Corporate Board Gender Diversity and Stock Performance:

The Competence Gap or Institutional Investor Bias?

Frank Dobbin

Jiwook Jung

Harvard University Department of Sociology

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Women have been gaining ground on corporate boards. They held 14.8% of Fortune 500 seats in 2007.[1] Yet the effect of women on corporate performance is a matter of some debate. Studies using data at one or two points in time find that gender diversity on boards is associated with higher stock values and greater profitability.[2] However, studies using panel data over a number of years, which explore the effects of adding women to boards, generally show no effects,[3] or negative effects.[4] This suggests that the association between board diversity and performance identified in cross-sectional studies is spurious; a consequence perhaps of the fact that successful firms appoint women to their boards.[5]

Scholars have assumed that if board diversity affects corporate performance, it is through its influence on group processes in the boardroom. Thus they draw on theories from social

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[1] CATALYST, The Bottom Line: Corporate Performance and Women's Representation on Boards 1 (Catalyst. 2007).

[2] J ERHARDT, et al., *Board of Director Diversity and Firm Financial Performance*, 102 11 Corporate Governance: An International Perspective, (2003); DAVID CARTER, et al., The Diversity of Corporate Board Committees and Firm Financial Performance (2007); CATALYST. 1

[3] KATHLEEN A. FARRELL & PHILIP L. HERSCH, *Additions to Corporate Boards: The Effect of Gender*, Journal of Corporate Finance 11, (2005); SHAKER A. ZAHRA & WILBUR W. STANTON, *The Implications of Board of Directors' Composition for Corporate Strategy and Performance*, International Journal of Management, (1988); CASPAR ROSE, *Does Female board Representation Influence Firm Performance? The Danish Evidence*, 15 Corporate Governance: An International Perspective, (2007).

[4] NINA SMITH, et al., *Do Women in Top Management Affect Firm Performance? A Panel Study of 2500 Danish Firms*, 55 International Journal of Productivity and Performance Management, (2006); RENEE B. ADAMS & DANIEL FERREIRA, *Women in the Boardroom and Their Impact on Governance and Performance*, 94 Journal of Financial Economics, (2009).

[5] FARRELL & HERSCH.

psychology about groups.[6] On the positive side, gender and racial diversity may operate as occupational diversity does in small groups, enabling groups to come to better decisions and to come to them more quickly.[7] On the negative side, gender and racial diversity have been found to increase conflict in small groups, and this may inhibit their decision-making capacity.[8]

We suggest another mechanism linking board diversity to firm performance. For certain performance outcomes, notably stock price, what goes on in board meetings may be of less importance than what goes on in the equities market. Boards themselves are attuned to their effects on stock price and in the appointment of CEOs they think long and hard about the signals they want to send to markets.[9] If stock markets react to the appointment of new CEOs, we argue, they may react to the appointment of board members.

Our research represents a significant departure, then, from previous studies of board diversity, profitability, and stock performance. We explore how the institutional investor community influences board diversity and stock price. First, we posit that boards are attentive to the demands of institutional investors for greater board diversity. Second, we posit that, paradoxically, investor decision making is influenced by gender bias, and that the typical investor will reduce holdings in firms that appoint female directors. Third, we posit that

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[6] ERHARDT, et al; FARRELL & HERSCH.

[7] SCOTT E. PAGE, The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies (Princeton University Press. 2007); KAREN JEHN & KATERINA BEZRUKOVA, *A field study of group diversity, group context, and performance*, 25 Journal of Organizational Behavior, (2004).

[8] SUSAN E. JACKSON, et al., *Recent Research on Team and Organizational Diversity: SWOT Analysis and Implications*, 29 Journal of Management, (2003).

[9] RAKESH KHURANA, Searching for a Corporate Savior: The Irrational Quest for Charismatic CEOs (Princeton University Press. 2002).

accountability apprehension will mediate this process, such that visible blockholding institutional fund managers and public pension fund managers (who as a group pressed for board diversity) will be less likely to act on gender bias.

We examine whether board appointments are influenced by institutional investors and whether appointments in turn influence investors. We model these processes by observing year to year changes in board diversity, on the one hand, and in corporate performance and institutional investor holdings, on the other, building on the rigorous longitudinal studies that explore whether changes in board diversity lead to changes in performance. We use panel data on more than 400 large U.S. firms for the period 1997-2006. To test the hypothesis that institutional investor behavior has promoted board diversity we examine the effects of shareholder proposals for board diversity spearheaded by institutional investors.[10] To test the hypothesis that board diversity activates gender bias on the part of institutional investors, we look at the effects of diversity on stock price and on institutional investor holdings. (We rule out the possibility that female directors influence investor holdings by altering board performance and profitability, showing that board diversity has no effect on profits.) Finally, to test the hypothesis that accountability apprehension mediates the effect of gender bias on investor behavior, we examine whether blockholding institutional investors and public pension funds, are less likely to reduce their holdings in firms that appoint female directors. Both kinds of investors

[10] THE UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP) AND THE UNITED KINGDOM SOCIAL INVESTMENT FORUM (UKSIF), Resopnsible Investment in Focus: How Leading Public Pension Funds are Meeting the Challenge (2007); WILLARD T. CARLETON, et al., *The Influence of Institutions on Corporate Governance through Private Negotiations: Evidence from TIAA-CREF*, 53 Journal of Finance, (1998).

are susceptible to public accountability; blockholders because of the magnitude of their positions in firms, and public pension funds because they were vocal proponents of board diversity.[11]

THEORIES OF GROUP COMPOSITION AND EFFICACY

Research in psychology suggests that educational diversity in problem-solving groups improves performance.[12] Put a bunch of MBAs in a room and you'll arrive at inferior solutions, and arrive at them more slowly, than if you mix the MBAs with attorneys, accountants, and engineers. Will these findings about the effects of educational diversity extend to demographic diversity? This is the great promise of workplace diversity; an African-American woman and a Latino man on your team will improve its performance.[13] Studies of board diversity build on these insights, positive or negative, and thus take the effects of board diversity on corporate performance to result from changes in board efficacy.

Theories Suggesting Advantages of Group Diversity

Research on the diversity of perspectives in decision-making teams suggests that teams with functional (occupational) diversity solve problems faster, and more effectively, than teams of like-minded people.[14] Demographic diversity may have similar effects by bringing different

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[11] CARLETON, et al.

[12] FRANCES J. MILLIKEN & LUIS L. MARTINS, *Searching for Common Threads: Understanding the Multiple Effects of Diversity in Organizational Groups*, 21 The Academy of Management Review, (1996).

[13] LAUREN B. EDELMAN, et al., *Diversity Rhetoric and the Managerialization of the Law*, 106 American Journal of Sociology, 1589 (2001); ERIN KELLY & FRANK DOBBIN, *How Affirmative Action Became Diversity Management: Employer Response to Anti-discrimination Law, 1961-1996*, *in* Color Lines: Affirmative Action, Immigration and Civil Rights Options for America 94, (John Skrentney ed., 2001).

[14] S. BARSADE, et al., *To your heart's content: A model of affective diversity in top management teams*, 45 Administrative Science Quarterly, (2000); JEHN & BEZRUKOVA; PAGE; P. PITCHER & A.D. SMITH, *Top Management Team Heterogeneity: Personality, Power, and Proxies*, 12 Organization Science (2000).

perspectives to the table.[15] Studies indicate that demographic diversity can increase network connections, resources, creativity, and innovation.[16] Workplace researchers have attempted to explain everything from group conflict to decision-making to sales figures with demographic diversity.[17] In most laboratory and field studies, however, the effects of conflict and poor communication appear to dominate.[18] One exception is found in a panel study of the effects of corporate workforce diversity showing that in research-intensive Fortune 1500 companies, adding women to the top management team increased stock price (Tobin's q) in the period 1992-2006.[19] Gender diversity may have positive effects due not to diversity of perspectives, but to gendered relational skills, and this may be the case in particular for research intensive firms.[20] Adams and Ferreira[21] find evidence for a kindred argument about corporate board diversity, namely that women pay greater attention to monitoring firms; women board members have better attendance records; their presence improves the attendance of men; and women are more involved in monitoring committees.

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[15] DONALD C. HAMBRICK, et al., *The Influence of Top Management Team Heterogeneity on Firms' Competitive Moves*, 41 Administrative Science Quarterly, (1996).**need Hambrick 2007 cite

[16] for a review see NANCY DiTOMASO, et al., *Workforce Diversity and Inequality: Power, Status, and Numbers*, 33 Annual Review of Sociology, (2007).

[17] for reviews see JACKSON, et al; KATHERINE Y. WILLIAMS & CHARLES A. O'REILLY, *Demography and Diversity in Organizations*, *in* Research in Organizational Behavior, (Barry M. Staw & L. L. Cummings eds., 1998).

[18] see KAREN A. JEHN & ELIZABETH A. MANNIX, *The Dynamic Nature of Conflict: A Longitudinal Study of Intragroup Conflict and Group Performance*, 44 Academy of Management Journal, (2001).

[19] CHRISTIAN DEZSO & DAVID GADDIS ROSS, 'Girl Power': Female Participation in Top Management and Firm Performance (University of Maryland, RH Smith School of Business 2008).

[20] Id. at 1.

[21] ADAMS & FERREIRA.

Theories Suggesting Disadvantages of Group Diversity

Social identity theory,[22] similarity-attraction theory,[23] and social categorization theory[24] suggest that people are drawn to similar others. Mixed gender and racial groups may divide, and diversity may elicit group conflict that interferes with efficacy. Diversity in race, ethnicity, and, to a lesser extent, sex raises group conflict and lowers communication and performance.[25] Studies show mixed effects of gender diversity on problem solving efficacy.[26] Race and ethnic diversity more consistently exacerbate group conflict, reduce communication, and interfere with cooperation.[27]

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[22] BLAKE E. ASHFORTH & FRED MAEL, *Social Identity Theory and the Organization*, 14 Academy of Management Review, (1989); JAN E. STETS & PETER J. BURKE, *Identity Theory and Social Identity Theory*, 63 Social Psychology Quarterly, (2000).

[23] ELIZABETH MANNIX & MARGARET A. NEALE, *What Differences Make a Difference? The Promise and Reality of Diverse Teams in Organizations*, 6 Psychological Science in the Public Interest, (2005).

[24] H. TAJFEL & J.C. TURNER, *The Social Identity Theory of Intergroup Behavior*, *in* Psychology of Intergroup Relations, (S. Worschel & W.G. Austin eds., 1986).

[25] JENNIFER A. CHATMAN & F.J. FLYNN, *The Influce of Demographic Heterogeneity on the Emergence and Consequences of Cooperative Norms in Work Teams*, 44 Academy of Management Journal, (2001); E. ELRON, *Top Management Teams within Muntinational Corporations: Effects of Cultural Heterogeneity*, 8 Leadership Quarterly, (1997); BARSADE, et al.

[26] S.E. JACKSON & A. JOSHI, *Diversity in Social Context: A Multi-Attribute, Multi-Level Analysis of Team Diversity and Performance in a Sales Organization*, 25 Journal of Organizational Behavior, (2004); JEHN & BEZRUKOVA, *A field study of group diversity, group context, and performance*; O.C. RICHARD, *Racial Diversity, Business Strategy, and Firm Performance: A Resource-Based View*, 43 Academy of Management Journal, (2000).

[27] JACKSON & JOSHI, *Diversity in Social Context: A Multi-Attribute, Multi-Level Analysis of Team Diversity and Performance in a Sales Organization*; JACKSON, et al., *Recent Research on Team and Organizational Diversity: SWOT Analysis and Implications*; J. LEONARD, et al., *Do Birds of a Feather Shop Together? The Effects on*

Compositional theories of tokenism and stereotype threat suggest that when members of minority groups rise in an occupation they face expectations that make it difficult to perform to their potential.[28] Kanter argues that when a group has only token representation, members face pressures that may adversely affect their performance.[29] Stereotype threat research suggests that when the status of a minority group is primed, members may underperform because they feel they are being judged as group members rather than as individuals.[30] Majority group members may stigmatize them and underestimate their contributions.[31]

The psychological research thus suggests that we may see either positive or negative effects of board diversity on corporate performance. Boards with women may solve problems more effectively because they hold a wider range of perspectives,[32] but diversity may as well thwart problem-solving by raising conflict.[33] If diversity is affecting corporate performance by

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Performance of Employees' Similarity With One Another and With Customers, 25 Journal of Organizational Behavior, (2004); LISA HOPE PELLED, *Demographic Diversity, Conflict, and Work Group Outcomes: An Intervening Process Theory*, 7 Organization Science, (1996); WILLIAMS & O'REILLY, *in*.

[28] BARBARA F. RESKIN, et al., *The Determinants and Consequences of Workplace Sex and Race Composition*, 25 Annual Review Sociology, (1999).

[29] ROSABETH MOSS KANTER, Men and Women of the Corporation 129 (Basic Books 2nd ed. 1977).

[30] STEVEN J. SPENCER, et al., *Stereotype Threat and Women's Math Performance*, 35 Journal of Experimental Social Psychology, (1999); CLAUDE M. STEELE & JOSHUA ARONSON, *Stereotype Threat and the Intellectual Test Performance of African-Americans*, 69 Journal of Personality and Social Psychology, 798 (1995).

[31] SUSAN E MARTIN, Breaking and Entering: Police Women on Patrol (University of California Press 1980).

[32] PAGE.

[33] LISA HOPE PELLED, et al., *Exploring the Black Box: An Analysis of Workgroup Diversity, Conflict, and Performance*, 44 Administrative Science Quarterly, (1999); KAREN A. JEHN, et al., *Why Differences Make a*

influencing board capacities, we should see effects first on corporate profitability and then on stock returns.

RESEARCH ON BOARD DIVERSITY AND PERFORMANCE

Analysts have explored the effects of board diversity on both profitability and stock valuation.[34] The overall pattern of findings across the several dozen studies that have been published to date tends to support the view that gender diversity inhibits performance.[35] The studies that show positive effects use cross-sectional data or observations across very short time periods, and thus are prone to problems of endogeneity.[36] That is, we cannot rule out the possibility that successful firms appoint women directors.

Perhaps the best publicized study linking board diversity to profitability is Catalyst's comparison of over 500 leading U.S. firms between 2001 and 2004.[37] Catalyst concludes that firms with the greatest proportion of women board members showed significantly higher return on investment (ROI), return on equity (ROE), and return on invested capital than those with the smallest proportion of women. Similarly, Erhardt, Werbel, and Shrader look at 112 leading firms over 5 years and find a positive relationship between board diversity (gender, race, ethnicity) and both ROI and ROA, but suggest that performance may be inducing diversity rather than vice versa.[38] Carter et al. look at the gender and racial composition of Fortune 500 board

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Difference: A Field Study in Diversity, Conflict, and Performance in Workgroups, 44 Administrative Science Quarterly, (1999).

[34] CATALYST; ADAMS & FERREIRA.

[35] see the review in ADAMS & FERREIRA.

[36] notably, CATALYST.

[37] Id. at 1.

[38] ERHARDT, et al.

committees between 1998 and 2002, finding select positive effects of diversity on Tobin's q.[39] None of these studies, however, tackles the problem of reverse causation.[40]

Studies that attempt to rule out reverse causation tend to find no effect of board diversity on profits or stock price, or negative effects. In the first camp are several studies using panel data over a number of years. Zahra and Stanton find no effect generally, and some evidence of a negative effect, among large American firms in the 1980s.[41] The Scandinavian countries were leaders in promoting board gender diversity. A recent study shows no effect of gender diversity on stock performance (Tobin's q) in a sample of 443 Danish firms.[42]

In the second camp, of studies finding negative effects, Smith, Smith, and Verner use panel data on 2500 Danish firms to explore several performance measures.[43] Female outside directors show negative effects, though female inside directors show positive effects. In their 2009 study, Adams and Ferreira use panel data between 1996 and 2003 on 1939 large American firms.[44] Theirs is possibly the most sophisticated, and transparent, analysis published to date. While they find that boards with more women do better at monitoring firms, they also find negative effects of women board members on both Tobin's q and ROA. In particular, they find positive gender diversity effects in OLS models, but two different techniques for handling endogeneity (fixed effects, and fixed effects with instrumental variables) produce negative and

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[39] CARTER, et al.

[40] see also KEVIN CAMPBELL & ANTONIO MINGUEZ-VERA, *Gender Diversity in the Boardroom and Firm Financial Performance* 83 Journal of Business Ethics, (2008).

[41] ZAHRA & STANTON.

[42] ROSE.

[43] SMITH, et al.

[44] ADAMS & FERREIRA.

significant effects (for profits and stock value) and a third (one-step Arellano and Bond models with lagged d.v.) produces negative but non-significant effects for both outcomes.

Taken together, these studies are consistent with the idea that firms that are having good runs are more likely to appoint women, but that once appointed, women have neutral or negative effects on performance. Several studies address this directly. Farrell and Hersch examine a sample of 300, Fortune-500 firms between 1990 and 1999, showing that firms with strong profits (ROA) are more likely to appoint female directors but that female directors do not affect subsequent performance.[45] Adams and Ferreira find that Tobin's q, but not ROA, predicts the appointment of female directors but, as noted, female directors have subsequent negative effects.[46] They conclude: "Although a positive relation between gender diversity in the boardroom and firm performance is often cited in the popular press, it is not robust to any of our methods of addressing the endogeneity of gender diversity."[47]

INSTITUTIONAL INVESTOR ACTIVISM AND BIAS

We build on the growing body of organizational research showing that environmental factors frequently influence organization-level outcomes.[48] Several lines of research have suggested that key players in the equities market influence both the internal decision-processes in large corporations and the pricing of firms.[49] As institutional investors have come to control the

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[45] FARRELL & HERSCH.

[46] RENEE B. ADAMS & DANIEL FERREIRA, Gender Diversity in the Boardroom (2004).

[47] ADAMS & FERREIRA, *Women in the Boardroom and Their Impact on Governance and Performance*, 308.

[48] (*Scott and Davis 2006)**don't have

[49] EZRA W. ZUCKERMAN, *The Categorical Imperative: Securities Analysts and the Illegitimacy Discount*, 104 American Journal of Sociology, (1999); GERALD F. DAVIS, et al., *The Decline and Fall of the Conglomerate*

lion's share of the stock of large corporations, firms in turn have become more attentive to the desires of institutional investors.[50]

Public pension funds and their associations, notably the Council of Institutional Investors (CII), have actively promoted gender and racial diversity on corporate boards.[51] Figure 1 indicates that they have met with some success; in large firms, proportion of female board members has risen, even as boards on average have become smaller. As firms are increasingly attentive to the desires of institutional investors,[52] we predict that firms that receive shareholder proposals in favor of board diversity will increase the representation of women on their boards.

Hypothesis 1: Shareholder proposals favoring board diversity will be followed by increases in gender diversity.

Our theory of the effect of diversity on institutional investor behavior combines elements from bias and accountability theories. First, laboratory and field studies show that gender and racial bias are widespread and that they influence career outcomes.[53] Bias that toward out-group

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Firm in the 1980s: The Deinstitutionalization of an Organizational Form, 59 American Sociological Review, (1994); NEIL FLIGSTEIN, The Architecture of Markets : An Economic Sociology of Twenty-First- Century Capitalist Societies (Princeton University Press. 2001).

[50] FRANK DOBBIN & DIRK ZORN, *Corporate Malfeasance and the Myth of Shareholder Value*, 17 Political Power and Social Theory, (2005).

[51] THE UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP) AND THE UNITED KINGDOM SOCIAL INVESTMENT FORUM (UKSIF); CARLETON, et al.

[52] EZRA W. ZUCKERMAN, *Focusing the Corporate Product: Securities Analysts and De-Diversification*, 45 Administrative Science Quarterly, (2000).

[53] see the reviews in BARBARA F. RESKIN, *The Proximate Causes of Employment Discrimination*, 29 Contemporary Sociology, (2000); WILLIAM T. BIELBY, *Minimizing Workplace Gender and Racial Bias*, 29 Contemporary Sociology, (2000).

members has been widely documented.[54] Social cognition theory in psychology has shown that individuals categorize others automatically, and tend to feel, think, and behave toward newly encountered members of a demographic group just as they have felt, thought, and behaved in the past toward other members of that group.[55] They use social categorization to process multitudes of environmental cues rapidly, and use sex and race as "master statuses."[56] The literature on in-group preference suggests that people generally hold more positive views of in-group members.[57] The literature on implicit association goes further, suggesting that even members of a demographic group hold the dominant biases about members of that group; even women associate men with leadership and competence.[58]

We extend this research to suggest that the appointment of women to corporate boards may influence stock performance through investor bias. Institutional investors are the key market makers in equities markets, controlling some 80% of the shares of the large firms in our

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[54] SUSAN T FISKE, *Controlling Other People: The Impact of Power on Stereotyping*, 48 American Psychologist, (1993); JOHN F DOVIDIO, et al., *On the Nature of Prejudice: Automatic and Controlled Processes*, 33 Journal of Experimental Social Psychology, (1997); CECILIA RIDGEWAY, *Interaction and the Conservation of Gender Inequality: Considering Employment*, 62 American Sociological Review, (1997); ANTHONY G. GREENWALD & MAHZARIN R. BANAJI, *Implicit Social Cognition: Attitudes, Self-Esteem, and Stereotype*, 102 Psychological Review, (1995).

[55] SUSAN T. FISKE, et al., *The Continuum Model: Ten Years Later., in* Dual Process Theories in Social Psychology, (Shelly Chaiken & Yaacov Trope eds., 1999).

[56] HOWARD S. BECKER, Outsiders: Studies in the Sociology of Deviance (Free Press. 1963).

[57] CHARLES W. PERDUE, et al., *'Us' and 'Them': Social Categorization and the Process of Intergroup Bias*, 59 Journal of Personality and Social Psychology, (1990).

[58] JOHN T. JOST, et al., *A Decade of System-Justification Theory: Accumulated Evidence of Conscious and Unconscious Bolstering of the Status Quo*, 25 Political Psychology, (2004); GREENWALD & BANAJI.

sample (see Figure 2). Moreover, because this group tracks changes in corporate strategy and governance, it is cognizant of shifts in board composition. Fund managers can be expected to hold the same implicit associations that the rest of the population holds.[59] Because investors are not accustomed to thinking of women as board members, much less as competent board members, institutional investors may react negatively to firms that appoint women board members. They may be less likely to favor such firms when making buy and sell decisions.

One reason to believe that the gender composition of boards will not alter stock performance by influencing board efficacy is that other board characteristics show little effect. Even the governance norms championed by agency theorists as the key to strong financial performance, outside directors, small board size, and independent chairmen, do not affect performance.[60] One Canadian study found that female officers have positive effects on performance, but female directors show no effects.[61] If board "best practices" don't typically influence profits or stock price by improving board efficacy, should we expect the appointment of one woman to a board of ten men to do so?

Hypothesis 2: Institutional investors will reduce their holdings of firms that appoint women to their boards, thereby reducing the value of those firms.

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[59] GREENWALD & BANAJI.

[60] MICHAEL C. JENSEN & WILLIAM H MECKLING, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 Journal of Financial Economics, (1976); SANJAI BHAGAT & BERNARD S. BLACK, *The Uncertain Relationship between Board Composition and Firm Performance*, 54 Business Lawyer, (1999); JEFFREY N. GORDON, *The Rise of Independent Directors in the United States, 1950-2005: Of Shareholder Value and Stock Market Prices*, 59 Stanford Law Review, (2007).

[61] CLAUDE FRANCOEUR, et al., *Gender Diversity in Corporate Governance and Top Management*, 81 Journal of Business Ethics, (2008).

While we expect the average institutional investor to react to the appointment of a woman to a board by lowering, albeit unconsciously, their opinion of the firm, we expect that accountability may attenuate this process. Accountability theory suggests that people who expect others to scrutinize their behavior will self-censor and be less likely to act on their biases.[62] In laboratory settings, subjects who know that someone may review their decisions are most likely to monitor their own actions for evidence of bias and self-correct.[63] This should apply to two groups of institutional investors; blockholders and public pension funds. First, an institutional investor with a large stake attracts attention when she reduces her position in a company. Second, leading public pension funds actively promoted diversity on corporate boards through shareholder proposals.[64]

Hypothesis 3: Blockholding institutional investors, and public pension funds, will not reduce their holdings in companies that increase the share of women on their boards.

DATA AND METHODS

We conduct three types of analysis. First, we suggest that because large public pension funds have led the charge for greater board diversity, firms that receive shareholder proposals advocating board diversity will see increases in diversity. Thus we model the log odds of female directors to see if shareholder proposals have an effect.

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[62] PHILIP E. TETLOCK, *The Impact of Accountability on Judgment and Choice: Toward a Social Contingency Model*, *in* Advances in Experimental Social Psychology, (Mark P. Zanna ed., 1992).

[63] PHILIP E. TETLOCK & JENNIFER S LERNER, *The Social Contingency Model: Identifying Empirical and Normative Boundary Conditions on the Error and Bias Portrait of Human Nature*, *in* Dual Process Theories in Social Psychology, (Shelly Chaiken & Yaacov Trope eds., 1999).

[64] CARLETON, et al; THE UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP) AND THE UNITED KINGDOM SOCIAL INVESTMENT FORUM (UKSIF).

Second, we expect that bias leads institutional investors to disfavor companies that appoint women directors, and thus that gender diversity will depress stock price. If women directors depress stock price without affecting profitability, we will conclude that institutional investor bias is a more likely mechanism than poor board performance. Decreases in board competence should depress first profits, then stock price.

Third, we look at whether increases in board diversity shapes institutional investor holdings, to explore the possibility that bias causes investors to decrease their holdings in firms that increase board diversity. We do not expect blockholders, or public pension funds, to decrease their holdings. Both groups, we suggest, will monitor their own behavior for signs of bias in anticipation of public scrutiny.

For each type of outcome, we present pooled cross-sectional time-series models for the period 1996 to 2007, with fixed firm and year effects. The dependent variables in all models are measured a year after the independent variables. A significant coefficient can be read to suggest that a change in, say, board composition leads to a change in the proportion of shares held by institutional investors. We first analyze the causes of change in board composition. We then analyze the effects of the gender composition of boards on Tobin's q and return on assets. We then look at the effects of change in gender composition on the equity positions of blockholding and non-blockholding institutional investors, and then separately on the positions of banks, insurance companies, mutual funds, investment advisors, and public pension funds.

Sample

We use a sample of large U.S. firms that operate in a representative group of industries. The sampling frame is Fortune's list of America's 500 largest,[65] supplemented with industry

[65] http://money.cnn.com/magazines/fortune/fortune500/

specific Fortune lists and the Million Dollar Directory[66] for certain industries. We stratify the sample by industry, selecting an equal number of firms from aerospace, apparel, building materials, chemicals, communications, computers, electrical machinery, entertainment, food, health care, machinery, metals, oil, paper, pharmaceuticals, publishing, retail, textiles, transportation, transportation equipment, utilities, and wholesale. We treat conglomerates as belonging to the industry that accounts for the lion's share of their business. We sampled fifteen of the 22 industries exclusively from the Fortune 500 lists. Utilities, health care, and entertainment are not included in the list, and some sectors are included only in certain periods. We used specialized Fortune lists of the 50 largest firms in particular service industries. The original sample was drawn from all firms on the relevant lists between 1965 and 2005, and so the sample captures both declining and rising industries. We analyze data on 432 major American corporations for the period 1997-2006. We analyze between 2882 and 3016 spells, or corporation-years, of data.

Variables

Dependent variables are measured a year after independent variable. In the first analysis we examine factors that influence the appointment of women to boards of directors. We model the log odds of women, following the convention in studies of workforce composition.[67] We use log odds (proportion/(1-proportion)) rather than log proportion because its distribution is closer to normal.[68]

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[66] DUN AND BRADSTREET, Middle Dollar Directory § 1965-2005 (Dun and Bradstreet 1965-2005).

[67] BARBARA F. RESKIN & DEBRA B. MCBRIER, *Why Not Ascription? Organizations' Employment of Male and Female Managers*, 65 American Sociological Review, 221 (2000).

[68] JOHN FOX, Applied Regression Analysis, Linear Models, and Related Methods 78 (Sage. 1997). ERIN A. HANUSHEK & JOHN E. JACKSON, Statistical Methods for Social Scientists (Academic

In the second set of analyses, we examine the effects of women board members on profits and stock returns. The key independent variable is a simple count of women board members (log odds and log percent produced substantively similar findings). For profits we use return on assets. For stock performance we use Tobin's q, the ratio of stock market value of a firm to the replacement value of its assets, which is widely viewed as the best measure of a firm's market value.[69] Then, to understand how institutional investors respond to the appointment of women to boards, we look at the effects of women board members on stockholding by institutional investors. Investors are broken down by both the size of their investments in the company (≥5% and <5%), and the segment of the industry they are in (banks, insurance companies, investment companies, investment advisors, and public pension funds). Investment companies include the leading mutual funds, including Fidelity, Vanguard, and Putnam. Investment advisors include the leading investment services, which counsel investors and perform trades on their behalf. Barkley's Bank PLC, Goldman, Sachs & Company; and Morgan Stanley Dean Witter are among

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Press. 1977); RESKIN & MCBRIER, *Why Not Ascription? Organizations' Employment of Male and Female Managers*. Because log-odds (logit) is undefined at values of zero and 1, we substituted 0 with 1/2Nj, and 1 with 1-1/2Nj, where Nj is the number of managers in establishment j. The results were robust to different substitutions for zero. We chose the one that kept the distribution uni-modal and closest to normal.

[69] DEZSO & ROSS; PHILLIP G. BERGER & ELI OFEK, *Diversification's Effect on Firm Value*, 37 Journal of Financial Economics, (1995); ANDREW KING & MICHAEL LENNOX, *Exploring the Locus of Profitable Pollution Reduction*, 48 Management Science, (2001); ART DURNEV, et al., *Value Enhancing Capital Budgeting and Firm Specific Stock Return Variation*, 59 Journal of Finance, (2004); LARRY H.P. LANG & RENÉ M. STULZ, *Tobin's Q, Corporate Diversification, and Firm Performance*, 102 Journal of Political Economy, (1994); BIRGER WERNERFELT & CYNTHIA A. MONTGOMERY, *Tobin's Q and the Importance of Focus in Firm Performance*, 78 The American Economic Review, (1988).

the largest.[70] We include in the models financial variables that are typically used in analyses of corporate performance.

Most data on corporate governance and directors come from Standard and Poor's Register of Corporations, Directors, and Executives[71], and the Investor Responsibility Research Center (IRRC),[72] including data on CEOs who hold the title of chair, the number of board directors, outside directors, and female board members. Financial data come from the Compustat database.[73] The entropy index of diversification is calculated using data from the Compustat Industry Segment database.[74]

Method

Our goal is to explore, first, how shareholder proposals affect the appointment of women to boards and, second, how women directors affect profits, stock performance, and institutional shareholding. We use pooled cross-sectional time series data to investigate these relationships. We use fixed firm effects to account for unobserved characteristics that do not vary over time, such as industry and region. We use fixed year effects to account for shifts in the enfironment that affect all firms similarly. Corporation and year fixed effects offer an efficient means of dealing with non-constant variance of the errors (heteroskedasticity) stemming from the cross-sectional and temporal aspects of the pooled data.

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[70] MURAT MEHMET BINAY, *Performance Attribution of US Institutional Investors*, 34 Financial Management, (2005).

[71] STANDARD AND POOR'S, Standard & Poor's Register of Corporations, Directors and Executives (Standard and Poor's Corporation 1973-2005).

[72] http://www.irrcinstitute.org/

[73] http://www.compustat.com/

[74] http://www.compustat.com/

FINDINGS

We find that institutional investors do promote gender diversity on boards through shareholder proposals favoring diversity. Increases in board gender diversity do not affect subsequent profitability, suggesting that firms that add women to boards do not experience losses in board efficacy, or perhaps confirming what previous studies have implied; that boards don't much matter. But an increase in gender diversity on boards is followed by a significant decrease in stock value. The fact that board diversity has no effect on profits, but a negative effect on stock price, lends support to our bias thesis.

Board gender diversity shows a clear pattern of effects on institutional investor holdings that supports our bias and accountability apprehension theses. Non-blockholding institutional investors significantly decrease their positions in firms that increase women directors. This supports our thesis about investor bias. Block- holding investors significantly increase their positions in response to increased gender diversity. When we break down institutional investors into categories, there is a significant positive effect for blockholding public pension funds, but no effect for non-blockholding public pensions, whereas the average non-blockholding investor responds negatively to an increase in board diversity. This pattern supports the accountability hypothesis, which suggests that blockholders and public pension funds are most likely to censor their own tendencies to exercise bias.

In Table 1 we investigate the effects of shareholder proposals on female board directorships. The fixed effects models with lagged dependent variables implicitly control for the baseline values of independent variables, meaning that a significant coefficient indicates that a change in A (assets) is followed by a change in B (female directorships). Our first hypothesis is supported: firms that face shareholder proposals for board diversity do increase gender

diversity among directors. Yet shareholder proposals on other issues do not show effects. We find a number of other interesting effects. Financial conditions little affect the appointment of women; profits (ROA), stock value (Tobin's q), and cumulative stock returns show no effects. A reduction in assets increases the likelihood that a firm will see increases in female directorships, which suggests that growing firms are less likely to appoint women. We control for corporate governance characteristics, including independent directors, affiliated directors, number of directors, CEO/Chair structure. These factors are unrelated to the appointment of female directors. CEO tenure is negatively related to female directorships, likely because recently appointed CEOs champion women directors. As the average tenure of female directors increases, the number of female directors increases. As the average tenure of male directors increases, the number of female directors decreases. Increases in women in management lead to increases in women on the board, but the opposite is true for increases in the total number of female employees.

In Table 2, we analyze the effects of female directors on performance and on institutional investor shareholding. When it comes to performance, we find that female directors do not affect ROA, but have significant negative effects on Tobin's q. This provides some support for the notion that institutional investors do not like to see firms appoint women directors. For both profits (ROA) and stock performance (Tobin's q), most financial variables have the expected effects. For Tobin's q, change in ROA has a positive effect, while change in systematic risk, dividend yield, and firm size have negative effects. For ROA we see the same effects for these last three variables, and we also see a negative effect of unsystematic risk and a positive effect of firm age. Institutional ownership also has a positive effect, likely because institutional investors buy firms with good prospects or because their activism improves performance. Affiliated

directors (those with family or previous employment ties to the firm) have negative effects on ROA, which we may take as support for agency theory's dictum that independent directors are superior board members.

In the subsequent models in Table 2 we explore the effects of female board membership on institutional shareholding. We break shareholders down into blockholders, with 5% or more of the company's stock, and non-blockholders. Large funds need not necessarily be blockholders, but most blockholders are large funds in the present analysis because we are looking at investments in leading firms in each industry, and hence the capital requirements of blockholding are substantial.

We predicted that institutional investors would shy away from firms that appoint women to their boards, perhaps unwittingly acting on widespread gender biases. We expected this pattern to be moderated, or reversed, among investors who could expect their behavior to be scrutinized by the media and by investors. In particular, we expected anticipation of accountability to cause blockholders and public pension funds to censor their own inclinations to act on biases. Public pension funds spearheaded the call for board diversity, so perhaps they were sensitized by apprehension of accusations of hypocrisy.

Managers of smaller funds and managers of non-blockholding large funds, by contrast, likely do not inspect their own motives for buying or selling stock in a certain company with great care. Reports about financial performance and prospects surely drive their core buying strategies (for non-indexed funds at least), but if their buying and selling decisions are affected at the margins by changes in corporate board diversity, they are less likely than blockholders and public pension funds to self-censor.

In our models predicting institutional investor holdings, the financial variables generally have consistent effects across the investor groups. ROA shows a negative effect on blockholding investment, perhaps because blockholders find it more difficult than non-blockholders to exit when a firm is not doing well. But small-holders generally favor firms with strong profits. Systematic risk generally has positive effects, and unsystematic risk shows a pattern of negative effects. Dividend yield shows a pattern of negative effects.

Agency theorists expect that corporate governance will affect profits, and will thereby attract investment and drive up stock price.[75] In particular, they prescribe independent directors, small boards, and a split between the CEO and chairman positions. We expect institutional investors to favor companies that follow these prescriptions, and thus expect independent directors to increase institutional shareholding, and affiliated directors (those with work and family ties to the firm), board size, and CEO/Chair Combination to reduce institutional holding. We do not see that pattern.

While firms that follow agency theory's corporate governance prescriptions do not attract institutional investors, changes in the number of female directors do affect holdings. Among all institutional investors, female board members have significant positive effects on holdings by blockholders, and significant negative effects on holdings by non-blockholders. When we look at the effects among different types of investors, there are significant positive effects of gender diversity for blockholding public pension funds and investment companies. By contrast, non-blockholding banks and investment companies experience significant decreases in shares following increases in female board membership.

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[75] JENSEN & MECKLING; EUGENE F. FAMA, *Agency Problems and the Theory of the Firm*, 88 The Journal of Political Economy, (1980).

This pattern is consistent with our thesis that female directors show adverse effects on stock price in our study, and in others, because non-blockholding institutional investors sell shares of companies that appoint women to their boards. While some groups of blockholders buy more shares in response to increases in the number of women on boards, non-blockholders control half of all shares and blockholders control less than a quarter of all shares (see Figure 2). The pattern of effects is consistent with bias on the part of non-blockholders, who control most shares.

Our proposition that unconscious bias is at work is reinforced by three other patterns. The first two involve our predictions about accountability apprehension. If bias is the mechanism leading to negative effects on institutional shareholding, we predicted, then accountability apprehension should moderate or reverse the effect for two groups. First, blockholders of shares in the large companies in our sample can be expected to be scrutinized by the market if they sell off shares. On average, blockholders actually increase their holdings in the wake of the appointment of female directors. Second, public pension funds can be expected to be scrutinized after the appointment of women because those funds spearheaded board diversity shareholder proposals. Blockholding public pension funds respond positively to increases in women directors, and non-blockholding public pensions show no effect.

For the third pattern reinforcing our proposition that board gender diversity elicits bias on the part of institutional investors we are grateful to three early readers of the piece paper who suggested that that institutional investors may not be responding to the appointment of women per se, but to the signal that corporate management is taking political considerations into account in making board appointments.[76] If investors indeed respond negatively to the appointment of a

[76] We thank readers James Cox and Donald Langevoort and Kim Krawiec for pointing this out to us

woman board member because they interpret the move as signaling a shift from value orientation to political orientation, we should find that when shareholder proposals for board diversity are followed by increases in board diversity (as they frequently are, as we see in Table 1), institutional investors flee in large numbers. In Table 2 we report the effects of shareholder proposals for board diversity on all outcomes. Proposals themselves have no effect on share value, profitability, or institutional investor holdings (except for a single positive effect on non-blockholding banks). In models not reported here, we interacted shareholder proposals for board diversity with Female Directors in two different specifications (with shareholder proposals lagged an extra year, and measured in the same year as female directors). None of the interactions was significant. If investors reduced their positions in firms that appeared to be making board appointments for political reasons, we would have expected a negative interaction effect. When companies respond to shareholder proposals by appointing women board members, no group of institutional investors is more likely to reduce holdings than when a firm appoints a woman without a shareholder proposal. This gives us more confidence that the negative effects of board feminization seen in Table 2 are the result of institutional investor bias.

CONCLUSION

The effects of board diversity on corporate performance are not well understood, but most research begins with the premise that any effects of gender diversity must result from changes in the efficacy, or monitoring capabilities, of boards. These changes are expected to affect profits directly, and stock performance indirectly. Early cross-sectional studies suggested that board gender diversity had positive effects on both profits and stock performance. However studies using panel data and statistical methods designed to rule out endogeneity suggested that

female directors tend to have neutral or negative effects. The big picture seems to be that gender board diversity does not help firms, and may hurt them.

We offer another theory of the effect of board gender diversity on corporate performance. We suggest that gender diversity may be influencing corporate performance not by shaping the efficacy, or monitoring capabilities, of boards themselves, but by activating bias on the part of the institutional investors who now control 80% of the shares of America's leading companies. We suggest that if institutional fund managers are indeed acting on gender biases, and reducing the value of firms that increase female directorships, we should see negative effects of female directors on stock value. We suggest that if female directors are influencing stock price by altering board efficacy, we should see effects on both profits and stock value.

Our findings are consistent the proposition that bias is affecting stock price. Female directors have negative effects on stock value and no effects on profits. The bias proposition is also supported by the wider pattern of effects of corporate board characteristics, namely, that they do not influence performance when all else is taken into account. Investors are thought to favor companies that create smaller, more agile, boards; that appoint more outside directors; and that separate the chair and CEO roles. These companies are expected to see improvements in profits, increases in stock price, and increases in holdings by professional fund managers. We find that companies that make these changes do not see increases in profits, stock value, or institutional holdings. If these fundamental changes designed to improve board functioning do not shape profits or stock value through improved board efficacy and monitoring, then why would changes in the gender composition of boards affect performance via board efficacy?

As a further test of the bias thesis, we examined the accountability apprehension thesis that investors who could expect their behavior to be scrutinized by outsiders would censor their

own bias. We posited that blockholding institutional investors would be more careful than non-blockholders to avoid the appearance of bias against firms that increased the share of women directors. We posited that public pension funds, which as a group led the charge for board diversity, would also take care not to respond negatively to the appointment of women to boards. These patterns were supported by the findings. Blockholders reacted positively to board diversity, and non-blockholding public pension funds did not react negatively.

We suggested that for non-blockholders, accountability should not be so salient, and so natural biases might be unleashed. Because non-blockholding institutional investors controlled half of the shares in the companies in our sample by 2007, and because blockholders control less than a quarter, the aggregate effect of these two disparate patterns was to reduce the value of firms that appoint women directors.

Students of corporate governance should in future research move beyond the narrow band of theories that has informed research to date. In academic studies of finance, a handful of economic theories, such as agency theory and the efficient markets hypothesis, have dominated. These explanatory frameworks assume fully rational actors making decisions based on careful calculations about a firm's current standing and future prospects. But in the stock market as in other markets, behavior is shaped in important ways by psychological and sociological factors that these theories neglect. Insights from psychology and from economic sociology promise to enrich our understanding of financial markets.[77]

[77] FRANK DOBBIN, The New Economic Sociology: A Reader (Princeton University Press. 2004); ROLAND BENABOU & JEAN TIROLI, *Intrinsic and Extrinisic Motivation*, 70 Review of Economic Studies, (2003).

Figure 1

Mean Male and Female Directors in Sampled Firms

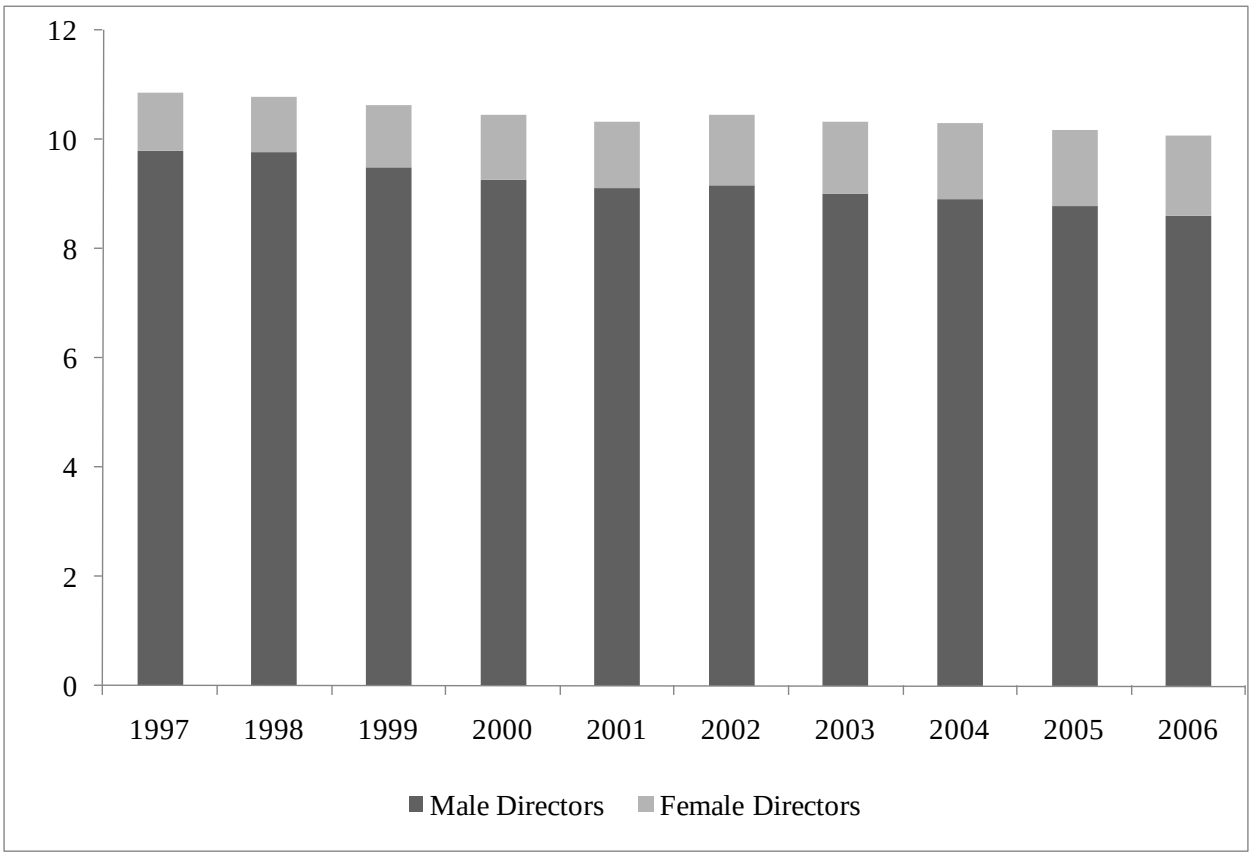

Table 2
Average Institutional Investor Stake in Sampled Companies, by Size of Holdings

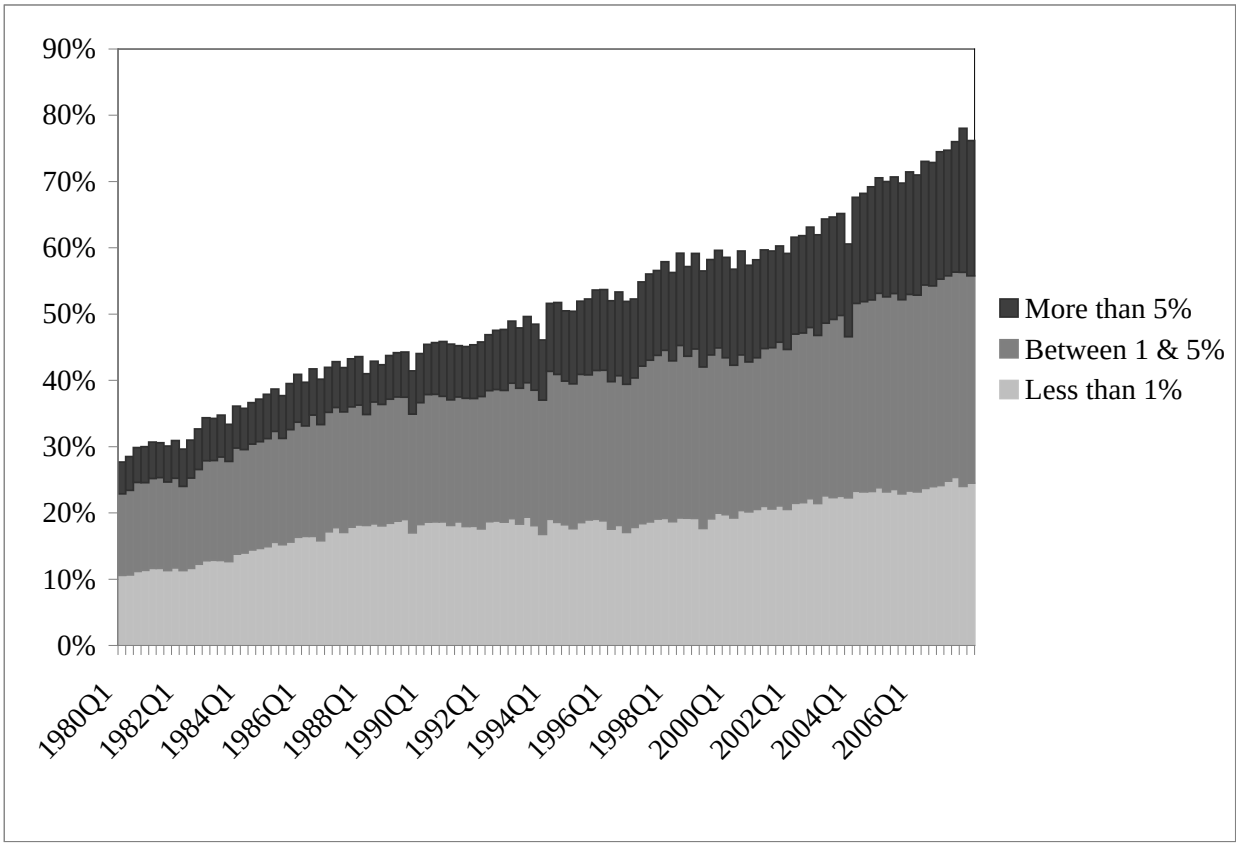

Table 1
Fixed Effects Model Predicting Log Odds of Female Directors, 1997-2006

Female Managers (%)	.005*	(0.002)
Female Employees (%)	-.005*	(0.002)
Average Tenure of Female Directors (log)	.289***	(0.025)
Average Tenure of Male Directors (log)	-.148***	(0.032)
Female CEO	.437***	(0.133)
Female Executives on TMT (log %)	.014*	(0.006)
Independent Directors (%)	-0.001	(0.001)
Affiliated Directors (%)	-0.002	(0.001)
Board Size	-0.004	(0.004)
CEO & Chair	0.023	(0.018)
CEO's Tenure (Logged)	-.029**	(0.010)
Shareholder Proposal for Board Diversity	.131**	(0.049)
Shareholder Proposal for Other Board Issues	0.003	(0.019)
Shares Held by Blockholders (%)	0.001	(0.001)
Institutional Ownership	0.0003	(0.001)
ROA	0.001	(0.001)
Tobin's Q	0.004	(0.007)
Cumulative Stock Returns	0.006	(0.010)
Assets (Logged)	-.048*	(0.020)
Firm Age (Logged)	-0.006	(0.014)
Year Fixed Effects	Included	
Constant	-1.065	(0.566)
R2	0.193	
No. Firm Years	3,069	
No. Firms	415	

*p>.05 **p>.01 ***p>.001

Table 2: Influence of Female Directors on Stock Value, Profits, and Institutional Investor Shareholding, 1997-2006

			All Institutions		Banks		Insurance Companies		Investment Companies		Investment Advisors		Public Pension Funds	
	Tobin's Q	ROA	≥5%	<5%	≥5%	<5%	≥5%	<5%	≥5%	<5%	≥5%	<5%	≥5%	<5%
Female Directors	-.076*	0.168	.839*	-.852*	0.138	-.274**	-0.060	-0.0004	.496*	-.350*	0.194	-0.273	.030**	0.036
	(0.038)	(0.194)	(0.349)	(0.375)	(0.118)	(0.096)	(0.115)	(0.066)	(0.236)	(0.157)	(0.240)	(0.240)	(0.010)	(0.034)
Female CEO	0.089	0.045	3.774	1.028	6.011***	-2.084	-0.145	-1.046	0.290	-2.515	-2.426	7.129*	-0.011	-0.543
	(0.532)	(2.757)	(4.968)	(5.339)	(1.672)	(1.360)	(1.638)	(0.934)	(3.351)	(2.230)	(3.412)	(3.407)	(0.148)	(0.479)
Female Top Managers (log %)	0.006	0.003	.064*	-0.007	.034***	0.006	-0.011	0.0002	0.014	-0.014	0.025	0.004	-0.002	-0.002
	(0.003)	(0.016)	(0.029)	(0.032)	(0.010)	(0.008)	(0.010)	(0.006)	(0.020)	(0.013)	(0.020)	(0.020)	(0.001)	(0.003)
Outside Directors (%)	-0.001	-0.026	-0.011	0.029	0.010	0.001	.019*	-0.009	-0.021	0.022	-0.018	0.021	0.001	-0.004
	(0.003)	(0.016)	(0.028)	(0.030)	(0.010)	(0.008)	(0.009)	(0.005)	(0.019)	(0.013)	(0.019)	(0.019)	(0.001)	(0.003)
Board Size	0.0002	-0.077	-0.149	0.053	0.004	-0.031	0.050	0.019	-0.151	-0.025	-0.059	0.066	0.005	-0.017
	(0.013)	(0.068)	(0.123)	(0.132)	(0.041)	(0.034)	(0.041)	(0.023)	(0.083)	(0.055)	(0.084)	(0.084)	(0.004)	(0.012)
CEO & Chair	-0.047	-0.202	0.508	-0.264	0.054	0.044	0.031	0.045	-0.013	0.074	0.403	-0.506	0.013	0.087
	(0.053)	(0.269)	(0.485)	(0.521)	(0.163)	(0.133)	(0.160)	(0.091)	(0.327)	(0.218)	(0.333)	(0.333)	(0.014)	(0.047)
Institutional Ownership	0.003	.059***												
	(0.002)	(0.010)												
Shareholder Prop., Bd. Diversity	-0.087	-0.235	-0.667	1.616	-0.109	.948*	-0.124	0.268	-1.346	0.217	0.618	0.257	-0.006	-0.121
	(0.161)	(0.795)	(1.433)	(1.540)	(0.482)	(0.392)	(0.472)	(0.269)	(0.966)	(0.643)	(0.984)	(0.983)	(0.043)	(0.138)
Diversification (Entropy Index)	0.021	0.210	0.049	-0.817	0.404	0.051	-0.056	-0.054	0.457	0.432	-0.826	-1.190*	.111***	0.072
	(0.077)	(0.391)	(0.706)	(0.759)	(0.238)	(0.193)	(0.233)	(0.133)	(0.476)	(0.317)	(0.485)	(0.484)	(0.021)	(0.068)
ROA	.032***		-.092*	.305***	0.005	.077***	-0.008	.019**	-0.040	.061***	-0.040	.133***	0.0003	.012***
	(0.004)		(0.038)	(0.041)	(0.013)	(0.010)	(0.013)	(0.007)	(0.026)	(0.017)	(0.026)	(0.026)	(0.001)	(0.004)
Systematic Risk (Beta)	-.195**	-1.555***	2.273***	-0.809	0.296	-0.018	.686***	-0.134	.888*	-1.167***	0.376	0.479	0.027	0.085
	(0.064)	(0.322)	(0.589)	(0.633)	(0.198)	(0.161)	(0.194)	(0.111)	(0.397)	(0.265)	(0.405)	(0.404)	(0.017)	(0.057)
Unsystematic Risk	-0.864	-15.868**	-18.465	-40.756***	-1.167	-16.427***	-0.610	-10.034***	-0.024	-11.531*	-17.551*	0.059	0.437	-3.773***
	(1.187)	(6.013)	(10.829)	(11.637)	(3.645)	(2.964)	(3.569)	(2.036)	(7.303)	(4.861)	(7.436)	(7.426)	(0.322)	(1.044)
Debt-to-Equity Ratio	-0.0004	-0.006	-0.014	-.032*	0.001	-0.005	0.00004	-0.001	-0.007	-0.005	-0.007	-.018*	0.0003	-0.002
	(0.001)	(0.007)	(0.013)	(0.014)	(0.004)	(0.003)	(0.004)	(0.002)	(0.008)	(0.006)	(0.009)	(0.009)	(0.0004)	(0.001)
Dividend Yield (Loggd)	-.270***	-1.655***	0.361	-4.822***	0.163	-.895***	0.219	-.513***	0.174	-.888***	-0.061	-2.286***	0.003	-.149**
	(0.063)	(0.319)	(0.568)	(0.610)	(0.191)	(0.155)	(0.187)	(0.107)	(0.383)	(0.255)	(0.390)	(0.389)	(0.017)	(0.055)
Firm Size (Log Assets)	-.752***	-2.715***	-1.039	0.139	0.063	.539**	-0.274	-0.181	0.697	-0.089	-1.613***	-0.293	0.032	0.082
	(0.068)	(0.344)	(0.624)	(0.670)	(0.210)	(0.171)	(0.206)	(0.117)	(0.421)	(0.280)	(0.428)	(0.428)	(0.019)	(0.060)
Firm Age	-0.049	.618*	-0.302	2.219***	-0.042	.351**	0.051	0.133	-0.266	-0.067	-0.058	1.554***	-0.013	0.080
	(0.051)	(0.261)	(0.469)	(0.505)	(0.158)	(0.128)	(0.155)	(0.088)	(0.317)	(0.211)	(0.322)	(0.322)	(0.014)	(0.045)
Year Fixed Effects	Included		Included		Included		Included		Included		Included		Included	
Constant	9.995***	4.678	33.495	-38.416	1.442	-6.648	-1.708	2.183	13.014	14.445	21.859	-41.656**	-0.005	0.113
	(2.052)	(10.470)	(18.897)	(20.308)	(6.360)	(5.172)	(6.228)	(3.552)	(12.745)	(8.483)	(12.976)	(12.959)	(0.561)	(1.821)
R2	0.155	0.094	0.075	0.168	0.017	0.243	0.036	0.197	0.024	0.085	0.089	0.177	0.030	0.155
No. Firm Years	2,882	3,016	3,016	3,016	3,016	3,016	3,016	3,016	3,016	3,016	3,016	3,016	3,016	3,016
No. Firms	415	432	432	432	432	432	432	432	432	432	432	432	432	432

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