Who Appoints Them, What Do They Do? Evidence on Outside Directors from Japan

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Although reformers often claim Japanese firms appoint inefficiently few outside directors, the logic of market competition suggests otherwise. Given the competitive product, service, and capital markets in Japan, the firms that survive should disproportionately be firms that tend to appoint boards approaching their firm-specifically optimal structure. The resulting debate thus suggests a test: do firms with more outsiders do better? If Japanese firms do maintain suboptimal numbers of outsiders, then those with more outsiders should outperform those with fewer; if market constraints instead drive them toward their firm-specific optimum, then firm characteristics may determine board structure, but firm performance should show no observable relation to that structure. We explore the issue with data on the 1000 largest exchange-listed Japanese firms from 1986 to 1994. We first ask which firms tend to appoint which outsiders to their boards. We find the appointments decidedly nonrandom. Firms appoint directors from the banking industry when they borrow heavily, when they have fewer mortgageable assets, or when they are themselves in the service and finance industry. They appoint retired government bureaucrats when they are

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in construction and sell a large fraction of their output to government agencies, and they appoint other retired business executives when they have a dominant parent corporation or when they are in the construction industry and sell heavily to the private sector. Coupling OLS regressions with two-stage estimates on a subset of the data, we then ask whether the firms with more outside directors outperform those with fewer, and find that they do not. Instead, the regressions suggest—exactly as the logic of market competition predicts—that firms choose boards appropriate to them.

1. Introduction

Persistently, reformers claim that firms should increase the outside directors they name to the board. If they will not appoint more outsiders on their own, the law should mandate the increase. Occasionally, scholars echo the refrain. Directors monitor senior managers for shareholders, they explain. Unless independent from those managers, they will not aggressively monitor. Unless they take the job from a career beyond the firm, they will not be independent. If a firm hopes to protect its shareholders from its managers, it simply must name more outsiders to its board.

Stated so flatly, of course, the claim misses the tradeoffs. What outsiders offer in independence, they sacrifice in expertise. The more independent they are, the less they know about the firm. In turn, the significance of that tradeoff will vary by firm. At some firms, independence will be crucial, and a broad business background may be all the expertise a director needs. At others, no amount of independence will help a director who does not know the details of the firm's business.

If boards matter, then the logic of market competition suggests that firms should tend to appoint outsiders at levels that approach their firm-specific optimum. To this logic, the Berle–Means separation of ownership from control is beside the point. For at root, Berle and Means simply proposed an empirically testable hypothesis about the magnitude of the agency slack in the owner-controller relationship. Ultimately, it is the Japanese variant of that hypothesis that we test below.

Whether in Japan or in the United States, most firms sell their output into competitive industries, buy their supplies from competitive sellers, and raise their funds on competitive capital markets. Facing the inevitable market constraints, those that adopt more efficient governance structures should have higher odds of survival. Berle–Means or no, in equilibrium firms should move toward their firm-specifically optimal governance structures or die. In equilibrium, those firms that survive should tend to approach the number and types of outside directors they need, and no more.

Unfortunately for the researcher, the solicitude many American legislators and judges display toward shareholder claims (usually meritless claims—as Romano, 1991, shows) obscures this market dynamic in the United States. A New York Stock Exchange (NYSE)-listed firm without outside directors is a firm begging for a shareholder suit, bad governance, or good. In this legal environment, outside directors buy protection. In the absence of such directors, a US firm can defend against self-dealing claims only at enormous expense. By routing its major business decisions past outside directors, however, it can dramatically lower the costs it incurs in defending against such claims (Bainbridge, 2002, pp. 270–271; Clark, 1986, pp. 166–168). Reasonably enough, listed firms in the United States have responded to this threat of litigation by appointing majority-outside boards. As a result, however, they no longer offer the dispersion in the data necessary to study any other roles outsiders may perform at a firm.

By exploring the place of outside directors in Japan, we examine the function such directors can play in a world without this litigation-related bias. Japanese courts have never allowed class–action suits, and until the early 1990s maintained filing fees that effectively barred derivative suits as well. By examining the appointment of outside directors there, we thus do two things. First, we explore the determinants of board composition unrelated to shareholder litigation: In a world largely without derivative and shareholder class–action suits, which firms find what kind of outside directors attractive? Second, we ask how endogenous board structure is: How forcefully does market competition drive firms toward their firm-specific optimum?

We examine the outside directors at the largest exchange-listed Japanese firms—the approximately 1000 firms listed in Section 1 of the Tokyo Stock Exchange (TSE) in the late 1980s and early 1990s. We find that firms do not appoint directors randomly. Instead, they apparently choose their boards with considerable care: (a) smaller firms, more heavily leveraged firms, and firms without a large stock of mortgageable assets tend to appoint more bankers; (b) construction firms specializing in public-sector civil-engineering projects tend to appoint more retired government bureaucrats; and (c) firms in which another firm owns a large equity stake and construction firms specializing in large business-sector projects tend to appoint outside business executives.

Consistent with competitive market pressures toward firm-specifically optimal patterns of board composition, we find no robust association between observable indices of board composition and firm performance. The statement holds whether we use OLS or two-stage least squares (2SLS) specifications. Consistent with the lack of any tie between optimal board composition and the macro-economic environment, we also find that this lack of association holds both for the

late 1980s and for the early 1990s, despite the similar fraction of outside directors during the two periods.

Obviously, our results do not generalize to worlds without competitive capital, product, or input markets. Provided firms face serious market constraints, however, our logic should apply across national boundaries. Obviously, too, the absence of statistically significant results never proves a hypothesis. Nonetheless, that absence follows logically from many of the most fundamental implications of market competition. If product, service, and capital markets clear, for example, firms will earn only a market return on their investments—but the empiricist will rarely observe statistically significant results. Similarly, if capital markets impound information rapidly, investors will not outperform the market, but the empiricist will again obtain no significant results (Fama, 1998). At root, our hypothesis about outside directors claims no more and no less: markets work effectively.

Although the debate over board composition raises issues common to other debates over corporate governance, details matter. The market processes that constrain the board appointments a firm can make need not constrain the options it faces on other governance choices (see, e.g., Black, 2001; Black et al., 2003; Gompers et al., 2003). In this paper, we take no position on those other issues.

We begin by reviewing the literature on board composition in Section 2. We explain our data set and variables in Section 3. We then ask which firms appoint what kinds of directors (Section 4.1), and what observable effect these directors have on firm performance (Section 4.2).

2. Outside Directors—The Literature

2.1 The Reformist Impulse

Routinely, public intellectuals praise outside directors. Directors work as agents for shareholders, they reason. As agents, they police managers. If themselves "company men," they lack the independence they need adequately to police. Far better to require that firms appoint men and women not subject to the pressures that come from a lifetime at the firm.

Among the activists, several public-sector retirement plans have been among the most aggressive. By the late 1990s, CalPERS (1998) claimed a "substantial majority" of board members should be independent. TIAA-CREF followed (2000), and traditionalist organizations (e.g., Business Roundtable, 1999; NYSE, 2002) increasingly acquiesced.

In fact, most large US firms have already named outsiders to the board anyway. According to Herman (1981, p. 35), the fraction of manufacturing firms with a majority of outsiders "rose from 50% in

1938, to 61% in 1961, to 71% in 1972, to 83% in 1976." By 1973, the median large manufacturing firm had only 40% inside directors, and by 1988 that figure had fallen to a quarter (id.; Agrawal and Knoeber, 2001, p. 181).

Many prominent Japanese champion the same agenda. Take the "Corporate Governance Forum" headed by a university president and well-known legal scholar. Declares the Forum (Japan Corporate Governance Forum, 1998): "A majority of the board of directors should be composed of outside directors." Politicians propose legislation that would require outside directors. And through avenues like the American Chamber of Commerce in Japan, foreign institutions like CalPERS now routinely list outside directors among the changes they demand of Japan.

Western observers of Japan tend to repeat these observations. Dore (2000, p. 79), for instance, dismisses Japanese boards as "an 'insider system' over which shareholders exercise little monitoring control." Ahmadjian (2001) asserts they "rarely play a supervisory role," few are outsiders, and "many outsiders are not independent." And quoting a UK study, Monks and Minow (1995, p. 272) insist that Japanese boards "represent the interests of the company and its employees" rather than "the interests of shareholders."

2.2 The Economic Logic

2.2.1 Introduction

In truth, the reformists raise their own questions. As noted earlier, what outsiders potentially contribute in independence from managers, they sacrifice in camaraderie and knowledge about the firm (Fama and Jensen, 1983; Klein, 1998). Although in some firms the former may outweigh the latter, in others it will not.

More basically, those firms that survive should disproportionately have boards that work well for them. Most firms in advanced capitalist countries raise funds, buy labor and supplies, and sell goods and services in competitive markets. As a result, those that survive should disproportionately be those with reasonably appropriate governance mechanisms—firms whose boards either could not make a difference, or already approach their firm-specific optimum.[1]

2.2.2 Ownership and Performance

Ownership concentration patterns in Japan illustrate the potential impact of market competition on firm structure. Over the decades since

1. On competition in the postwar Japanese capital market, see Miwa and Ramseyer (2004a); on the pre-war capital market, see Miwa and Ramseyer (2002a).

Berle and Means, many scholars had claimed that the dispersed shareholdings at the large US firms let managers ignore shareholder welfare. Demsetz and Lehn (1985) suggested that the claim is implausible. Firms that raise their funds on competitive capital markets and sell their output on competitive product and service markets should choose ownership patterns close to their firm-specific optimum or disappear. If so, then any attempt to regress shareholder returns on ownership structure would yield insignificant results—and so was found by Demsetz and Lehn.

Elsewhere, we use data on the 1947 American-mandated zaibatsu dissolution (Miwa and Ramseyer, 2003a) to illustrate the way competitive product, service, and capital markets constrain Japanese ownership structures. Initially, those firms subject to the dissolution—the firms forced by the Americans to adopt ownership structures other than what had prevailed in the market—earned lower profits than competitors not subject to the dissolution. By 1958, however, that effect had disappeared. Within a decade, competition in product, input, and capital markets had forced firms to shift to more firm-specifically appropriate ownership patterns or disappear. As the firms subject to the American-mandated dissolution restructured their ownership, the earlier observable relation between ownership structure and profitability vanished.[2]

Although scholars continue to dispute Demsetz and Lehn's claim that ownership is endogenous to performance (e.g., Morck et al., 1988; Holderness et al., 1999), they introduce their own theoretical puzzle: why? Why, as Jensen and Warner (1988) put it, would "concentration [not be] chosen to maximize firm value"? In any event, even in their studies the observable tie between ownership and performance appears only haphazardly and usually only in nonlinear specifications. Himmelberg et al. (1999, p. 354) conclude that once one controls for firm-specific differences in contracting environments, the basic endogeneity reappears: "changes in managerial ownership levels have no statistically significant effect on Q."

2.2.3 Boards and Performance

The Demsetz–Lehn logic transfers straightforwardly from ownership concentration to board composition. Perhaps at some firms, investors will want outsiders who protect against insider misbehavior. Perhaps at others they will want the sophistication and cohesion that an all-inside board brings, and use other means to monitor and constrain

2. As an exogenous shock, the American-mandated dissolution of the existing ownership equilibrium created a natural experiment to study the effect of ownership on performance. Unfortunately, we know of no analogous shock to postwar board composition in Japan, and thus cannot perform a similar experiment regarding board composition. Over time, however, we do predict that the judicial decision in the early 1990s to facilitate derivative litigation (see West, 2001) may (for reasons outlined in the US context) lead more Japanese firms to adopt majority outsider boards as well.

their managers. Given market pressures, the firms without outsiders should tend to be those where outsiders would bring few gains. Because firms will appoint boards that approach their firm-specific optimum, board composition should bear no observable relation to firm performance.[3]

As with ownership concentration, some studies do find the contrary. Regressing performance on outsider board membership, for example, some scholars find a positive association, while others, however, find a negative association.[4] And most literature reviews (e.g., Hermalin and Weisbach, 2003; Romano, 1996, 2001; Bhagat and Black, 1999) find no relationship between observed performance and board composition at all (e.g., Dalton et al., 1998, p. 278). "No matter what variable is used to measure performance," concludes Romano (1996, p. 287), "virtually all studies find that there is no significant relation between performance and board composition."

2.3 Misconceptions

Before examining the data, table several common misunderstandings about Japanese corporate governance. First, the Japanese equity market is not inactive. Japanese firms raise not just debt but also equity, and raise the two in about the same proportions as US firms. When observers claim Japanese firms are more heavily levered, they primarily capture accounting differences (Myers, 2001, p. 83). Even the widely cited restrictions on the bond market were porous, and the equity market still faced fewer limitations (Miwa and Ramseyer, 2004a).

Second, Japanese managers do not put employee welfare before shareholder returns. Instead, Japanese firms maintain incentives structured directly to induce their managers to augment shareholder gains. Abe (1997), Kaplan (1994), and Kaplan and Minton (1994), for instance, all find top executive tenure in Japan tied to firm performance.

Third, Japanese executives cannot ignore the corporate-control market. Although tender offers are rare, they have long been possible—and for managerial incentives, what matters is not the number of takeovers but the potential for them. Indeed, if potential raiders could acquire a firm readily enough, in equilibrium they seldom would—for managers would manage in ways that did not make themselves a target. Moreover, in Japan, mergers and asset sales are common (Kosei, 1994,

3. This endogeneity to board composition is central to such econometric studies as Hutchinson (2002); Agrawal and Knoeber (1996); Bathala and Rao (1995); Beatty and Zajac (1994).

4. *Positive effects*: e.g., Black et al. (2003); Baysinger and Butler (1985); Ezzamel and Watson (1993); Brickley and James (1987); Mayers et al. (1997). *Negative effects*: e.g., Kesner (1987); Agrawal and Knoeber (1996); Klein (1998); Vance (1978).

p. 181), and mergers and asset sales move productive assets to higher valued uses as effectively as tender offers.

Finally, the Japanese government has not used regulation to soften the constraints imposed by the bank debt market. Although for years it purported to ration funds, for most of the last half-century firms raised their money in competitive markets at competitive rates. The loan restrictions it imposed simply did not bind (Miwa and Ramseyer, 2004a).

3. The Data

3.1 Introduction

To study board appointments in Japan, we assemble information on all non-bank firms listed in section 1 of the Tokyo Stock Exchange (the largest firms). We collect financial data from 1986 to 1994, and board composition data of 1985, 1990, and 1995. We then use these data to determine which firms appointed what kinds of directors (Section 4.1), and what observable effect those directors had on firm performance (Section 4.2). Both because of the idiosyncratic regulatory structures involved and because bank accounting data differ substantially from accounting data in other industries, we exclude banks from this data set. We then explore the connection between board composition and profitability among banks in Miwa and Ramseyer (2003b). We ignore a firm's purported *keiretsu* affiliation for reasons explained in Miwa and Ramseyer (2002b).

3.2 Sources

We take our basic financial data from the Nikkei NEEDS data base. From the *Kabushiki toshi shueki ritsu* (Nihon shoken), we gather shareholder returns; from work by Asako et al., 1997, we obtain Tobin's *Q*; and from the *Kigyo keiretsu soran* (Toyo keizai) we collect information on board composition and the presence of a dominant shareholder.

3.3 Variables

With these data, we construct the following variables.

3.3.1 Performance Variables

Q: Tobin's *Q* for TSE-listed manufacturing firms (not the whole data set), averaged over 1986–1990 and 1990–1994.[5]

ROI: Total annual shareholder returns on investment (annual rate of appreciation in stock price plus dividends received) for 1985–1990 and 1990–1995.

5. *Q* is "multiple *Q*," given the consideration which the compilers gave to the impact of real estate prices on corporate performance (see Asako et al., 1997).

Operating-Income/TA: The ratio of a firm's operating income (#95 of the Nikkei NEEDS data base) to total assets (#89) for each year, averaged over 1986–1990 and 1990–1994.

Ordinary-Income/Eq: The ratio of a firm's ordinary income (operating plus non-operating income, less non-operating expenses [such as interest]; #110) to equity (#78) for each year, averaged over 1986–1990 and 1990–1994.

Growth: The annual growth rate, in percentage, of a firm's total assets, averaged over 1986–1990 and 1990–1994.

3.3.2 Board Composition Variables—As of 1985, 1990, and 1995[6]

Past Bankers: The number of directors on the board with a past career at a bank.

Past Other Firm: The number of directors on the board with a past career at another firm (other than a bank).

Past Bureaucrat: The number of directors on the board with a past career in government.

Concurrent Banker: The number of directors on the board with a concurrent position at a bank.

Concurrent Other Firm: The number of directors on the board with a concurrent position at another firm (other than a bank).

Total Outside Directors: The sum of the above directors.

Majority Outside Directors: 1 if outside directors constituted 50% or more of all directors; 0 otherwise.

Although shareholders elect only the members of the board (the *torishimari yaku*), those directors usually select a subset of themselves to handle routine issues. These executive directors (*jomu*, *senmu*, and various corporate officers) enjoy no special legal status (Miwa, 1998, pp. 104–111). Because some observers claim that the identity of these executive directors matters more than that of the others, we ran separate regressions for executive director composition and for board composition more generally. As the results were qualitatively very close, we report only the results on the full boards.

Obviously, one could define an "outsider" in many ways other than the way we defined it here. Definitions inherently contain an arbitrary element, and to our knowledge the literature offers no uniform definition. We choose the categories that we did because they reflect the principal debates over Japanese corporate governance. Bankers lie

6. That is, in most cases, the directors chosen at the first shareholders' general meeting after the 1985, 1990, and 1995 fiscal years. Because most firms hold their meetings in June and have an April–March fiscal year, the 1985 directors would be those selected in June 1986, after the end of fiscal year 1985 (April 1985–March 1986).

central to the elaborate economic literature on main bank monitoring (see Miwa and Ramseyer, 2005a, 2005b; though some readers might not call them "outsiders"). Retired bureaucrats have similarly generated a massive literature. And directors from "other firms" represent the men and women many Americans consider "outside directors" (though again if from a dominant parent corporation not all readers would call them "outsiders").

3.3.3 Control Variables

Total Directors: The number of directors (or executive directors) at a firm in 1985, 1990, and 1995.[7]

Dominant S/h: 1 if any shareholder held 25% or more of the firm's stock in 1985, 1990, or 1995; 0 otherwise. Most dominant shareholders are parent corporations rather than individuals.

Volatility: The variance of the ratio of a firm's operating income (#95) to total assets (#89) over 1986–1990 and 1990–1994.

Total Assets: The average total assets of a firm (#89) over 1986–1990 and 1990–1994, in million yen.

Tangible Assets/TA: The average ratio of a firm's tangible assets (#21) to total assets (#89) over 1986–1990 and 1990–1994.

Sales/TA: A firm's average sales (#90) over 1986–1990 and 1990–1994, divided by its average total assets (#89) over 1986–1990 and 1990–1994.

Bank Debt/TA: The sum of a firm's short-term (#46) and long-term (#47, 63) borrowings divided by its total assets (#89), averaged over 1986–1990 and 1990–1994.

Industry Dummies: Dummy variables for affiliation in the construction, trade, service and finance (but excluding banks), transportation (and utilities and real estate), light industry, chemical, machinery, and metals industries.

We include selected summary statistics in Tables I and II.

3.4 The Regressions

To explore the determinants of outside director appointments, we regress the number of outside directors of each type in 1985 and 1990 on firm financials and industry affiliation. Given that the dependent variable involves count data, we use Poisson (with Huber–White

7. For this and other director variables, the data cover those directors who, after serving in management elsewhere, are named to the board within 3–4 years of joining a given firm. The numbers include statutory auditors (*kansayaku*), on the grounds that Japanese discussions of "*yakuin*" (colloquially translated as "directors") typically include the *kansayaku*.

Table I.
Selected Summary Statistics

I. Total and Type of Outside Directors, All Industries and Years	*N*	Min.	Median	Mean	Max.
A. Boards and Outsiders, All Firms					
1. *Total Directors*					
1985	1029	6	18	19.49	54
1990	1134	6	19	21.16	59
1995	1197	7	19	21.26	60
2. *Total Outsiders*					
1985	1029	0	4	4.70	24
1990	1134	0	4	4.90	29
1995	1197	0	4	5.14	23
B. Boards and Outsiders, by Industry (1985)					
1. *Total Directors*					
Construction	101	11	23	24.98	51
Trade	117	7	17	19.68	54
Service and Finance	43	9	19	19.07	32
Transportation	87	7	20	20.52	39
Light Indus.	131	9	17	17.85	40
Chemical	156	8	18	19.13	41
Metals	119	6	17	18.79	52
Machinery	275	8	17	18.44	54
2. *Total Outsiders*					
Construction	101	0	7	8.21	19
Trade	117	0	3	4.14	19
Service and Finance	43	0	8	8.63	21
Transportation	87	0	4	4.82	24
Light Indus.	131	0	3	2.84	12
Chemical	156	0	3	3.75	15
Metals	119	0	3	4.14	14
Machinery	275	0	4	4.65	17

Continued

z-statistics). Because rational firms will choose their governance structure with an eye to their anticipated needs, we couple 1986–1990 financial data with 1985 board composition (Table III, Panel I), and 1990–1994 data with 1990 composition (Panel II).[8]

8. Given the endogeneity that this procedure raises, we also ran regressions pairing 1990 board composition with 1986–1990 financials, and 1995 board composition with 1990–1994 financials. Because the results were qualitatively similar, we do not report them here.

Several readers suggested that the crucial distinction might depend not on the number of outsiders a firm had on a board but on whether it had any. To explore this issue, we also calculated probit estimates of the appointment of any outsider to the board. Because this exercise too yielded qualitatively similar results, we do not report them here.

Table I.
Continued

	N	0	1 and 2	3 and 4	5 or More	Majority of Outside
C. Percentage of Firms with Total Outsiders Equal to						
1. *By Year*						
1985	1029	10.11	22.74	23.23	43.93	15.16
1990	1134	9.08	21.50	22.22	47.09	11.73
1995	1197	6.10	22.56	22.81	48.54	12.61
2. *By Industry (1985)*						
Construction	101	1.98	1.98	8.91	87.13	26.73
Trade	117	11.11	30.77	19.66	38.46	10.26
Service and Finance	43	2.33	11.63	13.96	72.09	51.16
Transportation	87	10.34	17.24	25.29	47.13	13.79
Light Indus.	131	19.85	26.72	33.59	19.85	6.11
Chemical	156	14.74	28.21	21.79	35.26	8.97
Metals	119	10.08	26.05	26.05	37.82	12.61
Machinery	275	6.55	24.00	25.45	44.00	16.73

	Mean OD Change	% Firms w/o OD Change	% Firms w/1 OD incr	% Firms w/2+ OD incr	% Firms w/1 OD decr	% Firms OD +2 OD decr
D. Change Over Time in Number of Outside Directors						
1. *1985–1990* (*N* = *1029*)						
Past Bankers	0.48	64.82	14.09	3.98	13.22	3.89
Past Other Firm	0.93	49.27	17.59	11.18	13.61	8.36
Past Bureaucrat	0.30	77.65	8.07	3.01	8.65	2.62
Con. Banker	0.12	89.80	4.28	0.97	4.37	0.58
Con. Other Firm	0.46	69.48	9.82	3.50	12.05	5.15
Total Outsiders	1.39	33.62	16.04	17.49	18.08	14.77
2. *1990–1995* (*N* = *1134*)						
Past Bankers	0.47	66.23	14.29	4.32	11.46	3.70
Past Other Firm	0.94	48.15	14.29	13.14	15.34	9.08
Past Bureaucrat	0.29	78.13	8.82	2.65	7.41	3.00
Con. Banker	0.14	88.36	5.47	0.88	4.32	0.97
Con. Other Firm	0.53	63.32	15.78	4.41	11.82	4.67
Total Outsiders	1.34	29.10	21.69	19.66	15.52	14.02

Continued

To study the effect of board composition on firm performance, in Table VI we then regress performance in our two periods on (i) the number of outside directors of each type, (ii) various firm financials, and (iii) industry dummies. To check for robustness, we use multiple performance measures, and 2SLS as well as OLS.

Table I.
Continued

	II. Firm Characteristics			
	N	Min.	Mean	Max.
A. Performance Variables				
Q (1986–1990)	320	−30.731	2.084	31.043
Q (1990–1994)	324	−36.238	1.604	23.248
ROI (1985–1990)	941	−15.3	21.767	78.6
ROI (1990–1995)	1054	−45	−10.758	14.7
Operating-Inc/TA (1986–1990)	1190	−0.336	0.053	0.446
Operating-Inc/TA (1990–1994)	1197	−0.133	0.043	0.370
Ordinary-Inc/Eq (1986–1990)	1190	−0.318	0.153	3.700
Ordinary-Inc/Eq (1990–1994)	1197	−4.346	0.103	0.841
Growth (1986–1990)	1142	−59.010	66.840	1197.568
Growth (1990–1994)	1190	−72.898	20.490	506.911
B. Shareholding Variables				
Dominant S/h (1985)	1029	0	0.204	1
Dominant S/h (1990)	1134	0	0.185	1
Dominant S/h (1995)	1197	0	0.194	1
C. Other Variables (1986–1990)				
Volatility ($\times 10^4$)	1190	0.007	4.325	198.31
Total Assets ($\times 10^6$ yen)	1190	2059	244203	10900000
Tangible Assets/TA	1190	0.0003	0.244	0.916
Sales/TA	1190	0.047	1.125	7.435
Bank Debt/TA	1190	0	0.202	0.887
D. Other Variables (1990–1994)				
Volatility ($\times 10^4$)	1197	0.001	4.325	262.064
Total Assets ($\times 10^6$ yen)	1197	3182	323422	11700000
Tangible Assets/TA	1197	0.001	0.258	0.919
Sales/TA	1197	0.058	1.011	9.047
Bank Debt/TA	1197	0	0.176	0.933

Notes: The first column in "I.C" gives the number of firms; the next four columns give the percentage of firms with 0 outsiders, 1 or 2 outsiders, 3 or 4 outsiders, or 5 or more outsiders; the sixth column gives the percentage of firms with a majority of outside directors; and the remaining columns give the comparable percentages if one looks only at the executive directors. The first column in "I.D"gives the mean change in the absolute value of the number of outside directors at the firm; the remaining columns give the percentage of firms registering no change in the number of outside directors of a given category, registering an increase or decrease of 1 outside director, or registering an increase or decrease of 2 or more.
Sources: Nikkei QUICK joho, K.K., NEEDS (Tokyo, Nikkei QUICK joho, as updated); Nikkei QUICK joho, K.K., QUICK (Tokyo, Nikkei QUICK joho, as updated); Nihon shoken keizai kenkyu jo, ed., Kabushiki toshi shueki ritsu [Rates of Return on Common Stocks] (Tokyo: Nihon shoken keizai kenkyu jo, updated); Toyo keizai, ed., Kigyo keiretsu soran [Firm Keiretsu Overview] (Tokyo: Toyo keizai, as updated); Kazumi Asako, et al., Setsubi toshi to tochi toshi: 1977–1994 [Investment in Equipment and Investment in Land: 1977–1994, in Kazumi Asako & Masayuki Otaki, ed., Gendai makuro keizai dogaku [Contemporary Macro-economic Dynamics] (Tokyo: University of Tokyo Press, 1997).

4. Outside Directors—the Discussion

4.1 Who Appoints Them?

4.1.1 Introduction

Consider two preliminary observations. First, Japanese boards are big. At our 1029 firms in Section 1 of the TSE in 1985, the boards ranged from

Table II.
Type of Outside Directors by Industry, 1985

	N	Min.	Median	Mean	Max.
A. All Industries					
Past Bankers	1029	0	1	1.06	19
Past Other Firm	1029	0	1	1.83	15
Past Bureaucrat	1029	0	0	0.53	11
Con. Banker	1029	0	0	0.22	6
Con. Other Firm	1029	0	0	1.06	11
B. Construction					
Past Bankers	101	0	1	1.18	6
Past Other Firm	101	0	2	3.50	13
Past Bureaucrat	101	0	2	2.57	11
Con. Banker	101	0	0	0.07	1
Con. Other Firm	101	0	0	0.89	8
C. Trade					
Past Bankers	117	0	0	0.91	6
Past Other Firm	117	0	1	1.90	15
Past Bureaucrat	117	0	0	0.26	3
Con. Banker	117	0	0	0.12	4
Con. Other Firm	117	0	0	0.95	8
D. Service and Finance					
Past Bankers	43	0	1	2.42	19
Past Other Firm	43	0	1	2.51	12
Past Bureaucrat	43	0	0	0.67	7
Con. Banker	43	0	0	0.60	6
Con. Other Firm	43	0	2	2.42	8
E. Transportation					
Past Bankers	87	0	0	1.01	15
Past Other Firm	87	0	1	1.24	8
Past Bureaucrat	87	0	0	0.53	5
Con. Banker	87	0	0	0.49	4
Con. Other Firm	87	0	1	1.54	8

Continued

6 directors to 54, with a median of 18 and a mean of 19.5; the executive directors ranged from 1 member to 32, with a median of 7 and a mean of about 8 (Table I, Panel I.A.1). By contrast, large US manufacturing firms in 1988 had a mean board of about 12.[9]

9. Agrawal and Knoeber (2001, p. 182, Table I). In Japan, the correlation between firm size (*Total Assets*) and board size (*Board Size*) is 0.60. This high correlation probably explains why studies examining only the very largest listed Japanese firms (e.g., Calder, 1989, p. 384; Ahmadjian, 2001) find bigger boards.

Table II.
Continued

	N	Min.	Median	Mean	Max.
F. Light Industry					
Past Bankers	131	0	1	0.97	5
Past Other Firm	131	0	0	0.85	9
Past Bureaucrat	131	0	0	0.18	4
Con. Banker	131	0	0	0.15	3
Con. Other Firm	131	0	0	0.69	4
G. Chemical					
Past Bankers	156	0	1	1.08	7
Past Other Firm	156	0	0	1.24	12
Past Bureaucrat	156	0	0	0.13	3
Con. Banker	156	0	0	0.28	2
Con. Other Firm	156	0	0	1.02	11
H. Metals					
Past Bankers	119	0	1	0.80	5
Past Other Firm	119	0	1	1.71	9
Past Bureaucrat	119	0	0	0.36	3
Con. Banker	119	0	0	0.14	3
Con. Other Firm	119	0	0	1.13	8
I. Machinery					
Past Bankers	275	0	1	1.03	7
Past Other Firm	275	0	1	2.13	13
Past Bureaucrat	275	0	0	0.32	4
Con. Banker	275	0	0	0.19	3
Con. Other Firm	275	0	0	0.98	10

Sources: See Table I.

Second, the majority of Japanese directors were "insiders." Among our firms in 1985, 14 of the mean 19 directors were career firm employees and so were six of the mean eight executive directors (Table I, Panel I.A). Put another way, at the mean 1985 firm 26% of the directors and 27% of the executive directors had either past or concurrent appointments at other institutions. The mean varied widely by industry: from fewer than three outside directors in light industry, to nearly nine in service and finance (Panel I.B.2).

Outsiders did not dominate Japanese firms, but neither were they absent. On the one hand, only 15% of the firms had at least half outside directors, and 23% had at least half outside executive directors. On the other, only 10% of the firms had no outsiders (Table I, Panel I.C.1). The ratios again varied by industry: only 6% of the firms in light industry had majority outsiders, while 51% of those in service and finance did; only 2% of the construction firms had no outsiders while 20% of the

light industry firms had none (Table I, Panel I.C.2). Among large US manufacturing firms, nearly three-quarters were outsiders (Agrawal and Knoeber, 2001, p. 182 Table I).[10]

We follow the practice in the literature on Japanese boards (e.g., Kaplan and Minton, 1994) in defining as outsiders those directors with either a past career or a concurrent career outside the firm. The former predominate. At our mean firm in 1985, 1.8 of the 19.5 directors were former executives at other firms, and 1.1 currently held such positions; 1.1 were former bankers, and 0.2 currently worked at banks; 0.5 were former government officials (a practice known as *amakudari*), and legal restrictions prevented current officials from holding board posts (Table II, Panel A). Of the 7.9 executive directors at the mean firm, 1.0 were former executives at firms, and 0.1 currently held such positions; 0.5 were former bankers, and 0.01 currently worked at banks; 0.3 were former government officials.

4.1.2 Change Over Time

Suppose that the directors a firm needs to lead it during economic booms do not necessarily lead it well during hard times. Because of the radical break in Japanese economic performance in 1990, optimal board composition would have changed during our years. Where from 1986 to 1990 real GDP grew at about 5% a year, from 1991 to 1994 it grew barely 1% annually. Where the number of firms (with debt over 10 million yen) failing dropped from 17,500 in 1986 to 6,500 in 1990, by 1994 it had climbed to 14,000 and by 2001 to 19,200 (BOJ statistics, available at www.boj.or.jp).

If optimal board composition varied by macro-economic environment, then those directors suited to Japanese firms in the late 1980s would have been far less appropriate for the early 1990s. Necessarily, many firms that chose directors to maximize performance would have appointed different types of men and women during the two periods. Disproportionately, firms that kept their boards unchanged would have included those with inappropriate boards for at least one of the two periods.

At least by our observable indices, however, Japanese firms did not change the types of directors they appointed. In 1985, they chose outsiders for 25.6% of their directors, in 1990 for 24.9%, and in 1995 for 25.8%. Of those outsiders, they consistently chose 6–7% from banks, 16–17% from other firms, and 2–3% from the government. From 1985

10. Other studies purport to show that Japanese firms have a much lower fraction of outside directors than our data. This is largely because the number of outsiders at a firm is inversely associated with firm size (Table III), and these studies look only at the very largest listed firms.

to 1990, 34% of the firms kept the number of outsiders they named to their boards unchanged. Sixteen percent added one outsider and 17% added two or more; 18% cut one outside director and 15% cut two or more. From 1990 to 1995, 29% made no change in the number of outside directors, 22% added one, and 20% added two or more; 16% cut one outsider, and 14% cut two or more (Table I, Panel I.D).

4.1.3 Former Bureaucrats

Specialists on Japan routinely argue that the Japanese government uses retired bureaucrats to influence business behavior. Okimoto claims that MITI sends its ex-bureaucrats "to the very sectors identified as most central to the development of Japan's economy."[11] There, as Aoki (1998, p. 299) puts it, the ex-bureaucrats let the government "extend its visible and invisible influence throughout its jurisdiction." Through the retired bureaucrats, explains Hoshi (1998, p. 862), it can "intervene in management if necessary." Given the confluence of widespread business regulation with a "high number of *amakudari* board members," concludes Schaede (1994, p. 318–319), "ex-government officials constitute an important factor in the Japanese governance structure."

Although we do not purport to test the effect of the ex-bureaucrats on the enforcement of government policy, one should wonder. At root, ex-government directors are few and far between (Tables I and II). Our 1029 firms in 1985 had only a mean 0.5 ex-government directors and 0.3 ex-government executive directors (Table II, Panel A). Seventy-four percent of the firms had no ex-government directors at all, and 83% had no executive directors. What is more, few of the firms with ex-bureaucrats were in any of the industries that drove the post war economic growth. Instead, as our Table III regressions of the number of ex-bureaucrats on firm characteristics show (we discuss the issue more fully in Section 4.1.6), they were primarily in the construction industry.[12]

4.1.4 Bankers

4.1.4.1 The Literature. Banks play an important role in most analyses of Japanese corporate governance, and "main banks" are central to the accounts.[13] Morck et al. (2000, p. 540; Sheard, 1996, p. 181) declare that

11. Okimoto (1989, p. 162). More ambiguously, Calder (1989, p. 383), claims that ex-government officials are "quite numerous" in "some strategically important sectors of the economy"—but then gives the construction industry as an example of a "strategically important" sector.

12. They were also in the regional banks, as we discuss in Miwa and Ramseyer (2003b).

13. In their study of the 119 largest Japanese firms, Kaplan and Minton (1994) examine the relation between firm performance and executive turnover. They find that the lowest-performing firms tend to increase the number of bankers they appoint to the board. We discuss this issue in Miwa and Ramseyer (2005a).

Table III.

Who Appoints Outsiders? Poisson Estimates of the Number of Directors

I. Regressions of 1985 Board Composition on 1986–1990 Financials

	Dependent Variable				
	Past Position			Concurrent Position	
	(1) Bank	(2) Bureaucrat	(3) Other Firm	(4) Bank	(5) Other Firm
Total Dirs	0.017 (2.03)	0.045 (4.69)	0.008 (0.90)	0.048 (4.04)	0.039 (4.15)
Dominant S/h	−0.884 (6.62)	−0.325 (1.71)	1.014 (10.59)	−0.572 (2.34)	1.113 (10.66)
ROI	−0.005 (1.35)	0.006 (1.01)	−0.003 (0.87)	0.006 (0.78)	−0.003 (0.81)
Volatility	−6.746 (0.19)	10.988 (0.11)	25.508 (0.70)	58.672 (1.00)	91.758 (2.70)
Total Assets ($\times 10^6$)	−0.133 (1.28)	−0.023 (0.33)	−0.562 (3.02)	0.035 (0.37)	0.318 (1.91)
Tangible Assets/TA	−0.840 (2.29)	−0.337 (0.39)	0.253 (0.66)	−0.319 (0.55)	0.423 (1.01)
Sales/TA	−0.023 (0.26)	−0.002 (0.02)	0.036 (0.40)	−0.373 (2.11)	−0.099 (1.05)
Bank Debt/TA	1.938 (9.38)	0.173 (0.44)	−0.057 (0.22)	0.385 (0.89)	0.237 (0.84)
Industry Dummies					
Construction	0.298 (1.48)	1.610 (5.34)	0.826 (4.02)	−1.053 (2.07)	−0.268 (1.00)
Trade	0.034 (0.15)	−0.372 (1.03)	0.382 (1.63)	0.153 (0.30)	0.222 (0.95)
Service and Finance	0.878 (3.98)	0.589 (1.38)	0.412 (1.68)	1.185 (3.04)	0.686 (3.47)
Transportation	0.216 (0.92)	0.468 (1.55)	−0.083 (0.38)	1.029 (2.70)	0.337 (1.45)
Light Indus	0.171 (1.01)	−0.523 (1.58)	−0.413 (2.16)	0.191 (0.44)	−0.103 (0.51)
Chemical	0.372 (2.52)	−0.894 (2.76)	−0.194 (1.08)	0.705 (1.95)	0.003 (0.02)
Machinery	0.403 (2.80)	−0.067 (0.27)	0.328 (2.32)	0.270 (0.76)	−0.016 (0.10)
Pseudo R^2	0.11	0.29	0.16	0.10	0.13
N	916	916	916	916	916

II. Regressions of 1990 Board Composition on 1990–1994 Financials

	Past Position			Concurrent Position	
	(1) Bank	(2) Bureaucrat	(3) Other Firm	(4) Bank	(5) Other Firm
Total Dirs	0.008 (1.25)	0.037 (5.13)	0.013 (1.53)	0.037 (3.93)	0.026 (3.14)
Dominant S/h	−0.823 (5.93)	−0.644 (2.67)	1.044 (12.68)	−0.748 (2.44)	1.199 (12.23)
ROI	0.001 (0.08)	−0.010 (1.09)	0.007 (1.38)	0.010 (0.87)	0.007 (1.04)
Volatility	0.423 (0.02)	−21.127 (0.30)	−26.688 (0.61)	2.539 (0.03)	77.432 (2.56)
Total Assets (×106)	0.001 (0.08)	0.060 (1.35)	−0.795 (4.09)	−0.002 (0.03)	−0.303 (2.26)
Tangible Assets/TA	−0.608 (1.64)	0.171 (0.24)	−0.090 (0.29)	−0.227 (0.41)	0.546 (1.49)
Sales/TA	−0.134 (1.62)	0.007 (0.05)	−0.025 (0.24)	−0.401 (2.28)	0.009 (0.09)
Bank Debt/TA	2.009 (7.73)	−0.051 (0.13)	0.186 (0.70)	1.246 (2.87)	0.322 (1.10)
Industry Dummies					
Construction	0.464 (2.47)	1.616 (5.74)	0.556 (3.52)	−0.564 (1.14)	−0.130 (0.58)
Trade	−0.057 (0.30)	−0.484 (1.55)	0.095 (0.49)	0.440 (1.03)	0.217 (0.94)
Service and Finance	0.684 (3.45)	0.127 (0.27)	0.661 (3.48)	1.108 (2.95)	0.733 (3.88)
Transportation	−0.016 (0.07)	0.617 (2.22)	−0.434 (2.32)	1.121 (3.28)	0.571 (2.65)
Light Indus	0.140 (0.90)	1.061 (3.14)	−0.447 (2.73)	−0.043 (0.10)	−0.191 (0.87)
Chemical	0.339 (2.22)	−0.929 (3.11)	−0.287 (2.14)	0.415 (1.26)	0.104 (0.55)
Machinery	0.225 (1.59)	−0.195 (0.81)	0.130 (1.13)	0.502 (1.54)	−0.078 (0.48)
Pseudo R^2	0.11	0.30	0.20	0.11	0.13
N	1052	1052	1052	1052	1052

Notes: Poisson estimates on the number of directors on the board of a firm who (1) held past positions at a bank, (2) held past positions with the government, (3) held past positions at other non-financial firms, (4) held concurrent positions with a bank, or (5) held concurrent positions at other non-financial firms.

The table gives the coefficient, followed by the absolute value of the z-statistic, calculated using the Huber–White sandwich estimator of variance. All equations include a constant, not reported here. The omitted industry dummy is metals.

Sources: See Table I.

in Japan "corporate governance rights rest primarily with banks," and Sheard describes the banks and large shareholders as "the principal agents of direct corporate governance in Japan." Japanese firms borrow heavily from banks, the story goes. Among the banks, one typically acts as the firm's "main bank." As such, it lends the firm the largest portion of its funds, agrees to rescue it if times turn bad,[14] and plays "a key corporate governance role" (Morck et al., 2000, p. 540).

According to many accounts, the main bank also implicitly agrees to monitor the firm on behalf of the firm's other creditors. Typically, big Japanese firms borrow from many banks. Because the banks would waste resources if they each monitored all firms, each implicitly agrees (in these accounts) to monitor those for which it serves as the "main bank." In Aoki's (2000, p. 79) words, the main bank becomes the firm's "exclusive" monitor. The banks, as Sheard (1994, p. 8) modeled it, are "completely diversified in their lending but . . . spread the burden of being a monitor by having each bank be responsible for monitoring [only a small fraction of] firms."

Consistent with these narratives, observers claim that the main bank wields power in the board room. Kester (1993, p. 70), for instance, writes that "one or more members of a typical (21-member) Japanese board are frequently former executives of the company's main bank(s)." According to Monks and Minow (1995, p. 265), at large Japanese firms "outside directors usually represent major lenders." In Sheard's (1986, p. 181) account, "main banks directly exercise "voice" by supplying managers to the board." And according to Hermalin and Weisbach (1998, p. 112), representatives of a Japanese firm's principal lender "usually serve on the company's board."

4.1.4.2 The Results. Our data illustrate a variety of facets to the banker-director phenomenon, and several are uncontroversial. First, directors with banking bankgrounds tend to serve on the boards of firms with more bank debt (*Bank Debt/TA;* Table III). Second, ex-bankers are less likely to serve on the boards of firms dominated by a major shareholder (*Dominant S/h*). Last, ex-bankers are more likely to serve on the boards of firms without a large stock of mortgageable assets (*Tang Ast/TA;* Table III).

More problematic is whether bankers dominate boards. Although bankers are more common than some other outside directors, about half the firms have none. Of all 1029 firms in 1985, 47% had no ex-banker director, and 63% had no ex-banker executive director. The mean firm had 4.7 outside directors, but only 1.1 with a background at a bank

14. The claim is false, as we demonstrate in Miwa and Ramseyer (2002c, 2005a, 2005b). See also Hayashi (2000) and Hall and Weinstein (2000).

(Table I, Panel A.2; Table II, Panel A). According to Cable, at the largest 100 German companies, banks held 9.8% of all board seats; by contrast, at the largest 100 Japanese firms, ex-bankers held 5.5% of the board seats, and 5.9% of the executive board seats.[15]

Most of the banker-directors were ex-bankers rather than men currently working at banks. If they held their seats as a bank's agent, one would not expect them to have traded their bank job for a nominally full-time position at the firm. Instead, one would expect them to have retained their bank career. In fact, however, only 15% of the 1985 firms had a director with a concurrent bank position, and fewer than 1 in 100 had an executive director with a concurrent bank post.

Third, banker directors tended to serve at the service and financial firms rather than the manufacturers (Tables II and III). In the service and finance industry, the mean 1985 firm had 2.4 ex-bank directors. By contrast, in the chemical industry the mean firm had 1.2 ex-banker directors; in the machinery industry it had 1.0 ex-bank directors; and in metals it had 0.8 ex-bank directors (Table II).

Last, although some ex-bank directors came from a firm's "main bank," many did not. More precisely, firms recruited 57% of their ex-bank directors from their main bank (defined as the institution that lent the firm the greatest amount of debt). Because the main bank is (by definition) the bank that has lent the most, if the cost-effective level of monitoring rises with the amount of debt outstanding, then a main bank will necessarily have the greatest incentive to monitor—"delegated" monitor or no. On the other hand, if its directors serve as the exclusive monitors for all other banks, *only* bankers from the main bank should appear on board. In fact, about half the ex-bank directors are from the main bank.

4.1.5 Non-Bank Outside Executives

People and firms who invest heavily in a company will demand a mechanism by which to influence the company. Consistent with this logic, the firms that appoint the most outside business executives to the board (non-bank, non-government outside directors) are those with a dominant shareholder. On the Tokyo Stock Exchange, about a fifth of the firms have a shareholder with 25% or more of the stock.

Firms with a dominant shareholder are more likely than others to have at least one retired outside business executive on their board. Among all TSE firms, 57% had such a director (45% had an executive director). Among those with a dominant shareholder, however, 81% had such a director (78% had an executive director). Among all TSE firms,

15. Cable (1985, p. 119). Among all the firms in our sample, ex-bankers held 5.9% of the directorships and 7.4% of the executive directorships.

retired executives constituted 10.4% of the board (14.7% of the executive directors). At those with a dominant shareholder, they constituted 24% (36% of the executive directors). The pattern parallels the appointments of executives with concurrent appointments at other firms.

Predictably, these outside directors often came from the dominant corporate shareholder itself. Of the 1884 retired executives from other firms serving as directors at the TSE firms, 39.3% were from a dominant shareholder. Of the 403 serving as executive directors, 39.9% were from a dominant shareholder.

Our basic Table III regressions reflect these appointment patterns. When we regress the number of retired outside executives on various firm characteristics, the coefficient on *Dominant S/h* is significantly positive. The magnitude of the Poisson regression coefficients are hard to interpret, but the OLS equivalents suggest that the presence of a dominant shareholder increases the number of such retired directors by 2.4, and the number of directors with concurrent posts in other firms by 1.4.

4.1.6 Industry-Specific Effects

4.1.6.1 Appointment Patterns. Outside director appointments vary widely by industry. Disproportionately, both retired bureaucrats and retired executives work in a few industries. Indeed, disproportionately they work at the construction firms.[16]

Bureaucrats. Take the ex-bureaucrats. Where the average TSE firm had half an ex-bureaucrat on its board in 1985, the average construction firm (101 firms) had 2.6 (Table II, Panels A and B). Where a quarter of the TSE firms had ex-bureaucrat directors, 71% of the construction firms did. Of the 542 ex-bureaucrat directors at all TSE firms, nearly half (260 directors) were at the construction firms.

Notwithstanding Okimoto's claim to the contrary, firms in industries "central to the development of Japan's economy" did *not* recruit ex-bureaucrat directors. In the machinery industry in 1985, nearly 80% of the 275 firms had no former government officials on their board. In the chemical industry (156 firms), 89% had no government officials on their board. Indeed, the average machinery firm had only 0.32 ex-bureaucrats on its board, and the average chemical firm only 0.13.

Even financial services firms were no more likely to hire ex-bureaucrats than the construction firms. As noted earlier, we exclude

16. A point noted even by some of those who reach different conclusions about the hiring of ex-government officials (see, e.g., Blumenthal, 1985, p. 315; Calder, 1989, p. 383; Okimoto, 1989, p. 162; Schaede, 1995, p. 309).

A joint test of statistical significance for all industry dummies yields results that are significant at the 1% level for all regressions in Table III.

banks from the sample here.[17] In fact, however, in 1986 only two of the large money center banks had a former Ministry of Finance (MoF) official as a executive director, and only three had any executive directors from the Bank of Japan (BoJ). Schaede's (1994, pp. 290–291; see Aoki et al., 1994, p. 32) claim that "the CEOs of many major city banks were retired government ministry officials" is simply untrue.

The regional banks had more ex-bureaucrats than the city banks, but no more than the construction firms. Of the 56 regional banks, 48% had a MoF director and 50% a BoJ director. Seventy-one percent of the regional banks had *either* a MoF or a BoJ director.[18]

The Table III Poisson regressions reflect this concentration of government officials in construction: for both directors and executive directors, the coefficient on construction industry membership is a statistically strongly significant predictor of ex-bureaucrat appointments. According to analogous unreported OLS regressions, the coefficient on construction industry membership is 1.9. Consistent with the Table II data, the average 1985 construction firm had two more ex-bureaucrats on its board than the other firms.

Executives. Outside business executives too disproportionately worked at the construction firms. Consider again our Table III regressions. For both all directors and executive directors, the coefficient on construction industry affiliation is larger and statistically more significant than on any other industry dummy. All told, 18.7% of the retired business executives served at construction firms in 1985.

4.1.6.2 Revenue Effects. In the construction industry, board appointments reflect expected revenues.[19] Among the construction firms, those that focused on public-sector projects were most likely to appoint ex-bureaucrats. Those that focused on large private-sector projects may have been most likely to appoint retired executives from other firms. To show this, we create two new variables:[20]

Construction Rev: The percentage of a firm's revenues generated by construction projects (other than prefabricated housing) for 1985.

17. Miwa and Ramseyer (2004b). As defined here, the industry includes service firms not providing financial services.

18. Elsewhere, Schaede (1995, p. 310) writes (apparently a claim diametrically opposed to that in Schaede, 1994) that "most firms" in the banking, investment banking, and insurance industries "do not hire OBs [ex-government officials] at all." In fact, as both the discussion in the text (for banks) and Tables II and IV (for other financial services firms) show, this claim too is false: firms in these industries are at least as likely to hire them as the average firm in the sample as a whole.

19. For an analogous phenomenon in the United States (see, Agrawal and Knoeber, 2001).

20. The data are from Toyo keizai, Kaisha shikiho.

TABLE IV.
OUTSIDE DIRECTORS IN THE CONSTRUCTION INDUSTRY, POISSON ESTIMATES

	Dependent Variable	
	Past Bureaucrat	Past Other Firm
Total Directors	0.046 (2.89)	−0.011 (0.73)
Dominant S/h	−0.061 (0.27)	0.823 (5.30)
Total Assets ($\times 10^6$)	−0.556 (1.32)	1.914 (2.28)
Construction Rev	0.008 (2.60)	0.004 (1.54)
Civil Eng Rev	0.021 (5.82)	−0.006 (1.78)
Pseudo R^2	0.25	0.20
N	101	101

Notes: The regressions are Poisson. All specifications include a constant term, not reported. The table reports the coefficient, followed by the absolute value of the z-statistic in parentheses, using the Huber–White sandwich estimator of variance. The dependent variable is the number of directors with former bureaucratic (or other firm) experience.
Sources: See sources cited in Table I and Kaisha shikiho [Seasonal Corporate News] (Tokyo: Toyo keizai, relevant issues).

Civil Eng Rev: The percentage of a firm's revenues generated by civil-engineering projects for 1985.

The two variables roughly proxy for a firm's dependence on business-sector projects and government projects, respectively. *Construction Rev* represents revenues from private-sector office construction, together with occasional government projects. *Civil Eng Rev* almost exclusively represents revenues from government projects such as road construction. The correlation coefficient for the two is −0.23.

In Table IV, we regress the number of directors in 1985 who had retired from either (i) government posts or (ii) other firms on (a) *Construction Rev* and (b) *Civil Eng Rev.* The exercise produces three straightforward results. First, the more heavily a firm relies on civil-engineering projects, the more ex-bureaucrats it names to directorships and executive directorships. Increased construction revenues also correlate with ex-bureaucrat directors, but the effect is smaller. Second (at lower significance levels), the less a firm relies on civil-engineering projects, the more retired business executives (sometimes from its principal customers) it names to its board. Higher construction revenues may also predict the appointment of such retired business executives, though the coefficients are not statistically significant. Third, firms with a dominant (25% or more) shareholder appoint more outside executives. Indeed, the presence of a dominant shareholder increases the number of retired outside executives on the board by more than three.

4.1.6.3 The Logic. Confronted with evidence that construction firms hire retired government bureaucrats, observers typically assume corruption. Given the bid-rigging scandals on public-sector projects, the assumption is superficially plausible enough. Journalists like van Wolferen seem to argue that firms appoint bureaucrats to the board as a form of deferred compensation for colluding on past bids. Schaede claims that they appoint them to facilitate future corruption. A former bureaucrat, reasons she "can be invaluable in acquiring prior information on planned public projects and government price ceilings on these projects."[21]

Despite its appeal, the argument is problematic. In Japan as in the United States, bid-rigging is a serious crime. When in 1976 a mayor's campaign staffer solicited funds from a contractor in exchange for favorable treatment on a city housing project bid, he found himself prosecuted and convicted for bribery.[22] When in 1991 a construction firm executive director bribed a mayor for a contract for its new sports facility, he found himself sentenced to 2 years in prison (suspended), and civilly liable to the firm besides.[23] And when a director at a real estate development firm bribed a prefectural governor for regulatory clearance and favorable treatment on a bid, a court convicted them both: 2 years in prison for the governor, and $2\frac{1}{2}$ for the director, neither term suspended.[24]

Although heavy penalties may not cut crime rates to 0, usually they will both reduce it and induce criminals to adopt tactics that are harder to detect. The high Japanese penalties for bid-rigging may not eliminate the crime, but they ought to induce those firms determined to rig the process to negotiate and pay their bribes covertly. Yet to hire ex-bureaucrats either to negotiate the crime or to compensate co-conspirators is nothing if not flagrantly visible.

Ex-bureaucrats probably would not help rig many bids anyway. Because of the high penalties, most bureaucrats will not rig bids unless they know well the person propositioning them. A prefecture B official will not likely agree to the crime just because the man approaching him once worked for the Ministry of Construction (MoC). Even less will he much care whether the man once worked for prefecture A. The retired bureaucrats at the construction firms, however, come from a wide range of national and local government offices.

21. See generally Schaede (1995, p. 309); van Wolferen (1989, p. 118). Analogous claims appear in Woodall (1996, pp. 40–41, 70 and 71). Analogous arguments about the banking industry appear in Horiuchi and Shimizu (2001) and van Rixtel and Hassink (2002).
22. Japan v. [No name given], 1199 Hanrei jiho 157 (Sup. Ct. June 27, 1987).
23. Matsumaru v. Otsuru, 1518 Hanrei jiho 4 (Tokyo D. Ct. Dec. 22, 1994).
24. Japan v. Kono, 1611 Hanrei jiho 36 (Tokyo D. Ct. March 21, 1997).

Crucially, the MoC does not auction public sector projects nationwide, and neither does anyone else. Instead, for any given project the government unit involved solicits its own bids. Cities solicit bids for city projects, and prefectures solicit those for their own. The national government itself solicits less than 12% of all public-sector projects (Kensetsu sho, various years). Prefectural and municipal governments each solicit another 30% or so, and assorted public entities solicit the rest (id.).

Table IV instead suggests a more mundane explanation for the hiring patterns (one consistent with the data Agrawal and Knoeber, 2001, locate for the United States): construction firms appoint board members who will help them to identify the services their principal customers want to buy. If they sell heavily to the public sector, they appoint men with experience in government. If they sell heavily to the private sector, they appoint executives with experience in business.[25]

Manufacturing firms need to learn about customer preferences too, of course, but for them it is information they can cheaply obtain elsewhere. If a firm sells large quantities of standardized products (tractors, DVD players) into the general retail market, it can learn buyer preferences by surveying customers or auditing sales patterns. Kubota need not appoint a farmer to its board to learn which plow its customers want to buy. It can simply watch which plows sell.

By contrast, construction firms sell small numbers of nonstandardized service packages (the construction of airports or office towers) to specific customers. To sell successfully, they need to tailor the packages they offer to buyer preferences. Yet surveys and sales audits will only haphazardly enable them to do that. To tailor their packages, they instead recruit men with a lifetime of experience at the types of organizations to which they sell. Hypothetically, they might have hired such men as consultants on specific projects instead. For whatever reason, in Japan they apparently appoint them to the board.

4.2 What Do They Do?

4.2.1 Introduction

For all the reasons Demsetz and Lehn explained, disproportionately the firms that survive in competitive capital, product, and input markets should be firms with governance mechanisms approaching their firm-specific optimum. Given those market constraints, any regression of firm performance on firm governance should yield insignificant results.

25. Obviously, this is consistent with the use of directors to obtain "access." Our quarrel with the literature instead concerns the claim that construction firms use board composition to facilitate bid-rigging.

Obviously, insignificant results will not prove that the firms have reached their optimal structure. Insignificant results never do.

Yet what regressing firm performance on governance structures *will* do is to check whether firms maintain observably inefficient structures. If the conventional accounts are right, they do: many Japanese firms maintain inefficiently low levels of outside directors. And if so, then the firms with more outside directors should outperform the firms with fewer. Given that most firms do appoint at least some outside directors, managers seem not to make outside appointments impossible. If more outsiders would help push the firm to increase shareholder wealth, then those firms that do surmount the hypothesized managerial opposition to outsiders should earn higher returns than those that do not, even under OLS specifications.

Insignificant results are also consistent with boards that simply do not matter, of course. We do not purport to test our claim (a) that firms choose board composition patterns that approach their firm-specific optimum against the claim (b) that board composition has no effect at all. We note, however, that the nonrandom character to board appointments (detailed in Section 4.1) does suggest that the firms involved at least think boards affect how well they do.

4.2.2 The Exercise

In Table VI Panel I, we report the results of regressing firm performance on board composition through OLS, and in Panel II we do the same for a subset of our sample through 2SLS. To check for robustness, we use five distinct indices of firm performance: Tobin's Q (*Q*; available only for the manufacturing firms), shareholder returns (*ROI*), two measures of accounting profitability (*Operating-Inc/TA* and *Ordinary-Inc/Equity*), and the growth rate of the firm's asset base (*Growth*). We include *ROI* because it serves as an obvious metric of firm performance. Given that stock prices should incorporate the anticipated effect of board composition, we caution readers against expecting significant coefficients. We include *Growth* because of the widespread claims that Japanese firms pursue growth rather than profits or shareholder returns. Here too, however, we urge caution: the claims about growth-maximizing Japanese firms have no theoretical rationale, and to date lack any serious empirical support.

With each performance index, we separately study the effect of board composition on the performance for 1986–1990 (Table VI, Panel I.A) and 1990–1994 (Panel I.B).[26] Within each subpanel, we then examine the effect (a) of the number of outside directors from each of several

26. Regressions involving the composition of the executive board yield qualitatively similar results.

categories, (b) of the fraction of outside directors from each category, (c) of dummy variables indicating the presence of any directors from each category, (d) of the total number of outside directors, and (e) of a dummy variable indicating the presence of a majority of outside directions. In each regression, we add financial variables and industry affiliation dummies. For expositional economy, we report the coefficients on these additional variables only in Panels I.A.1 and I.B.1.

We break the data in 1990 because of the dramatic economic shift we detailed earlier. If competition does push firms toward their optimal board structure, then the 1990 break in Japanese performance lets us ask whether that optimum varies by economic environment. As noted above, Japanese firms did not change the types of directors they appointed from 1985 to 1995. Yet, suppose the optimal board structure depended on macroeconomic health. Even if board composition had no observable impact on performance in the 1980s, it might plausibly have had such impact in the early 1990s. If good board structure is not environment-specific, however, then that structure would not visibly have affected performance in either period.

Before turning to the regressions, consider the summary statistics in Table V. At least by these simple indices, outside directors are not observably associated with higher performance. In 1986–1990, firms with *Majority Outside Directors* had higher Tobin's *Q*'s, shareholder *ROI*, and asset *Growth*, but lower *Ordinary-Income/Eq* and (relative to those with no outsiders) lower *Operating-Income/TA*. By 1990–1994, other than *Growth* and *Operating-Income/TA,* they underperformed the other firms on every index.[27]

4.2.3 The Findings

Regression results largely confirm what the logic of market competition predicts: 1985 board composition has no observable effect on 1986–1990 performance, and neither does 1990 composition observably affect 1990–1994 performance. Even when statistically significant, the results are not robust to alternative performance measures.

Preliminarily, take the relation between board size and performance. A few scholars have found that US firms with big boards outperform those with small. For that result, they usually propose only theoretically dubious explanations. And our own Table VI Panel I.A.1 results illustrate the sensitivity such atheoretic inquiries show to quirks

27. At the 5% level, *Majority Outside Director* firms outperform other firms in terms of 1986–1990 *Q*, 1990–1994 *Operating-Income/TA*, and 1990–1994 *Growth*. The other comparisons between the *Majority Outside Director* firms and *non-Majority Outside Director* firms are not statistically significant. The difference in 1986–1990 *Operating-Income/TA* between the *Majority Outside Director* firms and firms with no outside directors is significant at the 10 but not 5% level.

Table V.

Firm Performance and Board Composition—Summary Statistics

	Q	ROI	OpIn/TA	OrIn/Eq	Growth
	A. 1985 Boards and 1986–1990 Performance				
1. All Firms	1.834 (311)	21.949 (916)	0.048 (1029)	0.133 (1029)	55.311 (999)
2. Firms with					
Majority Outsiders	3.823 (43)	22.615 (131)	0.048 (156)	0.117 (156)	57.442 (152)
Minority Outsiders	1.707 (233)	21.913 (691)	0.046 (769)	0.134 (769)	55.654 (745)
No Outsiders	0.233 (35)	21.290 (94)	0.060 (104)	0.148 (104)	49.632 (102)
3. Firms with					
Any Past Banker	1.143 (158)	22.580 (497)	0.042 (549)	0.116 (549)	55.462 (525)
Any Past Other Firm	2.500 (155)	22.706 (505)	0.047 (583)	0.136 (583)	56.744 (564)
Any Past Bureaucrat	1.420 (55)	24.194 (239)	0.045 (264)	0.148 (264)	54.539 (252)
Any Con. Banker	2.168 (50)	21.757 (150)	0.049 (158)	0.136 (158)	51.073 (155)
Any Con. Other Firm	2.753 (149)	21.356 (405)	0.049 (455)	0.142 (455)	56.422 (444)
	B. 1990 Boards and 1990–1994 Performance				
1. All Firms	1.604 (324)	−10.746 (1052)	0.041 (1134)	0.095 (1134)	17.906 (1129)
2. Firms with					
Majority Outsiders	0.879 (28)	−11.563 (120)	0.042 (133)	0.054 (133)	21.438 (132)
Minority Outsiders	1.710 (259)	−10.620 (833)	0.040 (898)	0.102 (898)	18.226 (894)
No Outside	1.409 (37)	−10.895 (99)	0.043 (103)	0.088 (103)	10.607 (103)
3. Firms with					
Any Past Banker	1.311 (167)	−11.243 (568)	0.038 (601)	0.085 (601)	18.231 (597)
Any Past Other Firm	2.057 (190)	−10.831 (641)	0.040 (703)	0.092 (703)	19.991 (699)
Any Past Bureaucrat	0.836 (62)	−10.116 (271)	0.042 (290)	0.114 (290)	23.557 (288)
Any Con. Banker	−0.155 (49)	−10.014 (162)	0.039 (165)	0.108 (165)	18.672 (164)
Any Con. Other firm	2.195 (154)	−10.439 (475)	0.041 (509)	0.086 (509)	18.430 (507)

Notes: Per-firm mean values, followed by number of firms in parentheses. For "all firms," we limit the sample to those firms for which we have data on board composition.
Sources: See Table I.

Table VI.
What Do Outsiders Do? The Effect of Board Composition on Performance

	Dependent Variable				
	(1) Q	(2) ROI	(3) Oper-Inc/ Tot-Asts	(4) Ord-Inc/ Equity	(5) Growth
	I. *OLS Estimates (All Industries)*				
A. 1986–1990					
1. Number of Directors					
Director Variables					
Past Bankers	−1.045 (2.83)	−0.402 (1.64)	−0.001 (1.04)	−0.001 (0.29)	2.170 (1.53)
Past Other Firm	0.331 (1.66)	−0.101 (0.57)	0.001 (1.36)	0.001 (0.67)	0.229 (0.34)
Past Bureaucrat	0.364 (0.44)	0.496 (1.23)	0.000 (0.33)	−0.002 (0.30)	−1.400 (1.05)
Con. Banker	0.020 (0.03)	0.365 (0.65)	−0.000 (0.21)	−0.007 (0.36)	−2.776 (1.21)
Con. Other Firm	0.109 (0.47)	−0.112 (0.51)	0.000 (0.63)	0.006 (1.85)	0.889 (0.72)
Total Dirs.	0.239 (2.80)	−0.111 (1.77)	−0.000 (1.34)	0.002 (1.75)	−0.622 (1.88)
Dominant S/h	1.504 (1.54)	−0.933 (0.85)	−0.003 (1.22)	0.010 (0.72)	3.433 (0.75)
Volatility	1973.52 (3.48)	567.00 (0.83)	9.162 (2.00)	−3.989 (0.18)	424.789 (0.12)
Total Assets ($\times 10^5$)	−0.511 (5.75)	−0.153 (3.24)	0.000 (2.83)	0.002 (3.18)	0.797 (1.41)
Tangible Assets/TA	−8.919 (2.41)	3.036 (1.01)	0.048 (6.18)	−0.026 (0.80)	−48.176 (2.94)
Bank Debt/TA	−4.397 (1.78)	12.531 (5.03)	−0.093 (9.42)	−0.251 (2.98)	−79.646 (7.42)
Construction	5.948 (3.25)	10.925 (5.15)	−0.010 (2.52)	0.017 (0.77)	9.222 (1.21)
Trade		3.519 (1.87)	−0.010 (2.77)	−0.008 (0.54)	7.014 (0.90)
Service and Finance		0.279 (0.11)	0.001 (0.19)	0.013 (0.60)	43.227 (2.73)
Transportation		−0.272 (0.15)	0.000 (0.08)	0.024 (1.18)	26.338 (3.53)
Light Indus	3.402 (2.29)	−0.993 (0.62)	−0.011 (3.11)	−0.028 (2.11)	−1.214 (0.18)
Chemical	3.057 (2.20)	−5.864 (3.85)	−0.000 (0.05)	−0.005 (0.30)	−754 (0.14)
Machinery	2.647 (2.04)	−3.404 (2.29)	−0.021 (5.49)	−0.102 (3.63)	−9.162 (1.77)
R^2	0.20	0.18	0.32	0.18	0.11
N	311	916	1029	1029	999
2. Fractional Board Composition					
Past Bankers	−20.464 (2.87)	−6.461 (1.27)	−0.013 (1.02)	−0.096 (0.99)	32.907 (1.33)
Past Other Firm	4.184 (1.50)	−2.400 (0.72)	0.007 (0.87)	0.006 (0.13)	5.895 (0.47)
Past Bureaucrat	3.746 (0.28)	10.697 (1.22)	0.023 (1.10)	−0.006 (0.04)	−33.144 (1.26)
Con. Banker	1.319 (0.09)	7.571 (0.60)	−0.005 (0.12)	−0.258 (0.44)	−49.944 (1.14)
Con. Other Firm	3.200 (0.71)	−4.373 (0.99)	−0.004 (0.26)	0.095 (1.39)	9.838 (0.50)
3. Any Directors (Dummy Variables)					
Past Bankers	−1.277 (1.66)	0.761 (0.95)	−0.006 (3.00)	−0.017 (2.32)	7.167 (1.94)
Past Other Firm	0.504 (0.69)	0.039 (0.05)	0.001 (0.54)	0.005 (0.37)	0.244 (0.06)
Past Bureaucrat	0.836 (0.83)	−0.006 (0.01)	0.002 (0.90)	0.003 (0.20)	−3.983 (0.84)
Con. Banker	0.676 (0.61)	0.890 (0.86)	0.002 (0.84)	0.006 (0.24)	−4.565 (1.16)
Con. Other Firm	0.886 (1.18)	−0.879 (1.10)	0.001 (0.36)	0.017 (1.12)	3.166 (0.83)
4. Total Outsiders					
	0.079 (0.53)	−0.108 (0.87)	0.000 (0.80)	0.002 (0.78)	0.513 (0.90)
5. Majority Outsiders (Dummy Variable)					
	0.995 (0.79)	−1.069 (0.84)	0.002 (0.43)	−0.024 (0.71)	−3.845 (0.67)
B. 1990–1994					
1. Number of Directors					
Director Variables					
Past Bankers	−0.244 (1.05)	0.015 (0.11)	−0.000 (0.90)	−0.002 (0.56)	0.420 (0.76)
Past Other Firm	0.063 (0.45)	0.019 (0.23)	−0.000 (0.58)	0.001 (0.35)	0.750 (1.60)
Past Bureaucrat	0.502 (1.32)	−0.470 (2.44)	−0.000 (0.11)	−0.005 (0.58)	1.687 (1.77)
Con. Banker	−0.582 (1.01)	0.261 (0.80)	0.001 (0.84)	0.017 (2.59)	2.020 (1.40)
Con. Other Firm	−0.211 (0.50)	0.119 (0.82)	0.001 (1.17)	−0.002 (0.24)	0.011 (0.02)
Total Dirs.	0.130 (2.39)	0.113 (3.28)	−0.001 (3.56)	0.001 (1.42)	−0.176 (1.22)
Dominant S/h	2.109 (1.89)	0.204 (0.33)	0.000 (0.16)	−0.006 (0.34)	−1.205 (0.40)
Volatility	474.850 (1.36)	−1034.9 (3.56)	−1.020 (0.32)	−35.930 (2.41)	−3014.1 (5.45)
Total Assets ($\times 10^5$)	0.383 (6.58)	0.108 (3.11)	0.000 (1.84)	0.000 (1.07)	−0.221 (2.26)
Tangible Assets/TA	−8.798 (2.67)	4.978 (2.84)	0.019 (2.56)	−0.013 (0.27)	13.492 (1.72)

Continued

Table VI.
Continued

	Dependent Variable				
	(1) Q	(2) ROI	(3) Oper-Inc/ Tot-Asts	(4) Ord-Inc/ Equity	(5) Growth
Bank Debt/TA	−3.113 (1.12)	−13.509 (8.57)	−0.073 (11.67)	−0.283 (3.74)	−32.443 (5.32)
Construction	5.812 (3.52)	1.331 (1.40)	0.010 (2.20)	0.082 (3.12)	23.255 (5.15)
Trade		−1.389 (1.63)	−0.007 (1.97)	−0.021 (1.32)	6.215 (1.71)
Service and Finance		−0.760 (0.53)	0.006 (0.90)	0.010 (0.45)	20.168 (2.51)
Transportation		0.332 (0.42)	0.003 (0.85)	0.014 (0.90)	12.700 (2.99)
Light Indus	1.409 (1.67)	−0.390 (0.56)	−0.008 (2.33)	−0.034 (2.55)	−1.909 (0.60)
Chemical	1.841 (1.92)	1.599 (2.50)	−0.004 (1.23)	−0.028 (2.07)	−3.035 (1.07)
Machinery	1.493 (1.81)	0.689 (1.14)	−0.013 (3.45)	−0.060 (2.48)	−3.294 (1.32)
R^2	0.17	0.20	0.20	0.15	0.16
N	324	1052	1134	1134	1129
2. Fractional Board Composition					
Past Bankers	−6.074 (1.16)	1.115 (0.37)	−0.007 (0.63)	−0.091 (1.07)	11.530 (0.90)
Past Other Firm	1.052 (0.39)	−0.302 (0.17)	−0.011 (1.42)	−0.002 (0.04)	8.184 (0.85)
Past Bureaucrat	10.517 (1.31)	−6.025 (1.42)	0.015 (0.70)	−0.159 (0.58)	35.384 (1.56)
Con. Banker	−15.193 (0.97)	10.829 (1.35)	0.041 (1.26)	0.470 (2.85)	45.190 (1.21)
Con. Other Firm	−3.375 (0.41)	1.882 (0.71)	0.010 (0.63)	−0.110 (0.74)	−3.890 (0.36)
3. Any Directors (Dummy Variables)					
Past Bankers	−0.210 (0.36)	−0.139 (0.33)	−0.001 (0.73)	−0.012 (1.22)	1.394 (0.81)
Past Other Firm	−0.027 (0.04)	0.006 (0.01)	−0.004 (2.49)	−0.014 (1.87)	1.904 (0.99)
Past Bureaucrat	0.717 (1.02)	−0.056 (0.11)	0.002 (0.79)	−0.014 (0.57)	2.704 (1.24)
Con. Banker	−1.871 (1.70)	0.632 (1.03)	0.002 (0.57)	0.029 (2.07)	2.525 (1.08)
Con. Other Firm	0.748 (1.21)	0.754 (1.79)	0.001 (0.38)	−0.009 (0.69)	−0.712 (0.34)
4. Total Outsiders					
	−0.071 (0.40)	0.034 (0.51)	0.000 (0.20)	0.000 (0.13)	0.599 (2.06)
5. Majority Outsiders (Dummy Variable)					
	−2.388 (1.13)	0.020 (0.03)	−0.002 (0.54)	−0.052 (1.12)	−0.526 (0.16)

	(1) ROI	(2) Oper-Inc/ Tot-Asts	(3) Ord-Inc/ Equity	(4) Growth
II. *2SLS Estimates (Construction Industry Only, 1986–1990)*				
A. Instrumented: Past Bureaucrat				
Past Bureaucrat	0.379 (0.32)	0.003 (1.40)	−0.003 (0.38)	−4.650 (1.21)
Total Dirs.	0.370 (1.13)	−0.001 (2.43)	0.003 (1.50)	−0.345 (0.29)
Dominanat S/h	−0.527 (0.18)	0.013 (2.43)	0.055 (3.01)	4.525 (0.48)
Volatility	5944.522 (1.00)	28.190 (2.96)	43.740 (1.33)	−27481.84 (1.64)
Total Ast ($\times 10^6$)	−8.93 (1.36)	0.019 (1.53)	−0.086 (1.99)	0.000 (0.69)
N	86	101	101	96
B. Instrumented: Past Other Firm				
Past Other Firm	0.590 (0.51)	0.001 (0.43)	0.008 (1.15)	−1.297 (0.35)
Total Dirs.	0.479 (2.03)	−0.001 (1.99)	0.003 (2.00)	−1.577 (1.95)
Dominant S/h	−2.737 (0.54)	0.010 (1.09)	0.022 (0.67)	8.312 (0.49)
Volatility	2096.429 (0.26)	21.804 (1.89)	14.093 (0.32)	−17176.81 (0.79)
Total Ast ($\times 10^6$)	−0.000 (1.94)	0.009 (0.93)	−0.076 (2.09)	0.000 (1.89)
N	86	101	101	96

Note: In each panel, we explore the impact of various director and financial variables on firm performance. In Part I.A, we give the results for 1986–1990, and in Part I.B for 1990–1994. Within each part, we variously explore the impact of (1) the absolute number of directors of each type, (2) the fractional board composition of directors of each type, (3) whether the firm had any directors of each type (dummy variables), (4) the total number of outside directors, and (5) whether the firm had a majority of outside directors (dummy variables). As indices of firm performance, we use (a) Tobin's Q, (b) shareholder returns on investment, (c) operating income/total assets, (d) ordinary income/equity, and (e) fractional growth in total assets. The table gives the coefficient, followed by the absolute value of the robust *t*-value. All equations include a constant term, not reported here. The regressions in Part I use OLS, and include the full range of financial variables given in A.1 and B.1 (for expositional brevity we include the coefficients and *t*-statistics for these variables only for the first set of equations). The regressions in Part II use 2SLS with Construction Rev and Civil Eng Rev as Instruments.
Sources: See Table IV.

in the data: just as large boards are associated with significantly *higher* Tobin's *Q*, they seem to be associated with *lower Growth* rates. In the later period (Panel B.1), large boards are again associated with higher *Q*, but now with higher *ROI* and lower *Operating-Income/TA* as well.

4.2.4 OLS, 1986–1990

The only statistically significant coefficient on a director variable for the entire first set of 1986–1990 regressions (Panel I.A.1) appears in the first column: ex-bankers are negatively associated with high Tobin's *Q*. In Panel I.A.2, we substitute for the actual number of outside directors of each type their fractional representation on the board. The results mirror those of Panel I.A.1.

When we substitute a dummy variable for whether a firm has any director of a given type, the significance of the banker coefficient disappears. Instead, bankers now are associated with both lower accounting earnings and higher *Growth* rates (Panel I.A.3.). When we substitute for these director-type variables (i) a general variable for the total number of outside directors (Panel I.A.4.), or (ii) a dummy for the presence of a majority of outside directors, the results are uniformly insignificant (Panel I.A.5).

4.2.5 OLS, 1990–1994

Our regressions on early 1990s data (Panel B) similarly fail to show any observable effect of board composition on performance. The number of *Past Bankers* is no longer associated with any significant results, but two other results now haphazardly appear: (a) *Past Bureaucrats* are associated with lower shareholder *ROI*, and (b) *Concurrent* (but not *Past*) *Bankers* are associated with higher *Ordinary-Inc/Equation*. In regressions using fractional board composition and dummy variables, *Concurrent Bankers* remain associated with higher *Ordinary-Income/Eq*, but the observable effect of *Past Bureaucrats* disappears. In regressions using dummy variables indicating the presence of any directors of a given type, *Concurrent Bankers* are still associated with higher *Ordinary-Income/Eq*, but directors from other firms are now associated with lower *Operating-Income/TA*.

As with the earlier period, the regressions using either the *Total Outside Directors* or a *Majority Outside Directors* dummy are uniformly insignificant.[28]

28. Regressions on the composition of the executive board appear different, but only superficially so. Although *Concurrent Bankers* are associated with higher stock-market (and accounting data) performance, the regressions mislead. Of the firms for which we have *Q* data, only one had a current banker on its executive board in 1985, and only two had such an executive director in 1990. In 1986–1990, all coefficients on executive directors other

4.2.6 Changes

We also asked whether changes in the number of outside directors were associated with changes in performance. Given the poor fit of the director variables in Table VI, one would not expect changes in such variables to be observably associated with performance changes—and so we find. Instead, in these regressions (we do not have change in *ROI* data), most calculated coefficients are insignificant, and those that are significant are haphazard.

Thus, increases in *Past Bankers* are associated with higher *Q* and lower *Ordinary-Income/Eq*, but only for 1986–1990. Increases in *Concurrent Bankers* are also associated with lower *Ordinary-Income/Eq*, but increases in *Concurrent Other Firm* directors are associated with higher *Ordinary-Income/Eq*, and *Past Other Firm* directors are associated with higher *Growth*. All other coefficients on changes in the specific director variables are insignificant. Increases in *Total Outside Directors* are associated with higher *Growth* rates for both periods, but otherwise yield only insignificant results.

4.2.7 Instrumental Variables

When observers argue that Japanese firms maintain a suboptimal number of outside directors, in effect they argue that Japanese firms do *not* pick their directors with an eye on expected performance. Accordingly, to test their claims we rely on the OLS regressions in Table VI. Most scholars who test the analogous claims in the United States similarly use OLS, and—in the article that spawned this literature—so do Demsetz and Lehn.

Nonetheless, for a subset of our sample we offer 2SLS estimates as well. Although we lack suitable instruments for the whole sample, Table IV suggests that revenue data might instrument the construction firm directors. Accordingly, we treat *Past Bureaucrat* and *Past Other Firm* as endogenous, and instrument them through *Construction Rev* and *Civil Eng Rev* (Table VI, Panel II). These revenue measures are not themselves associated with higher or lower profitability, and as instruments have acceptable levels of power. According to Stock and Watson (2003, p. 350), we "do not need to worry about weak instruments if the first-stage *F*-statistic exceeds 10." In the regressions on *Past Bureaucrat* the first-stage *F*-statistic is 16.23, and in those on *Past Other Firm* is 13.40.

Because *Past Bureaucrat* and *Past Other Firm* involve count data, we would prefer to use Poisson to OLS. Unfortunately, using the Poisson estimates for the first stage of an instrumental variables framework

than *Concurrent Bankers* are insignificant. In 1990–1994, *Past Bureaucrats* are associated with lower shareholder *ROI* and *Concurrent Other Firm* directors are associated with lower *Operating-Income/TA*.

creates its own econometric problems. As a proxy for the Poisson predicted values, we thus use OLS. In fact, however, OLS and Poisson regressions of board composition on the two revenue variables generate much of the same predicted values: for *Past Other Firm*, the correlation coefficient between the OLS and the Poisson predicted values is 0.99, and for *Past Bureaucrat* is 0.98.

We report our 2SLS results in Table VI Panel II. Uniformly, they confirm the endogeneity that economic theory predicts: regressing performance on board composition yields no significant results. None of the coefficients on either *Past Bureaucrat* or *Past Other Firm* is statistically significant.

4.2.8 Conclusion

Consistent with the logic of market competition, outside directors in our database are not observably associated with higher performance. From this, we conclude that firms may be appointing outsiders at levels close to their firm-specific optimum.

We urge readers not to "overinterpret" the "significant" coefficients that we do obtain. According to Table VI Panel I, in one regression or another retired bankers are "significantly" associated with *lower Q*, *Operating-Income/TA*, and *Ordinary-Income/Eq*, but with *higher Growth*; bankers who have not yet quit their banking posts are associated with *higher Ordinary-Income/Eq*. Directors from other firms are associated with *lower Ordinary-Income/TA*, and retired bureaucrats with lower *ROI*.

These effects strike us simply as haphazard. Of the 170 calculated coefficients on director variables, we have results that are "statistically significant" at the 5% level in 9—or 5% of our cases. Rather than explain the "significant" coefficients as a function of what these directors accomplished, we assign the "significance" to random variation.

5. Summary

As in the United States, so too in Japan: reformers urge firms to appoint more outside directors. Yet as in the United States, so too in Japan: the logic of market competition should make us wonder. Provided boards matter, by standard economic theory market competition should drive firms toward their firm-specifically optimal board structure.

That optimum need not involve many outside directors. After all, some outsiders may trade firm-specific expertise for their independence. If expertise specific to the firm matters, then the optimal fraction of outside directors will not equal 1. Instead, it will vary from industry to industry, firm to firm. Where knowledge specific to the firm matters more than independence, firms will appoint more inside directors.

Where independence matters more than such firm-specific expertise, they will appoint more outsiders.

All this suggests testable alternatives. If the reformists are right, then Japanese firms have inefficiently few outsiders. Provided at least some substantial minority of the firms have outsiders, then those firms with more outsiders should observably outperform those with fewer. By contrast, if market constraints drive firms toward their firm-specific optimum, then firm characteristics should determine board structure, but that structure should show no observable relation to firm performance.

To test these hypotheses, we assemble board composition and financial data on the largest Japanese firms—the approximately 1000 firms listed in section 1 of the Tokyo Stock Exchange in the 1980s and early 1990s. We first explore which firms appoint outsiders. We find that the firms themselves seem to think board composition matters. They most often appoint retired bankers when they borrow heavily, when the firm has fewer mortgageable assets, or when the firm is in the service and finance industry. They appoint retired government bureaucrats when they are in construction, and sell a large fraction of their output to government agencies. And they appoint other retired executives when they have a dominant parent corporation, or when they are in the construction industry selling heavily to the private sector.

Firms with more outside directors do not visibly outperform those with fewer. When we regress firm performance on board composition, we largely obtain insignificant results. The statement holds whether we use OLS or 2SLS and whether we examine the go–go 1980s or the depressed 1990s, and the few significant results are not robust to alternative specifications. Firms with more outside directors simply do not observably outperform those with fewer. Apparently, board composition may indeed be endogenous: market constraints may indeed push firms toward their firm-specifically optimal board structure.

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