

Agency Theory as Prophecy: How Boards, Analysts, and Fund Managers Perform Their Roles

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INTRODUCTION

Shareholder value apostles touting the precepts of agency theory have revolutionized corporate America over the last four decades. The mantra of managerial expertise has given way to the mantra of shareholder primacy. The idea that the best metric for evaluating a firm is acquisition-led growth has given way to the idea that the best metric is above-forecast profits. The idea that firms should build sprawling conglomerates by investing the profits of declining industries in rising sec-

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tors has given way to the idea that firms should be focused and closely managed.

These changes have been facilitated by a reduction in antitrust enforcement, the globalization of industry competition, and the rise of professional investors. But the changes have been undergirded by agency theory's depiction of how the modern corporation functions in a world composed of dispersed owners, autonomous executives, corporate boards, professional fund managers, and securities analysts.

Agency theory's central idea is that the interests of principals (shareholders) and their agents (executives) are often at odds.¹ This is particularly the case when agents' fortunes depend little on holdings in the companies they run. Agents may run firms for their own purposes rather than to enrich shareholders. Conflicts of interest can be mitigated when principals are few in number and have the time and energy to carefully monitor executives, yet when shareholding is widely dispersed, as it typically is in U.S. firms, agency problems become acute.²

Agency theorists promoted two prescriptions for resolving agency problems. First, by aligning the economic interests of shareholders and executives, firms could encourage executives to behave as if they were shareholders. Second, while dispersed owners could never hope to monitor firms, two groups of experts could do it for them: corporate boards and securities analysts. Boards could challenge executives' self-serving and dim-witted strategic decisions and unseat executives when necessary. In turn, analysts could keep investors abreast of company strategy and prospects, enabling investors to sanction executives. Many scholars have studied efforts to align incentives, suggesting that they have largely failed.³ Firms have offered executives stock options instead of requiring

1. Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305, 313 (1976).

2. ADOLPH BERLE & GARDINER MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* 112–16 (Harcourt, Brace & World, Inc. rev. ed. 1967) (1932); MARK J. ROE, *STRONG MANAGERS, WEAK OWNERS: THE POLITICAL ROOTS OF AMERICAN CORPORATE FINANCE* 9–17 (1994).

3. See, e.g., Mary J. Benner & Ram Ranganathan, *Offsetting Illegitimacy? How Pressures from Securities Analysts Influence Incumbents in the Face of New Technologies*, 55 ACAD. MGMT. J. 213, 233 (2012); Daniel Bergstresser & Thomas Philippon, *CEO Incentives and Earnings Management*, 80 J. FIN. ECON. 511, 529 (2006); Natasha Burns & Simi Kedia, *The Impact of Performance-Based Compensation on Misreporting*, 79 J. FIN. ECON. 35, 67 (2006); John C. Coffee, Jr., *What Caused Enron? A Capsule Social and Economic History of the 1990s*, 89 CORNELL L. REV. 269, 301 (2004); Michael C. Jensen & Kevin J. Murphy, *Performance Pay and Top-Management Incentives*, 98 J. POL. ECON. 225 (1990); Patricia C. O'Brien & Ravi Bhushan, *Analyst Following and Institutional Ownership*, 28 J. ACCT. RES. 55, 74 (1990); Sheila M. Puffer & Joseph B. Weintrop, *Corporate Performance and CEO Turnover: The Role of Performance Expectations*, 36 ADMIN. SCI. Q. 1, 19 (1991).

them to hold equity, and options have generally led executives to take undue risks in pursuit of immediate gains.⁴ Few have examined the second prescription—that of monitoring by boards and analysts—for mitigating agency problems. We take up that task.

In 1976, Michael Jensen and William Meckling published a paper reintroducing agency theory that explained how the modern corporation is structured to serve dispersed shareholders. They purported to describe the world as it exists but, in fact, they described a utopia, and their piece was read as a blueprint for that utopia.⁵

We take a page from the sociology of knowledge to argue that, in the modern world, economic theories function as prescriptions for behavior as much as they function as descriptions. Economists and management theorists often act as prophets rather than scientists, describing the world not as it is, but as it could be. And when new theories take hold, people tend to perform the roles economists script for them.⁶

In 1980, Eugene Fama elaborated on Jensen and Meckling's utopian recipe in *Agency Problems and the Theory of the Firm*.⁷ Fama suggested that boards had become bloated and passive. Boards rarely ousted incompetent CEOs, thereby neglecting their rightful roles in monitoring firms to promote profitability.⁸ Fama's arguments incited shareholder value activists to clamor for small boards, external chairs, and external directors.⁹ The idea was that small boards could act quickly and effectively,¹⁰ and that external chairs and board members could monitor strategy and call for the removal of poor executives.¹¹ We suggest that the theory of board monitoring became a script for how small boards, independent chairs, and outside directors should behave, and that in performing that script, boards came to have positive effects on profits.

4. Wm. Gerard Sanders & Donald C. Hambrick, *Swinging for the Fences: The Effects of CEO Stock Options on Company Risk Taking and Performance*, 50 ACAD. MGMT. J. 1055, 1060 (2007); Shivaram Rajgopal & Terry Shevlin, *Empirical Evidence on the Relation Between Stock Option Compensation and Risk-Taking*, 33 J. ACCT. & ECON. 145, 162 (2002).

5. See Jensen & Meckling, *supra* note 1.

6. See Callon, *infra* note 25.

7. See Eugene F. Fama, *Agency Problems and the Theory of the Firm*, 88 J. POL. ECON. 288 (1980).

8. *Id.* at 293.

9. David Yermack, *Higher Market Valuation of Companies with a Small Board of Directors*, 40 J. FIN. ECON. 185, 186 (1996).

10. *Id.*

11. See, e.g., MICHAEL USEEM, *INVESTOR CAPITALISM: HOW MONEY MANAGERS ARE CHANGING THE FACE OF CORPORATE AMERICA* 211–28 (1996) [hereinafter USEEM, *INVESTOR CAPITALISM*]; MICHAEL USEEM, *EXECUTIVE DEFENSE: SHAREHOLDER POWER AND CORPORATE REORGANIZATION* 200–09 (1993).

While it created a new script for corporate boards, we argue, agency theory merely reinforced the existing script for securities analysts. Analysts were already performing the role that agency theory assigned them; providing information to investors who, in turn, kept executives in check by voting with their feet when they didn't like corporate behavior.¹² Thus we expect that firms that increased financial transparency and won analyst coverage saw increases in profits circa 1980 because these changes facilitated analyst monitoring, and that these effects became stronger as agency theory was popularized and reinforced analyst monitoring.

Agency theory created a different sort of script for professional fund managers. Fund managers were agents themselves, who were compensated through bonuses driven by annual gains in the value of the portfolios they managed. While agency theorists argued that fund managers would represent the interests of the shareholders they worked for, the theory's core idea was that the interests of principals and agents often conflict. In the case of fund managers, their fundamental interest in short-term gains was thought to be served well by financial transparency to help analysts, which according to agency theory would maximize share price and according to efficient market theory (EMT) would prevent bonus-destroying share-price drops following negative earnings surprises (more on that below). But their interest in short-term gains was thought to be ill served by board independence, because independent boards meddled in strategic decisions and fired executives, and both strategic realignment and CEO change incurred short-term costs that could dampen profits and share price.

Thus we expect that while both transparency and board autonomy came to increase profits even in the short run, as boards and securities analysts performed the roles agency theory assigned them, fund managers saw their interest in transparency but not their interest in board autonomy, and so bid up the price of firms that increased transparency but bid down the price of firms that increased autonomy. Both board autonomy and financial transparency for analysts increased profits, but fund managers punished firms for the former and rewarded them for the latter.

I. THEORIZATION AND PERFORMATIVITY

Next we describe the theoretical foundation of our argument, and sketch the contribution we make to institutional theory's notion of "theorization" and actor-network theory's notion of "performativity." Organizational institutionalists have long studied the diffusion of new manage-

ment practices through networks.¹³ They argue that economic crises frequently stimulate searches for new approaches to management, leading expert groups to develop innovations.¹⁴ In the case at hand, the economic crisis of the 1970s stimulated by the oil crisis and the rise of OPEC, and by Japan's challenge to U.S. electronics and auto manufacturers, undermined confidence in the American model of management and opened the way for agency theory.

Importantly, for a new practice or system of practices to take hold, experts must articulate a compelling theory of how it would work and describe the types of organizations that would be amenable to the new practice or system.¹⁵ Such theories undergird all management practices, large and small.¹⁶ Theories that back innovations must also be broadly compatible with existing interpretive frames, which offer a wide variety of rationalized causal imageries.¹⁷ The scientific-rational worldview is a big tent with space for many different theories of efficiency.¹⁸

In the world of management experts, different groups vie to establish their authority as theorists.¹⁹ By the 1970s, when our story begins, American business executives relied disproportionately on "professional economics" for theories not only to guide their behavior, but also to explain their behavior to investors, stockholders, and superiors.²⁰ Engineers were the principal theorists of management in the United States in an earlier age,²¹ and still were in Germany.²² In Japan, managers relied more

13. See Paul J. DiMaggio & Walter W. Powell, *The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields*, 48 AM. SOC. REV. 147 (1983); John W. Meyer & Brian Rowan, *Institutionalized Organizations: Formal Structure as Myth and Ceremony*, 83 AM. J. SOC. 340 (1977).

14. NEIL FLIGSTEIN, *THE TRANSFORMATION OF CORPORATE CONTROL* 7 (1990); Stephen D. Krasner, *Approaches to the State: Alternative Conceptions and Historical Dynamics*, 16 COMP. POL. 223, 234 (1984).

15. David Strang & John W. Meyer, *Institutional Conditions for Diffusion*, 22 THEORY & SOC'Y 487, 494–99 (1993).

16. FLIGSTEIN, *supra* note 14, at 293; John W. Meyer, *Rationalized Environments*, in *INSTITUTIONAL ENVIRONMENTS AND ORGANIZATIONS: STRUCTURAL COMPLEXITY AND INDIVIDUALISM* 28, 52–53 (W. Richard Scott & John W. Meyer eds., 1994); Strang & Meyer, *supra* note 15.

17. Cathryn Johnson et al., *Legitimacy as a Social Process*, 32 ANN. REV. SOC. 53, 60 (2006).

18. Frank Dobbin, *Cultural Models of Organization: The Social Construction of Rational Organizing Principles*, in *THE SOCIOLOGY OF CULTURE: EMERGING THEORETICAL PERSPECTIVES* 117, 135–36 (Diana Crane ed., 1994).

19. See Gerald F. Davis & Henrich Greve, *Corporate Elite Networks and Governance Changes in the 1980s*, 103 AM. J. SOC. 1, 14–16 (1997). See generally DAVID STRANG, *LEARNING BY EXAMPLE: IMITATION AND INNOVATION AT A GLOBAL BANK* (2010).

20. Meyer & Rowan, *supra* note 13, at 350.

21. YEHOUDA A. SHENHAV, *MANUFACTURING RATIONALITY: THE ENGINEERING FOUNDATIONS OF THE MANAGERIAL REVOLUTION* 3 (1999).

heavily on personnel experts for theories.²³ In the United States, where businesses looked to economists, practices were “embedded not in society”—as the economic historian Karl Polanyi suggested²⁴—“but in economics.”²⁵

Part of the job of theorists of the modern world, as David Strang and John Meyer argue, is to define the key social groups by theorizing the basis of the shared interests of their members.²⁶ Agency theory did just that in defining two distinct groups of leaders in business with divergent interests: investors and executives.

How do new theories influence behavior? Actor-network theory suggests one answer with the notion of “performativity.”²⁷ When a new theory of pricing gains hold, actual market prices will come to reflect the theory’s predictions because market participants will “perform” the theory, or behave as if it is true.²⁸ Research suggests that people indeed perform price theories in markets; lacking principles for valuing stock options, traders behaved according to the predictions of the new Black-Scholes-Merton theory, and soon prices reflected the theory.²⁹

We suggest that market participants can perform not only the pricing predictions of a theory, but the roles and interests a theory assigns them. For instance, agency theory suggests that executive performance pay is in the interest of investors but not of executives themselves because it is designed to prevent executives from pursuing activities that do not produce value for shareholders, such as the creation of conglomerates to build managerial empires. Executives read the theory to suggest that

22. See VARIETIES OF CAPITALISM: THE INSTITUTIONAL FOUNDATIONS OF COMPARATIVE ADVANTAGE 62 (Peter A. Hall & David Soskice eds., 2001); KATHLEEN THELEN, HOW INSTITUTIONS EVOLVE: THE POLITICAL ECONOMY OF SKILLS IN GERMANY, BRITAIN, THE UNITED STATES, AND JAPAN 39–92 (2004); see also KATHLEEN THELEN, INSTITUTIONAL LEGACIES: PATTERNS OF LABOR INCORPORATION AND CONTEMPORARY SHOPFLOOR POLITICS (1993).

23. SANFORD M. JACOBY, THE EMBEDDED CORPORATION: CORPORATE GOVERNANCE AND EMPLOYMENT RELATIONS IN JAPAN AND THE UNITED STATES 21–22 (2005).

24. KARL POLANYI, THE GREAT TRANSFORMATION: THE POLITICAL AND ECONOMIC ORIGINS OF OUR TIME 48 (Beacon Press 2001) (1944).

25. Michel Callon, *Introduction: The Embeddedness of Economic Markets in Economics to THE LAWS OF THE MARKETS* 1, 30 (Michel Callon ed., 1998).

26. Strang & Meyer, *supra* note 15, at 495.

27. See Callon, *supra* note 25.

28. Donald MacKenzie & Yuval Millo, *Constructing a Market, Performing Theory: The Historical Sociology of a Financial Derivatives Exchange*, 109 AM. J. SOC. 107, 137 (2003).

29. *Id.*; Donald MacKenzie, *The Big, Bad Wolf and the Rational Market: Portfolio Insurance, the 1987 Crash and the Performativity of Economics*, 33 ECON. & SOC’Y 303, 306 (2004); Donald A. MacKenzie, *Is Economics Performative? Option Theory and the Construction of Derivative Markets*, in DO ECONOMISTS MAKE MARKETS? ON THE PERFORMATIVITY OF ECONOMICS 54, 65 (Donald A. MacKenzie et al. eds., 2007) [hereinafter MacKenzie, *Is Economics Performative?*].

stock options were not in their interest and fought against options, which would later make them extremely wealthy.³⁰

It is our contention that agency theory wrote new roles for small boards and outside directors to perform. Circa 1980, board members generally believed that their role was largely ceremonial and that their job was not to rock the boat.³¹ Outside directors and chairs saw themselves as consultants, not monitors.³² Agency theory described their roles quite differently. We suggest that small boards became more active monitors when agency theorists argued that small boards could effectively monitor firms to fuel profits. We suggest that outside chairmen and directors became more than mere consultants following the script that agency theory offered. Both groups “performed” the new roles agency theorists assigned to them.

Thus, our contribution to the institutional theory of organizations and its idea of “theorization” is that expert theorists—in this case, economists—can successfully specify not only the practices that firms should adopt, but the behaviors that individuals in particular roles should engage in. Furthermore, our contribution to actor-network theory and its idea of “performativity” is that the concept applies not only to actors’ pricing decisions, but also to their role behavior.

We make three predictions. First, we suggest that because agency theory depicted a utopia in which small boards and outside directors could actively monitor corporate behavior to improve performance, small boards and outside directors began to behave as directed, and profits improved at firms that reduced board size and increased outsiders. Second, because agency theory reinforced the monitoring role that analysts were already playing in the market, we suggest that over time, analysts became even more effective than they had been in promoting profit growth. Third, we suggest that because theory suggested that transparency would serve the interests of fund managers in short-term share price gains, but that board autonomy would not, fund managers pursued their theorized interests by bidding up the price of firms that embraced transparency, but not of firms that embraced board autonomy.

30. USEEM, INVESTOR CAPITALISM, *supra* note 11, at 153; USEEM, EXECUTIVE DEFENSE, *supra* note 11, at 206–08; Gerald F. Davis & Suzanne K. Stout, *Organization Theory and the Market for Corporate Control: A Dynamic Analysis of the Characteristics of Large Takeover Targets, 1980–1990*, 37 ADMIN. SCI. Q. 605, 615 (1992) [hereinafter Davis & Stout, *Organization Theory*]; Gerald F. Davis, *Agents Without Principles? The Spread of the Poison Pill Through the Intercorporate Network*, 36 ADMIN. SCI. Q. 583, 586 (1991).

II. AGENCY THEORY'S SCRIPT

In 1976, Michael Jensen was a finance professor at the University of Rochester when he and colleague William Meckling published *Theory of the Firm* in the midst of the most prolonged economic crisis since the 1930s.³³ The article became the touchstone of the shareholder value revolution, for it suggested that America's economic malaise could be traced to a problem in the way firms were managed.³⁴ Jensen took a job at the Harvard Business School in 1985 and became partner at The Monitor Group in 2000.³⁵ He wrote not only for academic journals but for leading management outlets such as *Harvard Business Review*.³⁶ Board monitoring was a key part of the theory of the firm that Jensen, Meckling, and Fama proffered.³⁷ Monitoring was theorized to ensure that boards represented shareholder interests to management.³⁸ Thus the ideal board was chaired not by the company's CEO but by an outsider, was dominated by outside directors, and was small enough to act decisively.³⁹ Analyst monitoring, in tandem with financial transparency, was theorized to help investors reward and sanction executives through their buy-and-sell decisions,⁴⁰ help investors pick stocks,⁴¹ and increase share price.⁴²

A. *The Role of Fund Managers*

Fund managers (institutional investors) were some of Jensen and his colleagues' most important acolytes because the theory depicted a world in which corporate executives had the capacity to run firms for their own purposes and neglect the interests of shareholders.⁴³ With U.S.

33. See Jensen & Meckling, *supra* note 2.

34. *Id.* at 309–10.

35. Michael C. Jensen, HARV. BUS. SCH., <http://www.hbs.edu/faculty/Pages/profile.aspx?facId=6484> (last visited Oct. 19, 2015).

36. See Michael C. Jensen, *Takeovers: Folklore and Science*, HARV. BUS. REV., Nov. 1984, at 109 (1984).

37. See Fama, *supra* note 7.

38. Michael C. Jensen, *The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems*, 48 J. FIN. 831, 862–63 (1993).

39. Fama, *supra* note 7, at 293–94; Eugene F. Fama & Michael C. Jensen, *Separation of Ownership and Control*, 26 J.L. & ECON. 301, 314–15 (1983) [hereinafter Fama & Jensen, *Separation*]; Eugene F. Fama & Michael C. Jensen, *Organizational Forms and Investment Decisions*, 14 J. FIN. ECON. 101, 118–19 (1985) [hereinafter Fama & Jensen, *Organizational Forms*]; Yermack, *supra* note 9, at 186.

40. Anne Beyer et al., *The Financial Reporting Environment: Review of the Recent Literature*, 50 J. ACCT. & ECON. 296, 326 (2010).

41. George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488, 488, 499–500 (1970).

42. Jensen & Meckling, *supra* note 2, at 355.

43. USEEM, INVESTOR CAPITALISM, *supra* note 11, at 77–79.

shareholding dispersed among millions of investors, individuals rarely had the time or inclination to challenge executives⁴⁴—that was up to investment professionals. Fund managers championed the lessons of agency theory by pushing firms to embrace performance pay, board monitoring, and transparency.⁴⁵ Large, public institutions such as the California Public Employees' Retirement System (CalPERS) often led the pack.⁴⁶ Between the mid-1980s and the mid-1990s, the number of shareholder resolutions supported by pension funds and other investment companies tripled.⁴⁷

Meanwhile, fund managers quickly gained control of the bulk of shares in America's leading firms. The Employee Retirement Income Security Act of 1974 (ERISA) increased mutual fund holdings by popularizing individual retirement accounts.⁴⁸ Deregulation soon permitted banks, insurance companies, and group pension funds to move money into equities. During this period, control of shares by fund managers rose sharply.⁴⁹ Within the 736 large firms in our sample, average institutional holdings rose from 30% in 1980 to 70% in 2005 (see Figure 1; the sample is described in detail below⁵⁰).

44. BERLE & MEANS, *supra* note 2, at 78.

45. USEEM, INVESTOR CAPITALISM, *supra* note 11, at 2–6; *see also* PETER A. GOUREVITCH & JAMES SHINN, POLITICAL POWER & CORPORATE CONTROL: THE NEW GLOBAL POLITICS OF CORPORATE GOVERNANCE 196 (2005).

46. GOUREVITCH & SHINN, *supra* note 48, at 292; W. TREXLER PROFFITT JR., THE EVOLUTION OF INSTITUTIONAL INVESTOR IDENTITY: SOCIAL MOVEMENT MOBILIZATION IN THE SHAREHOLDER ACTIVISM FIELD 87 (2001) (published Ph.D. dissertation, Northwestern University); USEEM, INVESTOR CAPITALISM, *supra* note 11, at 64–65.

47. USEEM, INVESTOR CAPITALISM, *supra* note 11, at 27–28.

48. 29 U.S.C. §§ 1001–1461 (2012).

49. Gerald F. Davis, *A New Finance Capitalism? Mutual Funds and Ownership Re-Concentration in the United States*, 5 EUR. MGMT. REV. 11, 14–15 (2008).

50. *See infra* Part IV.

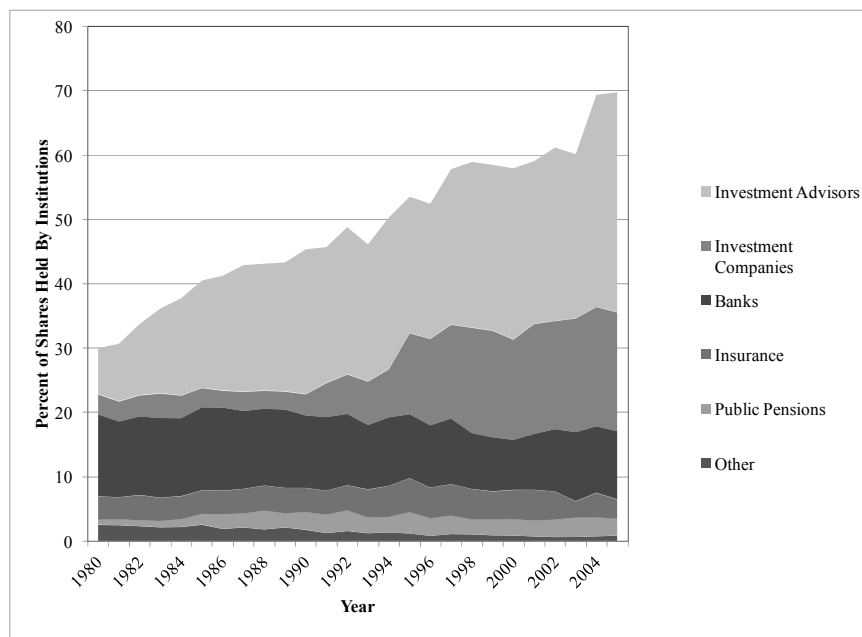


Figure 1: Institutional Holdings

B. The Theorization of Board Monitoring

The role of the corporate board in the modern economy has long been debated,⁵¹ but agency theorists assigned boards the specific role of monitoring executives to prevent self-dealing and ensure that executives pursued profits and value for shareholders.⁵² In *Agency Problems and the Theory of the Firm*, Eugene Fama points to the importance of outside members and the role of the board in replacing executives.⁵³ Lipton and Lorsch argued that most boards were dysfunctional because they rarely seriously discussed corporate strategy or challenged executives.⁵⁴ Jensen argued that there is a “great emphasis on politeness and courtesy at the expense of truth and frankness in boardrooms” and insisted that small boards are key, claiming, “[w]hen boards get beyond seven or eight peo-

51. See ROBERT A. G. MONKS & NELL MINOW, *CORPORATE GOVERNANCE 195–97* (3d ed. 2004).

52. STANLEY C. VANCE, *CORPORATE LEADERSHIP: BOARDS, DIRECTORS, AND STRATEGY* 15–16 (1983); Elmer W. Johnson, *An Insider’s Call for Outside Direction*, *HARV. BUS. REV.*, Mar–Apr. 1990, at 46, 54.

53. Fama, *supra* note 7, at 293.

54. Martin Lipton & Jay W. Lorsch, *A Modest Proposal for Improved Corporate Governance*, 48 *BUS. LAW.* 59, 64–67 (1992).

ple they are less likely to function effectively and are easier for the CEO to control.”⁵⁵

Outside directors, according to agency theory, are not constrained to go along with the firm’s CEO, and can actively monitor progress and question strategic decisions.⁵⁶ Insiders, moreover, have been shown to favor costly takeover shields as insurance against job loss.⁵⁷ Further, Jensen argued that takeover shields interfere with the efficiency of the market for corporate control, in which mediocre executives are ousted through takeover:

In the corporate takeover market, management teams compete for the right to control—that is, to manage—corporate resources. Viewed in this way, the market for control is an important part of the managerial labor market After all, potential chief executive officers do not simply leave their applications with personnel officers. Their on-the-job performance is subject not only to the normal internal control mechanisms of their organizations but also to the scrutiny of the external market for control.⁵⁸

Thus, outside directors can challenge the antitakeover measures that interfere with the operation of the market for talent.⁵⁹

Fund managers actively campaigned for board monitoring,⁶⁰ although we argue below that they came to see board activism as incompatible with their own interest in short-term share price gains. CalPERS helped to found the Council of Institutional Investors (CII) in 1985, whose “shareholder bill of rights” called for governance reforms to empower boards and eliminate special share classes that could weaken boards.⁶¹ CalPERS and CII sponsored a number of shareholder resolutions to improve board governance, increase board power and the number of outside directors, and quash antitakeover measures.⁶² Public pension funds led the charge, in part because private money managers at places like Fidelity and Vanguard faced a conflict of interest—they sell

55. Jensen, *supra* note 38, at 863–65.

56. John W. Byrd & Kent A. Hickman, *Do Outside Directors Monitor Managers? Evidence from Tender Offer Bids*, 32 J. FIN. ECON. 195, 196 (1992); Benjamin E. Hermalin & Michael S. Weisbach, *The Determinants of Board Composition*, 19 RAND J. ECON. 589, 605 (1988).

57. Michael S. Weisbach, *Outside Directors and CEO Turnover*, 20 J. FIN. ECON. 431, 433 (1988).

58. Jensen, *supra* note 36, at 110.

59. *See id.*

60. USEEM, INVESTOR CAPITALISM, *supra* note 11, at 5–6.

61. Sanford M. Jacoby, *Principles and Agents: CalPERS and Corporate Governance in Japan*, 15 CORP. GOVERNANCE: INT’L REV. 5, 5 (2007); *History*, COUNCIL INST. INVESTORS, http://www.cii.org/cii_history (last visited Oct. 4, 2015).

62. Davis & Stout, *supra* note 30, at 616–17; Jacoby, *supra* note 61, at 6.

pension products to the very firms they invest in, and are reluctant to openly challenge management.⁶³

Next we plot the spread of board monitoring practices in our sample of 736 large U.S. firms. The average firm in our sample moved toward two of the three board governance reforms advocated by shareholder value proponents, significantly increasing the percentage of outside directors while considerably reducing board size. Figure 2 shows that the average number of directors declined from 11.7 to 10.2 between 1980 and 2005, or 15%. Outsiders held 66% of seats in 1980, and 83% in 2005. Not all of these outsiders were truly independent. In 1996, when richer data on director ties became available through the *Standard and Poor's Register*, nearly 80 percent of directors in the average firm were technically outsiders (not current corporate employees), but less than 60 percent were truly independent.⁶⁴ The rest were former employees, heirs of the founder, and the like.⁶⁵

63. GOUREVITCH & SHINN, *supra* note 45, at 251–52; Gerald F. Davis & E. Han Kim, *Business Ties and Proxy Voting by Mutual Funds*, 85 J. FIN. ECON. 552, 554 (2007).

64. While this information comes from *Standard & Poor's 1996 Register*, the analysis is our own, done for this paper.

65. *Id.*

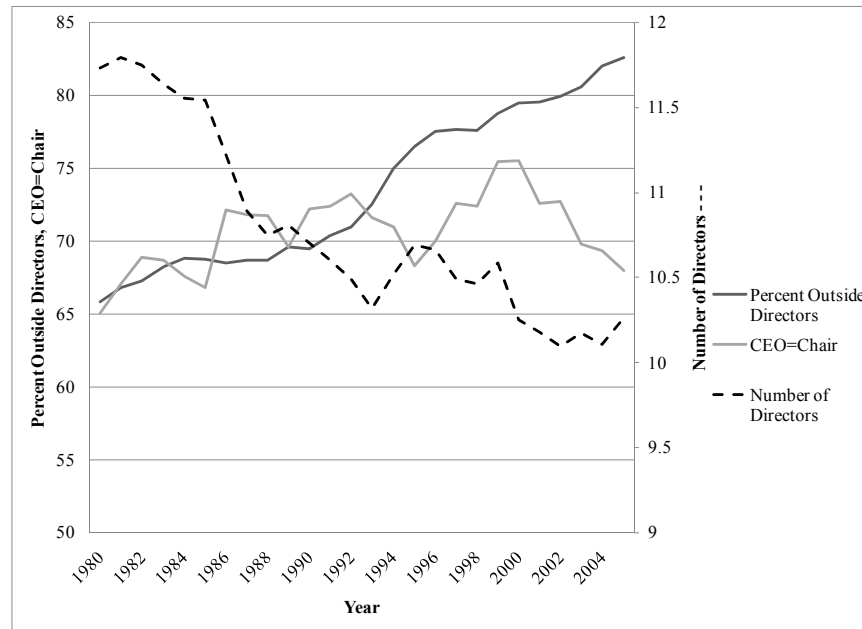


Figure 2: Board Monitoring: Directors, Outside Directors, CEO=Chair

Despite the rise in independent directors, the percent of nonexecutive chairmen actually declined over time (see Figure 2). CEO-Chairmen ran 65% of firms in 1980. That figure rose to 75% before dropping back to 68% by 2005. Why didn't firms appoint outside chairmen? Most CEOs preferred to hold the title of chairman, particularly after agency theorists gave boards license to challenge management and oust CEOs. Meanwhile, firms increasingly appointed well-known "celebrity" CEOs in the hope of boosting share price, and many celebrities demanded the title of chairman. Perhaps the fact that CEOs held on to the title of chairman explains why, in U.S. firms, increases in outside directors did not increase the likelihood of CEO turnover; CEO-chairmen could prevent their own ouster by outsider directors.⁶⁶

Hypothesis 1: Small boards, outside chairmen, and independent directors will come to have positive effects on corporate profits over time, as directors learn to follow the script of agency theory.

66. Steven N. Kaplan, *Top Executive Rewards and Firm Performance: A Comparison of Japan and the United States*, 102 J. POL. ECON. 510, 516–17 (1994); Steven N. Kaplan & Bernadette A. Minton, *Appointments of Outsiders to Japanese Boards: Determinants and Implications for Managers*, 36 J. FIN. ECON. 225, 250–51 (1994).

C. The Theorization of Fund Manager Interests

Over the period we examined, fund managers came to drive stock market movement as their control of shares soared and they became responsible for a disproportionate amount of trading. Fund managers functioned as agents of shareholders and their own economic interests were tied to their particular compensation system. Commonly, fund managers receive most of their compensation in the form of annual bonuses that track the value of the portfolios they manage.⁶⁷ The typical fund manager bonus is calculated on the basis of his or her own fund's performance, the performance of other funds at the institution, and the institution's profits.⁶⁸ This gives "mutual fund managers—along with other big market players like hedge funds—an incentive to boost returns" from year to year, and especially at year's end.⁶⁹ Strong portfolio performance also draws new investors, which boosts bonuses in subsequent years and shields fund managers from dismissal.⁷⁰

Would board independence promote year-to-year share price gains that could boost fund manager bonuses? Not necessarily. According to agency theory, independent boards would improve the long-term performance of corporations by tracking strategic decisions, questioning executives about strategy, and ousting CEOs who were not good at their jobs.⁷¹ But strategic shifts and the ouster of CEOs could be costly in the short run.⁷² Independent boards were also expected to prevent CEOs from pursuing high-risk, high-reward ventures that promised short-term gains in order to boost the value of their stock options.⁷³ Because fund managers were compensated for annual gains in the value of their portfolios, it was not in their interest to promote board independence if doing so meant sacrificing short-term gains for long-term gains. Early studies suggested

67. Harris Collingwood, *The Earnings Game: Everyone Plays, Nobody Wins*, HARV. BUS. REV., June 2001, at 65, 67; Michael Lounsbury, *A Tale of Two Cities: Competing Logics and Practice Variation in the Professionalizing of Mutual Funds*, 50 ACAD. MGMT. J. 289, 303 (2007).

68. Heber Farnsworth & Jonathan Taylor, *Evidence on the Compensation of Portfolio Managers*, 29 J. FIN. RES. 305, 319 (2006).

69. Jason Zweig, *Watch Out for the Year-End Fund Flimflam*, MONEY, Nov. 1997, at 130, 131.

70. Judith Chevalier & Glenn Ellison, *Are Some Mutual Fund Managers Better Than Others? Cross-Sectional Patterns in Behavior and Performance*, 54 J. FIN. 875, 877 (1999); Ajay Khorana, *Top Management Turnover: An Empirical Investigation of Mutual Fund Managers*, 40 J. FIN. ECON. 403, 404 (1996).

71. Fama & Jensen, *Separation*, *supra* note 39, at 322–23.

72. Michael S. Weisbach, *CEO Turnover and the Firm's Investment Decisions*, 37 J. FIN. ECON. 159, 179 (1995); SYDNEY FINKELSTEIN ET AL., STRATEGIC LEADERSHIP: THEORY AND RESEARCH ON EXECUTIVES, TOP MANAGEMENT TEAMS, AND BOARDS 198–226 (2009).

73. Fama, *supra* note 7, at 288–89; Fama & Jensen, *Separation*, *supra* note 39, at 301–02; Fama & Jensen, *Organizational Forms*, *supra* note 39, at 102–03; Michael C. Jensen & Kevin J. Murphy, *Performance Pay and Top-Management Incentives*, 98 J. POL. ECON. 225, 261–62 (1990).

that indeed, independent boards boost share price in the long run but not the short run.⁷⁴

In cross-sectional studies, profits often show a positive relationship with small board size.⁷⁵ We suggest that this relationship varied over time as small boards become more active and outside chairs and directors challenged management. In our panel study using longitudinal data, we posit, small boards and outsiders will come to have positive effects on profits in the short run. However, it is also our contention that the popularization of agency theory led fund managers to bid down the price of firms that made their boards independent, because they followed the lead of agency theory, which suggested that active boards could harm share price in the short run.

Hypothesis 2: Fund managers will come to believe that small boards, and outside chairmen and directors, do not serve their own interests, and will lower the share price of firms that decrease board size and increase outsiders.

D. The Theorization of Analyst Monitoring

Jensen and Meckling discussed the importance of securities analysts in modern financial markets at length in their 1976 piece.⁷⁶ They theorized that analysts ensure that investors have the information they need to reward executives for pursuing profits and punish them for self-dealing:

[T]o the extent that security analysis activities reduce the agency costs associated with the separation of ownership and control, they are indeed socially productive. . . . [W]e expect the major benefits of the security analysis activity to be reflected in the higher capitalized value of the ownership claims to corporations⁷⁷

Professional analysts could serve this function better than anyone else in a market characterized by dispersed shareholding because it can be expected that “monitoring activities . . . become specialized to those

74. See STANLEY C. VANCE, *BOARDS OF DIRECTORS: STRUCTURE AND PERFORMANCE* 2–3 (1964); Barry D. Baysinger & Henry N. Butler, *Corporate Governance and the Board of Directors: Performance Effects of Changes in Board Composition*, 1 J.L. ECON. & ORG. 101, 110 (1985); Sanjai Bhagat & Bernard Black, *The Non-Correlation Between Board Independence and Long-Term Firm Performance*, 27 J. CORP. L. 231, 263–65 (2002); Benjamin E. Hermalin & Michael S. Weisbach, *The Effects of Board Composition and Direct Incentives on Firm Performance*, 20 FIN. MGMT. 101, 111 (1991).

75. Yermack, *supra* note 9, at 209–10.

76. See Jensen & Meckling, *supra* note 1.

77. *Id.* at 355.

institutions and individuals who possess comparative advantages in these activities” such as “security analysts employed by institutional investors, brokers and investment advisory services.”⁷⁸

For analysts to effectively reduce agency costs and promote profitability under agency theory, they had to (a) cover a firm and (b) be given broad access to information about corporate strategy and finances. Shareholder value advocates (including public pension funds) called for firms to open their books to analysts.⁷⁹ Executives at large firms reported increased pressure from institutions to make information public and meet analyst forecasts.⁸⁰ Moreover, companies that won greater analyst coverage began to see significant positive effects on their share prices by the late 1980s.⁸¹ This indicated that investors believed in analyst monitoring as a means of improving corporate performance.

Figure 3 shows that the average number of analysts covering a firm in our sample rose during the 1980s, then stabilized and declined. While firms can, and do, solicit analyst coverage, average analyst coverage is a function of the number of professional analysts at work and the number of firms each analyst covers. Thus, analyst coverage is not entirely within the control of the firm. We do not have a prediction about whether analyst coverage rose or fell over time, but we do have predictions about how changes in analyst coverage at the firm level affected profits and share value.

78. *Id.* at 354.

79. See, e.g., Frank Dobbin & Dirk Zorn, *Corporate Malfeasance and the Myth of Shareholder Value*, 17 POL. POWER & SOC. THEORY 179 (2005); Dirk M. Zorn, *Here a Chief, There a Chief: The Rise of the CFO in the American Firm*, 69 AM. SOC. REV. 345 (2004).

80. See Michael Useem & Constance Gager, *Employee Shareholders or Institutional Investors? When Corporate Managers Replace Their Stockholders*, 33 J. MGMT STUD. 613, 625 (1996).

81. See Ezra W. Zuckerman, *The Categorical Imperative: Securities Analysts and the Illegitimacy Discount*, 104 AM. J. SOC. 1398 (1999).



Figure 3: Analyst Monitoring: Firm Coverage

We argue that before the rise of agency theory, market participants understood that the role of securities analysts was to provide information that helped investors reward profit-oriented companies and sanction self-dealing executives. By explicitly theorizing the role of analysts in monitoring, we suggest, agency theory licensed active analyst monitoring and thereby increased the potency of analysts' positive effects over time. Furthermore, analysts more vigilantly pursued their duties to challenge firms that did not appear to put profits first. As a result, analysts have played an active role in putting firms back on track, often questioning, for instance, CEOs and CFOs about strategy, governance, and compensation during conference calls with investors.⁸²

Hypothesis 3: Analyst coverage and transparency (meeting analyst forecasts) will have positive effects on profits at the beginning of the period, which will increase in magnitude over time as agency theory bolsters the monitoring role of analysts.

82. Dobbin & Zorn, *supra* note 79, at 192; Tasker, *supra* note 91, at 146; Zorn, *supra* note 79, at 352.

E. Fund Managers' Fixation on Analyst Forecasts

In the period we study, the market came to price firms based on whether earnings were above or below the expectations of securities analysts. Consequently, fund managers came to favor firms that maximized information flows.⁸³ We contend that fund managers priced firms based on how earnings lined up with forecasts for two reasons: one theoretical and the other material. The theoretical reason is that efficient market theory (EMT)⁸⁴ suggests that share price and analyst earnings estimates should reflect all public information about a firm. According to the theory, below-forecast earnings provide new information that is not incorporated in share price and should therefore cause share price to drop.⁸⁵

The material reason fund managers became fixated on earnings forecasts has to do with how they are paid. As we noted, fund managers earn annual bonuses that track short-term trends in the value of the portfolios they manage. A sudden drop in the price of a major portfolio component can reduce a fund manager's bonus, her odds of drawing new investors, and her odds of keeping her job.

Per agency theory, the pensioners and university endowments whose monies were managed by institutions were in the market for the long run, and so it mattered little whether the companies they held met analyst earnings estimates or narrowly missed them. Nevertheless, fund managers' careers depended on year-on-year portfolio growth—surprise bad news could sink them. To prevent such happenings, fund managers championed analyst coverage and transparency.

CEOs and hedge fund managers were similarly compensated on the basis of short-term share price gains and, as a result, were equally interested in preventing share price from tanking following unexpected bad news in profit reports. As a result, during the 1990s, corporate executives became fixated on "making the quarter." The more information firms provided to analysts, up to and including earnings "preannouncements" shortly before actual earnings announcements, the more likely forecasts were to be accurate. Or, as a 2001 article in the *Harvard Business Review* lamented,

83. See Brian J. Bushee & Christopher F. Noe., *Corporate Disclosure Practices, Institutional Investors, and Stock Return Volatility*, 38 J. ACCT. RES. 171 (2000).

84. See Eugene Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970).

85. See Shuping Chen & Dawn Matsumoto, *Favorable Versus Unfavorable Recommendations: The Impact on Analyst Access to Management-Provided Information*, 44 J. ACCT. RES. 657 (2006); Useem & Gager, *supra* note 80.

There's a tyrant terrorizing nearly every public company in the United States—it's called the quarterly earnings report. It dominates and distorts the decisions of executives, analysts, investors, and auditors. Yet it says almost nothing about a business's health. How did a single number come to loom so large?⁸⁶

During the 1990s, the focus of fund managers everywhere shifted from earnings and growth to the relationship between earnings and analyst forecasts. Joseph Nocera recalled how things changed between the late 1980s, when he spent time at Fidelity, and the late 1990s:

From time to time [in the late 1980s], young Fidelity hands would rush into [CEO] Lynch's office to tell him some news about a company. They would say things like, "Company X just reported a solid quarter—up 20%." Eleven years later, as I review my old notes, I'm struck by the fact that no one said that Company X had "exceeded expectations." There was no mention of conference calls, pre-announcements or whisper numbers. Nor did I ever hear Lynch ask anyone—be it a company executive or a "sell side" analyst on Wall Street—whether Company X was going to "make the quarter."⁸⁷

It had become a game of beat-the-projections.

The game came about in part because EMT gained a wide following, and in part because fund managers, CEOs, and hedge fund managers lost performance pay when share price dropped on earnings reports. New technologies contributed in two ways. First, the rise of high technology industries that had consistent negative earnings made return on assets a useless metric of success; yet assessments of future promise could be provided by expert analysts. Thus, for example, when a company like Amazon lost less than analysts expected it to, its share price soared.

Second, technological advances facilitated the development of new indices that made analyst projections widely available in real time. Without ready access to analyst forecasts, institutions and executives could only track earnings and dividends. But with new technologies, everyone had ready access to forecasts. From the 1970s on, the Institutional Brokers Estimate System (I/B/E/S) compiled earnings estimates. By the late 1990s, competitors like Zacks, First Call, and Nelson's were providing electronic compilations of analyst estimates.⁸⁸

86. Collingwood, *supra* note 67, at 65.

87. Joseph Nocera, *The Trouble With the Consensus Estimate*, MONEY, June 1998, at 59.

88. Justin Fox, *Learn to Play the Earnings Game (and Wall Street Will Love You)*, FORTUNE, Mar. 31, 1997, at 76, available at http://archive.fortune.com/magazines/fortune/fortune_archive/1997/03/31/224039/index.htm.

A firm can control whether it meets analyst forecasts in two ways. First, companies that increase transparency improve the accuracy of analyst forecasts and thereby raise their odds of hitting predicted earnings.⁸⁹ By 2000, half of the firms in our sample were issuing earnings preannouncements. Second, firms can shift their reported income and expenditures between quarters to make earnings match forecasts through what came to be called “earnings management.”⁹⁰ Between 1974 and 1996, firms were significantly more likely to report earnings that exactly matched predictions than they were to report earnings that were even a penny per share higher or lower.⁹¹ Whether through transparency or earnings management, firms came to hit analyst earnings forecasts more often, as we see in Figure 4. While earnings management was illegal, and while investors often suspected firms, so long as firms met estimates, we suggest that institutions did not ask too many questions and share value was sustained.

89. See generally Orie Barron et al., *Using Analysts' Forecasts to Measure Properties of Analysts' Information Environment*, 73 ACCT. REV. 421 (1998); Robert M. Bowen et al., *Do Conference Calls Affect Analysts' Forecasts?*, 77 ACCT. REV. 285 (2002); Mark H. Lang & Russell J. Lundholm, *Corporate Disclosure Policy and Analyst Behavior*, 71 ACCT. REV. 467 (1996); Sarah C. Tasker, *Bridging the Information Gap: Quarterly Conference Calls as a Medium for Voluntary Disclosure*, 3 REV. ACCT. STUD. 137 (1998).

90. Collingwood, *supra* note 67, at 68; see also Burns & Kedia, *supra* note 3; Jap Efendi et al., *Why Do Corporate Managers Misstate Financial Statements? The Role of Option Compensation and Other Factors*, 85 J. FIN. ECON. 667 (2007); Daniel Altman, *The Taming of the Finance Officers*, N.Y. TIMES, Apr. 14, 2002.

91. François Degeorge et al., *Earnings Management to Exceed Thresholds*, 72 J. BUS. 1, 15–18 (1999).

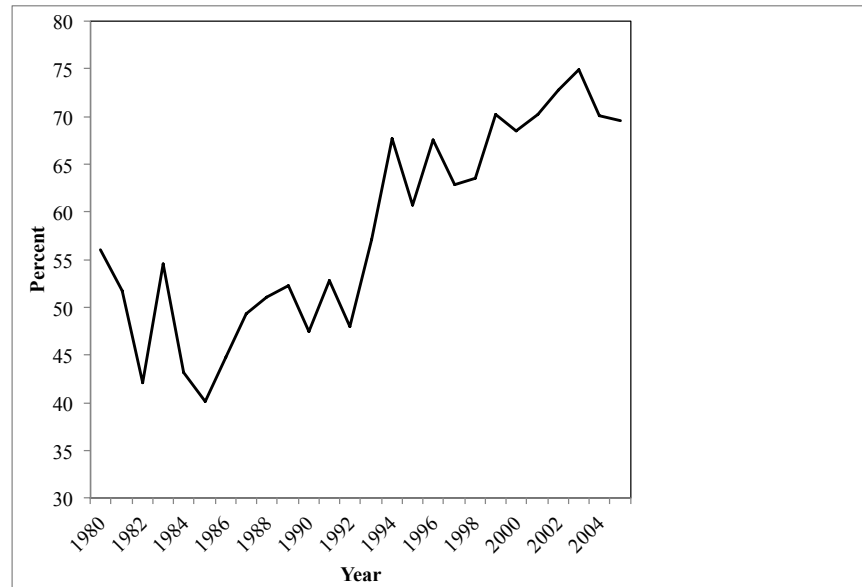


Figure 4: Transparency: Percent of Firms that Meet Analyst Forecasts

We expect that fund managers will be drawn to companies that win greater analyst coverage and increase flows of financial information to analysts. This belief is premised on the shareholder value advocates' argument that analyst monitoring could make executives focus more sharply on profitability in the short run. While fund managers will punish firms for increasing board monitoring, they will not punish them for increasing analyst monitoring.

Hypothesis 4: Fund managers will have positive views of analyst coverage and transparency, increasing the share price of firms that attract coverage and increase transparency.

IV. DATA AND METHODS

We explore the effects of the two forms of monitoring on profits (return on assets, known as ROA) and share value (Tobin's q). To avoid survivor bias, we sampled firms in odd years between 1965 and 2005. In this analysis, however, we used data from the years 1980 to 2005. We selected firms from industries representative of the economy: 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 attributed conglomerate firms to their biggest industry, sampling fifteen of the twenty-two indus-

tries exclusively from Fortune 500 lists. For industries that were not consistently in the Fortune 500, we used Fortune 50 industry lists and Dun & Bradstreet's Million Dollar Directory. We sampled systematically, selecting equal numbers of cases for each industry and year. We analyzed over 13,500 spells of data on 736 firms for the period between 1980 and 2005. Across the twenty-five year period, we have eighteen years of data for the average firm.

For both Tobin's q and ROA, we use panel models with firm and year fixed effects (binary variables) to efficiently deal with nonconstant variance of the errors (heteroskedasticity) due to multiple observations of each firm. Dependent variables are measured a year after independent variables. Some social scientists seeking to understand investor reactions model abnormal share-price returns in the days following important events. Changes in board composition, board size, and analyst coverage are not observable from day to day, and thus we model year-to-year change in Tobin's q . Yearly change in Tobin's q , moreover, provides us with a test of lasting investor reactions to the two forms of monitoring.

Variable	Description	Obs.	Mean	S.D.	Min.	Max.	Missing	Source
Return on Assets (ROA)	Income over assets * 100	13,302	3.406	6.711	#####	82.011	2.1%	Compustat
Tobin's q	Ratio of market value to replacement cost of tangible assets	12,366	1.077	1.300	-0.517	10.000	9.0%	Compustat
Chief Financial Officer (CFO)	Presence of CFO	13,403	0.547	0.498	0	1	1.3%	Standard & Poor's Register
Outside Directors	Proportion of outside directors	13,089	0.729	0.166	0	1	3.6%	S&P Register
Board Size	Number of directors on the board	13,105	11.030	3.589	1	35	3.5%	S&P Register
CEO=Chair	The CEO also serves as the chairman of the board	13,412	0.699	0.459	0	1	1.3%	S&P Register
Diversification	Entropy index of diversification	13,393	0.575	0.533	0.000	2.240	1.4%	Compustat
Debt-to-Equity Ratio	Ratio of the firm's long-term debt to common equity	13,360	0.008	0.236	#####	15.829	1.6%	Compustat
Cash Flow	Income (\$billions)	13,178	0.545	1.622	#####	36.400	3.0%	Compustat
Dividend Yield	Dividends per share divided by calendar-year closing price	12,720	1.007	0.757	0	7.086	6.4%	Compustat
Systematic Risk (Beta)	Firm's daily returns regressed on the returns of the market	11,595	1.026	0.485	-1.806	3.982	14.6%	CRSP
Unsystematic Risk	Residual standard error from the beta estimation	11,595	0.867	0.402	0.250	5.779	14.6%	CRSP
Firm Size	Total assets (\$millions, natural log)	13,392	7.421	1.605	0.356	13.081	1.4%	Compustat
Firm Age	Years since the firm's founding (natural log)	13,558	3.950	0.767	0	5.323	0.2%	Moody's Co. Histories

Table 1: Univariate Statistics, Variable Definitions, Data Sources

In addition to theorized variables, both sets of models include controls that have previously shown effects, including ROA (for Tobin's q), cash flow, dividend yield, systematic risk (beta) for all traded firms, unsystematic risk for the focal firm, age, and size. Univariate statistics, variable definitions, and sources are listed in Table 1.

We use multiple imputation for missing data and to replace values for diversification (entropy) and debt-to-equity when calculations produced negative values that were theoretically impossible. Models are robust to the exclusion of cases with missing values.

Entropy is based on the Compustat segment data series. It is calculated as $\sum p_i \ln(1/p_i)$, where p_i is the proportion of the firm's sales made by segment i . Firms have discretion as to how they define segments. To minimize the effects of inconsistent reporting, we aggregated segment sales at the 3-digit SIC level. We calculated pre-1984 values, before detailed segment data were collected, using industry composition and pegging to the 1984 value. We also adjusted post-1997 values when the SEC required more industry detail, pegging to 1997.

V. FINDINGS

In Table 2, we report the fixed effects estimates of profits (return on assets) and share value (Tobin's q). In these models, a significant coefficient suggests that a change in the independent variable is followed by a change in the dependent variable. In Hypothesis 1, we predicted that outside directors would only come to have a positive effect on profits as agency theory became well known, and as they began to play their assigned role of challenging inept CEOs and their poor strategic decisions. Thus, we expect that outside directors will eventually have a positive effect on profits.

	ROA				Tobin's <i>q</i>			
	1		2		3		4	
Outside Directors	-0.001	(0.006)	-0.037***	(0.010)	-0.314	(0.196)	0.404	(0.265)
* Time Trend			0.087***	(0.017)			-2.009***	(0.502)
Board Size	0.001	(0.003)	0.011*	(0.004)	0.253**	(0.089)	0.392**	(0.123)
* Time Trend			-0.023**	(0.007)			-0.317	(0.165)
CEO & Chair	0.001	(0.001)	0.001	(0.002)	0.006	(0.028)	0.054	(0.048)
* Time Trend			-0.001	(0.004)			-0.087	(0.084)
Analyst Coverage	0.010***	(0.002)	0.008***	(0.002)	0.322***	(0.047)	0.111	(0.067)
* Time Trend			0.006*	(0.003)			0.446***	(0.062)
Meet Analyst Forecasts	0.017***	(0.001)	0.005*	(0.002)	0.084**	(0.028)	0.018	(0.066)
* Time Trend			0.025***	(0.005)			0.141	(0.118)
Diversification	0.002	(0.002)	0.001	(0.002)	-0.119**	(0.042)	-0.098*	(0.042)
Debt-to-Equity	-0.003*	(0.001)	-0.003*	(0.001)	0.101	(0.173)	0.097	(0.172)
Return on Assets					1.353***	(0.322)	1.400***	(0.308)
Total Cash Flow	0.003***	(0.001)	0.003***	(0.001)	0.078***	(0.014)	0.059***	(0.014)
Dividend Yield	-0.012***	(0.001)	-0.012***	(0.001)	-0.148	(0.079)	-0.149	(0.077)
Systematic Risk	0.002	(0.002)	0.003	(0.002)	-0.039	(0.080)	-0.075	(0.084)
Unsystematic Risk	-0.316***	(0.030)	-0.320***	(0.031)	-0.307	(2.582)	-0.059	(2.481)
Firm Size	-0.012***	(0.001)	-0.012***	(0.001)	-0.426***	(0.040)	-0.440***	(0.040)
Firm Age	0.0002	(0.000)	0.0002	(0.000)	-0.011	(0.009)	-0.015	(0.009)
Time Trend (0 to 1)	-0.010*	(0.004)	-0.078***	(0.014)	1.331***	(0.102)	2.306***	(0.358)
Intercept	0.188***	(0.022)	0.217***	(0.022)	5.325***	(0.509)	5.460***	(0.484)
R ²	0.363		0.368		0.387		0.395	
Number of Firm-Years	13,392		13,392		13,392		13,392	
Number of Firms	736		736		736		736	

* $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed tests)

Table 2: Fixed Effects Estimates of Profits (ROA) and Share Performance (Tobin's *q*)

In Column 1 of Table 2, we see that the effect of outside directors across the entire period is insignificant. In Column 2, however, we see that this insignificant effect is masking a negative effect in 1980, which becomes positive over time. Using Stata's *Lincom* procedure, we calculate that the negative effect of outside directors becomes significant and positive after 1995. In 1980, outside directors hindered profitability, perhaps because outsiders were under less pressure than insiders to raise profits.⁹² And yet, as agency theory's script for outside directors became known, the data show that they appear to have successfully performed the script.

We expected outside directors to have the opposite effect on share price (Hypothesis 2) by souring fund managers. Fund managers worried that active boards could dampen short-term profits. The effect of outside directors on stock markets is shown in Columns 3 and 4. In Column 3,

92. See RAKESH KHURANA, SEARCHING FOR A CORPORATE SAVIOR: THE IRRATIONAL QUEST FOR CHARISMATIC CEOs 179 (2002).

we see a nonsignificant coefficient before the time trend is entered. In Column 4, the noninteracted variable, outside directors, does not show a significant effect, but the interaction outside-directors \times time-trend shows a significant negative effect. In 1980, outside directors have no effect on share price, but after 1989, they have a significant negative effect. We do not put too much stock in the precise dates of change in effects (a different sample might yield somewhat different results), but it seems clear that investors came to reduce the share price of firms that appointed outside directors. We suggest that this is because they believed that outsiders would disrupt profitability in the short run by challenging management. Yet outside directors actually became effective in promoting short-term gains in profits.

We expected to find the same pattern of effects for outside chairmen. According to Hypothesis 1, companies that separate the CEO and chair positions should see growing profits over time. But investors should react negatively to the prospect of board activism, and thus companies that separate the two positions should see decreases in share price, according to Hypothesis 2. We model the effects of combining (rather than separating) CEO and chair positions.⁹³ We should see a pattern similar to that for outside directors, but with the signs reversed. Instead, we see no significant effects for combining CEO and chair positions (CEO=Chair) in Models 1 through 4.

In Figure 2, we saw that more firms rejected the wisdom of shareholder value activists who argued for outside chairmen; the prevalence of outside chairmen decreased across that period. Perhaps external chairmen did not have the expected effect of increasing profits and share value because the strongest CEOs, who were best able to draw capital and talent to firms, insisted on holding the title of chairman. The rise of the celebrity CEO may have counteracted any effects of independent chairmen on profits and share price.⁹⁴

Shareholder advocates have suggested that board processes improve when there are more outsiders, and also when there are fewer board members overall. In Column 1, noninteracted board size shows no significant effect on profits. However, in Column 2, the significant positive effect of noninteracted board size demonstrates that small boards hurt profits at the beginning of the period. And yet, the negative and significant board-size \times time-trend interaction shows that small boards began to contribute to profitability over time. We calculate that the positive

93. Results for separating are symmetrical, but we model combining because there are more combining events.

94. See generally KHURANA, *supra* note 92.

effect of board size becomes insignificant in 1997, and the negative effect becomes significant in 2002. The early positive effect of board size on profits is consistent with the consultative role of board members before the rise of agency theory – a wider range of consultants translates into higher profits. The negative effect of board size later in the period is consistent with our prediction that the popularization of agency theory altered the behavior of boards, and that smaller boards took more active roles in monitoring corporations to promote profitability.

We predicted that investors would be indifferent to changes in board size at the beginning of the period and would then come to disfavor small, active boards theorized to dampen short-term profitability. That is not quite the pattern we see but, in this period, markets did not react positively to the reduction in board size as agency theorists might have expected. In Columns 3 and 4, we see that stock markets react positively to increases in board size. In Column 3, without the interaction, board size shows a significant and positive effect across the period. In Column 4, board size shows a positive and significant noninteracted effect and a nonsignificant interaction effect. We calculate that board size ceases to have a positive significant effect in 1998, but never attains a significant negative effect.

According to agency theorists, decreases in board size should boost profits through superior monitoring, and thus markets should react positively to decreases. Instead, in 1980 markets react positively to *increases* in board size, and by 2005, they are indifferent to board size. This pattern is consistent with our story. Investors likely favored increases in board size circa 1980 because appointments attract media attention. There was also no prevailing theory about whether big boards were good or bad for firms. At some point, investors stopped rewarding firms for expanding their boards, but as of 2005, they are not increasing the share price of firms that reduce board size to make boards more active.

We predicted a different pattern of effects for analyst monitoring. We look at two measures of securities analyst monitoring: the number of analysts following a firm, and whether the firm meets analyst forecasts as a measure of financial transparency vis-à-vis analysts. In Column 1, we see that increases in analyst coverage and meeting analyst forecasts raise profits across the period. In Column 2, we see that these effects increase significantly over time. The noninteracted variables—Analyst Coverage and Meet Analyst Forecasts—both show positive and significant effects, as do the two time-trend interactions. Therefore, the positive effect estimated for 1980 increases significantly in magnitude over time for both variables.

Model 4 suggests that investors were indifferent to outside directors and hostile to small boards at the beginning, and turned hostile to outside directors and indifferent to small boards. They were not following the precepts of agency theory when it came to board monitoring. Model 4 suggests the opposite for securities analyst monitoring. By our calculation, the effect of analyst coverage on Tobin's q becomes significant in 1981, and the effect of meeting forecasts becomes significant in 1989. If investors did not initially react to firms that drew analyst coverage or met their forecasts, they soon come to favor such firms.

Control variables perform as expected; in the models for Tobin's q , return on assets and cash flow had positive effects. Dividend yield shows consistent negative effects, reflecting investor preference for share-boosting buybacks.⁹⁵ Firm age shows a negative effect. The time trend shows a positive effect. In the models for ROA, cash flow is positive, while dividend yield, unsystematic risk, and firm age are negative, and the time trend is negative in the interaction.

CONCLUSION

In economic sociology, students of theorization explore how modern prophets describe causal relationships between corporate practices and economic outcomes.⁹⁶ Theorization is a necessary precursor to the diffusion of new innovations, and it is economists and management theorists who dream up new practices and sketch theories of the rationalized purposes they serve. We contribute to this line of work by suggesting that theorists also define the appropriate role behaviors of specific groups, such as company directors and securities analysts, and argue that those behaviors can diffuse just as corporate practices diffuse.

In the sociology of science, performativity theorists describe how people give life to new economic theories by following their precepts.⁹⁷ When market participants behave as if price theories are true, theorists' predictions about prices come true.⁹⁸ We contribute to this line of thought by suggesting that people perform not only the pricing predictions of economic theories, but also the specific role behaviors that economic theorists spell out for them. Accordingly, the roles and behaviors

95. James D. Westphal & Edward J. Zajac, *Decoupling Policy from Practice: The Case of Stock Repurchase Programs*, 46 ADMIN. SCI. Q. 202, 217–20 (2001).

96. Strang & Meyer, *supra* note 15, at 499–500. *See generally* STRANG, *supra* note 19.

97. *See generally* Callon, *supra* note 25; MacKenzie, *supra* note 29.

98. MacKenzie & Millo, *supra* note 28, at 130; MacKenzie, *supra* note 29, at 306–07. *See generally* Callon, *supra* note 25; MacKenzie, *Is Economics Performative?*, *supra* note 29.

of corporate boards, securities analysts, and fund managers, as defined by theories, are subject to change when theories change.

In the last four decades, agency theory and the shareholder value revolution it inspired dramatically altered the corporate and financial landscape in the United States. The economists who revived agency theory in the late 1970s and 1980s described how the corporate system could operate to serve the dispersed owners of firms in the United States. They sometimes described this system as if it was already functioning, but they were in fact describing a particular rationalized utopia that entailed new roles for existing groups. To achieve this utopia—where firms would strive to increase shareholder wealth—economic theorists have explained, in a series of papers, what each group would need to do.

Here, we focus on the roles agency theorists assigned to corporate boards and securities analysts. Jensen and Meckling's *Theory of the Firm*⁹⁹ specified the role of securities analysts in monitoring firms and increasing profits. Eugene Fama's *Agency Problems and the Theory of the Firm*¹⁰⁰ began to specify the roles of boards in monitoring and replacing executives, in the pursuit of profits. According to agency theory and the shareholder value movement, board monitoring (through independence and agility) and analyst monitoring (through coverage and financial transparency) should promote profitability. Circa 1980, independent directors and small boards mostly left corporate managers to their own devices. With time they learned new roles from agency theory and became effective monitors, ultimately increasing profits.

Agency theory also reinforced the role that securities analysts played in monitoring firms. Circa 1980, analysts thought they could improve management and profits by keeping investors in the know. Agency theorists articulated a theory of how this process worked, thereby elevating analysts from technicians to key players. In 1980, it was true that analyst coverage and transparency improved profits, and this relationship became significantly stronger as time went on. Our quantitative analysis cannot pin down the precise mechanism behind this change, but it appears that over time, analysts took their monitoring role more seriously by more actively questioning corporate strategy, governance, and compensation.

While we focus on the roles of directors and analysts, we also identify a paradox: as fund managers championed the interests of the investors they worked for, their behavior was self-serving (as agency theorists

99. Jensen & Meckling, *supra* note 2, at 354.

100. See generally Fama, *supra* note 7.

might have predicted). The theory prescribed solutions to the conflict between investor and executive interests, but it did not address the conflict between investor and fund manager interests. Like executives, fund managers functioned as agents, and their compensation system gave them a distinct interest in year-to-year share price gains that conflicted (per agency theory) with the interests of owners. Myopia and high-risk strategies were encouraged as a result of short-term incentives to fund managers, as well as executives. Moreover, short-termism made the market more volatile over time, and investors ended up paying CEOs and fund managers to bring the market back from every downturn.

But the paradox is not simply that agency theorists did not pay sufficient attention to the incentives of another group of agents, namely fund managers. Rather, the most surprising paradox is that while small and independent boards came to have positive effects on profits, fund managers appear to have sold stock in firms that made boards smaller and more independent; thus, the prices of those firms declined. Clearly, the experts' concern that independent boards would reduce profits in the short run by challenging strategic decisions and ousting CEOs was misguided. Our results suggest that shareholder and fund manager interests in small independent boards actually converged, but fund managers acted against their own interests and the interests of their masters.

In 1948, the sociologist Robert K. Merton (father of economist Robert Merton, of the Black-Scholes-Merton theory of option pricing) published an article titled *The Self-Fulfilling Prophecy*.

The self-fulfilling prophecy is, in the beginning, a *false* definition of the situation evoking a new behavior which makes the original false conception come *true*. This specious validity of the self-fulfilling prophecy perpetuates a reign of error. For the prophet will cite the actual course of events as proof that he was right from the very beginning.¹⁰¹

Merton astutely depicts the series of events we have described surrounding agency theory, although the theory had a wide range of what Merton elsewhere called "unintended consequences."¹⁰² When agency theorists described small boards and outsiders as effective monitors promoting profitability, they were not actually effective, but they came to be effective over time. When economists first pointed out that board independence might harm short-term profitability, the effects of independ-

101. Robert K. Merton, *The Self-Fulfilling Prophecy*, 8 ANTIOCH REV. 193, 195 (1948).

102. See Robert K. Merton, *The Unanticipated Consequences of Purposive Social Action*, 1 AM. SOC. REV. 894 (1936).

ence on share price suggested that markets were indifferent; yet eventually, independence came to have a negative effect on share price. Thus, the evidence suggests that both board members and fund managers only began to play their scripted roles after agency theory precepts became well known.

Evidence of self-fulfilling prophecies in economic theory produce a conundrum for economic sociologists and sociologists of knowledge. In the natural sciences, it is thought that theories only rarely affect the phenomena they depict. But generally in the social sciences, and particularly in economics, theories may produce the patterns they describe when people embrace the theories. We cannot design prospective studies and collect new data to determine whether a theory has produced the pattern it describes. Instead, we must design retrospective studies of economic behavior to analyze data collected before the theory was developed. Only then can we evaluate whether the theory was true before it became a script for market actors to perform.