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**Employment Policy and Corporate Governance:
An Empirical Comparison of the Stakeholder
versus the Profit-Maximization model**

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Employment Policy and Corporate Governance - An Empirical Comparison of the Stakeholder versus the Profit-Maximization-¹

By

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Abstract

Japan's economic problems over the past decade and a half have triggered far reaching changes in the country's corporate governance system and there have been significant changes in both companies' ownership structures and composition of board members. This paper examines how board and ownership structures affect firms' decision as to how to reduce labor costs when firms face excess employment. Our findings confirm that outside directors are more inclined to implement layoffs and voluntary or early retirement, while insiders are more likely to decrease new hiring and protect incumbent employees. These findings are consistent with the stakeholder view of the firm rather than the neoclassical view of firms as profit-maximizers.

Keywords: corporate governance, employment downsizing, multivariate probit model

JEL classification: G30; J23.

¹ We would like to thank the Statistics Division, Economic and Social Research Institute, for providing us with valuable micro-level data from the Annual Survey on Corporate Behavior. The Division was in charge of merging the data with other information, including financial variables and the composition of board members, which enabled us to conduct research without identifying firms. We also wish to thank Daiji Kawaguchi and seminar participants at ESRI and Hitotsubashi University. Naohito Abe would like to acknowledge financial support from the Ministry of Education, Culture, Sports, Science and Technology, and the Japan Economic Research Foundation. Naohito Abe would also like to thank Yuko Sagara for her research assistance. All remaining errors are the authors' responsibility.

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1. Introduction

Recent research on corporate governance suggests that the management of firms is far more complicated than classical microeconomic theory assumes.³ According to the stakeholder view formalized by Tirole (2001), not only shareholders and managers but also other stakeholders such as employees or customers may play significant roles in the decision-making processes of many firms. If the stakeholder view is correct and firms act in the interest of stakeholders, including employees, this might help explain firm behavior that appears to be inconsistent with profit maximization.

Like their continental European counterparts, Japanese companies have long been regarded as stakeholder-oriented, a central feature of which is the so-called “lifetime employment system”.⁴ This has traditionally provided workers with job security, while employers benefited through the accumulation of firm-specific human capital. Some researchers regard these employment practices as one of the most important characteristics of the Japanese economic system and argue that it achieves an efficient allocation of resources.⁵

On the other hand, the role of shareholders in corporate governance has been rather limited in Japan. Shareholder meetings in the 1990s, for example, typically lasted

³ A recent influential theoretical analysis of the stakeholder is provided by Tirole (2001), while Blair and Roe (1999) offer both a theoretical and empirical investigation into the importance of employees in corporate governance.

⁴ Fukao and Morita (1997) and Morck and Steier (2005) compare corporate governance structures from an international perspective and discuss the characteristics of the Japanese system. Aoki et al. (1994) builds a model in which the Japanese long-term employment system and the main bank system are complementary, so that efficient resource allocation can be achieved.

⁵ According to the “contingent governance theory” by Aoki et al (1994), monitoring by the main bank and the lifetime employment system are complementary features of Japan’s economic system, enabling Japanese companies to operate efficiently.

less than 30 minutes.⁶ Large proportions of a company's shares tended to be held by other companies and the percentage of free-float shares was very small, making hostile takeovers almost impossible. Also, there was often no clear separation between a company's executive officers and its board of directors⁷ That is, the supervision of managers on behalf of the company's shareholders has not been the primary task of the board of directors in Japan.

Since the mid 1990s, however, several noteworthy changes have occurred in firm ownership, board composition, and the number of employees in Japanese companies. Financial institutions have been decreasing their shareholdings, while foreign investors have been increasing theirs. At the same time, an increase in the ratio of outside directors in board composition can be observed, though inside directors are still dominant in many companies. These changes in firm ownership structure and board composition are accompanied by a decreasing trend in the number of people employed by large companies, partly due to prolonged stagnation of the Japanese economy in the 1990s and large-scale downsizing. As a result of these changes over the past decade or so, large Japanese companies nowadays exhibit wide variations in their ownership structures, board composition, and employment practices. Some companies, such as car manufacturer Toyota, are seemingly holding on to their traditional governance style and long-term employment policies, while others, such as Fujitsu, an electronics company, have made large strides toward new governance schemes.⁸

⁶ The length of shareholder meetings is gradually increasing, albeit very slowly. According to the survey "*Kabunushi Soukai Hakusho 2003* (Shareholder Meeting Survey)" by Shouji Home, the average length of shareholder meetings was 43 minutes in 2003.

⁷ Article 260.1 of the Commercial Law says: "The board of directors shall determine the administration of company affairs and supervise the execution of the duties of the directors."

⁸ A large part of the commercial law prescribing corporate governance was revised in 2003. The revision enabled Japanese listed companies to choose either the traditional governance system or the new, American-style, Company with Committee system. See Abe and Jung (2004) for a detailed discussion of the revision.

If the long-term employment system is a part of the corporate governance system in Japan, recent changes in board compositions and ownership structures have potentially important implications for employment practices. Yet, little research has been carried out to examine how changes in the composition of boards of directors and in ownership structures have affected firms' employment practices. In addition, previous studies have encountered difficulties in identifying companies that need to cut their labor expenses. For example, Kang and Shivdasani (1997) used a change in pretax operating income as a proxy for the degree of excess employment. In this study, we are able to address this issue from a different angle.

The approach that we take here is to investigate which course of actions firms choose when they have to decrease labor costs. Rather than estimating the degree of excess employment, we take advantage of a unique survey that directly asked managers about the degree of excess employment and the way they plan to deal with the problem, such as through layoffs, wage reductions, etc. We further augment the survey by merging the results with other company information such as ownership structures, board compositions, and financial data. As far as we know, our data set is the first in Japan to integrate these variables at the firm-level.

Our empirical analysis arrives at the following interesting results. First, we observe a drastic increase in the share of outside board members in the 1990s. Second, the higher the share of outside directors, the more likely are firms with excess employment to implement lay offs and/or use voluntary or early retirement schemes. On the other hand, firms with a large number of inside directors are instead more likely to reduce new hiring to protect incumbent employees. This finding is consistent with the moral hazard view pointed out by Tirole (2001) which suggests that in firms where

employee influence is strong and directors are selected from among the employees of the firm tend to try to provide job security to incumbent employees at the cost of other stakeholders such as shareholders. On the other hand, we cannot observe any significant effects of differences in ownership structures.

The remainder of the paper is organized as follows. Section 2 provides an overview of changes in the composition of board members and employment levels at Japanese listed companies. Section 3 describes the dataset used in this paper. Section 4 presents the specification of our equation for estimating how board composition and ownership structure affect the type of action managements choose to cut labor costs. Section 5 reports our estimation results and briefly discusses the possible bias that may be present if the composition of boards of directors is endogenously determined. The last section concludes.

2. Changes in the Composition of Boards of Directors and in Employment Levels

Japanese corporate governance is undergoing drastic transition. Since the beginning of the 1990s, a weakening in the relations between companies and their main banks can be observed.⁹ And along with changes in business networks, another important change can be observed: change in the composition of boards of directors. Traditionally, boards of directors were rather large and primarily occupied by managers chosen from inside the company. However, in recent years, boards have been shrunk and the share of outside members has risen.

Table 1 provides data on the composition of the boards of directors of listed

⁹ See Fukao and Morita (1997) for a detailed discussion of the changes in corporate finance and ownership structures in Japan during the 1990s.

manufacturing companies in Japan. The table shows that in 1991, the median proportion of insiders among all board members was 74 percent, but the figure decreased to 67 percent in 2001. “Insiders” here are defined as board members who were chosen from among employees.¹⁰ If we break down the ownership of shares, we observe a sharp decline in the proportion held by financial institutions from 34 percent in 1991 to 25 percent in 2001.

We also notice that the average number of board members declined to 14.7 persons, down from 17.9 persons in 1991. This might be partly explained by the decade-long recession in Japan, which forced large firms to downsize their operations. Consequently, the median workforce also substantially declined from 954 employees in 1991 to 746 in 2001. These trends were accompanied by a decline in the return on assets (ROA). The ROA based on operating income decreased from 5.3 percent in 1991 to 3.3 percent in 2001. The decline is larger if ROA is measured by profits before tax.

According to standard corporate governance theory based on principal-agency models, the roles of inside directors and that of outside directors are different.¹¹ Inside directors know details of the company that are not observable to outsiders. Looked at from the viewpoint of principal-agent theory, we could say that inside directors are managers that are monitored by outside directors which, in turn, represent the interests of shareholders. Observing CEO’s turnover-company performance sensitivity in the United States, Weisbach (1998) was able to confirm that outside directors act as monitors, while Abe and Jung (2004) found that outside board members play the same role in Japan.

¹⁰ This definition follows previous studies such as Kaplan and Minton (1994).

¹¹ Hermalin and Weisbach (2003) and Murphy (1999) provide excellent recent surveys.

In the macroeconomic literature, a similar hypothesis regarding the role of inside directors is provided by the Insider-Outsider theory formulated by Lindbeck (1993). According to the theory, incumbent workers are likely to try to protect their employment and wage levels by threatening management with strikes, other forms of non-cooperation, etc. That is, a company where insiders have more power than outsiders might pursue interests of incumbent employees.

Both corporate governance theory and macroeconomic theory predict that companies with fewer outside directors are more inclined to pursue the interests of their employees rather than of other stakeholders such as shareholders. Yet, to date, few studies have examined the relationship between excess employment and changes in the composition of boards of directors and ownership structures. Those studies that do exist have typically estimate the adjustment speed of the workforce size by examining the change between the current and the lagged workforce size.¹² These studies have serious defects in that they only deal with changes in employment on a net-, not on a gross-basis, without an in-depth examination of appropriate measures for excess labor at each firm. Moreover, these studies are based on the unrealistic assumption that all firms have the same production function. Our data set is able to overcome these serious shortcomings of previous studies and to provide direct evidence on the effect of changes in corporate governance on the measures chosen to reduce labor costs.

3. Data Description

¹² Odagiri (1992) and Suruga (1997) confirm that employment adjustment in Japan was slow until the early 1990s. Abraham and Houseman (1989) provide quantitative evidence for this evidence by showing that the elasticity of employment with respect to sales is 0.43 for U.S. firms while it is only 0.03 for Japanese companies.

This study utilizes three different data sources to create a unique and comprehensive dataset to examine the relationship between corporate governance and the means chosen to reduce labor costs, i.e. wage cuts, layoffs or natural attrition. The three different data sources can be matched completely.

First, we take advantage of an original and rich firm-level survey data from the *Annual Survey of Corporate Behavior (Kigyo Kodo ni Kan Suru Anketo Chosa)* conducted in 2001 by the Cabinet Office, Government of Japan. It is one of the most comprehensive datasets on corporate behavior in Japan and has a high response rate. The survey targets all listed companies in Japan.¹³ Out of the 2,367 firms to which the government sent the questionnaire, 1,202 firms responded (719 manufacturing and 483 non-manufacturing firms), for a response rate of 50.8 percent.

The topic of the survey varies from year to year, but a number of questions remain the same, including those on managements' subjective expectation of overall economic growth, industry growth, and the firm's anticipated investment. The 2001 survey focused on corporate management, strategies to improve the firm's financial situation, and measures for company restructuring. Concretely, the survey asked each company to judge the extent of the gap between the current and the optimal level of employment. This information on the perceived excess (or shortage) of employment enables us to identify companies that need to decrease labor costs.¹⁴

The survey moreover contains data on eight types of labor cost reduction

¹³ All listed companies on the Tokyo, Osaka or Nagoya Stock Exchanges (both first and second sections), excluding financial and insurance companies.

¹⁴ An influential previous study by Kang and Shivdasani (1997) assumes that companies have excess capacity if their pretax operating income declined by more than 50%, while other studies such as Abe (1999) and Urasaka and Noda (2001) confine themselves to measuring the extent of the adjustment of workforce sizes without specifying companies with excess employment.

measures which have been implemented or are to be implemented in each firm: (1) reduction in bonuses; (2) reduction in wage rates; (3) reduction in managers' salaries; (4) reduction in executive payments; (5) reduction in working hours; (6) reduction in hiring new employees; (7) expansion of layoffs; and (8) introduction of voluntary (early) retirement.¹⁵ As far as we know, this survey is the only source in Japan to combine comprehensive information on both excess employment and labor cost reduction measures.

We combine the micro-level data from the *Annual Survey on Corporate Behavior* with information on the composition of the board of directors in each firm. Boards typically consist of more than 20 directors with a variety of backgrounds, which makes it difficult for researchers to identify the personal background of individual board members. We utilize the information available from *Directors Data (Yakuin Shikihou)* published by Toyo Keizai Shimpo-sha. The dataset is released every year and provides detailed information on the board members of all Japanese listed companies, which enables us to discern insiders and outsiders. In this study, we define insiders as those who have been promoted from among employees, and outsiders as other directors. To construct variables on board composition, we use a dummy variable for former bankers, and variables on the ratio of insiders or outsiders in a board, following Kaplan and Minton (1994) and Morck and Nakamura (1999).

¹⁵ Japan's legal system prohibits companies from laying off employees unless the company can prove this is absolutely necessary. The requirements for laying off workers are so stringent that most companies use many different measures to reduce the number of employees. "Voluntary (early) retirement" is one of the most popular methods. Still, the procedures required of the company to introduce such a retirement regime are complicated. First, the company has to disclose the retirement conditions, such as the amount of severance payment and the number of workers the company plans to let go. Second, the company has to wait for workers to apply for their retirement packages. That is, the company cannot select which workers it would like to stay and which to leave. This might lead to serious adverse selection problems because it is qualified and productive workers that tend to apply for retirement, obtain large severance payments, and then find another job. See Suruga (1997) for details.

Our third source is the official financial statements of all listed firms as of the end of March of each year. Financial variables from these statements for each firm are obtained from the “Nikkei NEEDS” database. We merge the financial statement data at the end of the fiscal year 2001 with the other datasets.

In what follows, we confine our sample to 496 manufacturing firms for which all the variables for our statistical analysis are available. Basic statistics of the variables are reported in Table 2(a). The average proportion of insiders among board members is 67 percent, substantially lower than the value reported in Table 1 for the beginning of the 1990s. The ownership share by the “special few” (see footnote), financial institutions, foreign companies is 44, 30, and 7 percent, respectively.¹⁶ The average number of employees is about 2,400 and the number of board members is 15. Therefore, the sample contains slightly larger companies than the average companies reported in Table 1. The projected rate of growth over the next five years of the industry in which a company operates is on average 0.06%, i.e. practically zero.

Table 2(b) shows that 64 percent of companies responded that they had excess employment. More than 30 percent of companies indicated that employment was excessive by 20 percent or more. Japanese listed companies began decreasing their workforces in the first half of the 1990s but even in 2001, many companies still thought that their workforces were too large.

Table 2(c) reports the basic statistics only for firms with excess employment. While the value for most variables was similar to those for the overall sample, the

¹⁶ One of the listing requirements for the first tier of the Tokyo Stock Exchange is to keep the ownership share by the “special few”(Shosu Tokutei Mochikabu Hiritsu) to less than 70%. The ownership share by the “special few” is a proxy for the degree of the ownership concentration. The “special few” is defined as: (1) top ten shareholders; (2) board members and their relatives in the second degree; and (3) the company itself if it holds its own shares.

expected growth of the industry in which the company operated was slightly negative for those firms. Yet, even though firms in this subsample were more pessimistic about the future, their ROA was not very different from that for the overall sample. This suggests that expectations of the future play a significant role in companies' decision with regard to restructuring.

4. Specification

In this section, we conduct multivariate probit analyses to investigate the effects of board composition and ownership structure on the choice of labor cost reduction measures.¹⁷ More concretely, we examine how a larger portion of outside (inside) directors affects which measures firms with excess employment adopt to cut labor expenses. We also analyze the effect of ownership structure on which measures are adopted. In each case, we use the information on the eight different types of measures to cut labor expenses described in Section 3.

For each measure, we construct a dummy variable that takes 1 if a firm has implemented or will implement it. In what follows, we restrict our sample to the 317 firms with excess employment. The model we use consists of eight equations taking the following form:

$$y_{ij} = \alpha_{1j} + \beta InsiderRatio_{ij} + \gamma X_{1ij} + \phi X_{2ij} + \varepsilon_{ij},$$

(*i*: firm index,

j: equation index that corresponds to the measure for labor cost reduction measures.

¹⁷ Multivariate probit models allow us to investigate the determination of multiple choices simultaneously. Since the error terms in each regression may not be independent, allowing for SUR is expected to improve the efficiency of the estimates. We reject the hypothesis that the error terms are independent.

$j = 1, 2, \dots, 8$)

where

y_{i1} : dummy variable for bonus reduction;

y_{i2} : dummy for wage reduction;

y_{i3} : dummy for reduction in managers' salaries;

y_{i4} : dummy for reduction in executive payments;

y_{i5} : dummy for reduction in working hours;

y_{i6} : dummy for reduction in hiring new employees;

y_{i7} : dummy for layoffs;

y_{i8} : dummy for introduction of voluntary (early) retirements.

$InsiderRatio_{ij}$: the ratio of insiders on the board of directors.

X_{1ij} : Firm characteristics (ROA, departure from the industrial median of expected industry growth in the coming 5 years, the number of employees, the natural logarithm of total assets, the excess employment index, and the dummy variable for the presence of bank-appointed directors).

X_{2ij} : Ownership structure (ownership shares by (1) the "Special Few", (2) financial institutions, and (3) foreign investors).

As mentioned above, the ratio of inside directors is expected to have a negative effect on the adoption of measures that are costly for incumbent employees. Considering Japan's illiquid labor market, job-loss is more costly for employees than wage or bonus reductions. A board dominated by insiders is therefore likely to consider employee benefits as most important. In our data set, y_{i7} and y_{i8} , that is, layoffs and the introduction of voluntary (early) retirements, are measures that involve job-losses

for employees. On the other hand, the reduction in new hiring, y_{i6} , does not directly affect existing employees. Therefore, we expect that the insider ratio has a positive effect on the reduction of new hiring. Moreover, a lower ROA, pessimistic expectations regarding future growth, the excess employment index (the greater this is, the more serious is excess employment), and the number of current employees are expected to have a positive effect on the adoption of labor cost reductions.

The effects of ownership structure are difficult to interpret a priori. If we consider the monitoring role of large shareholders or banks, a company with concentrated ownership or strong ties with the banking sector is more likely to cut jobs since strong monitoring forces the company to concentrate on profit maximization. On the other hand, if we adopt Aoki et al.'s (1994) view that assumes that main bank relationships are complementary to the lifetime employment system, a company with strong ties with banks is less likely to cut jobs. In addition, we may regard the degree of shareholding concentration as a proxy for traditional Japanese companies, which are typically protected from hostile takeovers by cross-shareholdings among firms. Since the expected sign of the coefficients on these ownership structure variables are unclear, we conduct the estimation using several different specifications. Finally, a larger foreign ownership share is expected to have a positive effect on the adoption of voluntary (early) retirements, y_{i8} .

5. Estimation Results

The estimation results are summarized in Table 3. In all regressions, we can observe a negative significant effect of the ROA on the measures related to

remuneration. That is, firms with a lower ROA tend to use all measures available to reduce wage costs. The coefficients on the projections for industry growth (deviation from the medium) are positive and significant for reducing bonus or executive payments but not for wage or executive salaries, implying that remuneration is closely related with a firm's current performance rather than its future prospects.

Next, we turn to the coefficients on the insider ratio. We observe negative but insignificant coefficients on wage reductions (y_{i1} to y_{i4}). The coefficient on the reduction of new hiring (y_{i6}) is positive and significant, suggesting that firms with insider-dominated boards are likely to rely on decreasing the hiring of new personnel as a means to cut the workforce. In contrast, the coefficients on layoffs (y_{i7}) and retirements (y_{i8}) are negative and significant. This means that firms with a higher proportion of insider board members are less inclined to embark on measures, such as layoffs, which are disadvantageous to incumbent employees. Taken together, these results indicate that insider managers are less likely to lay off current employees and instead are more likely to rely on reducing new hiring to reduce labor costs.¹⁸

Finally, the coefficients on variables relating to ownership structure are generally insignificant.¹⁹ Exceptions are the effects of the ownership share of the special few on retirements and working hour reductions. That is, companies in which share ownership is concentrated in a few hands are more likely to rely on decreasing working hours and to avoid job cuts. If we assume that the presence of the special few

¹⁸ Table 3 reports probit coefficients, not the marginal effects. Obtaining marginal effects of multivariate probit models is computationally cumbersome due to the large number of integrations. The marginal effects of the insider's ratio on (1) the reduction in new hiring and (2) the implementation of early voluntary retirements based on a single equation probit are 0.4325 (the corresponding probit coefficient is 1.4417) and -0.6673 (-1.6729), respectively.

¹⁹ We tested various specifications of our model examining the effect of ownership structure. Appendix Tables A1-A3 show that the effects of board composition on the labor cost saving measures are stable under several different specifications.

is associated with traditional Japanese management practices, this result is consistent with effect we observed with regard to the proportion of insiders on the board of directors and the preferred means for cutting labor costs. The ratio of the share held by financial institutions has a positive effect on layoffs. This might be the result of the monitoring role financial institutions play, such as when a main bank, for example, forces firms to concentrate on profit-maximization. However, it should be kept in mind that only 46 out of the 317 sample companies implemented layoffs (Table 3), and share ownership by financial institutions does not have a significant effect on other measures such as wage cuts or retirement policies. The coefficients on the ownership share of foreign investors are generally insignificant and no behavioral difference between firms with higher ownership share by foreign investors and other firms can be discerned.

The results can be summarized as follows. Among firms suffering from excess employment, those with a greater proportion of outside directors are more likely to lay off staff or resort of voluntary early retirement, while boards mostly consisting of insiders are more inclined to reducing new hiring. These results are consistent with the stakeholder view of the firm suggesting that inside directors are more concerned with protecting the interests of employees than with profit-maximization as assumed by neoclassical theory.

Lastly, we address the possibility that the endogenous determination of board composition seriously affects the results we have derived above. Kaplan and Minton (1994) and Morck and Nakamura (1999) show that appointments of outside directors are endogenous and correlated with companies' performance. If bad firm performance leads to an increase in the portion of outside directors, the observed effect of the

insider ratio on labor cost reduction measures may be the result of a spurious correlation. One possible way to deal with the endogeneity issue is to use instrumental variables. As an instrument, we use the proportion of insiders in 1996, five years before the *Annual Survey on Corporate Behavior* in 2001 was conducted.

Table 4 reports the results of the multivariate probit estimation in which the insider ratio of 2001 is replaced with that of 1996. The effect of board composition on layoffs and reductions in new hiring is similar to that reported in Table 3. There are two notable differences, however, namely in the effect on bonus reductions both for workers and for executives. In Table 3, the effect of the insider ratio on bonus reductions is negative but insignificant while in Table 4 it is negative and significant. These new results do not contradict our view that companies accord to the stakeholder model. The negative and significant effect of the insider ratio on bonus reductions implies that a company with a greater proportion of inside directors does not reduce bonuses even when the employment level is larger than the optimal level. This result might reflect the fact that companies in which employees are protected by insider-dominated boards of directors try to maintain remuneration levels at the expense of shareholders' benefits.

6. Conclusion and Outlook for Future Research

This is the first study to examine how changes in the board composition and ownership structure of listed firms in Japan have affected their labor cost reduction measures. Our unique firm-level data set, combining the degree of perceived excess employment, the board composition, the ownership structure, labor cost reduction

measures, and financial statement data, enables us to perform an integrated analysis of the implications of the transformation in corporate governance. Our findings confirm that outsiders are more committed to layoffs and to implementing voluntary or early retirement, while insiders are more inclined to decrease new hiring. This implies that outsiders contribute to the downsizing of employment, whereas insiders are more disposed to protecting incumbent employees. These findings are consistent with the stakeholder view of the firm rather than the neoclassical view of the firm as a profit-maximizer.

Future research should also examine the relationship between changes in wage structure and corporate governance since traditional lifetime employment practices have been connected with a seniority wage system. It seems likely that the changes in board composition and the decade-long stagnation have affected the traditional wage scheme. Further research also should expand our analysis to include the adjustment of capital, i.e. measuring excess capital and firms' strategies for reducing excess capacity, which would enable us to jointly examine restructuring strategies with regard to capital and labor. Such an analysis would shed light on the role of different types of outside directors. The determinants of the board composition in different economic situations are also of great importance.

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Table 1: Changes in Corporate Governance and Firm Performance in Japan

Year (number of firms)		Board size	Ownership share: The Special Few	Ownership share: Financial institutions	Ownership share: Foreign investors	Bank appointed director	Proportio n of board members that are insiders	Number of employees	ROA (Operating income)	ROA (Profit before tax)
1991 (1060)	Mean	17.85	0.4712	0.3429	0.0374	0.4906	0.7003	2595.0020	0.0529	0.2391
	Median	16	0.4539	0.3375	0.0188	0	0.7405	953.5	0.0492	0.2443
	S.D.	6.90	0.1341	0.1563	0.0601	0.5001	0.2188	6309.7830	0.0375	0.7253
	Max.	55	0.8747	0.7834	0.7391	1	1	79801	0.3419	1.8425
	Min.	6	0.0173	0.0040	0.0000	0	0	28	-0.1992	-17.6487
1996 (1152)	Mean	17.75	0.4681	0.3188	0.0588	0.5000	0.6645	2351.3010	0.0309	0.1161
	Median	16	0.4484	0.3174	0.0311	0.5000	0.7	886	0.0304	0.1364
	S.D.	6.8	0.1354	0.1472	0.0761	0.5002	0.2186	5785.4810	0.0375	0.4914
	Max.	60	0.8764	0.7067	0.6641	1	1	75590	0.1952	3.4981
	Min.	4	0.1628	0.0032	0.0000	0	0	20	-0.1851	-10.9893
1997 (1175)	Mean	17.7	0.4679	0.3163	0.0598	0.4877	0.6678	2277.3510	0.0368	0.1478
	Median	16	0.4495	0.3115	0.0314	0	0.7143	846	0.0342	0.1517
	S.D.	6.8	0.1376	0.1503	0.0790	0.5001	0.2177	5631.1000	0.0367	0.3600
	Max.	61	0.9179	0.7022	0.6868	1	1	72193	0.1814	2.4421
	Min.	6	0.0361	0.0031	0.0000	0	0	22	-0.2092	-4.0226
2001 (1121)	Mean	14.7	0.4662	0.2726	0.0647	0.4808	0.6326	1981.4810	0.0366	0.0318
	Median	14	0.4440	0.2474	0.0203	0	0.6667	746	0.0327	0.1046
	S.D.	5.3	0.1478	0.1530	0.0953	0.4999	0.2254	4883.8270	0.0410	0.7224
	Max.	63	0.9519	0.7012	0.7667	1	1	66005	0.2567	15.7157
	Min.	6	0.0294	0.0015	0.0000	0	0	15	-0.1920	-5.7298

The data cover listed manufacturing companies in Japan.

Table 2(a): Descriptive Statistics

	Mean	Median	S.D.	Max.	Min.
Proportion of insiders among board members	0.6726	0.7143	0.2038	1	0
No. of employees	2393.07	1002	5187	54017	33
Board size	15.1552	14	5.2557	36	6
Percentage of shares owned by the Special	0.4448	0	0.1407	1	0
Percentage of shares owned by financial	0.3043	0.2817	0.1559	0.7012	0.0037
Percentage of shares owned by foreigners	0.0737	0.0281	0.1007	0.6120	0.0000
Bank-appointed director (dummy)	0.5020	1	0.5005	1	0
Total assets (Natural	18.0979	18	1.3106	22	15
Expected rate of industry growth (.01%)	5.6714	5	32.7074	150	-200
Excess employment	6.9980	7	1.0627	12	4
ROA (Operating	0.0379	0.0343	0.0397	0.1794	-0.1716

N=496

Table 2(b): Degree of Excess Employment

N=496

	Variables	No. of obs	Percent	Cum.
Excessive by more than	12	2	40	0.4
Excessive by 50%	11	0	0	1.21
Excessive by 40%	10	4	0.81	1.21
Excessive by 30%	9	27	5.44	6.65
Excessive by 20%	8	121	24.4	31.05
Excessive by 10%	7	163	32.86	63.91
No excess employment	6	164	33.06	96.98
Short by 10%	5	11	2.22	99.19
Short by 20%	4	4	0.81	100

(Note) There were no firms that responded that employment was short by more than 30%.

Table 2 (c): Descriptive Statistics (Firms with Excess Employment)

	Mean	Median	S.D.	Max	Min
Proportion of insiders among board members	0.6703	0.7059	0.2010	1	0.0909
No. of employees	2405.96	1065	4943	54017	100
Board size	15.0252	14	5.1188	35	7
Percentage of shares owned by the Special	0.4389	0.4090	0.1381	0.7990	0.0383
Percentage of shares owned by financial	0.3096	0.2927	0.1562	0.6771	0.0217
Percentage of shares owned by foreigners	0.0724	0.0285	0.0981	0.5719	0.0001
Bank-appointed	0.5110	1	0.5007	1	0
Total assets (Natural	18.1289	17.9827	1.2845	22.1460	14.7613
Expected rate of industry growth (.01%)	-1.3675	0	35.4833	142	-200
Excess employment	7.6215	7	0.7806	12	7
ROA (Operating	0.0315	0.0289	0.0344	0.1400	-0.1716

N=317

The sample contains listed manufacturing firms with excess employment.

Table 3: Board Composition and Labor Cost Reduction Measures

	Bonus reduction	Wage reduction	Reduction in managers' salaries	Reduction in executive payments	Reduction in working hours	Reduction in new hiring	Layoffs	Early or voluntary retirements
Insider ratio	-0.31338 (-0.66)	-0.30038 (-0.63)	-0.3089 (-0.65)	-0.71354 (-1.56)	0.44411 (0.72)	1.17353 ** (2.57)	-1.13823 * (-1.89)	-1.6008 *** (-3.36)
ROA (Operating income)	-10.36911 *** (-4.30)	-12.17497 *** (-4.69)	-6.89271 *** (-3.1)	-8.3843 *** (-3.67)	6.03599 ** (2.00)	1.12666 (0.50)	0.24198 (0.09)	-3.29144 (-1.44)
Expected rate of industry growth (.01%)	0.00454 * (1.90)	0.00075 (0.33)	0.00675 *** (3.13)	0.00301 (1.33)	0.00035 (0.14)	-0.0013 (-0.60)	0.00591 ** (2.38)	-0.00237 (-1.08)
No. of employees	-0.16127 (-0.96)	-0.18379 (-1.12)	-0.09969 (-0.62)	-0.32007 ** (-1.99)	-0.14682 (-0.69)	0.01277 (0.08)	0.13709 (0.67)	0.34858 ** (2.13)
Total assets	0.05832 (0.36)	0.17372 (1.11)	0.05243 (0.35)	0.37308 ** (2.40)	0.17598 (0.86)	0.06499 (0.41)	-0.10494 (-0.54)	-0.07683 (-0.49)
Bank-appointed director	-0.00135 (-0.01)	-0.04857 (-0.31)	-0.04036 (-0.26)	-0.08117 (-0.55)	0.12433 (0.63)	-0.07241 (-0.49)	-0.18074 (-0.96)	-0.25406 * (-1.67)
Ownership by the "Special Few"	-0.65477 (-0.95)	-0.52415 (-0.76)	0.53999 (0.80)	-0.44837 (-0.69)	1.878 ** (2.05)	0.37542 (0.55)	-1.09042 (-1.25)	-1.79501 *** (-2.58)
Excess employment index	0.16336 (1.54)	0.23404 ** (2.24)	0.10038 (1.02)	0.20977 ** (2.08)	-0.26255 ** (2.11)	-0.13482 (1.35)	-0.27625 ** (-2.46)	-0.22971 ** (-2.22)
Foreign ownership	-0.52961 (-0.55)	-0.76713 (-0.78)	-0.34484 (-0.37)	-1.36602 (-1.47)	2.40423 (-1.54)	0.72769 (0.76)	-0.29522 (-0.28)	-1.03256 (-1.05)
Ownership by financial institutions	0.00338 (0.00)	-1.18472 (-1.57)	0.24602 (0.34)	-0.10828 (-0.15)	0.14953 (0.16)	-0.56377 (-0.80)	1.72974 ** (2.02)	-0.13707 (-0.19)
Constant	2.22643 (1.07)	0.19108 (0.09)	0.03113 (0.02)	-2.00415 (-1.00)	-3.27126 (-1.23)	-1.06947 (-0.53)	2.06144 (0.84)	2.23092 (1.10)
Firms involved	204	105	108	186	36	194	46	156
N	317							
Log likelihood	-1260							
chi2	176.06431							

Multivariate Probit Analysis. The sample consists of Japanese listed manufacturing companies observed in 2001.

The insider ratio is the ratio of insiders on the board of directors.

"Expected rate of industry growth" is the projected rate of growth over the next five years of the industry in which a company operates. We use the deviation from the industry median.

"Bank-appointed director" is a dummy variable that takes one if there is at least one director from a bank.

Table 4: Board Composition and Labor Cost Reduction Measures (Past Insider Ratio)

	Bonus reduction	Wage reduction	Reduction in managers' salaries	Reduction in Executive payments	Reduction in working hours	Reduction in new employees	Layoffs	Early or voluntary retirements
Insider Ratio(1996)	-1.37865 *** (-2.6)	-0.60486 (-1.2)	-0.18375 (-0.37)	-1.01344 ** (-2.01)	0.36848 (0.57)	1.13091 ** (2.29)	-1.53931 ** (-2.34)	-1.34147 *** (-2.68)
ROA (Operating income)	-11.15093 *** (-4.1)	-11.63703 *** (-4.16)	-5.12429 ** (-2.13)	-11.29473 *** (-4.25)	5.04674 (1.38)	1.6949 (0.69)	-0.86374 (-0.27)	-4.58805 * (-1.8)
Expected rate of industry growth (01%)	0.00375 (1.49)	-0.00198 (-0.8)	0.00774 *** (3.37)	0.0014 (0.59)	0.00202 (0.77)	-0.00269 (-1.18)	0.00623 ** (2.45)	-0.00272 (-1.18)
No. of employees	-0.19985 (-1.13)	-0.18253 (-1.07)	-0.05984 (-0.37)	-0.38285 ** (-2.26)	-0.23364 (-1.07)	-0.03074 (-0.19)	0.0594 (0.28)	0.28428 * (1.72)
Total assets	0.07433 (0.45)	0.11429 (0.71)	0.01011 (0.07)	0.40212 ** (2.48)	0.25793 (1.24)	0.05849 (0.37)	-0.11648 (-0.61)	-0.09111 (-0.58)
Bank-appointed director	-0.05157 (-0.32)	-0.06338 (-0.39)	-0.01468 (-0.09)	-0.13133 (-0.85)	0.06027 (0.29)	-0.12756 (-0.82)	-0.09265 (-0.49)	-0.17628 (-1.13)
Ownership by the "Special Few"	-0.94846 (-1.31)	-0.86578 (-1.23)	0.60701 (0.89)	-0.93887 (-1.37)	1.77645 ** (1.92)	0.30853 (0.44)	-1.5577 * (-1.72)	-1.69628 *** (-2.42)
Excess employment index	0.11859 (1.05)	0.29075 *** (2.64)	0.1395 (1.38)	0.18935 * (1.74)	0.32869 ** (2.5)	0.08571 (0.84)	0.2752 ** (2.23)	0.26384 *** (2.44)
Foreign ownership	0.06025 (0.06)	-0.40883 (-0.41)	-0.3086 (-0.33)	-1.00186 (-1.09)	-2.65661 * (-1.66)	0.96978 (0.95)	0.78922 (0.7)	1.52949 (1.56)
Ownership by financial institutions	0.56436 (0.73)	-0.86594 (-1.12)	-0.08142 (-0.11)	0.30457 (0.41)	0.10246 (0.11)	-0.4704 (-0.64)	1.89005 ** (2.07)	-0.11167 (-0.15)
Constant	1.17879 (0.49)	-1.99206 (-0.85)	-1.10895 (-0.51)	-4.2536 * (-1.86)	-7.88288 ** (-2.56)	-2.05074 (-0.89)	-0.35288 (-0.13)	-0.51000 (-0.22)
Firms involved	195	101	107	178	33	184	43	151
N	298							
Log Likelihood	-1176.97							
chi2	173.7725							

Multivariate Probit Analysis. The sample consists of Japanese listed manufacturing companies observed in 2001.

The insider ratio is the ratio of insiders on the board of directors.

Expected rate of industry growth is the projected rate of growth over the next five years of the industry in which a company operates. We use the deviation from the industry median

"Bank-appointed director" is a dummy variable that takes one if there is at least one director from a bank.

Appendix Table A1

	Bonus reduction	Wage reduction	Reduction in managers' salaries	Reduction in executive payments	Reduction in working hours	Reduction in new hiring	Layoffs	Early or voluntary retirements
Insider Ratio	-0.11389 (-0.28)	-0.44559 (-1.13)	-0.39659 (-1.01)	-0.591 (-1.50)	0.05592 (0.11)	0.91777 ** (2.38)	-0.31597 (-0.65)	-1.05335 *** (-2.66)
ROA (Operating income)	-10.63711 *** (-4.42)	-12.37673 *** (-4.85)	-6.7087 *** (-3.06)	-8.77353 *** (-3.91)	6.11836 ** (2.14)	1.28882 (0.59)	0.36432 (0.13)	-3.32359 (-1.47)
Expected rate of industry growth (.01%)	0.00435 * (1.84)	0.00038 (0.17)	0.00662 *** (3.08)	0.0028 (1.25)	-0.00042 (-0.17)	-0.00125 (-0.58)	0.00623 ** (2.54)	-0.00221 (-1.01)
No. of employees	-0.19828 (-1.21)	-0.21452 (-1.34)	-0.08253 (-0.53)	-0.3601 ** (-2.28)	-0.1146 (-0.54)	0.04395 (0.28)	0.08057 (0.41)	0.27457 * (1.72)
Total assets	0.08039 (0.56)	0.10648 (0.75)	0.02555 (0.18)	0.34672 ** (2.49)	0.01076 (0.06)	0.02499 (0.18)	0.0729 (0.42)	0.04497 (0.32)
Bank-appointed director	0.01181 (0.08)	-0.07931 (-0.51)	-0.05692 (-0.38)	-0.08873 (-0.62)	0.03169 (0.17)	-0.10053 (-0.69)	-0.0418 (-0.24)	-0.17261 (-1.18)
Ownership by the "Special Few"	.	.	.	.	.	.	.	.
Excess employment index	0.16292 (1.55)	0.22461 ** (2.18)	0.09473 (0.96)	0.2051 ** (2.05)	0.2081 * (1.71)	0.13362 (1.35)	0.27227 ** (2.49)	0.23547 ** (2.31)
Foreign ownership	.	.	.	.	.	.	.	.
Ownership by financial institutions	.	.	.	.	.	.	.	.
Constant	1.62761 (0.98)	1.04909 (0.64)	0.71772 (0.45)	-1.66344 (-1.06)	0.24889 (0.12)	-0.3505 (-0.22)	-1.2936 (-0.66)	-0.58931 (-0.37)
Firms involved	204	105	108	186	36	194	46	156
N	317							
Log likelihood	-1270							
chi2	145.339							

Appendix Table A2

	Bonus reduction	Wage reduction	Reduction in managers' salaries	Reduction in executive payments	Reduction in working hours	Reduction in new hiring	Layoffs	Early or voluntary retirements
Insider Ratio	-0.32045 (-0.71)	-0.56973 (-1.27)	-0.25907 (-0.58)	-0.75118 * (-1.72)	0.48409 (0.83)	1.0787 ** (2.48)	-0.7601 (-1.37)	-1.62516 *** (-3.55)
ROA (Operating income)	-10.47427 (-4.36)	-12.33867 (-4.83)	-6.8698 (-3.12)	-8.661 (-3.85)	5.35691 (1.85)	1.16489 (0.53)	0.61004 (0.22)	-3.0155 (-1.34)
Expected rate of industry growth (.01%)	0.00443 (1.87)	0.00038 (0.17)	0.0067 (3.13)	0.00284 (1.27)	-0.00011 (-0.04)	-0.00127 (-0.59)	0.00615 (2.49)	-0.00214 (-0.98)
No. of employees	-0.16624 (-1.00)	-0.20004 (-1.23)	-0.10291 (-0.64)	-0.33589 ** (-2.10)	-0.17475 (-0.82)	0.02018 (0.12)	0.15168 (0.75)	0.35678 ** (2.18)
Total assets	0.03812 (0.25)	0.08851 (0.60)	0.05061 (0.35)	0.31709 ** (2.21)	0.10793 (0.56)	0.05507 (0.38)	-0.01195 (-0.07)	-0.04945 (-0.34)
Bank-appointed director	-0.01036 (-0.07)	-0.09321 (-0.60)	-0.04323 (-0.28)	-0.10353 (-0.71)	0.09883 (0.51)	-0.07876 (-0.53)	-0.09589 (-0.53)	-0.24705 (-1.64)
Ownership by the "Special Few"	-0.71263 (-1.08)	-0.37042 (-0.56)	0.44591 (0.68)	-0.52028 (-0.83)	1.63914 (1.92)	0.53439 (0.82)	-1.44492 (-1.73)	-1.75341 (-2.60)
Excess employment index	0.16196 (1.54)	0.22428 (2.17)	0.09937 (1.01)	0.20521 (2.05)	0.24069 (1.96)	0.13755 (1.39)	0.25653 (2.33)	0.23359 (2.27)
Foreign ownership	.	.	.	.	.	.	.	.
Ownership by financial institutions	.	.	.	.	.	.	.	.
Constant	2.62153 (1.38)	1.5228 (0.83)	0.1412 (0.08)	-0.95505 (-0.53)	-1.94831 (-0.81)	-1.05512 (-0.58)	0.59522 (0.27)	1.71432 (0.94)
Firms involved	204	105	108	186	36	194	46	156
N	317							
Log likelihood	-1270							
chi2	161.93171							

Appendix Table A3

	Bonus reduction	Wage reduction	Reduction in managers' salaries	Reduction in executive payments	Reduction in working hours	Reduction in new hiring	Layoffs	Early or voluntary retirements
Insider Ratio	-0.3275 (-0.69)	-0.31989 (-0.67)	-0.32348 (-0.69)	-0.73574 (-1.61)	0.45681 (0.75)	1.19012 *** (2.60)	-1.16253 * (-1.93)	-1.59202 *** (-3.34)
ROA (Operating income)	-10.46726 *** (-4.35)	-12.09959 *** (-4.71)	-6.95506 *** (-3.14)	-8.61316 *** (-3.81)	5.30002 * (1.83)	1.35657 (0.61)	0.48381 (0.17)	-2.96373 (-1.30)
Expected rate of industry growth (.01%)	0.0044 * (1.86)	0.00057 (0.25)	0.00667 *** (3.10)	0.00272 (1.21)	-0.00012 (-0.05)	-0.0012 (-0.56)	0.00597 ** (2.39)	-0.00212 (-0.97)
No. of employees	-0.16678 (-1.00)	-0.19328 (-1.18)	-0.10715 (-0.67)	-0.33608 ** (-2.1)	-0.17065 (-0.8)	0.01956 (0.12)	0.13228 (0.64)	0.3568 ** (2.18)
Total assets	0.03722 (0.24)	0.14311 (0.94)	0.03818 (0.26)	0.32209 ** (2.15)	0.09614 (0.48)	0.09031 (0.59)	-0.09489 (-0.50)	-0.03964 (-0.26)
Bank-appointed director	-0.00887 (-0.06)	-0.06126 (-0.39)	-0.04761 (-0.31)	-0.09769 (-0.67)	0.09643 (0.49)	-0.06429 (-0.43)	-0.18159 (-0.96)	-0.24332 (-1.61)
Ownership by the "Special Few"	-0.69475 (-1.01)	-0.59488 (-0.87)	0.50022 (0.74)	-0.53421 (-0.82)	1.70039 * (1.91)	0.41536 (0.62)	-1.12891 (-1.28)	-1.78011 ** (-2.57)
Excess employment index	0.15955 (1.51)	0.22867 ** (2.21)	0.09722 (0.99)	0.2032 ** (2.03)	0.23843 * (1.94)	0.14021 (1.41)	0.28091 ** (2.51)	0.23537 ** (2.28)
Foreign ownership	.	.	.	.	.	.	.	.
Ownership by financial institutions	0.02635 (0.04)	-1.12978 (-1.50)	0.28003 (0.39)	-0.08312 (-0.12)	0.16022 (0.18)	-0.5712 (-0.81)	1.75115 ** (2.03)	-0.1492 (-0.21)
Constant	2.61573 (1.33)	0.76412 (0.40)	0.32143 (0.17)	-1.03972 (-0.56)	-1.8315 (-0.74)	-1.53318 (-0.80)	1.9744 (0.83)	1.57818 (0.82)
Firms involved	204	105	108	186	36	194	46	156
N	317							
Log likelihood	-1260							
chi2	169.47431							