OWNERSHIP STRUCTURE AND FIRM PROFITABILITY IN JAPAN

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OWNERSHIP AND FIRM PROFITABILITY IN JAPAN

Abstract

We examine the relationship between the ownership structure and financial performance of 334 Japanese corporations for the 1986-1991 period. Consistent with agency theory predictions, we find a positive relationship between ownership concentration and financial performance. Coincident with this agency effect, we observe a more pronounced profit redistribution effect characterised 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 that principals and agents often have divergent goals and capacities to influence corporate behaviour 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). On the other hand, agency theory has been criticized in the sociology literature for its failure to pay sufficient attention to the context 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 behaviour and corporate performance has been studied in a wide variety of national contexts (Gedajlovic & Shapiro, 1998) from differing theoretical perspectives. In research emphasizing the influence of economic incentives on top executives and investors, ownership concentration is 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 restricted their frame of reference to one, but not both 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 use standard agency theory logic to develop the hypothesis that ownership concentration and firm performance are directly and positively related in Japan. Subsequently, we develop hypotheses that account for a unique feature of Japan’s institutional context. Specifically, we evaluate the possibility that an important effect of ownership concentration in Japanese firms
is to promote intercorporate goals of risk reduction and mutual assistance (Dore, 1983; Nakatani, 1984; Aoki, 1988). We build upon the work of Lincoln et al. (1996) who found that the performance of firms with close ties to a big-six Japanese *keiretsu* is conditioned by past performance in a manner that benefits weaker performing members at the expense of stronger companies. Our context specific hypotheses consider 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 literatures 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 may both be apparent. Accordingly, we derive and specify a model that accounts for the possible existence of both types of effects. We evaluate this model on a pooled cross-sectional sample of 334 publicly listed Japanese firms spanning their 1986-1991 fiscal years.

**BACKGROUND**

National systems of corporate governance evolve in order to exploit the advantages of the corporate form of organization while mitigating against concomitant agency costs in a manner consistent with a country’s history and legal, political 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 characterised 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 has 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) describes how these intercorporate networks transcend formal groupings and pervade much of the Japanese economy. While the most formal of these groupings are often referred to as *keiretsu*, Gerlach suggests that the term be used as "*a metaphor for general patterns of inter-firm organization in Japan--as an ideal type...*" (p. 5-6).

In terms of corporate governance, two varieties of these networks are particularly relevant: industrial, or vertical *keiretsu*, and financial, or horizontal *keiretsu*. Industrial *keiretsu* link vertically related firms along an industry value chain through the cross-ownership of equity (Dyer, 1996). Thus, membership is typically comprised of a large manufacturer and its major suppliers. An exchange of employees and directors often accompanies the cross-ownership of shares. Financial *keiretsu* link companies (usually in different industries) through a common main bank, which typically has an ownership stake in network firms, and provides loans and commercial services to those same firms (Hoshi, Kashyap & Scharfstein, 1990).

In the literature on Japan’s system of corporate governance, 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 et al, 1994), but empirical evidence concerning the relationship between ownership and firm performance in that country is quite sparse and equivocal. Cable & Yasuki (1985) found that ownership concentration outside *keiretsu* 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 non-*keiretsu* 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 professional management with little ownership operating the 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 them at the expense of shareholders (Jensen & Meckling, 1976). Managerial discretion harmful to shareholders can occur in two broad ways. Managers may engage in short-run cost augmenting activities to enhance their non-salary 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 that managers lack the incentive to maintain tight cost control (Alchian & Demsetz, 1972) and will tend to adopt strategies and practices that benefit them 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
which 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 large investors takes on heightened significance (Shleifer & Vishny, 1997). As a consequence, we expect to find a positive relationship between the ownership concentration and financial performance of Japanese corporations.

**Hypothesis 1a: There is a positive relationship between the size of the ownership stake of blockholders and profitability among Japanese firms.**

Hypothesis 1a does not distinguish among the various types of blockholders. Recent theory and evidence suggests that blockholder 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 non-financial 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 behaviour 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 size of the shareholdings of financial institutions and non-financial 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 maximization. However, it is often argued that the multiple equity, debt and commercial ties which characterize 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 bank against the possibility of future financial distress in the form of over-borrowing (Aoki, 1988) at high rates of interest (Weinstein & Yafeh, 1994).

Hoshi et al. (1990) and Morck & Nakamura (1999) offer evidence supporting this view insofar as they observe that banks treat firms with which they have close ties differently during times of financial distress. Morck & Nakamura (1999) evaluate their evidence by suggesting that banks act to prop up weak firms with whom they have close ties. Lincoln et al. (1996) extend the insurance metaphor beyond the banking sector and suggest 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 linkages throughout Japanese industrial organization, Gerlach (1992) notes that intercorporate relationships within keiretsu share much in common with those found in ostensibly more independent firms (p. 6). This assessment receives support in Hoshi, Kashyap & Scharfstein’s (1991) finding that the benefits of bank-led bailouts extend to non-keiretsu firms who nevertheless have strong ties to a bank. As such, there is some evidence that the redistribution patterns observed by Lincoln et al. (1996) are a discernable characteristic of
Japan’s broader business system rather than a keiretsu-only phenomena. In this regard, Clark’s (1979:86) widely cited comment that in Japan “shareholding is the mere expression of their relationship, not the relationship itself,” suggests that equity ties are symbolic indicators of more profound relational ties which extend beyond shareholder-firm relations observed in arm’s length governance systems.

In this study we consider the effects of ownership structure on intercorporate profit redistribution. Specifically, we evaluate whether ownership ties, and in particular the ties between Japanese financial institutions and non-financial 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 the following hypotheses.

**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 non-financial 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 may be estimated by an equation such as (1):

\[
\pi_{it} = \alpha + \beta_1 \text{OWN}_{it} + \delta \mathbf{X}_{it} + \epsilon_{it}
\]
Equation (1) estimates the direct impact of ownership concentration (OWN) on firm profitability ($\pi$), holding constant a vector of control variables ($X$). Agency theory suggests that $\beta_1 > 0$. We shall be using panel data, and this is indicated by the subscripts, where $i$ denotes a cross-sectional observation (a firm) and $t$ denotes time. Our hypotheses are framed in terms of three measures of ownership structure (OWN) described below: ownership concentration among blockholders without regard to identity, the total ownership share of Japanese financial institutions, and the ownership share of Japanese non-financial corporations. Accordingly, equation (1) will be estimated three times. Estimates indicating that $\beta_1 > 0$ for each measure of ownership concentration would support hypotheses 1a and 1b 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 et al. (1996), we adopt a dynamic extension of Equation (1), which allows us to test both the agency and redistribution hypotheses.

\[
\pi_{it} = \alpha + \beta_2 \text{OWN}_{it} + \delta \text{X}_{it} + \lambda \pi_{it-1} + \Phi \text{OWN}_{it} \cdot \pi_{it-1} + \epsilon_{it}
\]

Equation (2) suggests that firm performance depends not only on ownership, but also on past profitability. Lincoln et al. suggest that the coefficient on the lagged profitability term reflects the ability of Japanese firms to redistribute profits. The lower the coefficient, the greater is the redistribution effect\(^1\). 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 $\beta_2 > 0$ for each ownership measure. As suggested by Lincoln et al. (1996:73-74), the degree to which ownership structures influence the extent of redistribution can be estimated by $\Phi$, 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 non-financial corporations (2b) will receive support if $\Phi < 0$ for each ownership measure. That is, a negative $\Phi$ 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 consists of pooled time-series and cross-sectional observations of 334 publicly listed Japanese firms spanning the 1986-1991 fiscal years. Firms included in the sample represent a broad cross-section of medium and large-sized (minimum U.S $50 million) publicly traded, private sector Japanese firms drawn from eight industrial sectors (automobiles & parts, food & beverages, electronics, transportation, retailing, oil & gas, pulp & 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. Ownership and banking data was collected from *The Japan Company Handbook*.

The dependent variable in all equations is firm profitability. We measure 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) notes 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, **Total Share of Five Largest Blockholders** is a measure of ownership concentration that does not distinguish between shareholders of different identities. This measure is identical to the primary one used by Prowse (1992). This variable is
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 a significant proportion of a firm’s outstanding shares. Consequently, we consider two additional ownership variables: Ownership by Financial Institutions and Ownership by Non-Financial Companies. These measures are equal to the percentage of a company’s outstanding shares held by Japanese financial and non-financial corporations, respectively. These variables are used to evaluate hypotheses 1b and 2b.

The following variables constitute control (exogenous) variables, previously subsumed under the X-vector in equations (1) and (2). These variables have been chosen to control for factors other than ownership structure that have been found in the literature to affect profitability. **Firm Size**, measured as the log of total assets, is 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, is used as a control for demand conditions and product-cycle effects. **Financial Leverage**, measured as the ratio of debt to capital employed, is included as a control variable in the regression models because a firm’s capital structure may influence its investment decisions and the discretion afforded managers (Harris & Raviv, 1991). A series of indicator variables are included in all models to control for industry affiliation.

The focus of this study is on the effects of ownership structure rather than main bank or kereitsu ties. We control for main bank effects through the use of an indicator variable representing whether a firm’s lead bank was one of Japan’s big-six main banks (i.e. Sumitomo, Mitsui Taiyo Kobe, Dai-Ichi Kangyo, Fuji, Sanwa and Mitsubishi). Approximately 70% (234) of the firms included in our sample have a big-six lead bank. In order to control for kereitsu ties, we follow Lincoln et al. (1996) and use an indicator variable measuring whether a firm is a member
of the *shacho-kai* (President’s Club) of a big-six *keiretsu*. The sample contains 51 firms with *shacho-kai* membership (15% 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 by ordinary least squares (OLSQ). We then estimated the same model using a fixed-effects model (FEM), and a Lagrange Multiplier test (Greene, 1993:476) was used to choose between it and OLSQ. The FEM was preferred in all cases. The model was then estimated using a Generalized Least Squares (GLS) random-effects model (REM). This was compared to the FEM using the Hausman test (Baltagi, 1995:68), and the REM was in all cases chosen. As a consequence, we report the REM results in Table 2 below.³

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-section component of the error term (Baltagi, 1995:125-6). Standard panel data techniques can produce parameter estimates 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 & Bond (1991) have suggested using the generalized method of moments (GMM) technique on differenced data and demonstrate how the GMM method can be used to provide unbiased and consistent parameter estimates (Baltagi, 1995:127-128). Estimation using the Arellano & Bond method does come at a cost insofar as the method cannot provide coefficient estimates for variables that are time invariant, such as dummy variables for industry, main bank and *shacho-kai* membership. Since these variables are important in Japan, we estimated equation (2) using GLS random-effects estimation. This estimation technique allowed us to include industry, main-bank and *shacho-kai* variables. We
also estimated models that excluded these time invariant variables using the Arellano & Bond (GMM) technique. Fortunately, the results obtained from these two techniques are very similar, and we therefore report only the more familiar REM results. Considering the GMM results would change none of the conclusions reported below.\(^4\)

Table 1 provides the pooled (1986-1991) 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 firm’s five largest blockholders own on average 33.66% of its outstanding shares, while non-financial firms own 19.32% and financial institutions own 19.19% of outstanding shares in the sample firms. These means are consistent with those reported on similar measures by Charkham (1994) and Prowse (1994).

**INSERT TABLE 1 ABOUT HERE**

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 non-financial 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 non-financial 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 non-financial 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 the each of the three measures of ownership. Models (4)-(10) represent estimates of the coefficients of Equation (2). We also present one variant that includes both financial and non-financial 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 et al. (1996) have
found that *shacho-kai* membership is associated with strong redistribution effects and these may
not be fully controlled for in our other estimations.

**INSERT TABLE 2 ABOUT HERE**

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 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 can imply that the effects of lagged
profitability are negative (when the interaction term is negative), the sales growth control
variable is not included in 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 term between lagged profitability and
the shares of both financial and non-financial firms is negative and statistically significant. That
is, there is strong evidence that large ownership stakes by financial and/or non-financial firms
facilitate redistribution and therefore raises (lowers) 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 (i.e. the share 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 (i.e. financial institutions and non-financial corporations), 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 non-financial corporations, 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 holding other factors constant, the combined effect of ownership by financial and non-financial corporations is negative when profitability is evaluated at mean lagged ROA levels (3.6). That is, the net effect of large ownership stakes by Japanese financial and non-financial corporations 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% benefit from redistribution. However, for firms with higher profit rates, the net effects of large shareholdings by financial and non-financial corporations are negative.5

The results are also clear in terms of whether financial or non-financial firms 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 (-.063) is roughly twice that for non-financial firms (-.035) for the full sample (Models 5-6) and even greater when the sample is restricted to non shacho-kai members (i.e. -.07 versus -.026 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, while the relationship with firm size is always negative. Both of these results are consistent with those obtained by Lincoln, et al., (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.

**DISCUSSION AND CONCLUSIONS**

In positing a positive relationship between ownership concentration and firm performance, agency theory focuses 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 are observed, our results indicate that the relationship between ownership concentration and firm performance in Japan reflects both economic incentives and social context.

Since redistribution effects are stronger than agency effects, the net impact of ownership concentration is negative for most Japanese firms. While firms with relatively high profits suffer impaired profitability, firms with low, and particularly 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 their ability to monitor how those proceeds are utilised, agency and redistribution effects may act in tandem and reinforce each other.

Our results clearly indicate that shareholder identity matters. When we measure ownership concentration without reference to the identity of investor, we find agency effects, but not redistribution effects. Redistribution effects are found only when we examine ownership shares of financial and non-financial firms. Such a result is consistent with the notion that distinct classes of shareholders differ in terms of their investment objectives and capacities to influence corporate behaviour (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 which found that Japanese financial institutions organize bailouts for troubled industrial 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 non-financial corporations provides evidence that industrial firms also provide assistance to firms which whom they hold equity ties. Further, our results indicating that firms with ROA levels as high as 2-2.5% benefit from profit redistribution suggests that redistribution takes place on an ongoing basis 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 et al (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 (i.e. 1986-1991) that predates significant structural reform to Japan’s financial system as well as its banking crisis, care must be taken in generalising 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 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 Yen shock as well as the bubble economy of 1987-1990 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**


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<td>25.74</td>
<td>0.00</td>
<td>-0.02</td>
<td>-0.03</td>
<td>-0.25**</td>
<td>0.11**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>7. Growth rate (sales)</td>
<td>8.26%</td>
<td>26.36</td>
<td>-0.03</td>
<td>-0.03</td>
<td>0.07**</td>
<td>0.17**</td>
<td>0.00</td>
<td>0.02</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Sample size is 334 firms observed over 6 years. Pearson 2-tailed tests are indicated as: † p < .1; * p < .05; **p < .01; ***p < .001
### TABLE 2a
GLS Random-Effects Regression Results: Dependent Variable Return on Assets (ROA)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
<th>Model 8</th>
<th>Model 9</th>
<th>Model 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ownership share of 5 largest blockholders</td>
<td>.09***</td>
<td>.029***</td>
<td>.10***</td>
<td>.074***</td>
<td>.036**</td>
<td>.07***</td>
<td>.11***</td>
<td>.18***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership share of non-financial firms</td>
<td>.029***</td>
<td>.074***</td>
<td>.07***</td>
<td>.036**</td>
<td>.07***</td>
<td>.07**</td>
<td>.08***</td>
<td>.08***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership share of financial institutions</td>
<td>-5.53*</td>
<td>-6.62*</td>
<td>-6.63*</td>
<td>-7.04**</td>
<td>-7.04**</td>
<td>-7.45**</td>
<td>-8.69**</td>
<td>-7.30*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>.26***</td>
<td>.26***</td>
<td>.26***</td>
<td>.43**</td>
<td>.43**</td>
<td>.42***</td>
<td>.42***</td>
<td>.50***</td>
<td>.48***</td>
<td>.49***</td>
</tr>
<tr>
<td>Debt to Capital Employed</td>
<td>.30***</td>
<td>.29***</td>
<td>.29***</td>
<td>.42***</td>
<td>.42***</td>
<td>.42***</td>
<td>.42***</td>
<td>.50***</td>
<td>.48***</td>
<td>.49***</td>
</tr>
<tr>
<td>Big-Six Main Bank</td>
<td>-.75</td>
<td>.32</td>
<td>-.77</td>
<td>1.23</td>
<td>2.82</td>
<td>1.26</td>
<td>1.62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shacho-Kai Member</td>
<td>.74</td>
<td>1.15</td>
<td>.41</td>
<td>4.15</td>
<td>3.94</td>
<td>3.90</td>
<td>3.48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA (lagged)</td>
<td>.08***</td>
<td>.11***</td>
<td>.14***</td>
<td>.15***</td>
<td>.09***</td>
<td>.11***</td>
<td>.16***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership of 5 largest blockholders * ROA (lagged)</td>
<td>-.002</td>
<td>-.035**</td>
<td>-.027**</td>
<td>-.063**</td>
<td>-.05*</td>
<td>-.07**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership of non-financial firms* ROA (lagged)</td>
<td>-</td>
<td>-.027</td>
<td>-.026</td>
<td>-.063**</td>
<td>-.05*</td>
<td>-.07**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership share of financial institutions * ROA (lagged)</td>
<td>-</td>
<td>-.035**</td>
<td>-.027**</td>
<td>-.063**</td>
<td>-.05*</td>
<td>-.07**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r²</td>
<td>.42</td>
<td>.41</td>
<td>.43</td>
<td>.31</td>
<td>.30</td>
<td>.31</td>
<td>.32</td>
<td>.35</td>
<td>.34</td>
<td>.35</td>
</tr>
<tr>
<td>Number of firms</td>
<td>334</td>
<td>334</td>
<td>334</td>
<td>334</td>
<td>334</td>
<td>334</td>
<td>283</td>
<td>283</td>
<td>283</td>
<td>283</td>
</tr>
</tbody>
</table>

*Columns (1)-(7) contain estimates using the full sample for 5 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, with the following levels of significance indicated: † p < .1; * p < .05; **p < .01; ***p < .001, two-tailed tests.
NOTES

1This 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 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 persistence of profitability (Mueller, 1990), though Lincoln et al., (1996) did use the average of one and two year lagged profits.

2We also created a series of indicator variables, one for each of the main banks and found that including these additional variables did not alter the results reported below in any material way.

3Estimation was performed using the panel procedure in LIMDEP 7.0. This econometric procedure computes robust standard errors. Output includes the degree of autocorrelation of the error terms, and these provided no indication that autocorrelation was present.

4Details regarding GMM estimation of the Arellano & Bond model may be found in Baltagi (1995, Chapter 8). The GMM results, based on 226 firms, are available from the authors on request.

5Statements 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 1% change in the ownership share of non-financial corporations is given by .074 - .035*lagged ROA (Model 5) and .17 - .063*lagged ROA (Model 6). Thus, there is a positive direct (agency) effect of .074 (.17), but a negative indirect (redistribution) effect, the magnitude of which depends on past profitability. Evaluated 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 .074 - .035*lagged ROA = 0 (for Model 5) and .17 - .063*lagged ROA = 0 (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.