Japanese Corporate Governance Problem and Economic Efficiency:
An Empirical Analysis of Japanese Manufacturing Firms

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Abstract

We investigate how the Japanese governance characteristics hurt shareholders' value focusing on the rent distribution problem between two residual claimant parties, shareholders and employees. We find that lower Tobin's Q under Japanese governance characteristics is mainly attributed to the rent distribution problem, not to a decrease in productivity. We argue that pros and cons of a governance characteristic should be valued not only from the viewpoint of shareholders value but also by that of value added. In other words, corporate governance system that enhances employee-oriented management may be rational when valued from the viewpoint of value added.

1. Introduction

In this paper, we examine how Japanese governance characteristics hurt shareholders' value, focusing on the role of managers as mediators between two residual claimant parties, shareholders and employees. In other words, we focus on the role of Japanese governance characteristics in determining the relative bargaining power between shareholders and employees rather than in mitigating or deteriorating agency problem between management and shareholders.

As it is widely known, there had been two conspicuous characteristics in the corporate governance structure of large Japanese firms and these characteristics released management of Japanese firms from the pressure of outside shareholders, weakening the relative bargaining power of shareholders. One is a characteristic in ownership structure, the absence of strained monitoring from outside shareholders. The other is also a corporate financial aspect, close relationships with so-called *main banks*. These characteristics are said to release managers from the pressure for maximizing shareholders' value, whereby managers of Japanese firms had been

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able to pursue the interests of employees rather than those of shareholders as discussed in Abegglen and Stalk (1985), and Komiya (1988).

Although these characteristics had been considered as an effective governance system as shown in Prowse (1990), Hoshi, Kasyap and Schrafstein (1990, 1991), and Kang and Shivdasani (1995), recent evaluations of these characteristics are very severe. In fact, recent articles regarding Japanese corporate governance have developed arguments on the dark side of Japanese governance characteristics (Sheard, 1994, Morck and Nakamura, 1999, Kang and Stulz, 2000). However, these papers assume a neoclassical firm, in which shareholders are supposed to be the exclusive residual claimant party, in formulating hypotheses and the agency problem is the center of the arguments.

We focus on quite a different aspect of corporate governance problem in Japanese large firms based on the dual-principle firm view suggested by Aoki (1988), wherein both shareholders and employees are supposed to be residual claimant parties and managerial decisions are determined by each party's relative bargaining power. In this framework, managers are supposed to be a mediator between two residual claimant parties, rather than the agent of shareholders. In Japan, managers often tend to regard employees as the most important residual claimants because almost all managers are selected from quasi-permanent employees and consider themselves as representatives of the employees rather than that of shareholders (Komiya, 1988a, 1988b).[1]

We focus on the role of Japanese governance characteristics in determining the relative bargaining power between employees and shareholders and develop a model based on Aoki (1988). We formulate the hypothesis that Japanese governance characteristics hurt shareholders' value via rent distribution problem, whereas its effect on productivity is somewhat neutral. We think that such approach help us understand the way by which Japanese governance characteristics hurt shareholders' value because labor relative share of Japanese firms had been higher than that of other developed economies.

By running regressions of labor relative share on Q, in which labor relative share is instrumented by governance variables, we find that in firms with intensive Japanese governance characteristics, shareholders' value decreases via prior rent distribution for employees.[2]

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[1] It is also worthwhile to note that employees in Japanese firms actually bear more risk than shareholders in the form of deferred compensation. This might be a plausible economic explanation for employees being residual claimants.

[2] The reason why we focus on foreign ownership rather than financial institutions' ownership is that foreign ownership accounts for the intense of monitoring and fear of hostile takeover more appropriately than financial institutions' ownership. See section 3.2 for a detailed discussion.

However, we do not find any harmful effect on shareholders' value except for this distribution problem. Additional regression analyses, using financial statement variables as dependent variables, also show similar evidence. Furthermore, we also run a regression analysis estimating production function and find that Japanese governance characteristics have a little impact on productivity. These results also indicate that the harmful effect of Japanese governance characteristics is the distribution problem between two residual claimant parties and its effect on productivity is somewhat neutral.

The article proceeds as follows. In Section 2, we outline related extant literature and formulate the hypothesis based on the dual principal firm view. We detail empirical method and our sample in Section 3. The empirical findings are presented in Section 4. Section 5 summarizes our findings and presents conclusion.

2. Japanese Corporate Governance

2.1 Employees as Residual Claimant

The extant governance literature generally assumes a neoclassical type firm in formulating hypotheses, where shareholders are supposed to be the exclusive residual claimant and the agency problem is the center of the argument. For example, Morck, Shleifer, and Vishny (1988), and McConnell and Servaes (1990) find non-monotonic relationships between managerial ownership and corporate value. They argue that while the alignment effect is prominent over the low levels of ownership in accordance with Jensen and Meckling (1976), the entrenchment effect dominates the alignment effect at the higher levels of ownership as argued in Stulz (1988). Short and Keasey (1999), who conduct a similar analysis on UK firms, also find similar results. On the other hand, it is also well known that ownership by institutional investors have a positive effect on corporate value, because these investors discipline managers to enhance share prices (McConnell and Servaes, 1990, 1995, Bethel, Liebeskind, and Opler, 1998). As for firm-bank relationship, it is widely known, especially in Japan, that close firm-bank relationships mitigate the under-investment problem because frequent transactions reduce information asymmetry between banks and its client firms (Hoshi, Kashyap, and Schartfstein, 1990, 1991). It is also important to note that banks play an important role in the turnover of management (Kaplan and Minton, 1994, Kang and Shivdasani, 1995). However, the papers referred above explicitly or implicitly assume that managers' objective is inherently to enhance shareholders' value, supposing that managers' decisions would correspond to those maximizing shareholders' value, if the agency problem does not exist.

On the other hand, Aoki (1988) argues that neither employees nor shareholders can be considered to be the exclusive residual claimant party in Japanese firms. In this view, both shareholders and quasi-permanent employees contribute indispensable resources to the firm, and share uncertain quasi-rent produced by the combined commitment of these assets, whereas managers are supposed to play an arbitrative management role in which they make managerial decision depending on the relative bargaining power between shareholders and employees. This view indicates that quasi-permanent employees in Japanese large firms bear risks like shareholders, in the form of fluctuating bonuses, uncertain opportunities for promotion, uncertain pension plans and future wage premiums associated with seniority payment. In such way, employees could be regarded as a residual claimant party as well as shareholders under the arbitrative management. We think an analysis based on this arbitrative management view, or dual principal firm view, help us understand the effect of corporate governance other than agency problem. In other words, it might be important to shed light on not only agency problem but also on the rent distribution problem between two residual claimant parties.

Aoki (1988) argues three conditions for the arbitrative management to be viable: (1) the management has to be free from the institutional setup underlying classical capitalist control as well as its supporting ideology that management should act solely for the owner's interest; (2) the collective bargaining framework has to be developed to foster mutually beneficial exchange; (3) the management has to be protected, to a certain extent, from the unilateral pressure of the "short-run" share price maximization. For these conditions, especially for (1) and (3), we think that Japanese governance characteristics play an important role because they release management from both classical capitalist control and the unilateral pressure of share price maximization.

2.2 Hypothesis

We build a Japanese firm's behavior model following the dual principal view of Japanese firms, whereby we formulate the hypothesis that Japanese corporate governance characteristics' effect on corporate value is the rent distribution problem between two residual claimant parties whereas its effect on productivity is somewhat neutral. In other words, we formulate an unexplored hypothesis regarding the effect of governance structure on corporate value based on quite a different setting from the agency problem.

In our model, managers are supposed to maximize the objective function of $(V - V_Z)^\alpha (W - W_Z)^\beta$, where α, β are the bargaining power of shareholders and employees respectively.[3] V, W represent the market value of shareholders' equity and the present value of

what employees will receive in the future respectively, and V_z and W_z correspond to the value they receive in a conflicting situation. In this setting, the intensity of Japanese government characteristics is formulated as higher β relative to α. Managers would decide g, the growth rate of the firm, and θ, the portion of the return distributed to shareholders, so as to maximize this objective function (for details, refer the Appendix). We suppose that this contract with managers is complete and binding because of the Japanese seniority system and lifetime employment system.[4]

Assuming that the growth rate g of the number of employees equals to that of the capital and that $V_z=K$ and $W_z=0$ where K is the replacement cost of capital stock, first-order optimal conditions for the Japanese firm; $(V-K)^\alpha W^\beta$ are as follows.

The labor relative share *(1- θ)* becomes

$$
\begin{aligned}
1-\theta &= 1 - \frac{\alpha}{\alpha+\beta} - \left(\frac{\beta}{\alpha+\beta}\right)\left[\frac{\{\phi(g)+\rho-g\}K}{\pi}\right] \\
&= \left(\frac{\beta}{\alpha+\beta}\right)\left[1 - \frac{\{\phi(g)+\rho-g\}K}{\pi}\right] ,
\end{aligned}
\tag{1}
$$

where; g presents the growth rate of the firms and $\phi(g)K$ is the necessary amount of investment to attain the growth rate g, ρ is the cost of capital, and π is value added. We can verify [·] of the last term of (1) to be positive easily.

Tobin's Q becomes,

$$
Q \equiv \frac{V}{K} = \frac{\left\{\dfrac{\theta\pi}{K} - \phi(g)\right\}}{\rho - g}
\tag{2}
$$

In short, both conditions (1) and (2) are the distribution problem about which we have discussed in the previous sections.

From the arguments above, the first hypothesis to be tested is as follows:

Hypothesis: As the intensity of Japanese governance characteristics become strong (as β

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[3] It is worthwhile to note that V-V_z, W-W_z also can be the source of bargaining power.

[4] In the incomplete contract case, shareholder must maximize the following re-negotiated problem by g for given

θ ; $Q \equiv \dfrac{V}{K} = \dfrac{\left\{\dfrac{\theta\pi}{K}-\phi(g)\right\}}{\rho-g}$. This is a hold up problem.

becomes higher relative to α), *shareholders' value Q will decrease mainly by the increase of the rent distribution to labor (labor relative share)* $1 - \theta$.

However, whether this corporate behavior is inefficient from the viewpoint of economic efficiency is a quite another problem. For example, from the perspective of maximizing the $V+W$, g in the equation (2) is the optimal one. In order to maximize $(V - V_Z)^\alpha (W - W_Z)^\beta$, its constraint $V+W$ must be maximized at the first step. In other words, g is the one that might maximizes value added, which then would be distributed to both employees and shareholders.

From the arguments so far, the following lemma is derived;

Lemma;   Optimal growth rate g which maximizes V+W is unique and is not affected by α *nor* β. *In short, total productivity does not depend on* α *nor* β.

3. Method of Empirical Analysis

3.1 Methodological Approach

Our analytical strategy to verify the hypothesis can be formulated as follows:

$$LRS_i = \beta_1 + \beta_2' GOV_i + \beta_3' CTRL_i + \xi_i \tag{3}$$

$$Q_i = \alpha_1 + \alpha_2 LRS_i + \alpha_3' CTRL_i + \varepsilon_i \tag{4}$$

Where;

Q : Tobin's Q

LRS : Labor relative share

GOV : Governance variables (vector), as the proxies of α and β

$CTRL$: Control variables (vector).

Here, we suppose that governance variables are the proxy of relative bargaining power in our model. To verify our hypothesis, the first strategy is to compare the OLS coefficients of Japanese governance variables on Tobin's Q with the product of labor relative share coefficient of Tobin's Q and Japanese governance coefficients of labor relative share regarding (4). That is, to calculate the indirect effect of Japanese governance variables on Q, we first estimate the governance coefficient of the labor relative share equation and then estimate the labor relative share coefficient of the Tobin's Q equation where the labor relative share is instrumented by the governance variables. The product of these two coefficients can be considered as the governance variable's indirect effect on Tobin's Q as discussed in our model. This is then to be compared with the governance coefficient of Tobin's Q in the OLS regression, which can be considered as the total effect on Q, which may also include the effect on productivity. If the magnitudes of

these two values are almost equal, the effect of Japanese governance variables can be attributed to the distribution problem as we have discussed in the previous section.

Our second approach is to run simple OLS regressions using two financial statement variables as dependent variables. One is value added divided by investment capital, and the other is net profit before tax divided by investment capital. The former is a proxy of productivity, whereas the latter is a proxy of shareholders' claims. If Japanese governance coefficient of productivity is statistically insignificant and that of net profit before tax divided by investment capital is statistically significant, we can again argue that the effect of Japanese governance characteristics is mainly a distribution problem.

Third, we investigate the effect of Japanese governance variables on productivity directly by estimating a production function. If the coefficients of Japanese governance variables are not statistically significant, it shows the indirect evidence that the effect of Japanese governance on corporate value is a distribution problem rather than an economic efficiency problem.

3.2 Employees' bargaining power

In this subsection, we explain about the variables used in the regressions. The definitions are summarized in Table 1. As we have mentioned, we capture employees' relative bargaining power from two conspicuous characteristics in corporate governance of large Japanese firms. One is the absence of pressure from outside shareholders and the other one being close firm-bank relationships.

The absence of monitoring from outside shareholders releases Japanese firm managers from the pressure for maximizing shareholders' value and enhances employees' relative bargaining power. Although most large shareholders in Japan were members of firm-groups (*keiretsu*) and they had neither submitted their proxy rights against the managers nor directly advised them to increase shareholders' value until recent years, foreign investors had been the exceptional institutional investors that seem to discipline managers to enhance shareholders' value. In other words, an increase in foreign ownership would be associated with a decrease in employees' relative bargaining power. For example, foreign investors have raised objections to managers and exercised their voting right against managers.[5]

As for a proxy of the pressure from outside shareholders, one might think that we should focus on the intensity of inter-corporate shareholding that is said to entrench manager from the threat of hostile takeovers. The reasons why we focus on foreign ownership rather than

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[5] Recently, the situation with voting in Japanese firms has changed dramatically. However, in our sample period, investors except foreign investors never exercised their voting rights against managers.

Table 1

Variables, definitions, and sources. All variables, except MB and SUB, are the average of the 5 years 1992-1996.

Variable	Definition	Source
Q	Average Tobin's q, where share price data is 1 year lagged forward to adjust the disclosure timing of financial data. The numerator of Q is the sum of the year average market value of common stock and the book value of debt. The denominator is the investment capita, which is the book value of common stock and debt.	Nikkei NEEDS, Nikko Stock Market Index
LRS	Average labor relative share, which is defined as the labor costs divided by added value.	Nikkei NEEDS
VALUE	Average added value, which is the sum of net income, personal expenses, interests cost, rent cost and taxes.	Nikkei NEEDS
VALUEIC	Average added value divided by investment capital, which is the book value of common stock and debt.	Nikkei NEEDS
ORPROIC	Average ordinary income divided by investment capital, which is the book value of common stock and debt.	Nikkei NEEDS
INV	Average capital expenditure to tangible fixed asset.	Nikkei NEEDS
MAN	Average fraction of shares owned by managers.	Toyo Keizai
FOR	Average fraction of shares owned by foreign investors.	Toyo Keizai
PEN	Average fraction of shares owned by pension fund managers.	Toyo Keizai
MB	Main bank indicator variable that is 1 if a firm has the close relationship with the main bank 0, otherwise. The main bank is defined as the bank that is first listed bank in Kaisya-Sikihou (Toyo Keizai), has the largest share in bank loan, and appoint its employee to the board of the client firm. These criteria are	Toyo Keizai
SUB	Subsidiary firm indicator that is 1 if a firm is the subsidiary firm of other firm. This criteria are examined in the year 1992	Toyo Keizai
LEV	Debt to investment capital, which is the book value of common stock and debt.	Nikkei NEEDS
SIZE	Logarithm of average total asset.	Nikkei NEEDS
ADV	Average advertisement expenditures to the investment capital, which is the book value of common stock and debt.	Nikkei NEEDS
R&D	Average research and development expenditures to the investment capital, which is the book value of common stock and debt.	Nikkei NEEDS

inter-corporate shareholding are as follows. First, as we have discussed, foreign ownership seems to be more direct proxy for the intensity of pressure from outside shareholders. Second, since the possibility of hostile takeovers seems to have been negligible among our sample firms, it is not persuasive that cross-sectional difference in the possibility of hostile takeovers, which might be scaled by the intensity of inter-corporate shareholdings, would affect cross-sectional variation in shareholders' bargaining power. In other words, while the absence of hostile takeovers might enhance the employees' bargaining power of large Japanese firms as a whole, it would not affect cross-sectional variation in the relative bargaining power. Supporting this view, as we report later, we do not find any entrenchment effect caused by higher managerial ownership, suggesting that the possibility of hostile takeover does not change the level of Tobin's Q in the way argued in Stulz (1988). Third, even managers felt the threat of a hostile

takeover, a source of this threat would stem from foreign investors.[6] It is worthwhile to state that inter-corporate ownership was expanded in the 1960s, when Japanese government deregulated the upper bound of foreign ownership, as a countermove to the fear of hostile takeovers by foreign investors. Fourth, the ownership by financial institutions, which had been used as a proxy for inter-corporate ownership in the extant papers (Lichtenberg and Pushner, 1994, Prowse, 1992), no longer accurate proxy for the intensity of inter-corporate ownership as equity ownership by a bank is limited to 5% since December 1987. From the arguments above, we think foreign ownership *(FOR)* is a more appropriate proxy for our purpose. In addition, we also focus on the ownership by Japanese pension funds *(PEN)*, because they are also exceptional institutional investors free from financial keiretsu. We expect that, in firms where foreign investors, or pension funds, have a low fraction of shares, managers are released from intensive monitoring from outside shareholders and results in an increase in employees' relative bargaining power.

On the other hand, the main bank system also seems to entrench managers from the share price maximization pressure and enhance the relative bargaining power of employees. In firms with close firm-bank ties, managers' concern for share price might be weakened, since they do not have to raise capital from the stock market. As often pointed out, Japanese banks have had much importance on collateral value rather than on the potential profitability of a project. Such banks' preference for their client firms to be larger would accord with employees' interests, because larger firms can provide plentiful job and promotion opportunities to employees. From the arguments here, close firm-bank ties enhance employees' relative bargaining power at the expense of shareholders' value.[7]

We capture the intensity of firm-bank relationship both from lending and human resource relationships. This method is similar to that used in Hirota (1997).[8] A close-tied main bank usually accounts for the largest portion in the client firm's bank loans and appoints its personnel to the client firm's board. We define a firm's main bank as the first listed bank in *Kaisya-Sikihou* (Toyo Keizai) and set the dummy *MB* one if the firm's main bank is the largest creditor of it and has at least a seat in the board of the client firm. We collect these data from *Kigyou-Keiretu-Souran* (Toyo Keizai). We check these criteria in both the year 1992 and 1996 to remove the

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[6] A rare hostile takeover case in Japanese firms is that conducted by US investor T. Boone Pickens in 1991. He held 26 % of the shares of Koito Manufacturing Co., however, he could not even have a seat on the board.

[7] Morck and Nakamura (1999) show the evidence that banks tend to act in the broader interests of stakeholders when dealing with firms in bank groups. They also argue that their findings are consistent with banks propping up troubled bank group firms.

[8] Although Hirota (1997) also uses share ownership by the banks to identify firm-bank relationships, we do not use this criterion because ownerships by banks are restricted not to exceed the 5% of outstanding equity of the firms.

possibility of temporal delegations of managers to financially distressed firms other than long-term firm-bank relationships.

We also add the crossing variable of the foreign ownership and the main bank dummy to catch the interaction between the two variables, because the intensity of foreign owners' monitoring might depend on firm-bank relationships. We assume that the effect of foreign ownership to be less efficient in firms with close firm-bank ties, since close firm-bank relationships might make other governance structures inefficient.

Although the effect of managerial ownership *(MAN)* is not the center of the argument, we think that the comparison between the effect of Japanese governance characteristics and that of managerial ownership will provide beneficial implications for understanding the peculiarity of Japanese governance characteristics. We use the fraction of shares held by directors as the proxy for managerial ownership. Since there was no outside director in Japanese firms during our sample period, this variable captures managerial ownership appropriately.[9]

In addition, since some firms listed on the Tokyo Stock Exchange are subsidiaries of other firms and this might affect corporate value in a different way than we have discussed, we control for this by using dummy variable *SUB*, which is one for those firms of which shares held by their largest shareholder exceeds 20%, and zero for other firms.

3.3 Variables

Tobin's Q . We use average Tobin's *Q (Q)* as a proxy for shareholders' value. Our average *Q* is calculated with collections of holding land prices from new data sources that were not available in extant related papers. Our *Q* is defined as the market value of equity and the book value of debt as a fraction of the replacement cost of investment capital. The market value of equity is calculated using average share price during the 1993-1997 fiscal years to eliminate share price fluctuation. The replacement cost of investment capital is calculated from the book value of equity and long- and short-term debt adding the undisclosed gain (loss) of holding land and securities. In detail, we calculate the market value of holding securities by adding undisclosed gain (loss) of holding securities to the book value of holding securities. The undisclosed gain (loss) is collected from footnotes in financial statement report, which began to be disclosed from the 1991 fiscal year. As for land prices, we calculate market value of holding land backward from the amount of land-price taxes (*Tika-Zei*), considering the tax rates and the

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[9] It was in 1997 that SONY first as a Japanese firm introduced the corporate officer system, where some managers are not the members of the board of directors. Before that, all managers in Japanese firms were members of the board of directors.

amount of deduction. The land-price tax data is available only for the period covering 1992-1996, because this tax was introduced for the special purpose of mitigating the asset bubble in land prices.

Labor Relative Share. We use labor relative share *(LRS)* as an ex post proxy for the rent distribution problem we have discussed. The labor relative share is defined as the fraction of personnel expense divided by added value, which consists of net profit, personnel expense, interest payment and tax.[10]

One anxiety for using labor relative share as a proxy for the distribution problem is that it might be fluctuated by ups and downs of the firm's profit. In general, labor relative share tends to be higher when a firm earns lower cash flows because wages tend to have downward rigidity. Although we think that the use of five years' pooled data offsets this fluctuation effect significantly, we use free cash flow divided by equity as a control variable in the labor relative equation to control for the ups and downs in financial slack more appropriately.[11]

Financial Performance. We use two financial statement variables as dependent variables to boost the robustness of our results. One is a proxy for productivity and the other is a proxy for shareholders' stakes. The former, *VALUEIC* is defined as value added *(VALUE)* divided by investment capital, and the latter, *ORPROIC* is defined as ordinary income divided by investment capital.

We include *SIZE*, logarithm of assets; *LEV*, the ratio of debt to equity; *RD*, R&D expenditure divided by the investment capital; and *AD*, advertisement expenditure divided by investment capital as the control variables in Tobin's *Q* equation. The firm size might affect Tobin's *Q* in a variety of ways. For example, large firms might have an advantage in raising funds from capital markets and in competing in product markets, resulting in higher *Q*. On the other hand, large firms might have ongoing projects with negative NPV and hence their *Q* might become lower as shown in diversity discount literature.

Leverage also might have both beneficial and harmful effects on *Q*. On one hand, in addition to the tax shield effect, leverage might raise *Q* because higher leverage decreases the agency cost, which often is derived from financial slack (Jensen, 1986). On the other hand, higher leverage might induce the under-investment problem due to the debt-overhang (Myers, 1977). Furthermore, it is also worthwhile to note that the leverage of Japanese firms might

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[10] Since labor relative share is calculated by using the five-year average data, only two firms of which relative share exceed 100%. We set these outliers at 100%.

[11] It is worthwhile to notice that paying sustainable compensation to employees even under the low amount of cash flow might reflect managers' placing importance on employees' interests.

indicate the intensity of the firm-bank relationship. In fact, Ikeo and Hirota (1992) show that close firm-bank relationships mitigate information asymmetry and hence raise the leverage of client firms. Therefore, we pay attention to this possibility in analyzing the effect of leverage on Tobin's Q. As for RD and AD, investment in these purposes will accumulate intangible assets, resulting in a higher Tobin's Q.

3.4 Sample

We use the sample of large manufacturing firms listed on the first section of the Tokyo Stock Exchange. The advantage of confining the sample to large firms is that such institutions as long-term employment, pay-for-age earnings, and enterprise-based unions are widely found in large Japanese firms and not in small firms. Therefore, the distribution problem we discussed in the previous section will be apparent in large Japanese firms.

We collect financial data from the Nikkei NEEDS database, share price data from the Nikko Stock Performance Index, and ownership data and banking relationship data from Toyo Keizai. Our sample consists of firms of which financial statement data, footnote data and the land price tax data are available from the year 1992 to 1996. Considering disclosure timing of financial data, we take one year lag for share prices by using the year 1993-1997 average. In addition, we require firms not having experienced a merger or an acquisition during the sample period. We also require firms to be included of which settlement term is March and not having a change in their settlement term. Thus, our sample narrowed down to 278 firms.

Table 2 presents the descriptive statistics on the sample. The mean Q is 0.74, far lower than one. This is the most remarkable feature of our sample when compared to related extant papers. Morck et al. (1988) and McConnell and Servaes (1990, 1995) report that the average Q of their sample is beyond one. Morck et al. (2000), who study Japanese firms for the year 1986 data, also report that the average Q of their sample is beyond one. Furthermore, the median Q of our sample is 0.58, surprisingly far lower than one, reflecting the huge share price plunges in the 1990s. The low Q of our sample seems to be mainly attributed to abnormal high land prices. In fact, land-price tax was introduced to mitigate the land-price bubble in the 1990s. On the other hand, undisclosed pension losses might also make estimated Q lower, since these losses were not disclosed in our sample. These factors make measured investment capital higher and measured Q lower. However, since such over-estimation of K is a common phenomenon in our sample and brings little cross-sectional difference in each firm's Q, the results of cross-sectional regressions will not be biased by such factors. Thus, our sample might present interesting evidence in understanding the relationship between governance structures and corporate value.

The mean of labor relative share is 54.11% with a 12.924% standard deviation. The average of two accounting profit rates, value added divided by investment capital (*VALUEIC*) and ordinary profit divided by investment capital (*ORPROIC*), are 19.56% and 3.53%, respectively. The net capital expenditure divided by tangible asset (*INV*) is 3.47%, indicating aggressive investment regardless of lower *Q*.

Table 2

Descriptive statistics

Variable definitions and data sources are given in Table 2. The sample in this table includes the 272 manufacturing firms of which stock price data, accounting data, unrecorded gain/loss of holding securities and land price data are available.

		Mean	Median	Min	Max	Std. Dev
Q		0.739	0.578	0.083	5.111	0.533
LRS	(%)	54.106	54.827	19.536	100.000	12.924
VALUEIC	(%)	19.562	19.278	2.035	63.393	8.290
ORPROIC	(%)	3.534	2.612	−4.790	21.543	3.898
INV	(%)	3.466	3.285	−2.460	12.434	1.961
MAN	(%)	1.242	0.190	0.018	24.937	3.134
FOR	(%)	11.259	8.774	0.700	74.502	9.335
PEN	(%)	2.421	2.316	0.277	6.013	1.025
Total Assets	(100million yen)	7197	35212	182	89963	11205
Investment Capital	(100million yen)	5822	2813	170	74217	9198
Shareholders' Equity	(100million yen)	4396	2104	140	68209	7510
Leverage	（倍）	0.386	0.295	0.000	3.155	0.372

Next, we focus on the statistics of corporate governance variables. The average ownership by foreign investors *(FOR)* is 11.36% with a large standard deviation of 9.35%. Such large cross-sectional difference in foreign ownership suggests that the foreign investors' shareholding might have economically significant effect on shareholders' bargaining power. On the other hand, the average ownership by pension funds *(PEN)*, which we expect to boost shareholders' bargaining power to a less extent than *FOR*, is 2.42% with a small standard deviation of 1.03% implying their preference to have a diversified portfolio. The main bank dummy *(MB)* is one for 78 firms, which accounts for 28.68% of the sample firms.

As for managerial ownership *(MAN)*, the effect of which we will compare with those of Japanese corporate governance variables, the average is 1.24% with a median of 0.19%. This average of our sample is far below than those in extant papers. For example, Morck et al. (1988), McConnell and Servaes (1990, 1995) and Cho (1998) report that in the US firms, the average managerial ownership is in a different class compared to our sample. Short and Keasey

(1999), running similar regressions on UK firms, also report far higher average managerial ownership than in our sample.

4. Empirical Results

4.1 Comparison of Total Effect and Indirect Effect

We first present OLS regression results to show the total effect of Japanese corporate governance variables, which is to be compared with the indirect effect calculated by running regressions in which LRS is instrumented by the governance variables. Table 3 presents the results of OLS regressions. We first look at the coefficients of Japanese corporate governance variables, i.e. foreign ownership *(FOR)*, pension fund ownership *(PEN)* and the firm-bank relationship dummy *(MB),* respectively. In the regression containing control variables except *LEV* (the first column), *FOR* is positively and significantly related to *Q* (t=3.89, p< 0.01)*,* indicating lower foreign ownership is associated with a decrease in the corporate value. One standard deviation decrease in *FOR* corresponds to a 0.13 decrease in *Q*. This result indicates that the release from the pressure from foreign investors results in a significant decrease in shareholders' value since it seems to make 1-θ higher . The result is also consistent with McConnell and Servaes (1990, 1995), who find a positive relationship between ownership by institutional investors and Tobin's *Q*, because foreign investors in Japan are supposed to play the institutional investors' role argued in corporate governance literature.

In contrast, we do not find a significant relationship between *PEN* and *Q*. This result indicates that Japanese pension funds give managers little pressure for maximizing shareholders' value. In fact, they had neither executed their voting rights nor insisted managers to pursue shareholders' value in our sample period.[12]

As for the firm-bank relationship, the coefficient of *MB* is negatively significant at the 1% level in the first regression (t=-3.07, p< 0.01). An existence of an intimate main-bank is associated with a 0.12 decrease in *Q*. This result seems to be in contrast with those related literature for Japanese firms such as Hoshi et al. (1990, 1991), and Pushner (1995) in which close firm-bank relationships are thought to be an effective device to mitigate asymmetric information problem. We argue that in the 1990s, the distribution problem we have discussed had more significant effect than mitigating asymmetric information effect.[13] In other words, an

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[12] It is worthwhile to note that, in the current regulations, Japanese pension funds cannot execute voting rights on their own decisions. However, it is possible to execute voting rights via asset management companies.

[13] The negative relationship between *MB* and *Q* might be interpreted in the context of the rent-seeking hypothesis. Rajan (1992) insists that banks exploit the rent yielded by their client firm when the client firm does not have

Table 3

Ordinary least squares regression of Tobin's Q on managerial ownership, Japanese governance variables, leverage, size, and accounting control variables. T−values are in parentheses below the coefficients. Variable definitions and data sources are given in Table 2. The sample in this table includes the 272 manufacturing firms of which stock price data, accounting data, unrecorded gain/loss of holding securities and land price data are available.

Dependent variable=Q

	(1)	(2)	(3)	(4)	(5)	(6)
C	1.328 ***	1.388 ***	1.246 ***	1.309 ***	1.206 ***	1.264 ***
	(6.281)	(6.650)	(5.337)	(5.640)	(5.221)	(5.509)
MAN	0.073 ***	0.070 ***	0.135 ***	0.130 ***	0.134 ***	0.128 ***
	(4.810)	(4.750)	(2.653)	(2.594)	(2.598)	(2.530)
MAN^2			−0.008	−0.008	−0.008	−0.008
			(−0.721)	(−0.683)	(−0.701)	(−0.660)
MAN^3			0.0002	0.0002	0.0002	0.0002
			(0.568)	(0.530)	(0.554)	(0.514)
FOR	0.014 ***	0.012 ***	0.013 ***	0.012 ***	0.015 ***	0.014 ***
	(3.891)	(3.608)	(3.816)	(3.567)	(3.322)	(3.165)
PEN	0.025	0.015	0.021	0.011	0.021	0.011
	(1.228)	(0.747)	(0.981)	(0.513)	(1.007)	(0.539)
MB	−0.122 ***	−0.053	−0.116 ***	−0.048	−0.044	0.035
	(−3.069)	(−1.374)	(−2.970)	(−1.253)	(−0.663)	(0.561)
FOR*MB					−0.007	−0.008
					(−1.012)	(−1.258)
SUB (Subsidiaries)	0.090	0.094	0.111	0.115	0.125	0.130 †
	(1.130)	(1.240)	(1.410)	(1.526)	(1.550)	(1.702)
LEV		−0.245 ***		−0.242 ***		−0.246 ***
		(−3.493)		(−3.372)		(−3.530)
SIZE	−0.120 ***	−0.112 ***	−0.112 ***	−0.105 ***	−0.110 ***	−0.102 ***
	(−4.640)	(−4.540)	(−4.100)	(−4.013)	(−4.046)	(−3.940)
ADV	0.024	0.020	0.021	0.017	0.022	0.018
	(1.529)	(1.272)	(1.299)	(1.042)	(1.391)	(1.145)
R&D	0.052 ***	0.053 ***	0.056 ***	0.057 ***	0.056 ***	0.057 ***
	(5.101)	(5.353)	(4.871)	(5.106)	(4.804)	(5.044)
Number of observations	272	272	272	272	272	272
Adjusted R-square	0.443	0.464	0.444	0.466	0.445	0.467
F-statistic	29.893	27.081	22.678	22.465	20.731	20.766

The figures in parentheses are White heteroskedastic consistent t-values.
*** Significant at the 0.01 level.
** Significant at the 0.05 level.
† Significant at the 0.10 level.

existence of close main bank enhances employees' relative bargaining power, resulting in the rent distribution problem for shareholders. We later verify this point.

It is worthwhile to state that in the regression adding leverage *(LEV)* as a control variable (the second column), while the coefficient of *LEV* is negative and statistically significant (t=−3.49, p< 0.01), that of MB is no longer statistically significant. A plausible explanation we think is that *LEV* might contain information about firm-bank relationships. Since firms with close firm-bank ties can borrow money more smoothly than independent firms (Ikeo and Hirota, 1992), leverage might contain more plentiful information about firm-bank relationships rather than our dummy variable *(MB)*. Therefore, although we think that *MB* to be an appropriate proxy to catch firm-bank relationship, we hereafter pay attention to *LEV* also as a proxy for firm-bank relationships.

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enough access to capital market. However, this interpretation is not plausible here because our sample firms are large enough to raise capital by arm's length bond issues in our sample period.

Next, we check the coefficients of managerial ownership *(MAN)*. In the equations containing only the linear term of managerial ownership (the first and second column), coefficients of *MAN* is statistically significant at the 1% level (t=4.81, 4.75, respectively). One standard deviation increases in *MAN* is associated with a 0.23 increase in *Q* when we use control variables except *LEV*. The results here are consistent with the US literature, Morck et al. (1988) and McConnell and Servaes (1990, 1995). However, the result for the entrenchment effect is quite different from the US literature. In the regression containing quadratic and cubic term of managerial ownership (the third and fourth column), while the coefficient of the linear term *(MAN)* is positive and statistically significant at the 1% level (t=2.65, 2.59, respectively), coefficients of neither the quadratic *(MAN^2)* nor cubic term *(MAN^3)* are statistically significant. Furthermore, from the magnitude of each variable's coefficient, higher managerial ownership is monotonically associated with higher firm value. Putting differently, higher managerial ownership serves to align the interest of managers and shareholders monotonically in our sample firms. We think that this monotonic alignment effect is consistent with the fact that average managerial ownership in Japanese firms is far lower than that in US firms and that widespread inter-corporate shareholdings make hostile takeovers impossible. This is consistent with Morck et al. (2000), who also find a monotonic relationship between managerial ownership and *Q* for Japanese firms using the 1986 year data. This interpretation is plausible because both in 1980s and 1990s hostile takeovers are virtually absent.

The fifth and sixth column in Table 3 show the results when we include the cross-term of foreign ownership and main bank dummy *(FOR*MB)*. The purpose of this is to verify institutional complementarity between two Japanese governance variables. Aoki (2000) argues that each component in the economic system has institutional complementarity interdependently, which strengthens the whole system. However, we cannot find any significant result for this cross-term variable.

As a whole, we find from the OLS regressions that Japanese governance characteristics such as lower foreign ownership and close firm-bank relationship decrease shareholders' value. However, we so far cannot verify whether such characteristics hurt economic efficiency or not. If a decrease of shareholders' value under Japanese governance characteristics is solely attributed to the distribution problem as we have discussed, its effect on productivity might be neutral.

To verify this point, we next run regressions of LRS on Q, where LRS is instrumented by the governance variables to measure the indirect effect of Japanese governance characteristics on Tobin's *Q*. We predict that the negative relationship between Japanese governance

characteristics and Tobin's Q can be mainly attributed to the rent distribution problem. We compare this indirect effect to the coefficient in OLS regression to verify our hypothesis in the way discussed in the previous section. Table 4 presents the results. In the Tobin's Q equation (the first column of (1) regression), the coefficient of labor relative share *(LRS)* is negative and statistically significant (t=-6.75, p< 0.01), whereas the coefficient of *FOR* in labor relative share equation (the second column of (1) regression) is negative and statistically significant (t=-4.78, p< 0.01). This implies that a decrease in foreign ownership tends to raise labor relative share, and then make Tobin's Q lower. As is easily obtained, the product of these two coefficients is 0.0126, very close to the foreign ownership coefficient in the OLS regression 0.0140. Unifying these results, we can argue that the decrease of Q by lower foreign ownership is mainly attributed to higher labor relative share. Another interesting result here is that for *MB*. The product of *MB* coefficient in labor relative equation and the *LRS* coefficient in Tobin's Q regression is –0.14. This is also close to the *MB* coefficient in OLS regression –0.12. This result shows that the decrease of Tobin's Q in a firm with close firm bank ties is also mainly attributed to higher labor relative share.

Thus, results here support our hypothesis that the harmful effect of Japanese governance characteristics on shareholders' value is mainly attributed to the distribution problem between two residual claimant parties, shareholders and employees. We argue that in a firm with lower foreign ownership, where the monitoring from outsider is less intensive, managers are released from the pressure from outside shareholders and hence enhance the relative bargaining power of employees. As for firm-bank relationships, a close firm-bank relationship also seems to entrench managers from the share price maximization pressure in a way we have discussed in the previous section. The entrenchment effects brought by Japanese governance characteristics enhance employees' relative bargaining power, and enable managers to pursue employees' interest rather than shareholders in a rent distribution. However, their effect on productivity might be neutral.

On the other hand, the same argument cannot be applied to managerial ownership. The product of the *MAN* coefficient in the labor relative share equation and the *LRS* coefficient in Tobin's Q regression is 0.046. This is far smaller than the managerial ownership coefficient in the OLS regression 0.073, implying that managerial ownership has substantial effect on Q both through the distribution effect and economic efficiency effect. In a firm with lower managerial ownership, shareholders' value seems to decrease both by lower productivity and the distribution problem. Therefore, we argue that the harmful effect of Japanese governance characteristic should be distinguished from that of the agency problem.

Table 4

Regression results of the effect of labor relative share on Tobin's Q in which labor relative share is instrumented by Japanese governance variables. T-values are in parentheses below the coefficients. Variable definitions and data sources are given in Table 2. The sample in this table includes the 272 manufacturing firms of which stock price data, accounting data, unrecorded gain/loss of holding securities and land price data are available.

	(1)		(2)	
	Dependent variable=Q	Dependent variable=LRS	Dependent variable=Q	Dependent variable=LRS
C	4.409 *** (8.684)	59.240 *** (35.474)	4.246 *** (8.934)	59.092 *** (34.106)
LRS	−0.045 *** (−6.753)		−0.040 *** (−6.575)	
MAN		−1.0321 *** −(6.04)		−1.030 *** (−5.776)
FOR		−0.282 *** (−4.784)		−0.274 *** (−4.472)
PEN		−0.070 (−0.139)		0.098 (0.184)
MB		3.245 *** (2.731)		2.331 † (1.847)
SUB		0.671 (0.451)		0.758 (0.488)
LEV			−0.274 *** (−3.963)	
SIZE	−0.162 *** (−5.855)		−0.155 *** (−5.836)	
ADV	0.009 (0.516)		0.004 (0.228)	
R&D	0.041 *** (3.517)		0.042 (3.730) ***	
FCF		−0.810 *** (−5.204)		−0.866 *** (−5.458)
N	272	272	272	272
R*R	0.252	0.165	0.301	0.168

*** Significant at the 0.01 level.
** Significant at the 0.05 level.
† Significant at the 0.10 level.

4.2 Regression on Financial Statement Data

We next present additional evidence on the relationship between Japanese governance characteristics and corporate value to enhance the robustness of our argument. In this subsection, by directly comparing the effect on productivity (*VALUEIC*) with that on profitability (*ORPROIC*) measured by financial statement data, we again verify our hypothesis. If our hypothesis is plausible, we will find the coefficients of Japanese governance characteristics to be related with profitability but not with productivity, since its harmful effects might be limited to the distribution problem between two residual parties.

Table 5 presents the regression results. As we expected, while the coefficient of *FOR* is positive and significant in the profitability regression (t=3.81, 3.14, respectively), the coefficient in the productivity regression is not statistically significant. Related to this, the coefficient of *MB* is significant only in the profitability regression. On the other hand, the coefficient of *MAN* is positively significant in both the productivity regression and the profitability regression,

showing consistency with the evidence in the previous subsection. These results confirm our discussion that the effect of Japanese governance variable on shareholders' value is attributed to the rent distribution problem, whereas that of managerial ownership is attributed to economic efficiency problem.

Table 5

Ordinary least squares regression of accounting performance variables on managerial ownership, Japanese governance variables, leverage, size, and accounting control variables. T-values are in parentheses below the coefficients. Variable definitions and data sources are given in Table 2. The sample in this table includes the 272 manufacturing firms of which stock price data, accounting data, unrecorded gain/loss of holding securities and land price data are available.

	(1) Dependent variable= VALUEIC	(2) Dependent variable= VALUEIC	(3) Dependent variable=ORPROIC	(4) Dependent variable=ORPROIC
C	21.948 *** (4.784)	22.188 *** (4.823)	4.345 ** (2.369)	4.914 *** (2.679)
MAN	0.321 ** (2.423)	0.311 ** (2.342)	0.320 *** (3.523)	0.295 *** (3.359)
FOR	-0.029 (-0.614)	-0.035 (-0.737)	0.066 *** (3.805)	0.052 *** (3.138)
PEN	1.010 ** (2.204)	0.969 ** (2.106)	0.517 *** (2.902)	0.421 ** (2.353)
MB	1.666 † (1.746)	1.941 † (1.925)	-0.654 † (-1.684)	-0.001 (-0.002)
SUB	5.926 *** (4.546)	5.942 *** (4.563)	0.407 (0.717)	0.446 (0.828)
LEV		-0.979 (-0.973)		-2.324 *** (-3.908)
SIZE	-1.147 ** (-2.293)	-1.117 ** (-2.225)	-0.544 *** (-2.611)	-0.474 ** (-2.394)
ADV	1.126 *** (4.322)	1.109 *** (4.292)	0.541 *** (3.774)	0.501 *** (3.591)
R&D	1.210 (7.004) ***	1.214 (7.059) ***	0.515 (4.644) ***	0.525 (4.828) ***
Number of observations	272	272	272	272
Adjusted R-square	0.250	0.248	0.356	0.394
F-statistic	12.276	10.954	19.739	20.546

The figures in parentheses are White heteroskedastic consistent t-values.
*** Significant at the 0.01 level.
** Significant at the 0.05 level.
† Significant at the 0.10 level.

4.3 Estimating Production Function

In this subsection, we estimate production function to present further evidence for our first hypothesis. We estimate a Cobb-Douglas type production function as follows. We use two variables, investment capital and total asset, for K, and the number of employees for L.

$$\ln \pi = \alpha_1 + \alpha_2 \ln K + \alpha_3 \ln L + \alpha_4' GOV + \varepsilon$$

π: Value added K: Investment capital or Total assets L: Number of employees
GOV : governance variables (vector)

Table 6 presents the result for the production function estimates. Although the result for *FOR* is little different from previous subsections, we again have similar results for *MB* and *MAN*. That is, the coefficient of *MB* is not statistically significant, implying that an existence of an intimate main-bank does not affect productivity, whereas that of *MAN* is positively and statistically significant in regression (3), (4) (t=2.21, 2.14, respectively), implying that the level of managerial ownership do affect productivity as shown in Palia and Lichtenberg (1999). As for *FOR*, we find that the coefficient of *FOR* is positive and marginally statistically significant in any specification, implying that the intensity of outside shareholders monitoring have more effect on productivity rather than firm-bank relationship. However, its effect on productivity is relatively weak when compared with *MAN*, of which coefficient is statistically significant at the 5% level when we use total assets as the proxy for K. Thus we again argue that Japanese governance problem might not be a problem of economic efficiency, while the agency problem is that of economic efficiency.

Table 6

Ordinary least squares regression estimating production function where managerial ownership, Japanese governance variables are supposed to affect TPF. T-values are in parentheses below the coefficients. Variable definitions and data sources are given in Table 2. The sample in this table includes the 272 manufacturing firms of which stock price data, accounting data, unrecorded gain/loss of holding securities and land price data are available.

Dependent variable=ln(VALUE)

	(1)	(2)	(3)	(4)
C	−2.013 *** (−13.656)	−2.013 *** (−13.277)	−2.113 *** (−14.750)	−2.112 *** (−14.376)
ln(Investment Capital)	0.2719 *** (5.41)	0.2718 *** (5.41)		
ln(Total Assets)			0.3303 *** (6.430)	0.3306 *** (6.398)
ln(Number of employees)	0.736 *** (15.930)	0.736 *** (15.789)	0.681 *** (14.162)	0.681 *** (14.002)
MAN	0.012 † (1.801)	0.012 † (1.758)	0.014 ** (2.206)	0.014 ** (2.144)
FOR	0.004 † (1.678)	0.004 † (1.665)	0.004 † (1.760)	0.003 † (1.720)
PEN	0.016 (0.96)	0.016 (0.909)	0.0203 (1.23)	0.020 (1.154)
MB	−0.057 (−1.430)	−0.057 (−1.393)	−0.058 (−1.576)	−0.056 (−1.468)
SUB (Subsidiaries)	−0.008 (−0.193)	−0.008 (−0.194)	0.006 (0.140)	0.006 (0.144)
LEV		0.001 (0.015)		−0.007 (−0.104)
Number of observations	272	272	272	272
Adjusted R-square	0.931	0.931	0.937	0.937
F-statistic	523.906	456.683	581.676	507.088

The figures in parentheses are White heteroskedastic consistent t-values.
*** Significant at the 0.01 level.
** Significant at the 0.05 level.
† Significant at the 0.10 level.

5. Conclusion

In this paper, we verify the hypotheses that the harmful effects of Japanese governance characteristics are mainly attributed to the distribution problem between two residual claimant parties, shareholders and employees. By capturing such characteristics by the degree of foreign ownership and firm-bank relationships, we show that Japanese governance characteristics decrease shareholders' value via the rent distribution problem, but does not hurt economic efficiency. The more Japanese governance characteristics become conspicuous, the more the distribution problem becomes severe and decrease shareholders' value. In short, the value decrease under Japanese governance characteristics is mainly attributed to the problem of rent distribution.

APPENDIX: A MODEL OF OVER-INVESTMENT PROBLEM FOR SHAREHOLDERS

Presupposition

Suppose firm A, which consists of N employees and K capital stock and its production function is formulated as equation (1), where π represents value added. This production function is supposed to have linear homogeneity to K and N.

$$\pi = F(K, N) \tag{1}$$

We focus on a situation where both N and K are to be increase at growth rate g. Therefore, the ratio of K/N is to be constant and π also growth at g. We suppose that investment I is necessary to accomplish that growth rate.

$$I = \phi(g)K \tag{2}$$

In equation (2), ϕ represent Penrose investment cost function, where $\phi' > 0$, $\phi'' > 0$. Under the situation where $\theta\pi$ is distributed to shareholders as profit and $(1-\theta)\pi$ is distributed to employees as wages, corporate value of the firm is given as follows.

$$V = \frac{[\theta\pi - \phi(g)K]}{\rho - g} \tag{3}$$

Here, ρ represents the cost of capital. The numerator in equation (3) represents net cash flow, which is calculated by subtracting investment cost from profit. Shareholders' value V is defined as net present value of net cash flows in future, which increase at growth rate g.

On the other hand, in a similar way, the net present value of employees' wages is defined as follows, supposing their discount rate is same as that of shareholders.

$$W = \frac{(1-\theta)\pi}{\rho - g} \tag{4}$$

Determinant of Distribution

Then, the manager of the firm, who is supposed to be a mediator between shareholders and employees, decides corporate behavior depending on the bargaining power of both residual claimant parties. That is, the manager decides on corporate behavior to maximize H expressed in equation (5).

$$H = (V - V_Z)^\alpha (W - W_Z)^\beta \tag{5}$$

In equation (5), α (>0) represents bargaining power and β (>0) represents that of employees.

Both parties negotiate for the level of g and θ, which determine corporate behavior. The first order condition for equation (5) regarding θ is described as follows.

$$\theta = \frac{\alpha[\pi - w_z(\rho - g)] + \beta[v_z(\rho - g) + \phi(g)K]}{(\alpha + \beta)\pi} \tag{6}$$

Next, we discuss the optimal g. This condition is described as follows.

$$
\begin{aligned}
&\max(V - V_Z)^\alpha (W - W_Z)^\beta \\
&s.t, V + W = \left[\frac{\pi - \phi(g)}{\rho - g}\right]K
\end{aligned}
\tag{7}
$$

The necessary condition of maximization is ;

$$\phi'(g) = \frac{\dfrac{\pi}{K} - \phi(g)}{\rho - g} \tag{8}$$

That is, the growth rate g is independent of the relative bargaining power.

Reference

Abegglen, James C. and George Stalk Jr. (1985) *Kaisya: The Japanese Corporation*, Basic Books, New York

Aoki, Masahiko (1988) *Information, incentives, and bargaining in the Japanese economy*, Cambridge University Press

Aoki, Masahiko (1994) Monitoring Characteristic of the Japanese Main Bank System: Analytical and Developmental View, in Masahiko Aoki and Hugh Patrick (eds.), *The Japanese Main Banking System*, Oxford University Press, Oxford, U.K.

Aoki, Masahiko (2000) *Information, Corporate Governance, and Institutional Diversity*, Oxford University Press, Oxford

Bethel, Jennifer E., Julia Porter Liebeskind and Tim Opler (1998) Block Share Purchases and Corporate Performance, *Journal of Finance*, 53, pp. 605-634

Cho, Myeong-Hyeon (1998) Ownership structure, investment, and the corporate value: an empirical analysis, *Journal of Financial Economics*, 47, pp. 103-121

Core, John E., Robert W. Holthausen and David F. Larcker (1999) Corporate governance, chief executive officer compensation, and firm performance, *Journal of Financial Economics*, 51, pp. 371-406

Hirota, Shin'ichi (1997) The Main Bank Relationships in Japan: 1964-1992, *Doshisha Economic Review*, 48, pp. pp457-482

Hoshi, Takeo, Anik Kashyap and David Schartfstein (1990) The role of banks in reducing the costs of financial distress in Japan, *Journal of Financial Economics*, 27, pp. 67-88

Hoshi, Takeo, Anik Kashyap and David Schartfstein (1991) Corporate structure, liquidity, and investment: Evidence from Japanese industrial groups, *Quarterly Journal of Economics*, 106, pp. 33-60

Ikeo, Kazuhito and Shin'ichi Hirota (1992) Corporate Capital Structure and the Main Bank in Japan", (in Japanese) in A. Horiuchi and N. Yoshino (eds.), Structural Analyses of the Japanese Financial System, Tokyo, University of Tokyo Press

Jensen, Michael C. (1986) Agency cost of free cash flow, corporate finance and takeovers, *American Economic Review*, 76, pp. 323-329

Jensen, Michael C. and William Meckling (1976) Theory of the firm: Managerial behavior, agency costs, and capital structure, *Journal of Financial Economics*, 3, pp. 305-360

Kang, Jun-Koo and Anil Shivdasani (1995) Firm performance, corporate governance, and top executive turnover in Japan, *Pacific-Basin Finance Journal*, Vol. 7, pp. 1-22

Kang, Jun-Koo and Rene Stulz (2000) Do banking shocks affect borrowing firm performance? An analysis of the Japanese experience, *Journal of Business*, 73, pp. 1-23

Kaplan, Steven, and Bernadette Minton (1994) Appointments of Outsiders to Japanese Boards: Determinants and Implications for Managers, *Journal of Financial Economics*, 36, pp. 225-257

Komiya, Ryutaro (1988a) Structural and Behavioral Characteristics of the Japanese Firm, Part 1, (in Japanese), *Keizaigaku Ronshu*, University of Tokyo, 54, pp. 2-16.

Komiya, Ryutaro (1988b) Structural and Behavioral Characteristics of the Japanese Firm, Part 2, (in Japanese), *Keizaigaku Ronshu*, University of Tokyo, 54, pp. 54-66.

Lichtenberg, Frank R. and George M. Pushner (1994) Ownership structure and corporate performance in Japan, *Japan and the World Economy* 6, pp. 239-261

McConnell, John and Henri Servaes (1990), Additional evidence on equity ownership and corporate value, *Journal of Financial Economics*, 27, pp. 595-612

McConnell, John J. and Henri Servaes (1995) Equity ownership and the two faces of debt, *Journal of Financial Economics*, 39, pp. 131-157

Morck, Randall, and Masao Nakamura (1999) Banks and corporate control in Japan, *Journal of Finance*, 54, pp. 319-339

Morck, Randall, Masao Nakamura, Anil Shivdasani (2000) Banks, Ownership Structure, and Firm Value in Japan, *Journal of Business*, Volume 73, Number 4, pp. 539-569

Morck, Randall, Andrei Shleifer and Robert Vishny (1988) Management ownership and market valuation: An empirical analysis, Journal of Financial Economics, 20, pp. 293-315

Myers, Stewart C. (1977) Determinants of corporate borrowing, *Journal of Financial Economics*, 5, pp. 147-175

Palia, Darius and Frank Lichtenberg (1999) Managerial ownership and firm performance: A re-examination using productivity measurement, *Journal of Corporate Finance*, 5, pp. 323-339

Prowse, Stephen D. (1990) Institutional investment patterns and corporate financial behavior in the United States and Japan, *Journal of Financial Economics*, Volume 27, pp. 43-66

Prowse, Stephen D. (1992) The Structure of Corporate Ownership in Japan, *Journal of Finance*, Vol. 47, pp. 1121-1140

Pushner, George M. (1995) Equity ownership structure, leverage, and productivity: Empirical evidence from Japan, *Pacific-Basin Finance Journal* 3, pp. 241-255

Rajan, Raghuram (1992) Insiders and Outsiders: The Choice between Relationship and Arm's- Length Debt, *Journal of Finance* 47, pp. 1367-1400

Sheard, Paul (1994) Main banks and the governance of financial distress in Masahiko Aoki and Hugh Patrick (eds.), *The Japanese Main Bank System*, Oxford University Press, Oxford, U.K.

Short, Helen and Kevin Keasey (1999) Managerial ownership and the performance of firms: Evidence from the UK, Journal of Corporate Finance, 5, pp. 79-101

Stulz, Rene (1988) Managerial Control of Voting Rights: Financing Policies and the Market for Corporate Control", Journal of Financial Economics, 20, pp. 25-54.