

META-ANALYTIC REVIEWS OF BOARD COMPOSITION, LEADERSHIP STRUCTURE, AND FINANCIAL PERFORMANCE

DAN R. DALTON¹, CATHERINE M. DAILY^{1*}, ALAN E. ELLSTRAND² AND JONATHAN L. JOHNSON³

¹*School of Business, Indiana University, Bloomington, Indiana, U.S.A.*

²*College of Business Administration, California State University, Long Beach, California, U.S.A.*

³*School of Business Administration, University of Arkansas, Fayetteville, Arkansas, U.S.A.*

Careful review of extant research addressing the relationships between board composition, board leadership structure, and firm financial performance demonstrates little consistency in results. In general, neither board composition nor board leadership structure has been consistently linked to firm financial performance. In response to these findings, we provide meta-analyses of 54 empirical studies of board composition (159 samples, $n = 40,160$) and 31 empirical studies of board leadership structure (69 samples, $n = 12,915$) and their relationships to firm financial performance. These—and moderator analyses relying on firm size, the nature of the financial performance indicator, and various operationalizations of board composition—provide little evidence of systematic governance structure/financial performance relationships.
© 1998 John Wiley & Sons, Ltd.

Strat. Mgmt. J. Vol. 19 269–290 (1998)

INTRODUCTION

There is a distinguished tradition of conceptualization and research arguing that boards of directors' composition and leadership structure (CEO/chairperson roles held jointly or separately) can influence a variety of organizational outcomes. This attention continues to be apparent in the academic literature (e.g., Baliga, Moyer, and Rao, 1996; Beatty and Zajac, 1994; Boyd, 1995; Buchholtz and Ribbins, 1994; Daily and Dalton, 1994a, 1995; Donaldson and Davis, 1991; Finkelstein and D'Aveni, 1994; Hoskisson, Johnson,

and Moesel, 1994; Main, O'Reilly, and Wade, 1995; Ocasio, 1994), as well as the business press (e.g., Burns and Melcher, 1995; Lesly, 1995; Lublin, 1995a, 1995b; Maremont, 1995; Melcher, 1995; Simison and Blumenstein, 1995). It is also notable that these governance elements have been at the point of corporate reform efforts by large-scale institutional investors and shareholder activists (e.g., see Davis and Thompson, 1994, for an overview of corporate governance and shareholder activism; see also Barnard, 1991; Black, 1990; Fligstein, 1990; O'Barr and Conley, 1992).

While the focus on these two governance issues is prominent in the popular press, guidance from the academic literature as to the superiority of specific board composition configurations or board leadership structures is unclear, especially

Key words: board composition; board leadership structure; firm performance; meta-analysis

*Correspondence to: Catherine M. Daily, School of Business, Indiana University, Bloomington, IN 47405, U.S.A.

with respect to firm performance. The following sections provide an overview of suggested board composition and leadership structure configurations. We focus, in particular, on research which assesses the relationship between these aspects of corporate governance and firm financial performance. Such a focus is appropriate given the stated expectations of governance activists, especially institutional investors, regarding their board reform activities. John Biggs, CEO and chairperson of TIAA-CREF, has strongly defended his institution's focus on governance reform, including reapportionment of the board of directors and separation of the positions of CEO and board chairperson, as a means for improving the performance of firms in his institution's portfolio (Biggs, 1995; see also, Black, 1992; Gordon, 1994).

Given the continuing interest and empirical attention to corporate governance structures and their relationships to financial performance, we provide meta-analyses for both boards of director composition and board leadership structure and their relationships to financial performance. The empirical research which has examined boards of director composition and financial performance has been subject to two narrative reviews. Zahra and Pearce (1989) included 12 such studies in their overview of various boards of directors' roles and attributes. More recently, Finkelstein and Hambrick (1995) in their discussion of strategic leadership noted some 15 studies relevant to the issue of performance effects and board composition. Neither of these reviews provided evidence of systematic relationships; rather, both concluded that the extant research produced mixed results. As we have identified 54 relevant empirical studies of board composition/financial performance and 31 studies of board leadership/financial performance, we are able to provide a meta-analytic review of this work. Where there are a sufficient number of studies, most observers would be more comfortable with conclusions drawn from a meta-analytic review compared to a narrative approach (e.g., Hunter and Schmidt, 1990), as meta-analysis provides the ability to account for sampling error, reliability, and range restriction in the data from the studies on which the analysis relies.

The control of these artifacts can be critical. Often, narrative reviews indicate that the evidence is conflicting; there are studies which demonstrate

positive relationships between the variables of interest, negative relationships, and no statistically significant relationships at all. Hunter and Schmidt (1990: 29) have demonstrated that such "conflicting results in the literature" may be entirely artifactual.' In other words, there is no actual population relationship at all. Moreover, meta-analytical approaches rely on confidence intervals rather than statistical significance tests—a major difference: 'The typical use of significance tests leads to terrible errors in review studies' (Hunter and Schmidt, 1990: 31). The following sections develop rationale for the anticipated direction of these relationships. It is notable that board reform activists have strongly argued for boards comprised predominantly, if not exclusively, of independent directors and the formal separation of the CEO and board chairperson positions (e.g., Bainbridge, 1993; Black, 1992; Cox, 1993; Rock, 1991). While many academics have embraced this same position, we provide some rationale for an alternative perspective (see Donaldson, 1995, for an overview of the current academic debate).

Board composition

There is near consensus in the conceptual literature that effective boards will be comprised of greater proportions of outside directors (Lorsch and MacIver, 1989; Mizruchi, 1983; Zahra and Pearce, 1989). The corporate community is even more outspoken on this issue. Among practitioners, especially institutional investors and shareholder activists, it is not unusual to find advocates for boards which are comprised exclusively of outside directors.

A preference for outsider-dominated boards is largely grounded in agency theory. Agency theory is built on the managerialist notion that separation of ownership and control, as is characteristic of the modern corporation, potentially leads to self-interested actions by those in control—managers (see Eisenhardt, 1989, and Jensen and Meckling, 1976, for an overview of agency theory). Agency theory is a control-based theory in that managers, by virtue of their firm-specific knowledge and managerial expertise, are believed to gain an advantage over firm owners who are largely removed from the operational aspects of the firm (Mizruchi, 1988). As managers gain control in the firm, they may be able to pursue actions

which benefit themselves, but not firm owners. The potential for this conflict of interest—or battle for control—necessitates monitoring mechanisms designed to protect shareholders as owners of the firm (e.g., Fama and Jensen, 1983; Jensen and Meckling, 1976; Williamson, 1985). One of the primary duties of the board of directors is to serve this monitoring function (Fleischer, Hazard, and Klipper, 1988; Waldo, 1985).

According to agency theory, then, effective boards will be comprised of outside directors. These nonmanagement directors are believed to provide superior performance benefits to the firm as a result of their independence from firm management (that not all nonmanagement directors are necessarily independent of firm management will be addressed in a subsequent section—Specific operationalizations of board composition).

Some empirical support has been found for this position. Ezzamel and Watson (1993), for example, found outside directors were positively associated with profitability among a sample of U.K. firms. In an examination of 266 U.S. corporations, Baysinger and Butler (1985) found that firms with more outside board members realized higher return on equity. Several other researchers have also noted a positive relationship between outside director representation and firm performance (Pearce and Zahra, 1992; Rosenstein and Wyatt, 1990; Schellenger, Wood, and Tashakori, 1989).

An alternative perspective would suggest a reliance on a preponderance of inside directors. Stewardship theory argues that managers are inherently trustworthy and not prone to misappropriate corporate resources (Donaldson, 1990; Donaldson and Davis, 1991, 1994). As suggested by Donaldson and Davis (1994: 159) 'stewardship theory argues that managers are good stewards of the corporation and diligently work to attain high levels of corporate profit and shareholder returns.' The basis for this position is also grounded in control. Quite opposite to agency theory, however, stewardship theory would suggest that control be centralized in the hands of firm managers (see Davis, Schoorman, and Donaldson, 1997, for an excellent review of the points of convergence and divergence between agency theory and stewardship theory).

Others, too, have noted the potential benefits

of inside directors (e.g., Baysinger and Hoskisson, 1990; Baysinger, Kosnik, and Turk, 1991; Boyd, 1994; Hill and Snell, 1988; Hoskisson *et al.*, 1994). Baysinger and Hoskisson (1990) have suggested that the superiority of the amount and quality of inside directors' information may lead to more effective evaluation of top managers. Others have noted a positive relationship between inside directors and corporate R&D spending (Baysinger *et al.*, 1991; Hill and Snell, 1988), the nature and extent of diversification (Hill and Snell, 1988), and CEO compensation (Boyd, 1994).

Consistent with stewardship theory, some researchers have found that inside directors were associated with higher firm performance. In an examination of *Fortune* 500 corporations, Kesner (1987) found a positive and significant relationship between the proportion of inside directors and returns to investors. Also, Vance's early work (1964, 1978) reported a positive association between inside directors and firm performance.

Additionally, there is a stream of research which has found no relationship between board composition and firm performance (Chaganti, Mahajan, and Sharma, 1985; Daily and Dalton, 1992, 1993; Kesner, Victor, and Lamont, 1986; Schmidt, 1975; Zahra and Stanton, 1988). This overview demonstrates that there is little consistency in the research findings for board composition and financial performance. It also illustrates the importance of considering multiple theoretical perspectives in explaining this complex relationship.

Board leadership structure

Both agency and stewardship theories are also applicable to board leadership structure. As with board composition, there is strong sentiment among board reform advocates, most notably public pension funds and shareholder activist groups, that the CEO should not serve simultaneously as chairperson of the board (Committee on the Financial Aspects of Corporate Governance, 1992; Levy, 1993b; see also Dobrzynski, 1991). Here, too, many in the academic community have also embraced this position (e.g., Kesner and Johnson, 1990; Lorsch and MacIver, 1989; Rechner and Dalton, 1991).

The preference for the separate board leadership structure is largely grounded in agency

theory concerns regarding the potential for management domination of the board. As noted by Finkelstein and D'Aveni (1994: 1079) 'according to agency theory, duality [joint structure] promotes CEO entrenchment by reducing board monitoring effectiveness.' Consistent with agency theory predictions, Rechner and Dalton (1991) found that firms with the separate board leadership structure outperformed those firms with the joint structure when relying on return on equity, return on investment, and profit margin. Nevertheless, the impact of the joint structure on firm performance has not been unequivocally established.

Notably, practicing managers rarely adopt the view that separate is the superior structure (see Dobrzynski, 1995, for an interesting discussion of this point with regard to General Motors' corporate governance structure; see also, Simison and Blumenstein, 1995, for the recent *Wall Street Journal* coverage of these events). While it is true that major corporations have split the CEO and board chairperson roles (e.g., American Express, Kmart, Morrison Knudsen, TWA, Westinghouse), Louis V. Gerstner of IBM and Lawrence A. Bossidy of Allied Signal insisted on having both the CEO and board chairperson titles prior to accepting their positions. According to Dobrzynski (1995), some executives view the separation of these roles only as an emergency measure, a temporary condition for troubled companies. It is notable, for example, that both American Express and Kmart have recombined the CEO and board chairperson positions. Leslie Levy, President of the Institute for Research on Boards of Directors, agrees with this point, noting that 'Most separate chairmen are named during times of stress for the corporation, and with a limited tenure' (Levy, 1993a: 10). It may also be notable that General Motors, having adopted a separate structure, has recently returned to the more common joint structure: On January 1, 1996, John F. Smith, in addition to his role as CEO of General Motors, assumed the responsibilities of chairperson of the board.

These managers' views are consistent with stewardship theory. Advocates of this theory suggest that the joint structure provides unified firm leadership and removes any internal or external ambiguity regarding who is responsible for firm processes and outcomes (e.g., Anderson and Anthony, 1986; Donaldson, 1990; Finkelstein and

D'Aveni, 1994; Lipton and Lorsch, 1993). Stewardship theory suggests that, as a result of unified leadership, the joint structure will facilitate superior firm performance. Consistent with this view, Donaldson and Davis (1991) found that firms relying on the joint structure achieved higher shareholder returns, as measured by return on equity, than those employing the separate structure.

We would also note that there is a stream of research which has noted no directional impact of board leadership structure on firm financial performance (e.g., Berg and Smith, 1978; Daily and Dalton, 1992, 1993; Rechner and Dalton, 1989). While there is a relatively small body of research empirically examining board leadership structure (recent work includes, for example, Baliga et al., 1996; Beatty and Zajac, 1994; Boyd, 1995; Daily and Dalton, 1994a; Finkelstein and D'Aveni, 1994; Ocasio, 1994; Pi and Timme, 1993), neither the joint, nor separate, board leadership structure has been strongly supported as enhancing firm financial performance. These findings, too, support the need to consider multiple theoretical explanations for the relationship between board leadership structure and firm performance.

MODERATORS FOR THE META-ANALYSES

A review of the extant literature for both board composition and board leadership structure indicates a number of potential moderating influences on these meta-analyses. For board composition, we have identified three such moderating variables—size of the firm, nature of the performance indicators (accounting vs. market-based), and four primary operationalizations of 'board composition'—inside director proportion, outside director proportion,¹ affiliated director proportion, independent/interdependent director proportion.

For the meta-analysis of board leadership structure, we will also consider both firm size and the nature of the performance indicator. For this set

¹ Because various researchers have defined 'outside directors' differently, the first ratio (inside directors) is not the complement of the second (outside directors). The 'affiliated' and 'independent/interdependent' categories also are not complements of the 'outside director' classification (see Daily and Dalton, 1994a, for a discussion).

of analyses, the nature of the board composition measures is clearly not an issue.

Size of the firm

An obvious assumption implicit in board composition/leadership structure/performance relationships is that the choice of the various governance options *could* be associated with changes in organizational strategy and firm performance. It has been argued that firm size could be an important factor in such an assumption. While the following specifically focused on the choice of inside or outside CEO successors, the sentiment underscores the importance of firm size: 'This assumption may be questionable, particularly in large organizations. The sheer number of persons involved, the complexity of the organization, and the variety of vested interests both inside and outside the company represent potential constraints to successful change strategies' (Dalton and Kesner, 1983: 736). It may be, then, that the scale and complexity of the large firm would cloud any relationship between board composition and structure and performance.

This observation may be underscored by the potential disconnects in the theoretical foundations which link board governance structures and financial performance in the case of large-scale, complex firms. The resource dependence perspective (e.g., Burt, 1983; Pfeffer and Salancik, 1978; Selznick, 1949), for example, views outside directors as a critical link to the external environment. Such board members may provide access to valued resources and information as well as facilitate interfirm commitments (e.g., Bazerman and Schoorman, 1983; Pfeffer and Salancik, 1978; Provan, 1980; Stearns and Mizruchi, 1993). It has also been argued that this resource dependence role of directors may be particularly notable in protecting the organization from adversity (e.g., Daily and Dalton, 1994a, 1994b; Sutton and Callahan, 1987; Zahra and Pearce, 1989). Pfeffer and Salancik (1978: 168) noted that 'one would expect that as the potential environmental pressures confronting the organization increased, the need for outside support would increase as well.'

Boards' ability to sustain this resource dependence role may be especially challenging in the large-scale, complex organization. One could imagine, for example, a very large, highly diversi-

fied firm with multiple product lines operating in multiple international markets. Each industry or market, in conjunction with the many products or services offered in those arenas, increases the number of potential interfaces between directors and the general and competitive environments (e.g., Zahra and Pearce, 1989). Greater complexity and size may also augment the amount of uncertainty absorption required of the board (e.g., Zahra and Pearce, 1989). While we certainly would not suggest that directors must provide linkages to each aspect of the firm's environment, or absorb all environmental uncertainty, the resource dependence perspective suggests performance advantages accrue to organizations with effective board-environment linkages.

Closely related to this is the service/expertise/counsel role of the board which essentially holds that directors may provide a quality of advice to the CEO otherwise unavailable from other corporate staff (e.g., Zahra and Pearce, 1989). This view is consistent with the finding that directors consider 'their key normal duty' to be that of advising the CEO (Lorsch and MacIver, 1989: 64). Once again, however, we could imagine that the large-scale, multidivisional, multinational firm presents enormous challenges on this dimension. As Zahra and Pearce (1989: 294) have noted, 'Large organizational size is often associated with complex operations that require careful integration.' Greater size and complexity increase the challenges any given director faces in advising the CEO on strategic initiatives affecting the firm as a whole. Successful integration of the various perspectives offered by individual directors becomes as critical as successfully integrating firm activities for the large, complex organization. Also, having a separate board chairperson who may serve as a sounding board for the CEO or source of confidential counsel may prove critical as the firm—and CEOs' decisions—become increasingly complex.

Another critical aspect of the board which potentially links it with financial performance is the control role. This role, most closely aligned with agency theory, requires the board to monitor and evaluate the CEO and his or her top management team and company performance in general, as well as protect shareholders' interests. Here again, the scale and complexity of the firm may compromise boards' abilities to reasonably dispatch this responsibility. We could imagine

that the availability of high-quality information regarding the firms' and officers' performance is inversely related to the size and complexity of the firm. We would also suspect a similar tendency with regard to the balance of information which is provided to the board by the firms' officers and information which is independently derived by the board from other sources. Information flow between management and directors is particularly at issue under the dual structure as CEOs may carefully control the quality and quantity of information which directors receive when also serving as board chairperson.

Others, too, have noted additional, pragmatic influences of organizational size on governance structure/performance relationships. It has been observed, for example, that CEOs and directors are less constrained by organizational systems and structures in the smaller firm and may have far more discretion as compared to their large-firm counterparts (Daily and Dalton, 1992, 1993; Eisenhardt and Schoonhoven, 1990; Norburn and Birley, 1988; Reinganum, 1985; see also Finkelstein and Hambrick, 1990). If so, the smaller firm may facilitate greater board influence and may enhance board structure and firm performance linkages.

In sum, an examination of the conceptual foundations which align director roles with firm financial performance may suggest some operational and pragmatic differences as a function of firm size. Fundamentally, we would suggest that the boards of smaller firms *could* more easily meet their resource dependence, counseling, and control roles. Moreover, we would expect that boards of smaller, less complex firms would enjoy more discretion with fewer vested interests within the firm as well as external to the firm. This may suggest that the smaller firm is somewhat more able to adopt and implement change strategies which may facilitate boards' ability to affect financial performance.

Nature of the performance indicators

Extant research addressing governance structures and financial performance has relied on accounting-based financial indicators (e.g., Boyd, 1995; Buchholtz and Ribbins, 1994; Finkelstein and D'Aveni, 1994; Ocasio, 1994), market-based indicators as well as combinations of both (e.g., Hoskisson et al., 1994; Johnson, Hoskisson and

Hitt, 1993). The nature of a given financial performance indicator may be fundamental, as there is some disagreement regarding the extent to which any board or executive decisions might impact accounting vs. market-based measures of financial performance.

Reliance on financial accounting measures have been frequently criticized. It has been argued, for example, that such measures (1) are subject to manipulation; (2) may systematically undervalue assets; (3) create distortions due to the nature of depreciation policies elected, inventory valuation, and treatment of certain revenue and expenditure items; (4) differ in methods adopted for consolidation of accounts; and (5) lack standardization in the handling of international accounting conventions (see, for example, Chakravarthy, 1986). Also, financial accounting returns are difficult to interpret in the case of multi-industry participation by firms (Nayyar, 1992). It has been demonstrated, for example, that board members often compare firm performance relative to average industry performance when evaluating managerial decisions and performance (e.g., Morck, Shleifer, and Vishny, 1989; Meindl, Ehrlich, and Dukerich, 1985). One can imagine how much more difficult this would be in a multi-industry, multinational context. It is also notable that financial accounting measures do not normally account for shareholder investment risk.

Given the various imprecisions involved in measuring and interpreting financial accounting indices, perhaps it is not surprising that observers have suggested that such measures 'may be seen as more fully under management control' (Hambrick and Finkelstein, 1995: 190). This is interesting, even unfortunate, as Joskow, Rose, and Shepard (1993) have suggested that accounting returns provide a more convenient benchmark for boards of directors to evaluate CEOs and firm performance. Perhaps one would expect, then, that studies examining the association between CEO compensation and firm performance have found larger relationships with financial accounting returns than market-based returns (e.g., Hambrick and Finkelstein, 1995; Jensen and Murphy, 1990a; Kerr and Bettis, 1987; Joskow et al., 1993). Interestingly, the choice of accounting vs. market-based financial performance indicators is repeatedly at issue in one of the more fundamental of board decisions—CEO compensation (e.g., Gomez-Mejia, Tosi, and Hinkin, 1987; Hambrick

and Finkelstein, 1995; Jensen and Murphy, 1990a, 1990b; Lambert and Larcker, 1987; Pavlik, Scott, and Tiessen, 1993).

Alternatively, market-based returns have a number of advantages. They do reflect risk-adjusted performance; they are not adversely affected by multi-industry or multinational contexts (Nayyar, 1992). The issue may be, however, that market-based performance indicators are often subject to forces beyond management's control (Deckop, 1987; Hambrick and Finkelstein, 1995; Joskow *et al.*, 1993). Perhaps the best, if ironic, example of this observation is the demonstration that a firm suffers negative abnormal returns when another firm in the same industry files for bankruptcy protection (Lang and Stulz, 1992).

As there appears to be no consensus regarding the efficacy of reliance on one set of indicators (accounting-based) or another (market-based), we will use the nature of financial measures as a moderator for both board composition and financial performance, as well as board leadership structure and performance relationships.

Specific operationalizations of board composition

The operationalization of board composition on which one relies differentially addresses agency theory and stewardship theory assumptions. Four main approaches to measuring board composition have been identified: inside, outside, affiliated, and independent/interdependent directors (Daily, Johnson, and Dalton, 1997). While distinct in their individual operationalizations, each of these approaches for capturing board composition has an essential element in common: the focus is the extent to which the notion of board composition actually captures the distinction between a board comprised largely of directors who operate independently of the firm and its management, specifically the CEO, as compared to a board largely comprised of members of the management ranks. As previously noted, agency theory suggests a need for independence, whereas stewardship theory suggests such independence is neither important nor necessary.

We suggest here that the various operationalizations of board composition will capture distinctly different aspects of the three board roles (resource dependence, counseling/expertise,

control) developed in an earlier section. These differences may in turn impact the relationship between board composition and firm performance.

One way in which board composition has been operationalized is the proportion of inside to total directors (e.g., Cochran, Wood, and Jones, 1985; Hoskisson *et al.*, 1994; Westphal and Zajac, 1995). Boards which are insider dominated may be less effective at meeting their control, resource dependence and counseling/expertise roles, as compared to alternative configurations. As members of the management ranks who report directly to the CEO, inside directors may not be able or willing to monitor and evaluate the CEO with equanimity (Bainbridge, 1993; Daily and Dalton, 1994a, 1994b; Fazel and Louie, 1990; Lorsch and MacIver, 1989). Further, insider-dominated boards may be less likely to meet the resource dependence role (Daily and Dalton, 1994a; Pfeffer and Salancik, 1978; Sutton and Callahan, 1987). Given their operational responsibilities, inside directors generally may not have the same access to external information and resources that would be enjoyed by the firm's outside directors (e.g., CEOs of other firms, investment bankers, former governmental officials, major suppliers). Moreover, inside directors are available to the CEO for advice/counsel as a function of their employment with the firm. It is therefore not necessary to appoint managers to the board to fulfill this function (e.g., Jacobs, 1985).

A second approach for capturing board composition is the ratio of outside to total directors. This method commonly describes an outside director as one who is not in the direct employ of the corporation (e.g., Buchholtz and Ribbins, 1994; Dalton and Kesner, 1987; Goodstein, Gautam, and Boeker, 1994). Depending on the specific operationalization of outside directors (Daily *et al.*, 1997), this measure may also be limited in its ability to adequately capture the control, resource dependence, and counseling/expertise roles. Outside directors may be best able to fulfill the control role when they are not encumbered by personal and/or professional relationships with the firm or firm management. Moreover, outside directors with personal relationships (e.g., family relations) with firm management may be less effective at the resource dependence and counseling/expertise roles than outside directors without such relationships.

Another approach focuses on nonmanagement

directors who maintain personal and/or professional relationships with the firm or firm management, so-called affiliated directors (Cochran *et al.*, 1985; Daily and Dalton, 1994a; Johnson *et al.*, 1993). As a result of these relationships, affiliated directors are not independent. On this basis, affiliated directors are not believed to be effective at fulfilling the control role (e.g., Daily and Dalton, 1994a). Directors whose affiliation is a function of professional relationships (i.e., supplier, customer, legal counsel), however, may be highly effective at the resource dependence and counseling/expertise roles as a function of their external contacts and specific expertise. Still, it is difficult to argue that directors whose affiliation is a function of personal relationships (i.e., family member) will be effective—or certainly will be fully effective—at meeting any of the three director roles.

The final approach relies on the independent/interdependent distinction (Boeker, 1992; Daily, 1995; Wade, O'Reilly, and Chandratat, 1990). Independent directors are outside board members who were already on the board prior to the current CEO's appointment (e.g., Daily, 1995; Daily and Dalton, 1994a). Interdependent directors, then, are those board members appointed by the current CEO (e.g., Boeker, 1992; Wade *et al.*, 1990). Having been members of the board prior to the appointment of the incumbent CEO, independent directors may feel less a sense of obligation to the CEO than interdependent directors. This independence is believed to be critical to the control role. We would not anticipate any particular differences with regard to the resource dependence and counseling/expertise roles across the independent/interdependent distinction; however, for the reasons previously noted with regard to outside directors, we would anticipate these directors to be more effective at the resource dependence and counseling/expertise roles as compared to inside directors.

By considering the type of board composition (inside, outside, affiliated, independent/interdependent), it may be that certain combinations of board composition would better facilitate performance. The various operationalizations of board composition may not be isomorphic with respect to capturing linkages with firm performance. Agency theory, for example, would emphasize performance linkages with outside and independent director composition. Stewardship theory

would more likely underscore those linkages with the proportion of inside and affiliated directors and corporate financial performance. The various operationalizations of board composition, then, may emphasize differential abilities or tendencies of boards to effectively meet their resource dependence, counseling/expertise, and control roles.

METHOD

Sample

We relied on a number of search techniques to identify empirical research related to board composition, leadership structure, and financial performance. It was not necessary that these relationships be the main focus of an article to be included for the meta-analyses. It was only necessary that a Pearson product-moment correlation between these variables be available in the piece, or derivable from it. Whether a given variable was a dependent, independent, or a control variable was not an issue. By a combination of computer-aided, key word searches and manual searches of relevant journals (e.g., *Academy of Management Journal*, *Accounting Review*, *Administrative Science Quarterly*, *Journal of Accounting Research*, *Journal of Finance*, *Journal of Financial Economics*, *Journal of Management*, *Journal of Management Studies*, *Managerial and Decision Economics*, *Organization Science*, *Strategic Management Journal*) we obtained a subset of potentially applicable research reports. We also examined the reference lists of the potentially applicable articles and identified further articles the topics or titles of which suggested suitability. The anonymous reviewers of this manuscript also provided sources for additional relevant articles.

For the board composition/financial performance meta-analysis, this search process yielded 54 empirical studies with 159 usable samples ($n = 40,160$). The relatively large sample to study ratio is a function of governance research commonly relying on multiple operationalizations of board composition as well as multiple indicators of financial performance. There are also cases in which multiple samples of firms were included in a single article.

We identified 31 empirical studies with 69 usable samples ($n = 12,915$) addressing board leadership/financial performance relationships.

Once again, these studies often relied on multiple samples of firms and multiple operationalizations of financial performance.

As noted, many of the empirical studies included in these meta-analyses are comprised of more than one sample, financial performance indicator, or means of capturing a variable. Statistics from these samples (i.e., multiple samples in a single study) can only be combined when they reflect similar study characteristics. Consider, for example, a given study relying on four samples in each of which a correlation between the same operationalization of board composition and the same operationalization of financial performance could be derived. In such a case, the four separate results would be properly combined (e.g., Quinones, Ford, and Teachout, 1995).

The studies on which we rely for the two meta-analyses (board composition/firm performance; board leadership structure/firm performance) do not have this character. Either the samples, the multiple operationalizations of performance, or the methods for estimating board composition were distinct. Indeed in most cases, the authors are specific in their description of these elements and why they may differentially capture separate relationships. Accordingly, we analyze the usable samples separately.

Meta-analytic procedure(s)

These meta-analyses were conducted in accordance with those guidelines provided by Hunter and Schmidt (1990). Meta-analysis is a statistical technique which, while correcting for various statistical artifacts, allows for the aggregation of results across studies to obtain an estimate of the true relationship between two variables in the population.

Meta-analytic procedures require that each observed correlation (i.e., the zero order correlation between the two variables of interest) be weighted by the sample size of the study in order to calculate the mean weighted correlation across all of the studies involved in the analysis. The standard deviation of the observed correlations can then be calculated to estimate the variability in the relationship between the variables of interest.

The total variability across studies is comprised of a number of elements including the true variation in the population, variation due to sampling

error, and variation due to other artifacts such as reliability and range restriction. Recognition and control of these artifacts allow for a better estimate of the true variability around the population correlation.

To correct for such artifacts we relied on Meta Dos (Stauffer, 1994), a software package using the option employing Hunter and Schmidt's (1990) artifact distribution formulae. Inasmuch as all variables in our meta-analyses are objective for which reliability statistics are not reported, we relied on a conservative 0.8 reliability estimate² for these variables (e.g., Hunter and Schmidt, 1990; Bommer *et al.*, 1995).

With the corrected estimates of the standard deviation of the mean-corrected effect size and the standard error for the mean effect size, credibility and confidence intervals can be calculated (for discussion, see Whitener, 1990). The credibility interval may be useful as it provides some diagnostics regarding the potential existence of moderating variables. The confidence interval provides a critical diagnostic as well. If the 95 percent confidence interval around the mean correlation does not include zero, it can be concluded that there is a true relationship between the variables of interest (e.g., Finkelstein, Burke, and Raju, 1995).

Procedures for moderators

As previously discussed, we will examine a number of possible moderating variables for these meta-analyses. Essentially, then, in addition to estimating the true population correlation, meta-analytical procedures facilitate the determination of whether the relationship between variables of interest depends on other factors.

² The choice of reliability levels can be, depending on other factors, a critical assumption. As noted, we relied on 0.8; this is a conservative value. We also ran the full sample meta-analyses and the subgroup analyses at 0.6 and 0.7 reliability levels (less conservative) as well as 0.9 and 1.0 levels (very conservative). The choice of reliability level, as illustrated in the table on page 27, is of little consequence to our results. As examples, we note both the full sample meta-analysis for board composition and financial performance at all five (0.6, 0.7, 0.8, 0.9, 1.0) levels and the full sample meta-analysis for the board leadership structure/financial performance at these levels as well. Given the modest differences in the adjusted *r*'s across the reliability levels and in the 90 percent credibility intervals, the choice of reliability levels (i.e., 0.6, 0.7, 0.8, 0.9, 1.0) for these analyses is of no practical consequence. These modest differences are typical of the

Moderator analyses are conducted by separating the samples into relevant subgroups. In this case, one of our proposed moderators is firm size. It may be, for example, that larger firms (*Fortune* 500) enjoy a different relationship between the variables of interest than might be found in entrepreneurial/small firms. Given this, the total sample would be divided into two groups and separate meta-analyses computed for each subgroup. From these data a critical ratio (essentially a Z-score) can be calculated to determine if differences between the moderator pairs of samples are statistically significant (Quinones *et al.*, 1995). A significant difference suggests that the moderator is operative. This process is repeated for each pair of subgroups indicated by whatever moderator variable is at issue.

RESULTS

Board composition and financial performance

Table 1 illustrates the results of the meta-analysis for board composition and financial performance,

subgroup moderator analyses as well. Full results for the full sample meta-analyses and all subgroup moderator analyses are provided in Tables 1 and 2 in the text.

as well as the three proposed moderating variables. The results for all samples considered simultaneously (159 samples, $n = 40,160$) indicate little support for a systematic relationship of this type. The corrected mean correlation estimate is a modest 0.028. The 95 percent confidence interval does not include zero, indicating that the true population correlation is nonzero, though the magnitude of the range of correlations in the confidence interval (0.008 to 0.038) would not appear to be at substantive levels. The evidence suggests, then, that board composition has virtually no effect on firm performance.

Consistent with prior discussion, three potential moderating variables were identified. Table 1 also provides information on these meta-analytic tests. Notice that there is no evidence that firm size moderates the estimate of the population correlation. The critical ratio of 0.39 indicates that the population correlation estimates for the large compared to the entrepreneurial/small companies are not statistically significant. It is also notable that the confidence interval for the entrepreneurial/small firms includes zero, indicating no relationship between board composition and financial performance for this subgroup. There is some evidence of a true nonzero popu-

	Sample size	No. of samples	Observed r	Corrected r	Observed variance	Corrected variance	90% credibility interval	95% confidence interval
<i>Board composition and financial performance</i>								
Overall results at 0.6	40,160	159	0.023	0.038	0.005	0.004	-0.043:0.119	0.008:0.038
reliability								
Overall results at 0.7	40,160	159	0.023	0.032	0.005	0.003	-0.038:0.102	0.008:0.038
reliability								
Overall results at 0.8	40,160	159	0.023	0.028	0.005	0.002	-0.032:0.085	0.008:0.038
reliability								
Overall results at 0.9	40,160	159	0.023	0.025	0.005	0.002	-0.029:0.082	0.008:0.038
reliability								
Overall results at 1.0	40,160	159	0.023	0.023	0.005	0.001	-0.017:0.063	0.008:0.038
reliability								
<i>Board leadership structure and financial performance</i>								
Overall results at 0.6	12,915	69	-0.033	-0.055	0.007	0.006	-0.154:0.044	-0.060:-0.006
reliability								
Overall results at 0.7	12,915	69	-0.033	-0.047	0.007	0.004	-0.128:0.034	-0.060:-0.006
reliability								
Overall results at 0.8	12,915	69	-0.033	-0.041	0.007	0.003	-0.111:0.029	-0.060:-0.006
reliability								
Overall results at 0.9	12,915	69	-0.033	-0.036	0.007	0.002	-0.093:0.021	-0.060:-0.006
reliability								
Overall results at 1.0	12,915	69	-0.033	-0.033	0.007	0.002	-0.090:0.024	-0.060:-0.006
reliability								

Table 1. Board composition and financial performance

	Sample size	No. of samples	Observed <i>r</i>	Corrected <i>r</i>	Observed variance	Corrected variance	90% credibility interval	95% confidence interval	Critical ratio
Overall	40,160	159	0.023	0.028	0.005	0.002	0.029 : 0.085	0.008 : 0.038	
<i>Size</i>									
Large firms	32,098	132	0.023	0.029	0.005	0.002	-0.028 : 0.086	0.006 : 0.040	
Entrepreneurial/small firms	6,998	20 ^a	0.015	0.019	0.004	0.003	-0.051 : 0.089	0.022 : 0.052	0.39
<i>Performance</i>									
Market performance indicators	8,010	42	-0.001	-0.001	0.004	0.000	-0.001 : 0.001	-0.031 : 0.029	
Accounting performance indicators	33,506	120	0.024	0.030	0.006	0.003	-0.040 : 0.100	0.006 : 0.042	-1.44
<i>Board composition</i>									
Inside director proportion	10,243	34 ^b	0.045	0.057	0.004	0.001	0.017 : 0.097	0.016 : 0.074	
Outside director proportion	19,061	88 ^b	0.009	0.024	0.004	0.000	0.024 : 0.024	-0.011 : 0.029	2.04 ^c
Affiliated director proportion	3,374	16 ^b	0.014	0.018	0.013	0.014	-0.133 : 0.169	-0.053 : 0.081	-0.14 ^d
Independent/interdependent proportion	3,821	11 ^b	0.058	0.073	0.005	0.004	-0.008 : 0.154	0.005 : 0.111	-1.03 ^e

^aCombination of studies in these subgroups do not equal 159 as a few studies relied on samples comprised of both large and small firms.

^bCombination of studies in these subgroups do not equal 159 as some board composition measures are not traditional (e.g., number of financial directors, 'management control,' number of lawyers, majority/nonmajority, supermajority/nonsupermajority).

^cCompares inside and outside composition.

^dCompares outside and affiliated composition.

^eCompares affiliated with independent/interdependent composition.

Note: No unlisted critical ratio comparisons of board composition (e.g., inside with affiliated; outside with independent/interdependent) are statistically significant.

lation correlation for the large firms, but the corrected ' r ' (0.029) and the range of the 95 percent confidence interval (0.006 to 0.040) suggests that the level is not substantive. These results indicate that size of the firm is not a moderator of the board composition/firm performance relationship. Our earlier proposition that board structure may affect performance in smaller firms when compared to large is unsupported.

The results are similar for the possible moderating influence of type of performance indicator as well. The critical ratio (−1.44) suggests that the estimates of the population correlation for market performance indicators are not statistically different from those of the accounting performance indicators. In both cases, the corrected correlations (−0.001 for market indicators; 0.030 for accounting indicators) are not at practically relevant levels. Also notice that the 95 percent confidence interval for the population correlation for market performance indicators includes zero, suggesting no board composition/financial performance relationship at all for this subgroup. The accounting performance indicators subgroup 95 percent confidence interval does not, however, include zero. Once again, though, the corrected correlation estimate (0.030) and the range of the confidence interval (0.006 to 0.042) suggest that these levels are not substantive. These results lead to the conclusion that there are no moderating effects based on the nature of the performance indicators on the posited relationship between board composition and firm performance.

We also relied on the various operationalizations of board composition (insider proportion, outsider proportion, affiliated proportion, independent/interdependent proportion) as moderators in the composition/financial performance relationship. The latter section of Table 1 illustrates the results of these subgroup analyses. Notice that for two of the subgroups (i.e., outside director proportion, affiliated director proportion), the 95 percent confidence interval includes zero, indicating no true population relationship for composition and financial performance as moderated by any of these approaches to capturing board composition. In the other two cases, that of inside director proportion and independent/interdependent proportion, the 95 percent confidence intervals do not include zero. Here, however, as we have seen in prior subgroup analyses, the magnitude of the corrected ' r 's

(0.024 and 0.073 respectively) in concert with the range of the 95 percent confidence intervals (−0.011 to 0.029; 0.005 to 0.111) does not suggest relationships of meaningful levels. It should be noted, however, that the critical ratio (2.04) does indicate that the correlations for the inside director proportion/performance relationship are statistically different from that relationship for outside director proportion. The other critical ratios do not suggest such differences among the other operationalizations of board composition and firm performance. Once again, then, there is no evidence of a moderating effect of particular operationalizations of board composition on the overall board composition/firm performance relationship.

Board leadership structure and financial performance

Table 2 provides the results for the meta-analyses of leadership structure and financial performance and the two proposed moderating variables. The results for all samples considered simultaneously (69 samples, $n = 12,915$) indicate no support for a systematic relationship between these variables. The corrected mean correlation estimate is very small, −0.041. Moreover, while the 95 percent confidence interval does not include zero, the magnitude of the range of correlations in the confidence interval (−0.061 to −0.011) provides no evidence of a relationship of practical relevance. It can be concluded, therefore, that there is no relationship between board leadership structure and firm performance.

For the leadership structure/financial performance relationship, two potential moderating variables were tested. The critical ratio, 0.053, indicates that the population correlation estimates for the large compared to the entrepreneurial/small companies are not statistically significant. There is no evidence, then, of a moderating influence by firm size on the leadership structure/financial performance relationship. Moreover, the 95 percent confidence interval for the large firm subgroup includes zero, suggesting no leadership structure/financial performance relationship for this subgroup. For the entrepreneurial/small subgroup the 95 percent confidence interval does not include zero; even so, the corrected mean correlation estimate (−0.056) and the range of correlations in the 95 percent confidence interval

Table 2. Board leadership structure and financial performance

	Sample size	No. of samples	Observed r	Corrected r	Observed variance	Corrected variance	90% credibility interval	95% confidence interval	Critical ratio
Overall	12,915	69	-0.036	-0.041	0.005	0.005	-0.132 : 0.050	-0.061 : -0.011	
<i>Size</i>									
Large firms	9,338	44 ^a	-0.030	-0.038	0.009	0.008	-0.152 : 0.076	-0.065 : 0.005	
Entrepreneurial/small firms	2,975	19 ^a	-0.045	-0.056	0.003	0.000	-0.056 : -0.056	-0.089 : -0.001	0.053
<i>Performance</i>									
Market performance indicators	1,807	8	0.038	0.048	0.000	0.000	0.048 : 0.048	-0.009 : 0.085	
Accounting performance indicators	11,108	61	-0.033	-0.042	0.005	0.000	-0.042 : -0.042	-0.059 : -0.007	2.63

^aCombination of studies in these subgroups do not equal 69 as several of the studies relied on mixed samples of large and smaller corporations.

(−0.089 to −0.001) do not suggest a substantive relationship. It may be concluded, then, that the size of the firm does not moderate the relationship between board leadership structure and firm performance.

The nature of the performance indicators was also a potential moderator. The critical ratio (2.63) suggests that the estimates of the population correlation for market performance indicators are statistically different from those of the accounting performance indicators. This effect is apparent as the corrected mean estimate for the market performance group is 0.048 while the corrected mean estimate for the accounting performance group is −0.042. Interestingly, however, the 95 percent confidence interval for the market performance subgroup includes zero, providing no evidence for a true population correlation. The 95 percent confidence interval for the accounting performance indicator subgroup (−0.059 to −0.007) does indicate a true negative population correlation but probably does not reflect a relationship of substantive importance. These data provide no evidence that the board leadership structure/firm performance relationship is moderated by the nature (accounting vs. market-based) of the performance indices.

SUMMARY AND DISCUSSION

The results for the board composition/financial performance meta-analyses suggest no relationship of a meaningful level. Subgroup moderating analyses based on firm size, the nature of the performance indicators, and operationalization of board composition provide no evidence of moderating influences for these variables as well. The evidence derived from the meta-analysis and moderating analyses for board leadership structure and financial performance has the same character, i.e., no evidence of a substantive relationship.

These results lead to the very strong conclusion that the true population relationship across the studies included in these meta-analyses is near zero. Such a finding provides support for neither the agency nor stewardship theories on which we have grounded this research. Given the considerable investment in research of this type (the board composition/performance relationship is comprised of some 159 samples with a total 'n' size of over 40,000; the board leadership

structure/performance meta-analysis includes 69 samples with a total 'n' of nearly 13,000), a conclusion that there is no actual relationship among these variables is quite aggressive. It suggests, a possibility that we earlier noted, that the conflicting findings—some positive, some negative—reported in past narrative reviews of the literature were artifactual. There are, however, several aspects of these meta-analyses which underscore the robustness of such a conclusion.

Modest corrected 'r's in every case

An examination of all the meta-analytical results for the board composition/financial performance relationship provides virtually no evidence of a systematic relationship. The range of corrected 'r's, which denotes the best estimate of the mean population relationship, is from 0.001 to 0.073 (see Table 1). At the extreme of that range, variance explained is a minuscule 0.005. The results derived from the meta-analysis of board leadership structure and financial performance are similar. The corrected 'r's for those results range from 0.038 to 0.056. At the extreme, variance explained would be 0.003.

Notice also that the variances for these results are very small as well. This combination of modest effect sizes and small variances provides a means to examine the potential for moderating influences on these relationships.

Modest evidence of other substantive moderating influences

Hunter and Schmidt (1990: 297) provide guidelines on whether a given effect size might be subject to moderating influences by other variables. One issue is the extent to which the standard deviation is 'noticeably greater than zero.' Another is whether the standard deviation is large relative to the mean effect size. Consider the results for the board composition/financial performance relationships. With a single exception (the subgroup meta-analysis for affiliated director proportion), the largest standard deviation is 0.06. In fairness, however, it must be noted that even these small standard deviations are large relative to their respective mean effect sizes. Other diagnostics have been suggested to determine whether an examination for further moderators might be productive. As previously noted, Kowlowsky and

Sagie (1993) suggest that credibility intervals larger than 0.11 imply the presence of moderators. Credibility interval ranges that include zero are another indicator that, in combination with a relatively large range, suggests the existence of moderating influences as well (Whitener, 1990). In many cases, the 90 percent credibility intervals for the subgroup analyses do indicate the possibility of further moderation.

With respect to the board composition and financial performance meta-analytical results (Table 1), the 90 percent credibility intervals of some subgroups do slightly exceed these guidelines. The ranges for large firms (0.11), entrepreneurial/small firms (0.14), and the accounting performance indicators (0.14) have this character.

The 90 percent credibility intervals for affiliated director proportion (0.302) and independent/interdependent director proportion (0.162) are well outside these guidelines. It should be noted, however, that in both these cases the number of samples on which we relied is relatively small (16 and 11 respectively). We should also add that one of the 90 percent credibility intervals for board leadership structure and financial performance (Table 2) has this character as well (large firms, 0.228). These intervals, as noted, do suggest the potential for further moderating influences on these relationships and some promise for future research.

The literature does provide some guidance suggesting that firm size, nature of performance indices, and operationalization of director proportion might be moderating influences on relationships between board composition and financial performance. While our analyses do provide some *statistical* confirmation of such moderation, there is no evidence of moderated relationships of substantive levels. The largest of the corrected '*r*'s for a moderated relationship that we found is 0.073 (see inside director proportion in Table 1), a level which would explain just over 0.005 of the variance in the board composition/performance relationship.

We might also consider the 95 percent confidence intervals to underscore the potential difficulty in establishing substantive evidence for further moderating influences. For the six moderating analyses (market vs. accounting performance indices and four operationalizations of board composition), the highest effect size at the

extreme of the 95 percent confidence interval was 0.11, just over 1 percent variance explained. The other extremes of the 95 percent confidence intervals for the remaining moderating analyses are well below this (mean variance explained, 0.003).

The search for further moderators of these relationships, then, would seem to have two objectives. First, evidence of other moderating variables would need to be documented. The meta-analyses on which we have reported, based on guidelines provided by Hunter and Schmidt (1990), Kowloosky and Sagie (1993), and (Whitener, 1990), do suggest some promise in that examination. Much more difficult, however, would be to establish that these additional moderating influences result in relationships of practical significance.

Nature of the samples

The character of the typical corporate governance study in strategic management provides the possibility of a very strong inferential logic with regard to the conclusions that can be drawn from a meta-analysis. The vast majority of firms relied on for the relevant studies included in the meta-analysis are drawn from samples of large corporations. More specifically, these are usually subsets of the *Fortune* 500. In the immediate case of this meta-analysis, nearly 80 percent (79.92%) of these sample firms are of this character. The balance are entrepreneurial/small companies. One of the subgroup moderation analyses was based on this distinction.

Essentially, then, what we have from a methodological perspective is a series of samples drawn from a discrete population, with replacement. Given the total sample of over 32,000 large firms for this meta-analysis, it is certain that many, more likely most, of these firms have been repeatedly used to test propositions about governance relationships. In this case, the relationships of interest were those for board composition and financial performance. It is true, of course, that not all of the studies repeatedly using these firms were identical in their designs or in the specific variables of interest. As we have noted, accounting performance indicators are sometimes used; other studies rely on market-based indicators. Also, there are at least four distinct operationalizations of board composition. Still, the inferential logic that can be brought to bear in an aggre-

gation of these studies will be robust. Generalizability may be suspect, but not the inferences attributed to the population of interest.

Consider a group of 500 first-year students at a given university. Suppose that over the course of a year many groups of researchers repeatedly use subsets of this group for research to determine the relationship of one variable to another; call these variables 'Y' and 'X'. Consider, further, that the various researchers use different operationalizations which they believe capture the essence of Y and X. Suppose, lastly, that there are 75 studies or so conducted over this period. The aggregation of these studies may have very little generalizability. Critics would aver that not all frosh classes are the same (e.g., demographic differences, entry requirements). But the aggregation of these studies would allow an extremely strong statement about the nature of the relationship of X to Y for this discrete group at this single university. What the described protocol amounts to is some 75 constructive replications.

Actually, this is the nature of the meta-analysis conducted on board composition and financial performance, i.e., essentially over 100 constructive replications drawn from a largely discrete population with replacement. The results garnered may not be properly generalizable outside the set of large corporations. That the *Fortune* 500, or any other representation of the largest U.S. corporations (e.g., S&P 500), is a critical population of interest for strategic inquiry would seem to be a reasonable statement. Given that, the inferential logic derivable from this meta-analysis is quite robust. It simply does not appear that there is any evidence of a substantive bivariate relationship between board composition and financial performance. Nor is there any evidence of moderating influences; these subgroup analyses, too, are largely a function of a series of constructive replications based on samples drawn, with replacement, from the set of the largest U.S. corporations.

To a lesser extent (as the sample sizes are smaller) the results of the board leadership structure/financial performance meta-analyses have the same character. These results, too, are driven by reliance on the large corporation and are largely constructive replications. Indeed, the constructive replication argument is even more compelling in this case as there is only a single operationalization of the board leadership con-

struct, unlike the case for the board composition variable for which there are at least four methods to capture board composition. For the board leadership structure variable, either the roles of the CEO and board chairperson are held simultaneously by the same person or they are held separately.

DIRECTIONS FOR FURTHER RESEARCH

As indicated in prior sections, we are not optimistic that further research in the general areas of board composition/financial performance and board leadership structure/financial performance would be fruitful. Also, the evidence would not seem to provide much confidence in further examinations of possible moderating influences on those relationships. We would not, however, suggest that boards of directors do not have an impact on firms' financial performance. A potentially promising avenue for future research may be the relatively coarse-grained nature of board composition itself. As noted by Daily (1994), accounting exclusively for the impact of the full board on firm outcomes may fail to appropriately capture the subtleties of these relationships. Lorsch and MacIver (1989: 59; see also, Bilimoria and Piderit, 1994; Daily, 1994, 1996; Kesner, 1988) explain that many of the critical processes and decisions of boards of directors do not derive from the board-at-large, but rather in subcommittees (e.g., audit, compensation, nominating, executive):

Clearly, committees enable directors to cope with two of the most important problems they face—the limited time they have available, and the complexity of the information with which they must deal.

The importance of board committees has not escaped the notice of the business community. The New York Stock Exchange, for example, requires listed firms to maintain an audit committee (Daily, 1996). Moreover, attention to committees is of international concern (e.g., Committee on the Financial Aspects of Corporate Governance, 1992). Better than two-thirds of firms in the United Kingdom maintain an audit committee, with audit committees being a legal requirement

for Canadian firms (Committee on the Financial Aspects of Corporate Governance, 1992).

Recent research has demonstrated the importance of board subcommittees. Bilimoria and Piderit (1994), for example, found that insider status was more valued than outsider status for service on the executive committee. Daily (1996) found that greater proportions of affiliated directors on the audit committee were positively associated with filing a prepackaged bankruptcy and negatively associated with the length of time spent in a bankruptcy reorganization.

Research conducted in the area of CEO compensation may provide an intriguing insight into some subtleties of board subcommittee and corporate outcome relationships. Singh and Harianto (1989), for example, reported that the number of inside members on the compensation subcommittee of the board of directors was related not to the dollar value of golden parachute programs, but to the number of officers who would receive compensation under such programs. It has also been reported that the amount of CEO compensation was related to the composition of the compensation subcommittee of the board (O'Reilly, Main, and Crystal, 1988; see also, Tosi and Gomez-Mejia, 1989). We are aware of no empirical research which addresses the relationship between subcommittee composition and firm financial performance. If important decisions are actually made at that level, this may be an important oversight.

Corporate governance research continues to be of interest to academic observers, the investment community, and the business press. Board composition and leadership structure are common targets of those in the institutional investment community who seek to reform corporate governance processes. At the heart of discussion and debate regarding suggested board composition configurations and board leadership structures is the view that one adopts regarding managerial motivations. That these results demonstrate little guidance for either the academic or practitioner communities regarding the superiority of various governance configurations—certainly with respect to firm performance—may support the view that this issue ‘merits critical scrutiny’ (Donaldson, 1995: 175).

Consideration of multiple theories in evaluating the performance advantages of suggested corporate governance reforms may lead to a more

complete understanding of the subtleties which characterize the relationships between board composition, board leadership structure and firm performance. We hope that the meta-analyses reported here provide a modest step in evaluating the efficacy of suggested reforms.

REFERENCES

- Abrahamson, E. and C. Park (1994). ‘Concealment of negative organizational outcomes: An agency theory perspective’, *Academy of Management Journal*, **37**, pp. 1302–1334.
- Alexander, J. A., M. L. Fennell and M. T. Halpern (1993). ‘Leadership instability in hospitals: The influence of board–CEO relations and organizational growth and decline’, *Administrative Science Quarterly*, **38**, pp. 74–99.
- Anderson, C. A. and R. N. Anthony (1986). *The New Corporate Directors*. Wiley, New York.
- Bainbridge, S. M. (1993). ‘Independent directors and the ALI corporate governance project’, *George Washington Law Review*, **61**, pp. 1034–1083.
- Baliga, B. R., N. C. Moyer and R. S. Rao (1996). ‘CEO duality and firm performance: What’s the fuss’, *Strategic Management Journal*, **17**(1), pp. 41–53.
- Barnard, J. W. (1991). ‘Institutional investors and the new corporate governance’, *North Carolina Law Review*, **69**, pp. 1135–1187.
- Barnhart, S. W., M. W. Marr and S. Rosenstein (1994). ‘Firm performance and board composition: Some new evidence’, *Managerial and Decision Economics*, **15**, pp. 329–340.
- Bathala, C. T. and R. P. Rao (1995). ‘The determinants of board composition: An agency theory perspective’, *Managerial and Decision Economics*, **16**, pp. 59–69.
- Baysinger, B. D. and H. H. Butler (1985). ‘Corporate governance and the board of directors: Performance effects of changes in board composition’, *Journal of Law, Economics, and Organization*, **1**, pp. 101–124.
- Baysinger, B. D. and R. E. Hoskisson (1990). ‘The composition of boards of directors and strategic control’, *Academy of Management Review*, **15**, pp. 72–87.
- Baysinger, B. D., R. D. Kosnik and T. A. Turk (1991). ‘Effects of board and ownership structure on corporate R&D strategy’, *Academy of Management Journal*, **34**, pp. 205–214.
- Bazerman, M. H. and F. D. Schoorman (1983). ‘A limited rationality model of interlocking directorates’, *Academy of Management Review*, **8**, pp. 206–217.
- Beatty, R. E. and E. J. Zajac (1994). ‘Managerial incentives, monitoring, and risk bearing: A study of executive compensation, ownership, and board structure in initial public offerings’, *Administrative Science Quarterly*, **39**, pp. 313–335.

- Berg, S. V. and S. K. Smith (1978). 'CEO and board chairman: A quantitative study of dual vs. unitary board leadership', *Directors and Boards*, **3**, pp. 34–39.
- Biggs, J. (November 1995). 'Why TIAA-CREF is active in corporate governance', *The Participant*, p. 2.
- Bilimoria, D. and S. K. Piderit (1994). 'Board committee membership: Effects of sex-based bias', *Academy of Management Journal*, **37**, pp. 1453–1477.
- Black, B. S. (1990). 'Shareholder passivity reexamined', *Michigan Law Review*, **89**, pp. 520–608.
- Black, B. S. (1992). 'Agents watching agents: The promise of institutional investor voice', *UCLA Law Review*, **39**, pp. 811–893.
- Boeker, W. (1992). 'Power and managerial dismissal: Scapegoating at the top', *Administrative Science Quarterly*, **37**, pp. 400–421.
- Boeker, W. and J. Goodstein (1993). 'Performance and successor choice: The moderating effects of governance and ownership', *Academy of Management Journal*, **36**, pp. 172–186.
- Bommer, W. H., J. L. Johnson, G. A. Rich, P. M. Podsakoff and S. B. MacKenzie (1995). 'On the interchangeability of objective and subjective measures of employee performance: A meta-analysis', *Personnel Psychology*, **48**, pp. 587–605.
- Borch, O. J. and M. Huse (1993). 'Informal strategic networks and the board of directors', *Entrepreneurship Theory and Practice*, **18**, pp. 23–36.
- Boyd, B. K. (1994). 'Board control and CEO compensation', *Strategic Management Journal*, **15**(5), pp. 335–344.
- Boyd, B. K. (1995). 'CEO duality and firm performance: A contingency model', *Strategic Management Journal*, **16**(4), pp. 301–312.
- Buchholtz, A. K. and B. A. Robbins (1994). 'Role of chief executive officers in takeover resistance: Effects of CEO incentives and individual characteristics', *Academy of Management Journal*, **37**, pp. 554–579.
- Burns, G. and R. A. Melcher (6 November 1995). 'A grain of activism at Archer Daniels Midland', *Business Week*, p. 44.
- Burt, R. S. (1983). *Corporate Profits and Cooptation*. Academic Press, New York.
- Cannella, A. A. and M. Lubatkin (1993). 'Succession as a sociopolitical process: Internal impediments to outsider selection', *Academy of Management Journal*, **36**, pp. 763–793.
- Chaganti, R. S., V. Mahajan and S. Sharma (1985). 'Corporate board size, composition and corporate failures in retailing industry', *Journal of Management Studies*, **22**, pp. 400–417.
- Chakravarthy, B. S. (1986). 'Measuring strategic performance', *Strategic Management Journal*, **7**(5), pp. 437–458.
- Cochran, R. L., R. A. Wood and T. B. Jones (1985). 'The composition of boards of directors and the incidence of golden parachutes', *Academy of Management Journal*, **28**, pp. 664–671.
- Committee on the Financial Aspects of Corporate Governance (aka *Cadbury Report*) (1992). Gee and Company, Ltd (A division of Professional Publishing, Ltd.), London.
- Cox, J. D. (1993). 'The ALI, institutionalization, and disclosure: The quest for the outside director's spine', *George Washington Law Review*, **61**, pp. 1233–1273.
- Daily, C. M. (1994). 'Bankruptcy in strategic studies: Past and promise', *Journal of Management*, **20**, pp. 263–295.
- Daily, C. M. (1995). 'The relationship between board composition and leadership structure and bankruptcy reorganization outcomes', *Journal of Management*, **21**, pp. 1041–1056.
- Daily, C. M. (1996). 'Governance patterns in bankruptcy reorganizations', *Strategic Management Journal*, **17**(5), pp. 355–375.
- Daily, C. M. and D. R. Dalton (1992). 'The relationship between governance structure and corporate performance in entrepreneurial firms', *Journal of Business Venturing*, **7**, pp. 375–386.
- Daily, C. M. and D. R. Dalton (1993). 'Board of directors leadership and structure: Control and performance implications', *Entrepreneurship Theory and Practice*, **17**, pp. 65–81.
- Daily, C. M. and D. R. Dalton (1994a). 'Bankruptcy and corporate governance: The impact of board composition and structure', *Academy of Management Journal*, **37**, pp. 1603–1617.
- Daily, C. M. and D. R. Dalton (1994b). 'Outside directors revisited: Prescriptions for CEOs and directors', *Journal of Small Business Strategy*, **5**, pp. 57–68.
- Daily, C. M. and D. R. Dalton (1994c). 'Corporate governance and the bankrupt firm: An empirical assessment', *Strategic Management Journal*, **15**(8), pp. 643–654.
- Daily, C. M. and D. R. Dalton (1995). 'CEO and director turnover in failing firms: The illusion of change', *Strategic Management Journal*, **16**(5), pp. 393–401.
- Daily, C. M., J. L. Johnson and D. R. Dalton (1997). 'The many ways to board composition: If you have seen one, you certainly have not seen them all', working paper, Purdue University.
- Dalton, D. R. and I. F. Kesner (1983). 'Inside/outside succession and organizational size: The pragmatics of executive replacement', *Academy of Management Journal*, **26**, pp. 736–742.
- Dalton, D. R. and I. F. Kesner (1985). 'The effect of board composition on CEO succession and organizational performance', *Quarterly Journal of Business and Economics*, **42**, pp. 3–20.
- Dalton, D. R. and I. F. Kesner (1987). 'Composition and CEO duality in boards of directors: An international perspective', *Journal of International Business Studies*, Fall, pp. 33–42.
- Davis, G. F. (1991). 'Agents without principles? The spread of the poison pill through the intercorporate network', *Administrative Science Quarterly*, **36**, pp. 583–613.
- Davis, G. F. and T. A. Thompson (1994). 'A social movement perspective on corporate control', *Administrative Science Quarterly*, **39**, pp. 141–173.

- Davis, J. H., F. D. Schoorman and L. Donaldson (1997). 'Toward a stewardship theory of management', *Academy of Management Review*, **22**, pp. 20–47.
- Deckop, J. (1987). 'Top executive compensation and the pay-for-performance issue'. In D. B. Balkin and L. R. Gomez-Mejia (eds.), *New Perspectives in Compensation*. Prentice Hall, Englewood Cliffs, NJ, pp. 285–293.
- Dobrzynski, J. (18 November 1991). 'Chairman and CEO: One hat too many', *Business Week*, p. 124.
- Dobrzynski, J. (9 July 1995). 'Jack and John: 2 for the road at GM', *New York Times*, Section 3, p. 1.
- Donaldson, L. (1990). 'The ethereal hand: Organizational economics and management theory', *Academy of Management Review*, **15**, pp. 369–381.
- Donaldson, L. (1995). *Anti-management Theories of Organization: A Critique of Paradigm Proliferation*. Cambridge University Press, Cambridge, U.K.
- Donaldson, L. and J. H. Davis (1991). 'Stewardship theory or agency theory: CEO governance and shareholder returns', *Australian Journal of Management*, **16**, pp. 49–64.
- Donaldson, L. and J. H. Davis (1994). 'Boards and company performance: Research challenges the conventional wisdom', *Corporate Governance: An International Review*, **2**(3), pp. 151–160.
- Eisenhardt, K. M. (1989). 'Agency theory: An assessment and review', *Academy of Management Review*, **14**, pp. 57–74.
- Eisenhardt, K. M. and C. B. Schoonhoven (1990). 'Organizational growth: Linking founding team, strategy, environment, and growth among U.S. semiconductor ventures, 1978–1988', *Administrative Science Quarterly*, **35**, pp. 504–529.
- Ezzamel, M. A. and R. Watson (1993). 'Organizational form, ownership structure, and corporate performance: A contextual empirical analysis of UK companies', *British Journal of Management*, **4**(3), pp. 161–176.
- Fama, E. F. and M. C. Jensen (1983). 'Separation of ownership and control', *Journal of Law and Economics*, **26**, pp. 301–325.
- Finkelstein, L. M., M. J. Burke and N. Raju (1995). 'Age discrimination in simulated employment contexts: An integrative analysis', *Journal of Applied Psychology*, **80**, pp. 652–663.
- Finkelstein, S. and R. A. D'Aveni (1994). 'CEO duality as a double-edged sword: How boards of directors balance entrenchment avoidance and unity of command', *Academy of Management Journal*, **37**, pp. 1079–1108.
- Finkelstein, S. and D. C. Hambrick (1990). 'Top-management-team tenure and organizational outcomes: The moderating role of managerial discretion', *Administrative Science Quarterly*, **35**, pp. 484–503.
- Finkelstein, S. and D. C. Hambrick (1995). *Strategic Leadership: Top Executives and Their Effects on Organizations*. West, Minneapolis/St. Paul, MN.
- Fizel, J. L. and K. K. T. Louie (1990). 'CEO retention, firm performance, and corporate governance', *Managerial and Decision Economics*, **11**, pp. 167–176.
- Fleischer, A., G. C. Hazard and M. Z. Klipper (1988). *Board Games: The Changing Shape of Corporate Power*. Little, Brown, Boston, MA.
- Fligstein, N. (1990). *The Transformation of Corporate Control*. Harvard University Press, Cambridge, MA.
- Fosberg, R. H. (1989). 'Outside directors and managerial monitoring', *Akron Business and Economic Review*, **20**, pp. 24–32.
- Gomez-Mejia, L. R., H. Tosi and T. Hinkin (1987). 'Managerial control, performance, and executive compensation', *Academy of Management Journal*, **30**, pp. 51–70.
- Goodstein, J., K. Gautam and W. Boeker (1994). 'The effects of board size and diversity on strategic change', *Strategic Management Journal*, **15**(3), pp. 241–250.
- Gordon, J. N. (1994). 'Institutions as relational investors: A new look at cumulative voting', *Columbia Law Review*, **94**, pp. 124–192.
- Hambrick, D. C. and S. Finkelstein (1995). 'The effects of ownership structure on conditions at the top: The case of CEO pay raises', *Strategic Management Journal*, **16**(3), pp. 175–193.
- Harrison, J. R., D. L. Torres and S. Kukalis (1988). 'The changing of the guard: Turnover and structural change in the top-management positions', *Administrative Science Quarterly*, **33**, pp. 211–232.
- Hempel, P. and C. Fay (1994). 'Outside director compensation and firm performance', *Human Resource Management*, **33**, pp. 111–133.
- Hermalin, B. E. and M. S. Weisbach (1991). 'The effects of board composition and direct incentives on firm performance', *Financial Management*, **20**, pp. 101–112.
- Hill, C. W. L. and S. A. Snell (1988). 'External control, corporate strategy, and firm performance in research intensive industries', *Strategic Management Journal*, **9**(6), pp. 577–590.
- Hoskisson, R. E., R. A. Johnson and D. D. Moesel (1994). 'Corporate divestiture intensity in restructuring firms: Effects of governance, strategy, and performance', *Academy of Management Journal*, **37**, pp. 1207–1251.
- Hunter, J. E. and F. L. Schmidt (1990). *Methods of Meta-analysis: Correcting Error and Bias in Research Findings*. Sage, Newbury Park, CA.
- Jacobs, S. L. (21 January 1985). 'A well-chosen outside board gives owners peace of mind', *Wall Street Journal*, p. 23.
- Jensen, M. C. and W. H. Meckling (1976). 'Theory of the firm: Managerial behavior, agency costs, and ownership structure', *Journal of Financial Economics*, **3**, pp. 305–350.
- Jensen, M. C. and K. J. Murphy (1990a). 'Performance pay and top management incentives', *Journal of Political Economy*, **98**, pp. 225–264.
- Jensen, M. C. and K. J. Murphy (1990b). 'CEO incentives—it's not how much you pay, but how', *Harvard Business Review*, **68**(3), pp. 138–149.
- Johnson, R. A., R. E. Hoskisson and M. A. Hitt (1993). 'Board of director involvement in restructuring: The effects of board versus managerial controls and characteristics', *Strategic Management Journal*, Summer Special Issue, **14**, pp. 33–50.

- Joskow, P., N. Rose and A. Shepard (1993). 'Regulatory constraints on CEO compensation', *Brookings Papers on Economic Activity—Microeconomics*, **1**, 58, pp. 70–72.
- Judge, W. Q. and G. H. Dobbins (1995). 'Antecedents and effects of outside directors' awareness of board involvement in the strategic decision process', *Journal of Management*, **21**, pp. 43–64.
- Judge, W. Q. and C. P. Zeithaml (1992). 'Institutional and strategic choice perspectives on board involvement in the strategic decision process', *Academy of Management Journal*, **35**, pp. 766–794.
- Kerr, J. L. and R. A. Bettis (1987). 'Boards of directors, top management compensation, and shareholder returns', *Academy of Management Journal*, **30**, pp. 645–664.
- Kesner, I. F. (1987). 'Directors' stock ownership and organizational performance: An investigation of Fortune 500 companies', *Journal of Management*, **13**, pp. 499–508.
- Kesner, I. F. (1988). 'Directors' characteristics and committee membership: An investigation of type, occupation, tenure, and gender', *Academy of Management Journal*, **31**, pp. 66–84.
- Kesner, I. F. and R. B. Johnson (1990). 'An investigation of the relationship between board composition and stockholder suits', *Strategic Management Journal*, **11**(4), pp. 327–336.
- Kesner, I. F., B. Victor and B. Lamont (1986). 'Board composition and the commission of illegal acts: An investigation of Fortune 500 companies', *Academy of Management Journal*, **29**, pp. 789–799.
- Kowlowsky, M. and A. Sagie (1993). 'On the efficacy of credibility intervals as indicators of moderator effects in meta-analytic research', *Journal of Organizational Behavior*, **14**, pp. 695–699.
- Lambert, R. A. and D. F. Larcker (1987). 'An analysis of the use of accounting and market measures of performance in executive compensation contracts', *Journal of Accounting Research*, **25** (Suppl.), pp. 85–129.
- Lang, L. H. and R. M. Stulz (1992). 'Contagion and competitive intra-industry effects of bankruptcy announcements', *Journal of Financial Economics*, **32**, pp. 45–60.
- Lesly, E. (13 November 1995). 'Are these 10 stretched too thin?', *Business Week*, pp. 78–80.
- Levy, L. (1993a). 'Separate chairmen: Their roles and compensation', *The Corporate Board*, **14**(79), pp. 10–15.
- Levy, L. (1993b). *Separate Chairmen of the Board: Their Roles, Legal Liabilities, and Compensation*. A special report of *The Corporate Board*, Vanguard, Lansing, MI.
- Li, J. (1994). 'Ownership structure and board composition: A multi-country test of agency theory predictions', *Managerial and Decision Economics*, **15**, pp. 359–368.
- Lipton, M. and J. W. Lorsch (1993). 'The lead director', *Directors and Boards*, Spring, pp. 28–31.
- Lorsch, J. W. and E. MacIver (1989). *Pawns and Potentates: The Reality of America's Corporate Boards*. Harvard University Press, Boston, MA.
- Lublin, J. S. (17 October 1995a). 'Is ADM's board too big, cozy and well paid?', *Wall Street Journal*, pp. B1, c3; B11, c1.
- Lublin, J. S. (24 November 1995b). 'Ousted CEOs less welcome on some boards', *Wall Street Journal*, pp. B1, c6; B2, c6.
- Main, B. G. M., C. A. O'Reilly and J. Wade (1995). 'The CEO, the board of directors, and executive compensation: Economic and psychological perspectives', *Industrial and Corporate Change*, **4**, pp. 293–332.
- Mallette, P. and K. L. Fowler (1992). 'Effects of board composition and stock ownership on the adoption of poison pills', *Academy of Management Journal*, **35**, pp. 1010–1035.
- Mallette, P. and R. L. Hogler (1995). 'Board composition, stock ownership, and the exemption of directors from liability', *Journal of Management*, **21**, pp. 861–878.
- Maremont, M. (6 November 1995). 'Bausch & Lomb's board puts on its glasses', *Business Week*, p. 41.
- Meindl, J. R., S. B. Ehrlich and J. M. Dukerich (1985). 'The romance of leadership', *Administrative Science Quarterly*, **30**, pp. 78–102.
- Melcher, R. (2 October 1995). 'ADM's big investors grow restless', *Business Week*, p. 6.
- Mizruchi, M. S. (1983). 'Who controls whom? An examination of the relation between management and board of directors in large American corporations', *Academy of Management Review*, **8**, pp. 426–435.
- Mizruchi, M. S. (1988). 'Managerialism: Another reassessment'. In M. Schwartz (ed.), *The Structure of Power in America: The Corporate Elite as a Ruling Class*. Holmes & Meier, New York, pp. 7–15.
- Mizruchi, M. S. and L. B. Stearns (1994). 'A longitudinal study of borrowing by large American corporations', *Administrative Science Quarterly*, **39**, pp. 118–140.
- Molz, R. (1988). 'Managerial domination of boards of directors and financial performance', *Journal of Business Research*, **16**, pp. 235–249.
- Morck, R., A. Shleifer and R. W. Vishny (1989). 'Alternative mechanisms for corporate control', *American Economic Review*, **79**, pp. 842–852.
- Nayyar, P. R. (1992). 'Performance effects of three foci in service firms', *Academy of Management Journal*, **35**, pp. 985–1009.
- Norburn, D. and S. Birley (1988). 'The top management team and corporate performance', *Strategic Management Journal*, **9**(3), pp. 225–237.
- O'Barr, W. M. and J. M. Conley (1992). *Fortune and Folly: The Wealth and Power of Institutional Investors*. Irwin, Homewood, IL.
- Ocasio, W. (1994). 'Political dynamics and the circulation of power: CEO succession in U.S. industrial corporations, 1960–1990', *Administrative Science Quarterly*, **39**, pp. 285–312.
- O'Reilly, C. A., B. G. Main and G. S. Crystal (1988). 'CEO compensation as tournament and social comparison: A tale of two theories', *Administrative Science Quarterly*, **33**, pp. 257–274.
- Pavlik, E. L., T. W. Scott and P. Tiessen (1993).

- 'Executive compensation: Issues and research', *Journal of Accounting Literature*, **12**, pp. 131–189.
- Pearce, J. A. (1983). 'The relationship of internal vs external orientations to financial measures of strategic performance', *Strategic Management Journal*, **4**(4), pp. 297–306.
- Pearce, J. A. and S. A. Zahra (1992). 'Board compensation from a strategic contingency perspective', *Journal of Management Studies*, **29**, pp. 411–438.
- Pfeffer, J. (1972). 'Size and composition of corporate boards of directors: The organization and its environment', *Administrative Science Quarterly*, **17**, pp. 218–229.
- Pfeffer, J. and G. R. Salancik (1978). *The External Control of Organizations: A Resource Dependence Perspective*. Harper & Row, New York.
- Pi, L. and S. G. Timme (1993). 'Corporate control and bank efficiency', *Journal of Banking and Finance*, **17**, pp. 515–530.
- Provan, K. G. (1980). 'Board power and organizational effectiveness among human service agencies', *Academy of Management Journal*, **23**, pp. 221–236.
- Quinones, M. A., J. K. Ford and M. S. Teachout (1995). 'The relationship between work experience and job performance: A conceptual and meta-analytic review', *Personnel Psychology*, **48**, pp. 887–910.
- Rechner, P. L. and D. R. Dalton (1986). 'Board composition and shareholder wealth: An empirical assessment', *International Journal of Management*, **3**, pp. 86–92.
- Rechner, P. L. and D. R. Dalton (1989). 'The impact of CEO as board chairperson on corporate performance: Evidence vs. rhetoric', *Academy of Management Executive*, **3**, pp. 141–143.
- Rechner, P. L. and D. R. Dalton (1991). 'CEO duality and organizational performance: A longitudinal analysis', *Strategic Management Journal*, **12**(2), pp. 155–160.
- Reinganum, M. C. (1985). 'The effect of executive succession on stockholder wealth', *Administrative Science Quarterly*, **30**, pp. 46–60.
- Rock, E. B. (1991). 'The logic and (uncertain) significance of institutional shareholder activism', *Georgetown Law Journal*, **79**(3), pp. 445–506.
- Rosenstein, S. and J. G. Wyatt (1990). 'Outside directors, board independence, and shareholder wealth', *Journal of Financial Economics*, **26**, pp. 175–191.
- Schellenger, M. H., D. Wood and A. Tashakori (1989). 'Board of directors composition, shareholder wealth, and dividend policy', *Journal of Management*, **15**, pp. 457–467.
- Schmidt, R. (1975). 'Does board composition really make a difference?', *Conference Board Record*, **12**, pp. 38–41.
- Selznick, P. (1949). *TVA and the Grass Roots: A Study in the Sociology of Formal Organization*. Harper & Row, New York.
- Seward, J. K. and J. P. Walsh (1996). 'The governance and control of voluntary corporate spin-offs', *Strategic Management Journal*, **17**(1), pp. 25–39.
- Sheppard, J. B. (1994). 'Strategy and bankruptcy: An exploration of organizational death', *Journal of Management*, **20**, pp. 795–833.
- Simison, R. L. and R. Blumenstein (5 December 1995). 'GM decides one head is better than two', *Wall Street Journal*, pp. B1, c3.
- Singh, H. and F. Harianto (1989). 'Top management tenure, corporate ownership structure and the magnitude of golden parachutes', *Strategic Management Journal*, Summer Special Issue, **10**, pp. 143–156.
- Stauffer, J. M. (1994). *MetaDos: Psychometric Meta-analysis Program*. Indiana State University, Terre Haute, IN.
- Stearns, L. B. and M. S. Mizruchi (1993). 'Board composition and corporate financing: The impact of financial institution representation of borrowing', *Academy of Management Journal*, **36**, pp. 603–618.
- Sundaramurthy, C. (1996). 'Corporate governance within the context of anti-takeover provisions', *Strategic Management Journal*, **17**(5), pp. 377–394.
- Sutton, R. I. and A. L. Callahan (1987). 'The stigma of bankruptcy: Spoiled organizational image and its management', *Academy of Management Journal*, **30**, pp. 405–436.
- Tosi, H. L. and L. R. Gomez-Mejia (1989). 'The decoupling of CEO pay and performance: An agency theory perspective', *Administrative Science Quarterly*, **34**, pp. 169–189.
- Vance, S. C. (1964). *Boards of Directors: Structures and Performance*. University of Oregon Press, Eugene, OR.
- Vance, S. C. (1978). 'Corporate governance: Assessing corporate performance by boardroom attributes', *Journal of Business Research*, **6**, pp. 203–220.
- Wade, J., C. A. O'Reilly and I. Chandratat (1990). 'Golden parachutes: CEOs and the exercise of social influence', *Administrative Science Quarterly*, **35**, pp. 587–603.
- Waldo, C. N. (1985). *Boards of Directors: Their Changing Roles, Structure, and Information Needs*. Quorum Books, Westport, CT.
- Westphal, J. D. and E. J. Zajac (1995). 'Who shall govern? CEO/board power, demographic similarity, and new director selection', *Administrative Science Quarterly*, **40**, pp. 60–83.
- Whitener, E. M. (1990). 'Confusion of confidence intervals and credibility intervals in meta-analysis', *Journal of Applied Psychology*, **75**, pp. 315–321.
- Williamson, O. E. (1985). *The Economic Institutions of Capitalism: Firms, Markets, Relationship Contracting*. Free Press, New York.
- Yermack, D. (1986). 'Higher market valuation with a small board of directors', *Journal of Financial Economics*, **40**, pp. 185–211.
- Zahra, S. A. and J. A. Pearce (1989). 'Boards of directors and corporate financial performance: A review and integrative model', *Journal of Management*, **15**, pp. 291–334.
- Zahra, S. A. and W. W. Stanton (1988). 'The implications of board of directors composition for corporate strategy and performance', *International Journal of Management*, **5**, pp. 229–236.
- Zajac, E. J. and J. D. Westphal (1995). 'Accounting for the explanations of CEO compensation: Substance and symbolism', *Administrative Science Quarterly*, **40**, pp. 283–308.
- Zajac, E. J. and J. D. Westphal (1996). 'Who shall

succeed? How CEO/board preferences and power affect the choice of new CEOs', *Academy of Management Journal*, **39**, pp. 64–90.

APPENDIX 1: Studies Relied on for Board Composition Meta-Analysis

Abrahamson and Park (1994)
 Alexander, Fennell, and Halpern (1993)
 Barnhart, Marr, and Rosenstein (1994)
 Bathala and Rao (1995)
 Baysinger and Butler (1985)
 Baysinger, Kosnik, and Turk (1991)
 Beatty and Zajac (1994)
 Boeker (1992)
 Boeker and Goodstein (1993)
 Borch and Huse (1993)
 Buchholtz and Ribbins (1994)
 Cochran, Wood, and Jones (1985)
 Daily (1995)
 Daily and Dalton (1992)
 Daily and Dalton (1993)
 Daily and Dalton (1994a)
 Daily and Dalton (1994b)
 Dalton and Kesner (1985)
 Davis (1991)
 Finkelstein and D'Aveni (1994)
 Fizel and Louie (1990)
 Fosberg (1989)
 Goodstein, Gautam, and Boeker (1994)
 Hempel and Fay (1994)
 Hermalin and Weisbach (1991)
 Hill and Snell (1988)
 Hoskisson, Johnson, and Moesel (1994)
 Johnson, Hoskisson, and Hitt (1993)
 Judge and Dobbins (1995)
 Judge and Zeithaml (1992)
 Kesner (1987)
 Li (1994)
 Main, O'Reilly, and Wade (1995)
 Mallette and Fowler (1992)
 Mallette and Hogler (1995)
 Mizruchi and Stearns (1994)
 Molz (1988)
 Ocasio (1994)
 Pearce (1983)
 Pearce and Zahra (1992)

Pfeffer (1972)
 Rechner and Dalton (1986)
 Schellenger, Wood, and Tashakori (1989)
 Seward and Walsh (1996)
 Sheppard (1994)
 Sundaramurthy (1996)
 Wade, O'Reilly, and Chandratat (1990)
 Westphal and Zajac (1995)
 Yermack (1996)
 Zahra and Stanton (1988)
 Zajac and Westphal (1996)

APPENDIX 2: Studies Relied on for Board Leadership Structure Meta-Analysis

Baliga, Moyer, and Rao (1996)
 Beatty and Zajac (1994)
 Berg and Smith (1978)
 Boyd (1994)
 Boyd (1995)
 Cannella and Lubatkin (1993)
 Chaganti, Mahajan, and Sharma (1985)
 Daily (1995)
 Daily and Dalton (1992)
 Daily and Dalton (1993)
 Daily and Dalton (1994a)
 Daily and Dalton (1994b)
 Daily and Dalton (1994c)
 Daily and Dalton (1995)
 Donaldson and Davis (1991)
 Finkelstein and D'Aveni (1994)
 Fizel and Louie (1990)
 Harrison, Torres, and Kukalis (1988)
 Main, O'Reilly, and Wade (1995)
 Mallette and Fowler (1992)
 Mallette and Hogler (1995)
 Molz (1988)
 Ocasio (1994)
 Pi and Timme (1993)
 Rechner and Dalton (1989)
 Rechner and Dalton (1991)
 Sundaramurthy (1996)
 Westphal and Zajac (1995)
 Zajac and Westphal (1995)
 Zajac and Westphal (1996)