

OWNERSHIP STRUCTURE AND FIRM PROFITABILITY IN JAPAN

ERIC GEDAJLOVIC
Erasmus University

DANIEL M. SHAPIRO
Simon Fraser University

We examined the relationship between the ownership structure and financial performance of 334 Japanese corporations for the 1986-91 period. The positive relationship we found between ownership concentration and financial performance is consistent with agency theory predictions. In addition, we observed a more pronounced profit redistribution effect characterized by the transferring of financial resources from more to less profitable firms. These findings indicate the need to account for both economic incentives and social context in corporate governance research.

In the economics, finance, and strategic management literatures, agency theory represents a dominant theoretical frame of reference for the study of the relationship between ownership and performance (Shleifer & Vishny, 1997). Agency theory highlights the idea that principals and agents often have divergent goals and divergent capacities to influence corporate behavior and outcomes (Milgrom & Roberts, 1992). An important contribution of agency theory is that it facilitates a structured approach to the analysis of economic motivations and the incentives of managers and shareholders (Eisenhardt, 1989). Agency theory has been criticized in the sociology literature, however, for its proponents' failure to pay sufficient attention to the contexts in which exchange and principal-agent relations are embedded (Hamilton & Biggart, 1988).

Ownership concentration is a variable of interest to scholars in a number of disciplines, and its influence on strategic behavior and corporate performance has been studied in a wide variety of national contexts (Gedajlovic & Shapiro, 1998) and from differing theoretical perspectives. In research emphasizing the influence of economic incentives on top executives and investors, ownership concentration has been used primarily as a barometer of agency costs (Shleifer & Vishny, 1997). In studies

emphasizing social context, ownership concentration has been used as an indicator of the strength of the ties a firm has to its investors (Gerlach, 1992; Lincoln, Gerlach, & Ahmadian, 1996). Previous empirical studies examining the ownership-performance link have had frames of reference restricted to one or the other of these perspectives. In this study, we bridge this divide by combining insights from both streams of research to analyze the impact of ownership concentration on firm performance in Japan.

We first used standard agency theory logic to develop the hypothesis that ownership concentration and firm performance are directly and positively related in Japan. Subsequently, we developed hypotheses that account for a unique feature of Japan's institutional context. Specifically, we evaluated the possibility that an important effect of ownership concentration in Japanese firms is to promote intercorporate goals of risk reduction and mutual assistance (Aoki, 1988; Dore, 1983; Nakatani, 1984). We built upon the work of Lincoln and colleagues (1996), who found that the performance of firms with close ties to one of the "Big Six"¹ Japanese *keiretsus* is conditioned by past performance in a manner that benefits weaker performers at the expense of stronger companies. Our context-specific hypotheses address the likelihood that a similar pattern of structured interaction extends to a much broader set of Japanese firms through ownership ties.

Although the theoretical underpinnings of agency and redistribution effects emanate from different lit-

We would like to thank three anonymous reviewers and two editors for their helpful comments and suggestions; Phil Bobko, Erwin van Gulik, Pursey Heugens, Peter Kennedy, Masao Nakamura, and Aidan Vining for comments and discussion; and Bogdan Baduru for programming assistance. The usual disclaimer applies: any errors that may remain are the sole responsibility of the authors.

¹ The "Big Six" *keiretsus* are Mitsubishi, Sumitomo, Fuji, Sanwa, and Dai-Ichi Kangyo.

eratures and suggest different associations between ownership concentration and financial performance, there is no a priori reason why both effects cannot occur contemporaneously. On the contrary, since Japan's unique form of industrial organization is characterized by *both* a pronounced separation of ownership and control (Claessens, Djankov, & Lang, 2000) and a complex network of intercorporate relationships (Gerlach, 1992), there is reason to expect that both agency and redistribution effects will be apparent. Accordingly, we derived and specified a model that accounts for the possible existence of both types of effects. We evaluated this model on a pooled cross-sectional sample of 334 publicly listed Japanese firms spanning their 1986–91 fiscal years.

BACKGROUND

National systems of corporate governance evolve in order to exploit the advantages of the corporate form of organization while mitigating concomitant agency costs in a manner consistent with a country's history and legal, political, and social traditions. In this regard, nations differ significantly in terms of the variety and the effectiveness of the constraints placed upon their top executives (Gedajlovic & Shapiro, 1998). Japan's system of governance represents an interesting case insofar as firms characterized by a clear separation of ownership and control are embedded in dense intercorporate networks. In contrast to the norm in other East Asian economies, decision control over Japan's largest corporations is vested with professional managers rather than entrepreneurs and their extended families (Hamilton & Biggart, 1988). Historically, the shareholdings of Japanese professional managers have been negligible (Charkham, 1994). At the same time, Japan's system of corporate governance is intimately tied to the variety of intercorporate groupings and alliances that dominate its enterprise system. Joint and reciprocal monitoring among business partners engaged in a multiplexity of business relations is a distinctive feature of Japan's system of corporate governance (Roe, 1994). Gerlach (1992) described how these intercorporate networks transcend formal groupings and pervade much of the Japanese economy. Although the most formal of these groupings are often referred to as keiretsus, Gerlach suggested that the term be used as "a metaphor for general patterns of inter-firm organization in Japan—as an ideal type" (1992: 5–6).

In terms of corporate governance, two varieties of these networks are particularly relevant: industrial, or vertical keiretsus, and financial, or horizontal keiretsus. Industrial keiretsus link vertically re-

lated firms along an industry value chain through the cross-ownership of equity (Dyer, 1996). Thus, the members are typically a large manufacturer and its major suppliers. An exchange of employees and directors often accompanies the cross-ownership of shares. Financial keiretsus link companies (usually in different industries) through a common *main bank*, which typically has an ownership stake in a network's firms and provides loans and commercial services to them (Hoshi, Kashyap, & Scharfstein, 1990).

There exists a large body of research on the effects of network, or keiretsu, ties (e.g., Gerlach, 1992) and the role of main banks (e.g., Aoki, Patrick, & Sheard, 1994), but empirical evidence concerning the relationship between ownership and firm performance in that country is quite sparse and equivocal. Cable and Yasuki (1985) found that ownership concentration outside keiretsus was positively related to firm performance but that shareholdings within these groups were unrelated to performance. Prowse (1992) found no significant relationship between ownership concentration and financial performance among either keiretsu or nonkeiretsu firms. In the same year, Gerlach (1992) reported a positive relationship between ownership concentration and firm performance in a regression model that controlled for both keiretsu membership and debt ties to a main bank.

THEORY AND HYPOTHESES

Agency theory suggests that the corporate form of organization characterized by a professional management with little ownership operating a business on behalf of a large number of widely dispersed shareholders represents an archetypal principal-agent problem (Eisenhardt, 1989). This agency problem stems from the fact that managers often have both the discretion and incentive to pursue strategies and practices that benefit themselves at the expense of shareholders (Jensen & Meckling, 1976). The exercise of managerial discretion can be harmful to shareholders in two broad ways. Managers may engage in short-run cost augmenting activities to enhance their nonsalary income and/or they may indulge their need for power, prestige, and status by attempting to maximize corporate size and growth rather than corporate profits (Gedajlovic & Shapiro, 1998).

From an agency perspective, many Japanese managers may have both the incentive and the discretion necessary to pursue their own interests at the expense of shareholders. Top executives typically lack ownership incentives insofar as their

shareholdings are negligible and because the use of stock-based and other performance-based incentives has been very uncommon (Fukao, 1999). Under such conditions, agency theory suggests, managers lack the incentive to maintain tight cost control (Alchian & Demsetz, 1972) and will tend to adopt strategies and practices that benefit themselves at the expense of shareholders. At the same time, the absence of an active market for corporate control in Japan (Walsh & Seward, 1990) and the tendency for Japanese corporations to have insider-dominated boards (Charkham, 1994) create conditions that afford managers a broad scope of exercisable discretion. In the absence of either capital market constraints or vigilant outside directors, the monitoring of managers by shareholders who hold large blocks of shares (blockholders) takes on heightened significance (Shleifer & Vishny, 1997). As a consequence, we expected to find a positive relationship between the ownership concentration and financial performance of Japanese corporations.

Hypothesis 1a. There is a positive relationship between the sizes of the ownership stakes of shareholders and profitability among Japanese firms.

Hypothesis 1a does not distinguish among various types of blockholders. Recent theory and evidence suggest that shareholder identity may matter because shareholders can have heterogeneous incentives and capacities to monitor managers (Gedajlovic, 1993; Thomsen & Pederson, 2000). In this regard, shareholdings by Japanese financial institutions and nonfinancial corporations may impose important limits on managerial discretion. Since these firms are commonly not only a corporation's shareholders, but are also its creditors, buyers, suppliers, and business partners, they are exceptionally well positioned to monitor the managers of firms within their network (Berglöf & Perotti, 1994). In such an information-rich context, managers are less likely to have the discretion necessary to pursue their own interests at the expense of their shareholders or stakeholders. Further, any such behavior is likely to be detected early because of the dense web of equity, debt, and commercial ties that characterize such relations.

Hypothesis 1b. There is a positive relationship between the sizes of the shareholdings of financial institutions and nonfinancial corporations and profitability among Japanese firms.

Hypotheses 1a and 1b are derived from an agency perspective that suggests that ownership concentration promotes the pursuit of profit maximiza-

tion. However, it is often argued that the multiple equity, debt, and commercial ties characterizing the Japanese economy are linked to intercorporate goals of risk reduction and mutual assistance (Dore, 1983; Gerlach, 1992) that result in systematic patterns of profit redistribution among Japanese firms (Lincoln et al., 1996). In this respect, there is some evidence that firms pay "insurance premiums" to their main banks against the possibility of future financial distress in the form of overborrowing (Aoki, 1988) at high rates of interest (Weinstein & Yafeh, 1994).

Hoshi and colleagues (1990) and Morck and Nakamura (1999) have offered evidence supporting this view insofar as they have observed that Japanese banks treated firms with which they had close ties and those with which they did not have close ties differently during times of financial distress. Morck and Nakamura (1999) noted that banks act to prop up weak firms with which they have close ties. Lincoln and colleagues (1996) extended the insurance metaphor beyond the banking sector and suggested that by "taxing" prosperous members to ensure the survival and speed the recovery of troubled affiliates, keiretsu networks distribute benefits and burdens in a discriminating way. The process of redistribution is facilitated by the multiplicity of direct and indirect debt, equity, and commercial ties that characterize intercorporate relations in Japan. In such a context, banks can extend benefits to affiliated firms by increasing their shareholdings or by providing loans or professional services on favorable terms (Morck & Nakamura, 1999). Similarly, industrial firms can purchase or supply products and/or services on favorable terms in order to assist a troubled business partner (Lincoln et al., 1996).

The norm of redistribution may be widespread. In describing the pervasiveness of formal and informal links throughout Japanese industrial organization, Gerlach noted that intercorporate relationships within keiretsus have much in common with those found in ostensibly more independent firms (1992: 6). This assessment receives support in Hoshi, Kashyap, and Scharfstein's (1991) finding that the benefits of bank-led bailouts extended to nonkeiretsu firms that nevertheless had strong ties to a bank. Thus, there is some evidence that the redistribution patterns observed by Lincoln et al. (1996) are a discernible characteristic of Japan's broader business system rather than a keiretsu-only phenomena. In this regard, Clark's widely cited comment that in Japan "shareholding is the mere expression of their relationship, not the relationship itself" (1979: 86) suggests that equity ties are symbolic indicators of more profound relational

ties that extend beyond the shareholder-firm relations observed in arm's-length governance systems.

In this study, we considered the effects of ownership structure on intercorporate profit redistribution. Specifically, we evaluated whether ownership ties in particular, the ties between Japanese financial institutions and nonfinancial corporations and the firms in which they hold shares—result in the same pattern of profit redistribution observed by Lincoln et al. (1996) with respect to keiretsu ties. Accordingly, we propose:

Hypothesis 2a. The relationship between the size of the ownership stake of corporate blockholders and firm profitability is conditioned by prior profitability. Firms with low prior profits benefit from high levels of ownership in the hands of blockholders, but firms with high prior profits have their profitability reduced.

Hypothesis 2b. The relationship between the size of the shareholdings of Japanese financial institutions and Japanese nonfinancial corporations and firm profitability is conditioned by prior profitability. Firms with low prior profits benefit from these equity ties, but firms with high prior profits have their profitability reduced.

METHODS

Specification

Agency theory suggests that the empirical relationship between ownership concentration and performance can be estimated by an equation in the form

$$\pi_{it} = \alpha + \beta_1 \text{ownership concentration}_{it} + \delta X_{it} + \varepsilon_{it}. \quad (1)$$

Equation 1 estimates the direct impact of ownership concentration on firm profitability (π), holding constant a vector of control variables (X). Agency theory suggests that the equation's beta coefficient is greater than zero ($\beta_1 > 0$). Our use of panel data is indicated by the subscripts, with i denoting a cross-sectional observation (a firm) and t denoting time. Our hypotheses are framed in terms of three measures of ownership structure described below: ownership concentration among blockholders without regard to identity, the total ownership shares of Japanese financial institutions, and the ownership shares of Japanese nonfinancial corporations. Accordingly, we estimated Equation 1 three times. Estimates indicating a beta greater than zero for each measure of ownership concentration would support Hypotheses 1a and 1b,

which claim that there is a positive, direct relationship between ownership structure and firm performance in Japan.

Equation 1 does not account for redistribution effects. Following Lincoln and colleagues (1996), we adopted a dynamic extension of the model that allowed us to test both the agency and redistribution hypotheses.

$$\pi_{it} = \alpha + \beta_2 \text{ownership share}_{it} + \delta X_{it} + \lambda \pi_{it-1} + \Phi \text{ownership share}_{it} \times \pi_{it-1} + \varepsilon_{it} \quad (2)$$

Equation 2 suggests that firm performance depends not only on ownership, but also on past profitability. Lincoln et al. suggested that the coefficient on the lagged profitability term would reflect the ability of Japanese firms to redistribute profits. The lower the coefficient, the greater is the redistribution effect.² In such a specification, a possible agency effect is still captured by the direct effect of ownership on profitability, and Hypotheses 1a and 1b would be supported by a finding that β_2 is greater than zero for each ownership measure. As Lincoln and coauthors suggested (1996: 73–74), the degree to which ownership structures influence the extent of redistribution can be estimated by ϕ (Φ), the coefficient on the interactive term between ownership concentration and past profitability. In our case, the hypotheses that redistribution is facilitated by ownership concentrated in the hands of blockholders (2a) or, more specifically, in the hands of either Japanese financial or nonfinancial corporations (2b) will receive support if ϕ is less than zero for each ownership measure. That is, a negative ϕ coefficient would imply that an ownership variable is associated with the redistribution of profits from more to less profitable firms.

Sample and Variables

The data consist of pooled time series and cross-sectional observations of 334 listed Japanese firms spanning 1986–91 (fiscal years). Firms included in the sample represent a broad cross-section of me-

² This may be seen by considering the partial derivative of current profitability with respect to past profitability in Equation 2. The higher the value, the more likely it is that high (or low) profits persist. Redistribution from high-profitability firms to low-profitability firms smoothes out performance over time and lowers the estimated coefficient on the lagged term. As indicated in Equation 2, we have assumed a one-period lag. This choice is consistent with the literature on the persistence of profitability (Mueller, 1990), though Lincoln et al. (1996) averaged the one- and two-year lagged profits.

dium and large (minimum US \$50 million), publicly traded, private sector Japanese firms drawn from eight industrial sectors (automobiles and parts, food and beverages, electronics, transportation, retailing, oil and gas, pulp and paper, and industrial machinery). The data source for the financial variables was Worldscope Disclosure, and this database established the maximum number of observations and the basic sample. Worldscope Disclosure does not supply detailed ownership and banking data on Japanese firms; these data were collected from the *Japan Company Handbook*.

The dependent variable in all equations is firm profitability. We measured profitability using *return on assets (ROA)*, the ratio of net income to total assets. ROA is a commonly used measure of profitability and has been used by others in the Japanese context (e.g., Prowse, 1992; Lincoln et al., 1996). Prowse (1992) noted that since stock market returns are expected to adjust for any divergences between shareholders and managers, accounting-based measures such as ROA are preferable in studies relating ownership structure to financial performance.

The most important independent variables in terms of our hypotheses are three measures of ownership structure. The first measure, *ownership by five largest blockholders*, is a measure of ownership concentration that does not distinguish shareholders' identities. This measure is identical to the primary one used by Prowse (1992). This variable was used to evaluate Hypotheses 1a and 2a. As described above, a distinguishing feature of corporate ownership in Japan is the fact that other Japanese firms hold significant proportions of firms' outstanding shares. Consequently, we consider two additional ownership variables: *ownership by financial institutions* and *ownership by nonfinancial companies*. Each measure is equal to the percentage of a company's outstanding shares held by Japanese financial and nonfinancial companies, respectively. These variables were used to evaluate Hypotheses 1b and 2b.

The following variables constituted control (exogenous) variables, previously subsumed under the vector *X* in Equations 1 and 2. We chose these variables to control for factors other than ownership structure that have been shown to affect profitability. Firm size, measured as the log of total assets, was included to account for the potential economies of scale and scope accruing to large firms. If present, these would produce a positive relationship between firm size and profitability. Firm growth, measured as year-over-year sales growth, was used as a control for demand conditions and product-cycle effects. Financial leverage,

measured as the ratio of debt to capital employed, was included because a firm's capital structure may influence its investment decisions and the discretion afforded its managers (Harris & Raviv, 1991). A series of indicator variables was also included in all models, as controls for industry affiliation.

The focus of this study was on the effects of ownership structure rather than main bank³ or keiretsu ties. We controlled for main bank effects through the use of an indicator variable representing whether a firm's main bank was one of Japan's Big Six banks (Sumitomo, Mitsui Taiyo Kobe, Dai-ichi Kangyo, Fuji, Sanwa, or Mitsubishi). Approximately 70 percent (234) of the firms included in our sample had a Big Six main bank. To control for keiretsu ties, we followed Lincoln et al. (1996) and used an indicator variable measuring whether a firm was a member of the *shacho-kai* (Presidents' Club) of a Big Six keiretsu. The sample contains 51 firms with shacho-kai membership (15 percent of the sample).

ESTIMATION AND RESULTS

Equation 1 can be estimated by conventional panel data methods (fixed- and random-effects). We first estimated the model using ordinary least squares (OLS). We then estimated the same model using a fixed-effects model and used a Lagrange multiplier test (Greene, 1993: 476) to choose between it and OLS. The fixed-effects model was preferred in all cases. The model was then estimated with a generalized least squares (GLS) random-effects model. We compared this to the fixed-effects model using the Hausman test (Baltagi, 1995: 68) and in all cases chose the random-effects model. As a consequence, we report the random-effects results in Table 2 below.⁴

Dynamic panel data models such as the one required to test Hypotheses 2a and 2b, represented by Equation 2, can pose serious estimation challenges since the lagged dependent variable will be correlated with the cross-sectional component of the error term (Baltagi, 1995: 125–126). Standard panel data techniques can produce parameter estimates

³ As noted, a typical Japanese corporation has a main bank that extends it credit, owns its shares, provides professional services, and generally advances its business interests (Gerlach, 1992).

⁴ We performed estimation using the panel procedure in LIMDEP 7.0, which allows computation of robust standard errors. Output includes the degree of autocorrelation of the error terms, and these provided no indication that autocorrelation was present.

TABLE 1
Means, Standard Deviations and Correlations^a

Variable	Mean	s.d.	1	2	3	4	5	6
1. Ownership by largest five blockholders	33.66%	14.07						
2. Ownership by nonfinancial companies	19.32%	17.07	.91***					
3. Ownership by financial institutions	19.19%	8.65	-.44**	-.64**				
4. Return on assets	3.84%	2.86	-.01	.01	.04			
5. Logarithm of assets	7.47	0.49	-.19**	-.32**	.08**	.02		
6. Debt to capital employed	40.96%	25.74	.00	-.02	-.03	-.25**	.11**	
7. Sales growth	8.26%	26.36	-.03	-.03	.07**	.17**	.00	.02

^a Sample size is 334 firms observed over six years.

** $p < .01$

*** $p < .001$

Two-tailed tests.

that are biased and inconsistent, even if the error terms are not serially correlated (Baltagi, 1995: 126). Most proposed solutions rely on first-difference transformations of the data with some form of instrumental variable estimation (Baltagi, 1995: 126). Arellano and Bond (1991) suggested using the generalized method of moments (GMM) technique on differenced data and demonstrated how the GMM method could be used to provide unbiased and consistent parameter estimates (Baltagi, 1995: 127–128). Estimation using the Arellano and Bond method does come at a cost insofar as the method cannot provide coefficient estimates for variables that are time-invariant, such as the dummy variables for industry, main bank, and shacho-kai membership in this study. Since these variables are important in Japan, we estimated Equation 2 using GLS random-effects estimation. We also estimated models that excluded the time-invariant variables using the Arellano and Bond (GMM) technique. Fortunately, the results obtained from these two techniques are very similar, and we therefore report only the more familiar random-effects results. Considering the GMM results would change none of the conclusions reported below.⁵

Table 1 provides the pooled (1986–91) means and standard deviations of the continuous measures used in the multivariate analysis, as well as the correlation matrix for the same variables. As indicated in Table 1, a sample firm's five largest blockholders own on average 33.66 percent of its outstanding shares; nonfinancial firms own 19.32 percent; and financial institutions own 19.19 percent. These means are consistent with those re-

ported on similar measures by Charkham (1994) and Prowse (1994).

The three ownership measures examined in this study are clearly related. The ownership share of the five largest blockholders is very highly correlated with the total ownership share of Japanese nonfinancial corporations ($r = .91$). On the other hand, blockholder ownership concentration is negatively correlated with ownership by financial institutions ($r = -.44$). This indicates that ownership concentration levels vary directly and proportionally with ownership by nonfinancial corporations but are inversely proportional and less strongly related to ownership by financial institutions. Lastly, the proportion of outstanding shares held by financial institutions is negatively related to the proportion of shares held by nonfinancial corporations ($r = -.64$).

Regression results are presented in Table 2. Models 1–3 of Table 2 present the GLS (random-effects) estimates of the coefficients of Equation 1 for each of the three measures of ownership. Models 4–10 are estimates of the coefficients of Equation 2. We also present one variant that includes both financial and nonfinancial ownership variables in the same specification (model 7). Models 8–10 are estimates of Equation 2 restricted to firms that are *not* shacho-kai members. We include these estimates because Lincoln and colleagues (1996) found that shacho-kai membership is associated with strong redistribution effects, and these may not be fully controlled for in our other estimations.

Table 1 suggests that there is some collinearity among the independent variables. Sensitivity tests revealed that the essential results are not sensitive to the exclusion of independent variables. However, we did find that the inclusion of the growth term in the GLS estimates of Equation 2 sometimes caused the lagged dependent variable to become

⁵ Details regarding GMM estimation of the Arellano and Bond model can be found in Baltagi (1995: Chapter 8). The GMM results, based on 226 firms, are available from the authors on request.

TABLE 2
Results of GLS Random-Effects Regression Analysis for Return on Assets^a

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Ownership by five largest blockholders	0.09*** (6.36)			0.10*** (5.25)				0.11*** (5.01)		
Ownership by nonfinancial companies	0.03*** (3.65)				0.07*** (6.53)		0.04** (2.36)		0.07*** (4.17)	
Ownership by financial institutions			0.10*** (7.05)			0.17*** (6.74)	0.15*** (5.35)			0.18*** (6.40)
Logarithm of assets	-5.53* (2.14)	-6.82* (-2.55)	-6.63* (-2.59)	-7.04** (-2.48)	-8.50** (-2.98)	-7.20** (-2.55)	-7.45** (2.61)	-7.41* (-2.29)	-8.69** (-2.67)	-7.30* (-2.26)
Sales growth	0.26*** (21.17)	0.26*** (20.75)	0.26*** (21.19)							
Debt to capital employed	0.30*** (14.80)	0.29*** (14.47)	0.29*** (14.80)	0.43*** (21.00)	0.42*** (20.08)	0.43*** (21.01)	0.42*** (20.41)	0.50*** (21.11)	0.48*** (20.27)	0.49*** (21.19)
Big Six main bank	-0.75 (-0.26)	0.32 (0.11)	-0.77 (-0.27)	1.23 (0.39)	2.82 (0.89)	1.26 (0.40)	1.62 (0.51)			
Shacho-kai member	0.74 (0.20)	1.15 (0.31)	0.41 (0.11)	4.15 (1.04)	3.94 (0.98)	3.90 (0.98)	3.48 (0.87)			
Return on assets				0.08*** (5.32)	0.11*** (7.35)	0.14*** (6.10)	0.15*** (6.35)	0.09*** (5.31)	0.11*** (6.52)	0.16*** (6.00)
Ownership by five largest blockholders × ROA				-0.002 (-0.21)				-0.004 (-0.34)		
Ownership by nonfinancial companies × ROA					-0.04** (-2.64)		-0.03* (-1.92)		-0.03* (-1.83)	
Ownership by financial institutions × ROA						-0.06** (-2.95)	-0.05* (-2.20)			-0.07** (2.90)
<i>R</i> ²	.42	.41	.43	.31	.30	.31	.32	.35	.34	.35
<i>n</i>	334	334	334	334	334	334	334	283	283	283

^a Columns 1-7 contain estimates using the full sample for five years; one year (1986) was lost because of the lagged dependent variable. Each equation contains unreported dummy variables for industry and an unreported constant. Columns 8-10 contain results for firms that are not shacho-kai members. These equations contain unreported industry dummy variables and an unreported constant. Figures in parentheses under the coefficient estimates are *t*-statistics.

* $p < .10$

** $p < .05$

*** $p < .01$

Two-tailed tests.

statistically insignificant. Since this result is not consistent with our other estimates, nor with the results of other studies (e.g., Lincoln et al., 1996), and since it could imply that the effects of lagged profitability are negative (when the interaction term is negative), we omitted the sales growth control variable from models 4–10 of Table 2.

The results can be summarized quite concisely. Regardless of sample size or specification, there is strong evidence that the direct effect of ownership concentration on firm profitability in Japan is positive and statistically significant, for all three measures of ownership structure considered here. Thus, we find evidence in support of Hypotheses 1a and 1b and in support of the view that standard agency theory is relevant in Japan. At the same time, regardless of sample size or specification, the sign of the interaction between lagged profitability and the shares of both financial and nonfinancial firms is negative and statistically significant. That is, there is strong evidence that large ownership stakes held by financial and/or nonfinancial firms facilitate redistribution and therefore raise (lower) profitability for the least (most) profitable firms. Thus, we find strong evidence in support of Hypothesis 2b. On the other hand, when ownership structure is evaluated simply in terms of concentration levels that do not account for the identity of owners (the shares of the largest blockholders), the interaction term is not statistically significant in any specification or sample. Thus, Hypothesis 2a is rejected. Insofar as redistribution effects are found to be associated with ownership by strategic investors (financial institutions and nonfinancial companies), but not with an undifferentiated measure of ownership concentration, these findings indicate that shareholder identity matters.

When we account for the identity of owners by using the ownership shares of financial and nonfinancial companies, the results suggest that both agency and redistributive effects are operative in Japan. However, they are not of equal strength. An evaluation of the relevant equations (models 5, 6, 7, 9, 10) indicates that, with other factors held constant, the combined effect of ownership by financial and nonfinancial companies is negative when profitability is evaluated at the mean value of lagged ROA (3.6). That is, the net effect of these large ownership stakes is positive only for the least profitable Japanese firms. In these cases, the agency effect and the redistribution effect combine to benefit poorly performing firms. The estimates in Table 2 indicate that firms with ROA levels below 2–2.5 percent benefit from redistribution. However, for

firms with higher profit rates, the net effects of these large shareholdings are negative.⁶

The results are also clear as to whether financial or nonfinancial companies create stronger redistribution effects. Whether each term enters the equation separately or jointly, and regardless of sample, GLS estimates suggest that financial firms provide stronger redistribution effects. This is seen from the magnitude of the relevant coefficients on the interactive ownership-lagged profitability terms. The coefficient for the ownership share of financial institutions (-0.06 [-0.063]) is roughly twice that for nonfinancial firms (-0.04 [-0.035]) for the full sample (models 5–6) and even greater when the sample is restricted to companies that are not shacho-kai members (-0.07 versus -0.03 , in models 9–10).

In concluding this section, we note that the coefficients of the reported control variables are reasonably stable across specifications. Firm growth is positively related to profitability, and the relationship with firm size is always negative. Both of these results are consistent with those obtained by Lincoln, Gerlach, and Ahmadjian (1996). The estimates also suggest that firms with higher levels of debt are more profitable, reflecting perhaps the risk associated with debt. Finally, we find no evidence that having a Big Six main bank or shacho-kai membership is directly related to profitability. These results are not altered when one or the other of these two variables is excluded from the equation.

⁶ Statements in this paragraph are based on calculations found by taking the partial derivative of profitability (the dependent variable) with respect to ownership concentration. Consider models 5 and 6. The effect of a 1 percent change in the ownership share of nonfinancial corporations is given by $0.07 - 0.04 \times \text{lagged ROA}$ (model 5) and $.17 - 0.06 \times \text{lagged ROA}$ (model 6). Thus, there is a positive direct (agency) effect of 0.07 (.17), but a negative indirect (redistribution) effect, the magnitude of which depends on past profitability. With evaluation at the mean for lagged ROA (3.6), it is readily seen that the net effect is negative. The point at which net negative effects set in is found by solving for the level of past profitability that sets $.07 - 0.04 \times \text{lagged ROA}$ equal to zero for model 5 and $.17 - 0.06 \times \text{lagged ROA}$ equal to zero for model 6. This occurs where lagged ROA = 2.11 (model 5) and 2.54 (model 6). Firms with lagged profits below these amounts will experience a positive ownership effect. Calculations for other models produce similar results.

DISCUSSION AND CONCLUSIONS

In positing a positive relationship between ownership concentration and firm performance, agency theorists focus on the economic incentives associated with separated ownership and control, without regard to social context. On the other hand, sociological treatments of Japanese industrial organization highlight the distinctive character of traditional Japanese business relationships distinguished by intercorporate goals of risk reduction and mutual assistance (Dore, 1983; Gerlach, 1992). Insofar as clear agency and redistribution effects were observed, our results indicate that the relationship between ownership concentration and firm performance in Japan reflects both economic incentives and social context.

Since the redistribution effects are stronger than the agency effects, the net impact of ownership concentration is negative for most Japanese firms. Although firms with relatively high profits suffer impaired profitability, firms with low and, particularly, those with negative profits appear to benefit from concentrated ownership in two ways. Our finding of a positive direct relationship between ownership concentration and performance suggests that large Japanese investors can operate as effective monitors of top executives in other firms. At the same time, our finding of significant redistribution effects indicates that poorly performing firms with concentrated ownership structures also benefit from the transfer of financial resources from more profitable firms. Insofar as an investor's inclination to redistribute profits to a weaker firm is likely to be positively related to its ability to monitor how those proceeds are utilized, agency and redistribution effects may act in tandem and reinforce each other.

Our results clearly indicate that shareholder identity matters. When we measured ownership concentration without reference to the identity of the investor, we found agency effects but not redistribution effects. Redistribution effects were found only when we examined the ownership shares of financial and nonfinancial firms. Such a result is consistent with the notion that distinct classes of shareholders differ in their investment objectives and capacities to influence corporate behavior (Thomsen & Pedersen, 2000). Research that examines whether similar redistribution effects are apparent in other networked and/or relational governance systems would constitute a logical follow-up to this research.

The findings reported here support and extend previous research showing that Japanese financial institutions organize bailouts for troubled indus-

trial firms with whom they have close keiretsu or debt ties (Morck & Nakamura, 1999; Hoshi et al., 1990). The result that similar (though weaker) redistribution effects are associated with the shareholdings of nonfinancial corporations provides evidence that industrial firms also assist firms with which they have equity ties. Further, our results indicating that firms with ROA levels as high as 2–2.5 percent benefit from profit redistribution suggests that redistribution is ongoing and is not restricted to situations of severe financial distress. In summary, the study offers strong evidence that corporate ownership concentration is associated with the same type of profit redistribution observed by Lincoln and colleagues (1996) among firms sharing keiretsu ties. As such, our study indicates that traditional norms of mutual assistance (Dore, 1983) and risk reduction (Nakatani, 1984) extend beyond formal networks to Japan's broader enterprise system.

Since the results reported here pertain to a period (1986–91) that predates significant structural reform to Japan's financial system as well as its banking crisis, care must be taken in generalizing our findings to the current situation. On the one hand, it is widely believed that Japan's enterprise and governance systems have become much less relational and that traditional business practices have eroded significantly in recent years (Fukao, 1999). On the other hand, traditional Japanese business practices have proven remarkably resilient in the past (Dore, 1983; Gerlach, 1992). Further, the redistribution effects observed here relate to a time when Japanese businesses were already under severe pressure from the *endaka* (high yen) shock as well as the bubble economy of 1987–90 and its subsequent collapse. Ultimately, the question of whether such traditional business practices have persisted through Japan's recent economic travails remains an open empirical question for subsequent research. In this regard, the findings reported here may constitute a useful benchmark for future research aimed at gauging the scope and degree of change in Japanese traditional business practices as that country continues to reform its financial and enterprise systems.

REFERENCES

- Alchian, A. A., & Demsetz, H. 1972. Production, information costs and economic organization. *American Economic Review*, 62: 777–795.
- Aoki, M. 1988. *Information, incentives and bargaining in the Japanese economy*. Cambridge, England: Cambridge University Press.

- Aoki, M., Patrick, H., & Sheard, P. 1994. Monitoring characteristics of the main bank system: An analytical and historical view. In M. Aoki & H. Patrick (Eds.), *The Japanese main bank system: Its relevancy for developing and transforming economies*: 1-50. Oxford, England: Oxford University Press.
- Arellano, M., & Bond, E. 1991. Some tests of specification for panel data. *Review of Economic Studies*, 58: 277-297.
- Baltagi, B. 1995. *Econometric analysis of panel data*. New York: Wiley.
- Berglöf, E., & Perotti, E. 1994. The governance structure of the Japanese financial keiretsu. *Journal of Financial Economics*, 36: 259-284.
- Cable, J., & Yasuki, H. 1985. Internal organization, business groups and corporate performance: An empirical test of the multi-divisional hypothesis in Japan. *International Journal of Industrial Organization*, 3: 401-420.
- Charkham, J. P. 1994. *Keeping good company: A study of corporate governance in five countries*. New York: Oxford University Press.
- Claessens, S., Djankov, S., & Lang, L. 2000. The separation of ownership and control in East Asian corporations. *Journal of Financial Economics*, 58: 81-112.
- Clark, R. 1979. *The Japanese company*. New Haven, CT: Yale University Press.
- Dore, R. 1983. Goodwill and the spirit of market capitalism. *British Journal of Sociology*, 34: 459-482.
- Dyer, J. H. 1996. Does governance matter? Keiretsu alliances and asset specificity as sources of Japanese competitive advantage. *Organization Science*, 7: 649-667.
- Eisenhardt, K. 1989. Agency theory: An assessment and review. *Academy of Management Review*, 14: 57-74.
- Fukao, M. 1999. *Japanese financial instability and weakness in the corporate governance structure*. Paris: OECD.
- Gedajlovic, E. R. 1993. Ownership, strategy and performance: Is the dichotomy sufficient? *Organization Studies*, 14: 731-752.
- Gedajlovic, E. R., & Shapiro, D. M. 1998. Management and ownership effects: Evidence from five countries. *Strategic Management Journal*, 19: 533-553.
- Gerlach, M. L. 1992. *Alliance capitalism: The social organization of Japanese business*. Berkeley: University of California Press.
- Greene, W. 1993. *Econometric analysis*. New York: Macmillan.
- Hamilton, G. G., & Biggart, N. W. 1988. Market, culture and authority: A comparative analysis of management and organization in the far east. *American Journal of Sociology*, 94: S52-S94.
- Harris, M., & Raviv, A. 1991. The theory of capital structure. *Journal of Finance*, 46: 297-355.
- Hoshi, T., Kashyap, A., & Scharfstein, D. 1990. The role of banks in the costs of financial distress in Japan. *Journal of Financial Economics*, 27: 67-88.
- Hoshi, T., Kashyap, A., & Scharfstein, D. 1991. Corporate structure liquidity and investment: Evidence from Japanese industrial groups. *Quarterly Journal of Economics*, 106: 33-60.
- Jensen, M. C., & Meckling, W. H. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3: 305-360.
- Lincoln, J. R., Gerlach, M. L., & Ahmadjian, C. L. 1996. Keiretsu networks and corporate performance in Japan. *American Sociological Review*, 61: 67-88.
- Milgrom, P., & Roberts, J. 1992. *Economics, organization, and management*. Englewood Cliffs, NJ: Prentice-Hall.
- Morck, R., & Nakamura, M. 1999. Banks and corporate control in Japan. *Journal of Finance*, 54: 319-341.
- Mueller, D. C. 1990. *The dynamics of company profits: An international comparison*. Cambridge, England: Cambridge University Press.
- Nakatani, I. 1984. The economic role of the financial corporate grouping. In M. Aoki (Ed.), *The economic analysis of the Japanese firm*: 227-259. Amsterdam: North-Holland.
- Prowse, S. 1992. The structure of corporate ownership in Japan. *Journal of Finance*, 47: 1121-1140.
- Prowse, S. 1994. *Corporate governance in an international perspective*. Basel: Bank for International Settlements.
- Roe, M. J. 1994. *Strong managers, weak owners*. Princeton, NJ: Princeton University Press.
- Shleifer, A., & Vishny, R. W. 1997. A survey of corporate governance. *Journal of Finance*, 52: 737-783.
- Thomsen, S., & Pedersen, T. 2000. Ownership structure and economic performance in the largest European companies. *Strategic Management Journal*, 21: 689-705.
- Walsh, J. P., & Seward, J. K. 1990. On the efficiency of internal and external corporate control mechanisms. *Academy of Management Review*, 15: 421-458.
- Weinstein, D., & Yafeh, Y. 1995. Japan's corporate groups: Collusive or competitive. *Journal of Industrial Economics*, 43: 359-377.



Eric Gedajlovic (eric@gedajlovic.com) is an associate professor of international business in the Strategy and Business Environment Department at the Rotterdam School of Management. He received his Ph.D. from Concordia University. Much of his research focuses on the comparative analysis of business, financial, and governance systems and their impacts upon the development of firm capabilities, strategic assets, and national competitiveness.

Daniel Shapiro is a professor of business and economic policy in the Faculty of Business Administration, Simon Fraser University. He received his Ph.D. from Cornell University. His recent research focuses on national systems of corporate governance and their impact on firm performance and the role of governance infrastructure as a determinant of foreign direct investment flows.



Copyright of *Academy of Management Journal* is the property of Academy of Management and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.