.S. and M.S. degrees were classified as science degrees. Age similarity was measured with an analog of the coefficient of variation (Tsui and O'Reilly, 1989):

$$\left[\sum_{j=1}^n \frac{(S_i - S_j)^2}{n} \right]^{1/2},$$

where S_i is the CEO's age, S_j indicates the age of director i

(excluding the CEO), and n represents the number of board members. This measure was converted to an indicator of similarity by subtracting each firm's coefficient from the highest value in the sample. We then created a dichotomous measure of increased demographic distance, coded 1 if CEO-board similarity decreased across all three dimensions. The results were also unchanged using increased similarity along one or more dimensions. To the extent that each of the three demographic characteristics indicates different attitudes and behavioral tendencies (Hambrick and Mason, 1984), this composite measure indicates relatively broadly based increases in demographic distance between the CEO and the board.

While it is possible to use continuous rather than dichotomous measures of some of the dependent variables, we chose to use dichotomous measures for two reasons: (1) our theoretical argument implies that the increase in board independence itself (i.e., even a small one) is a meaningful event, since it requires a fundamental change in how CEO-directors perceive the CEO-board relationship; and (2) the range of size in such increases is very restricted for most of our dependent variables and highly correlated with the dichotomous measures. For instance, boards rarely increase the outsider ratio by adding more than two individuals to the board, so that the magnitude of such increases is very similar across cases.

Compensation contingency. Compensation contingency was calculated for each year as the total value of long-term incentive grants divided by total direct compensation. Stock options were valued using the Black-Scholes (1973) method, which estimates option value based on the historical price volatility of the underlying security. Other grants (e.g., restricted stock, performance shares) were valued according to the market price at date of grant (Crystal, 1984). All compensation values were adjusted for inflation to represent 1990 constant dollars using the Consumer Price Index. To analyze the likelihood of increased compensation contingency (*increased contingency*), we created a dichotomous measure, coded 1 in a particular year if compensation contingency increased from the prior year, and 0 otherwise.

Diversification. To test hypotheses on change in unrelated diversification, we used Palepu's (1985) entropy measure, which takes into account the number of segments in which a firm operates and weights each segment according to its contribution to total sales. It is defined as follows:

$$\sum_{i=1}^n P_i * \ln(1/P_i),$$

where P is the dollar value of sales attributed to segment i and $\ln(1/P_i)$ is the weight for each segment i , or the logarithm of the inverse of its sales. *Reduced diversification* was operationalized as an absolute decrease in the entropy measure of .10 or more, to capture relatively significant change and to exclude change that reflects random alterations in segment sales levels. The results were similar when we operationalized reduced diversification as an absolute decrease in the entropy measure of .05 or more.

Independent Variables

The proportion of outside directors who were CEO-directors was assessed simply as the number of outside directors currently then also serving as chief executive at another *Fortune* or *Forbes* 500 company, divided by the total number of outsiders on the board. To measure the proportion of outside CEO-directors who had experienced increased board independence in their home companies, we created five independent variables, three for board structure and one each for diversification and compensation contingency. Each indicates the number of outside CEO-directors serving as CEO at another *Fortune* or *Forbes* 500 company who have also experienced change along the relevant dimension within the past two years, divided by the total number of outsiders on the board. The results were generally robust to different lags, such as one year or three years.

In separate analyses we operationalized the presence of CEO-directors as the absolute number of such directors on the board, rather than as the proportion of outsiders. The results were substantively unchanged. Because our argument implicitly compares the social obligations of CEO-directors to those of other outsiders, we used the proportional measure in the final models presented below.

Controls

We controlled for the possibility that more traditional network diffusion processes involving imitation or social learning could influence the diffusion of increased board independence (e.g., Galaskiewicz and Wasserman, 1989; Davis, 1991; Haunschild, 1993; Palmer, Jennings, and Zhou, 1993).

According to this perspective, organizations are more likely to adopt an innovation when they have director ties to prior adopters, because such contacts help resolve uncertainty about the consequences of adoption (Davis, 1991). As noted by Palmer, Jennings, and Zhou (1993), directors who have participated in a particular structural, strategic, or policy change at other firms may become more forceful advocates of such change because they have behaviorally committed themselves to it. These directors may also be more persuasive in advocating change because they can provide vivid, firsthand accounts of how the innovation affected organizational processes and outcomes (Davis, 1991). Overall, according to this perspective, director ties serve as "information conduits" that facilitate imitation and learning, largely because information provided by fellow corporate leaders may be trusted more than information derived from other sources (Davis, 1991: 594; Haunschild, 1993; Mizruchi, 1996). This would suggest that CEO-directors' experience with increased board independence at other firms may increase the likelihood of such change at the focal firm simply by providing information that encourages imitation.

Thus, to distinguish the social exchange explanation for diffusion from this more traditional explanation, we controlled for the prior experience CEO-directors had with increases in board independence while serving as outside directors on other boards. Specifically, we developed a set of variables to indicate the number of outside CEO-directors who experienced change along the relevant dimension as an outside

director at a *Fortune* or *Forbes* 500 company other than their home company within the previous two years, divided by the total number of outsiders on the board. Significant effects for these variables would provide evidence consistent with the typical imitation or learning perspective on diffusion through interlocks. The absence of significant effects for these variables, together with support for the hypotheses, would provide evidence consistent with the social exchange perspective on diffusion developed in this study.

Because pressure from institutional investors is commonly considered a primary external determinant of increased board control and reduced diversification, as discussed above, we included institutional investor ownership as a control variable in all models (Bethel and Liebeskind, 1993). Institutional ownership was defined as equity held by pension funds, banks and trust companies, savings and loans, mutual fund managers, and labor union funds divided by total common stock (Hansen and Hill, 1991).

There is some research suggesting that poorly performing organizations are more likely to separate the CEO and board chair positions (Harrison, Torres, and Kukalis, 1988) and to appoint outsiders to the board (Hermalin and Weisbach, 1988). Prior firm performance may also be related to subsequent changes in compensation contingency (Westphal and Zajac, 1994) and diversification (Wiersema and Bantel, 1992). Thus we included two measures of firm performance (return on assets and excess stock returns) as control variables in all analyses.

In addition, because there is some evidence for relationships between firm size and various dimensions of board structure (Beatty and Zajac, 1994; Finkelstein and D'Aveni, 1994), diversification (Bergh, 1995), and compensation contingency (Beatty and Zajac, 1994), we included log of sales in all analyses. Also, since changes in board structure may affect changes in compensation contingency and diversification, we controlled for changes in board structure in these specific analyses. Finally, we also controlled for industry and time effects by including dummy variables indicating primary, two-digit Standard Industrial Classification codes, as well as dummies for each year in all analyses. To conserve space, coefficients for these variables are not reported in the tables.

Analysis

Hypotheses were tested using discrete-time event history analysis (Allison, 1982, 1984; Yamaguchi, 1991). Event history models are especially appropriate for analyzing longitudinal data with time-varying covariates when the dependent variable is a discrete event. In this case, the events of interest are (1) control-enhancing changes in board structure (measured by separation of the CEO and board chair positions, increases in the ratio of outside to inside directors, and increased demographic distance between the CEO and the board); (2) increases in compensation contingency; and (3) decreases in corporate diversification. Thus we developed five models. Changes in board structure, compensation contingency, and diversification were observed from 1983 to 1992, yielding 4,220 firm-years of data.

Defections

The discrete-time model can be expressed in the following, logistic regression form (Allison, 1984):

$$\log\{P_i(t)/[1-P_i(t)]\} = a + b_k X_{ik}(t-1),$$

where $P_i(t)$ is the probability of change in CEO characteristics or increased CEO-board similarity in year $t-1$, X_{ik} s are time-varying independent variables hypothesized to influence the risk or likelihood of change, and b_k s are the estimated coefficients. P_i is defined as:

$$\exp[b_k X_{ik}(t-1)] / [1 + \exp[b_k X_{ik}(t-1)]],$$

such that $P_i(t)$ increases monotonically with $b_k X_{ik}(t-1)$ and can assume any value between zero and one. Given time-varying covariates, a firm's likelihood of change is updated over time as the values of independent and control variables change. As the model indicates, all independent and control variables were lagged by one year.

Since the dependent variables of interest represent relatively fundamental and long-lasting alterations in board orientation toward the CEO, we model only the likelihood of the first event during the time period (i.e., the firm is removed from the risk set following adoption of the changes). This is consistent with our interest in explaining when and why boards began to assert their independence from top management; subsequent continued increases in board independence are less central to the study, and we assume they represent continuance of the board's new orientation. Also, significant reversals across the five dependent variables in this study were quite rare. Moreover, for the model of CEO-board chair separation, the initial risk set excludes cases for which the two positions are already separate. Finally, to ensure that the results were not dependent on unspecified, time-specific factors, we included year dummy variables in all models (Allison, 1982, 1984), as noted above.

In general, discrete-time models provide an adequate approximation of continuous-time models, which estimate instantaneous rates of change, when the conditional probability of event occurrence is small, e.g., 0.1 or smaller (Clogg and Eliason, 1987). In this study, the likelihood of change in any given year is less than .1 for all dependent measures.

RESULTS

Table 1 provides the means, standard deviations, and bivariate correlations for all data pooled. The results of event history analyses of changes in board structure are shown in Table 2. H1, H2, and H3 predicted a negative association between the proportion of the board composed of CEO-directors and the likelihood of control-enhancing changes in board structure. In general, the results support these hypotheses. Consistent with H1, the proportion of the board composed of CEO-directors is significantly and negatively related to the likelihood of separation of the CEO and board chair positions. H3 is also supported: A greater presence of CEO-directors on the board significantly diminishes the likelihood of a decrease in demographic similarity between the CEO and the board. Finally, the results provide some support for H2, in that the proportion of the board composed

of CEO-directors is negatively related to increases in the ratio of outside to inside directors.

Table 1

Descriptive Statistics and Pearson Correlation Coefficients (N = 4220)											
Variables	Mean	S.D.	1	2a	2b	2c	2d	2e	3a	3b	
1. CEO-directors on board	.376	.245									
2. CEO-directors experiencing change at home company:											
(a) Separation	.068	.166	.27								
(b) Increased dissimilarity	.071	.161	.23	.21							
(c) Increased outsider ratio	.081	.157	.34	.12	.13						
(d) Increased contingency	.090	.194	.22	.19	.20	-.29					
(e) Reduced diversification	.082	.162	.28	.33	.15	-.25	.12				
3. CEO-directors experiencing change as outside director:											
(a) Separation	.147	.184	.22	.16	.08	.07	.12	.10			
(b) Increased dissimilarity	.167	.172	.29	.13	.22	.13	.10	.13	.09		
(c) Increased outsider ratio	.166	.170	.28	.10	.11	.19	.08	.12	.13	.10	
(d) Increased contingency	.219	.206	.26	.13	.12	.11	.16	.10	.14	.16	
(e) Reduced diversification	.182	.175	.33	.05	.09	.11	.12	.18	.17	.14	
4. Separation	.041	.198	-.22	.25	.10	.02	.11	.09	.08	.06	
5. Increased dissimilarity	.044	.205	-.20	.14	.34	-.01	.06	.07	.07	.05	
6. Increased outsider ratio	.064	.245	-.08	.05	-.13	.18	-.09	-.13	-.02	.04	
7. Increased contingency	.089	.286	-.11	.12	.12	-.05	.24	.14	.03	.02	
8. Reduced diversification	.060	.238	-.26	.15	.07	-.08	.13	.32	.02	.03	
9. Return on assets	.068	.050	-.14	.07	.10	-.04	.10	-.03	.01	.04	
10. Excess stock returns	.013	.135	-.15	.03	.08	-.09	.07	-.11	.02	.02	
11. Log of sales	7.8141	.224	.07	-.02	.03	.03	-.05	.05	-.01	-.01	
12. Institutional ownership	.356	.208	-.08	.23	.12	-.02	.19	.15	.00	-.03	
Variables	3c	3d	3e	4	5	6	7	8	9	10	11
3. CEO-directors experiencing change as outside director:											
(d) Increased contingency	.07										
(e) Reduced diversification	.11	.13									
4. Separation	.03	.05	.06								
5. Increased dissimilarity	.04	.03	.05	.19							
6. Increased outsider ratio	.09	.06	.08	-.14	-.19						
7. Increased contingency	-.01	.06	.07	.22	.15	-.25					
8. Reduced diversification	.07	.01	.12	.24	.18	-.20	.11				
9. Return on assets	-.03	.01	.00	.09	.04	-.06	.07	.05			
10. Excess stock returns	-.06	-.02	.04	.13	.12	-.08	.17	.08	.32		
11. Log of sales	-.02	.03	.08	.02	-.03	.09	.00	.18	-.11	-.14	
12. Institutional ownership	.01	-.01	-.04	.09	.13	.16	.08	.20	.07	-.03	.15

H1a, H2a, and H3a predicted a positive relationship between the proportion of the board composed of CEO-directors who experienced control-enhancing changes in board structure at their home companies and the likelihood of such changes at the focal company. The results shown in Table 2 provide strong and consistent evidence for these hypotheses. Consistent with H1a, separation of the CEO and board chair positions is more likely in the presence of CEO-directors who have experienced separation themselves. The findings also afford strong evidence for H3a: The larger the proportion of the board composed of CEO-directors who experienced an increase in demographic distance from the CEO at home, the greater the likelihood of such change at the focal company. Finally, the results also support H2a: Increases in the ratio of outside to inside directors are more likely when the board includes CEO-directors who have experienced

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Table 2

Event History Analyses of Changes in Board Structure*

Independent variables	Unstandardized Coefficients		
	Separation	Dissimilarity	Outsider ratio
1. CEO-directors on board	-4.100** (1.938)	-2.251** (1.062)	-1.196* (.878)
2. CEO-directors experiencing change at home company	1.918**** (.355)	1.274**** (.239)	.593** (.346)
3. CEO-directors experiencing change as outside director	-.319 (.570)	.189 (.403)	-.231 (.354)
4. Return on assets	-4.934**** (1.236)	-4.523**** (1.025)	-2.333* (1.391)
5. Excess stock returns	-.089*** (.034)	-.023 (.028)	-.049** (.022)
6. Log of sales	.064 (.124)	.057 (.115)	.187* (.094)
7. Institutional ownership	1.230* (.723)	.543 (.411)	.446 (.355)
Constant	2.548*** (1.013)	4.036**** (.955)	4.532**** (.767)
Chi-square	109.12****	97.44****	38.34****
Number of firm-years	3170	3801	3555

* $p < .10$; ** $p < .05$; *** $p < .01$; **** $p < .001$.

* Coefficients for industry and year dummy variables are not reported. Standard errors are in parentheses. *T*-tests are one-tailed for hypothesized effects, two-tailed for control variables.

such a change at their home companies. In general, therefore, while the presence of CEO-directors typically prevents an increase in board independence, the presence of CEO-directors who experienced an increase in independence at

Table 3

Event History Analysis of Reduced Diversification*

Independent variables	Unstandardized coefficients
1. CEO-directors on board	-2.499 (.730)****
2. CEO-directors experiencing change	1.871 (.233)****
3. CEO-directors experiencing change as outside director	-.312 (.280)
4. Return on assets	-1.529 (1.119)
5. Excess stock returns	-.032 (.023)
6. Separation	.797 (.241)****
7. Dissimilarity	.514 (.293)*
8. Outsider ratio	1.019 (.526)*
9. Log of sales	.018 (.097)
10. Institutional ownership	.758 (.377)**
Constant	3.754 (.767)****
Chi-square	108.87****
Number of firm-years	3639

* $p < .10$; ** $p < .05$; *** $p < .01$; **** $p < .001$.

* Coefficients for industry and year dummy variables are not reported. Standard errors are in parentheses. *T*-tests are one-tailed for hypothesized effects, two-tailed for control variables.

their home companies actually stimulates such a change at the focal company.

The next set of analyses show whether the presence of CEO-directors has a comparable effect on two other examples of changes in large U.S. corporations: a decrease in unrelated diversification and an increase in compensation contingency. Table 3 provides the results of event history analysis of a decrease in diversification. In support of H4, the presence of CEO-directors on the board lowers the likelihood of a reduction in diversification. The findings also support H4a: The presence of CEO-directors enduring reduced diversification at home enhances the likelihood of such change at the focal company. The results of event history analysis of an increase in compensation contingency are provided in Table 4. Consistent with H5, the proportion of the board composed of CEO-directors is negatively related to the likelihood of an increase in compensation contingency. Moreover, the findings afford strong support for H5a: The greater the proportion of the board composed of CEO-directors who experienced an increase in compensation contingency at their home companies, the greater the likelihood of such a change in the focal company.

Finally, the results also indicate that variables included to control for more traditional perspectives on interlock diffusion are consistently nonsignificant. The results in Table 2 show that a CEO-director’s experience with control-enhancing changes in board structure as an outside director on

Table 4

Event History Analysis of Increased Compensation Contingency*	
Independent variables	Unstandardized coefficients
1. CEO-directors on board	-.906 (.603) [•]
2. CEO-directors experiencing change	1.114 (.203) ^{••••}
3. CEO-directors experiencing change as outside director	-.120 (.246)
4. Return on assets	-.829 (1.029)
5. Excess stock returns	-.045 (.022) ^{••}
6. Separation	.461 (.227) ^{••}
7. Dissimilarity	.659 (.274) ^{••}
8. Outsider ratio	.417 (.371)
9. Log of sales	-.087 (.076)
10. Institutional ownership	.520 (.306) [•]
Constant	3.500 (.638) ^{••••}
Chi-square	92.21 ^{••••}
Number of firm-years	3353

• $p < .10$; •• $p < .05$; ••• $p < .01$; •••• $p < .001$.

* Coefficients for industry and year dummy variables are not reported. Standard errors are in parentheses. *T*-tests are one-tailed for hypothesized effects, two-tailed for control variables.

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other boards is not significantly related to such a change at the focal firm. Similarly, as shown in Tables 3 and 4, the likelihood of a reduction in diversification or an increase in compensation contingency is not independently affected by the presence of CEO-directors who have experienced such a change as outside directors at other firms. Overall, then, the results provide strongly consistent evidence that the diffusion of increased board independence and control, as manifested by specific changes in board structure, greater compensation contingency, and reduced diversification, is affected by CEO-directors' experience at the CEOs' home companies, consistent with the social exchange perspective, but not by CEO-directors' experience as outside directors on other boards, contrary to a traditional network diffusion perspective.

DISCUSSION

The findings provide strong evidence that control-enhancing changes in board structure, as well as related changes in corporate strategy and executive incentive compensation, are influenced by social and psychological dynamics operating within the inner circle of corporate leaders. Empirical analyses yielded a highly consistent pattern of results supporting the theoretical proposition that, although generalized norms of reciprocity among corporate elites may typically lead CEO-directors to inhibit organizational changes that are contrary to the preferences of fellow top managers, CEO-directors actually induce such change when they have experienced it themselves. Thus, it appears that the social exchange framework can explain the specific conditions under which a variety of phenomena that are considered aversive to CEOs can spread through the network of CEO-directors.

The first set of findings revealed a negative relationship between the proportion of the board composed of CEO-directors and the likelihood of changes in board structure. This suggests that, consistent with a social exchange model emphasizing generalized norms of reciprocity, CEO-directors perceive a generalized obligation to support other CEOs. In this system of social interaction among status equals, sufficient trust exists that CEO-directors believe their support for CEOs will be reciprocated indirectly by someone else, sometime in the future. This finding is consistent with social psychological research showing that group solidarity or mutual identification can generate cooperative behavior (Dawes, 1992) and that individuals benefiting from prosocial acts frequently engage in similar behavior toward generalized others, causing helping behavior to spread through a social structure (e.g., Krebs and Miller, 1985; Komorita, Hilty, and Parks, 1991). Thus the present study provides a theoretical explanation and large-sample empirical evidence for how board norms emphasizing deference to the CEO that are common across firms (Whisler, 1984) can be maintained over time.

At the same time, however, our additional analyses indicated that the relative prevalence of directors who experienced an

increase in board independence actually increased the likelihood of such a change at the focal firm, where they appeared to spur, rather than resist, such change. This result is consistent with the notion that when generalized exchange partners are no longer of equal status and prestige, such inequality may "force a rupture" in the system of exchange (Lévi-Strauss, 1969: 266), so that social solidarity among corporate leaders can provide a context for generalized retaliation or defection, rather than cooperation (cf. Gouldner, 1960; Axelrod, 1984). The underlying social psychological mechanisms for such defection can also be understood from an equity or social comparison perspective (Festinger, 1954; Walster, Berscheid, and Walster, 1973: 152), wherein recently disempowered CEOs perceive their status as having worsened relative to comparison-other CEOs and thus act to reduce their support of other CEOs on whose boards they sit. Overall, the results suggest that the social and psychological factors relating to the CEO-directors' perceived exchange relationship with top managers can predict and explain the diffusion of board independence in large U.S. corporations.

Further analyses demonstrate the generalizability of our proposed framework for understanding the diffusion of defection among a connected set of previously cooperative actors. The findings indicate that while the presence of CEO-directors typically reduces the likelihood of a decrease in unrelated diversification, the presence of CEO-directors who have experienced a decrease in diversification at their own firms increases the likelihood of such a change at the focal company. Furthermore, a very similar pattern of results emerges in analyses of increases in compensation contingency. Thus defection or retaliation among corporate elites appears to facilitate the spread of reduced diversification and incentive alignment (both of which are manifestations of greater board independence), as CEO-directors subjected to such pressures in their home companies diminish their resistance or even actively support such change elsewhere so as to restore balance to their social exchange relationships.

Additional results provided further evidence for this interpretation by allowing us to rule out alternative explanations. While experience with increased board independence at the CEO-directors' home companies consistently predicted the likelihood of change at the focal firm, we found that CEO-directors' experience as outside directors on other boards was consistently unrelated to such change (across five different indicators). This finding is inconsistent with alternative, more conventional perspectives on network diffusion emphasizing the role of imitation and social learning (e.g., DiMaggio and Powell, 1983; Galaskiewicz and Wasserman, 1989; Davis, 1991; Haunschild, 1993; Palmer, Jennings, and Zhou, 1993). The diffusion of control-enhancing change in board structure does not appear to result simply from the spread of information and awareness about such change through director ties to other boards.

The results also suggest that diffusion cannot be described here as a process in which directors who participated in increasing board control on other boards became socialized

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into believing that such change is effective, leading them to push for it at other companies (cf. Burt, 1987). Instead, these additional findings are consistent with our generalized social exchange perspective, according to which CEO-directors would not generally seek to spread changes that are aversive to CEOs' interests, even if their prior exposure to such changes on other boards led them to believe that such changes might be desirable for other constituents. Rather, CEO-directors will spread such changes only as a result of their own experiences as CEOs, which lead them to restore balance to social exchange relationships with fellow corporate leaders that have been disturbed by the CEOs' loss of control over their own boards. Moreover, our focus on CEO-directors enables a precise comparison of home company vs. outside director experience, since any observed differences cannot be attributed to differences in the kind of director studied.

We also conducted a separate test of the learning-based alternative explanation for our results. Conventional perspectives on diffusion might suggest that directors experienced with increased board independence might spread such practices to improve firm performance where it is poor. To test this notion, we estimated supplementary models that included interactions between CEO-director experience and prior performance of the focal company. The results of these analyses were consistently insignificant and thus did not support the alternative explanation. These results provide stronger evidence that the observed effect of CEO-director experience reflects the proposed social exchange factors, rather than economic considerations or learning.

Our findings stress the importance of social and psychological forces within the inner circle, rather than emphasizing how external forces influence a cohesive class of managerial elites. The findings not only support the social exchange mechanism, which operates within corporate elites, but they also show that ownership by institutional investors is only weakly related to the governance and strategic changes analyzed in this study. It may be that external forces play a more significant role in precipitating diffusion (cf. Fligstein, 1991) by prompting initial defections. Further, the relatively active market for corporate takeovers of the early to mid-1980s may have created a political atmosphere conducive to diminished elite solidarity (Davis and Thompson, 1994), thus precipitating initial defections. It is important to note, however, that we observe the spread of defection through the network of heretofore mutually supportive corporate leaders continuing well beyond the period of widespread and significant takeover threat to large corporations.

Our perspective suggests an alternative behavioral mechanism by which changes in governance arrangements, corporate strategy, and possibly other organizational phenomena spread across organizations. While existing theoretical perspectives on network diffusion highlight the role of communication in facilitating the spread of organizational phenomena (Rogers, 1983; Davis, 1991), our perspective emphasizes the role of changing social obligations in driving diffusion: CEO-directors do not support greater board control because they know it to be a legitimate or effective change

in governance arrangements from sitting on boards that have made similar changes but because their experience with increased board control in their home corporations has changed their generalized social exchange relationship with fellow CEOs. Defection restores balance to the social exchange relationship, while supporting other CEOs at the same level would only maintain the new and unequal status quo.

Our study also sheds light on the specific form of defection. Gouldner (1960: 172) suggested that reciprocity is often "homeomorphic" or "identical in form . . . with respect to the things exchanged [and] the circumstances under which they are exchanged." Additional analyses suggested that the presence of CEO-directors who experienced one kind of increase in board independence at their home companies generally did not increase the likelihood of different kinds of increases elsewhere. CEOs experiencing the separation of CEO and board chair positions, for example, were likely to induce that specific change but not the other changes examined in this study. Thus it appears that CEO-directors tend toward homeomorphic retaliation as a response to increased board independence at their home companies.

The network of CEO-directors examined in this study shares certain characteristics with a positive social exchange network, as conceived by Cook and Emerson (1978: 725), in that exchange, or the use of power in one relation, is contingent upon exchange in the other relation. Whereas equity concerns are static and restrain the use of power in Cook and Emerson's model, however, we view equity as a dynamic, social psychological mechanism that can facilitate as well as inhibit the exercise of power.

While the theory developed in this study is not concerned directly with the notion of trust, some might interpret our findings as counter to the notion that trust governs most interpersonal and interorganizational relationships. Relationships with trust, however, are neither extremely fragile nor impervious to change, and we propose, consistent with Axelrod (1984), that trust among exchange partners is most robust under stable environmental conditions and least robust under circumstances of substantial contextual disruptions. The latter condition more accurately describes the period under study. To the extent that there are fewer external disruptions in the corporate governance arena over the next ten years, there may be fewer defections.

This study does not suggest, moreover, that board independence has become universal among large firms. Zajac and Westphal (1996) provided evidence suggesting that, in recent years, managers may have used their influence over the director selection process to avoid the potential for increases in board independence. They found that powerful CEOs favor the selection of directors who have not experienced increases in board independence, thus avoiding directors who are at risk of defecting. Conversely, boards that have already asserted their independence are more likely to appoint new directors who have experienced increases in independence. Overall, then, it is not obvious that board norms favoring independence and control have

universally replaced norms favoring passivity and support. Both sets of norms can be found across boards of large firms, and mechanisms such as director selection are used to reinforce them. Ironically, the emergence of board control as a viable, competing norm may have raised solidarity or group awareness among those boards adhering to the old norms of support, even as it raises the prospect of defection. By recognizing the existence of social forces for stability and for change in corporate governance practices, as well as the role of the intercorporate network in impeding and impelling such changes, researchers can develop a greater understanding of seemingly inconsistent arguments and results regarding the control of U.S. corporations.

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