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INTERNAL PROMOTION AND THE EFFECT OF BOARD MONITORING: A COMPARISON OF JAPAN AND THE UNITED STATES

This paper analyses two pronounced features of Japanese corporate governance: large corporate boards almost entirely composed of insiders and the tendency to appoint CEOs through internal promotions. It is often argued that Japanese boards are less effective in monitoring CEOs than U.S. boards which tends to be composed of a small number of directors, majority of which are outsiders. I show that Japanese corporate governance exhibits less inefficiencies than U.S. corporate governance. I further discuss the recent changes in Japanese corporate governance and provide theoretical explanation that they do not necessarily enhance board monitoring

Keywords: Board Monitoring; Distortion of Bargaining Surplus; Japanese Corporate Governance; US Corporate Governance; Board Size

JEL Codes: G30, K22, P51

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1 Introduction

This paper attempts to provide a theoretical explanation for why Japanese corporate boards can function as an effective monitoring device even though they have only few or no outside directors and a CEO is normally appointed through internal promotion. Until recently, corporate boards in Japan were not considered as a primary monitoring device, and hence not much research has been done on them. That is, within *Keiretsu*, main-banks and cross-shareholding companies were considered to function as oversight

for management. However, as main-banks and cross-shareholdings became less common in Japanese corporate practices, the device to which stakeholders entrust monitoring of management has become vague. Therefore, this paper focuses on the board of directors and analyses the conditions which it can effectively monitor the CEO.

Japanese corporate governance has two distinct features. First, there is no legal requirement to have outside directors on corporate boards.¹ Thus, many boards are comprised almost entirely of inside directors who either started work as low-rank employees of the company, but have become directors of the company after several successful promotions.² Second, it is common that a new CEO is chosen from one of these inside directors.³ Hence, directors are given an incentive to work hard to become the next CEO of the company (that is, to be nominated by the incumbent CEO), while one of their mandatory roles is to monitor the incumbent CEO.⁴ In short, directors trade-off becoming the incumbent CEO's friend versus becoming a watchdog. Thus, while internal promotion from director to CEO may provide an incentive for inside directors to work hard (Lazar and Rosen 1981; Rosen 1986; Chan 1996; and Agrawal et al. 2006), it may weaken board monitoring since directors may not wish to threaten their friendships with the CEO, or in the worst case, to be ousted from the board (Warther 1998).

In this paper, I am going to show that despite above characteristics, Japanese boards are capable of monitoring CEOs by building a theoretical model which allows us to compare Japanese corporate governance (J-system) and the US corporate governance (A-system) where boards of listed companies are required to have independent directors under the New York Stock Exchange (NYSE) and NASDAQ rules.⁵ The model is built on Hermalin and Weisbach (1998).

In Hermalin and Weisbach (1998), the incumbent board (treated as a single player) and the incumbent CEO determine the wage of the incumbent CEO and a new director to be appointed to the board through Nash bargaining. This new board with the new director can be regarded as a different board from the incumbent board. Then, after the Nash bargaining stage, this new board monitors the incumbent CEO.⁶ Thus, the incumbent CEO is willing to compromise his/her wage in exchange for appointing a new director who is likely to be loyal to him/her. Their main finding is that when the CEO is involved in appointing a new director, someone who is less independent from the CEO is appointed and weakens board monitoring of the CEO. They measure this with notation k_i : the board's lack of independence, where it changes from k_0 (exogenously given) to k_1 (endogenously determined), ($k_0 < k_1$), as the board members change. This k_i can be interpreted as a measure of comradeship or allegiance to the CEO, and they argue that the higher is k_i (or the stronger the comradeship or allegiance to the CEO is); the less the board monitors the incumbent CEO. In short, the monitoring level and the board's

measure of lack of independence have one-to-one correspondence, and it can be regarded that the incumbent board and the incumbent CEO are the players that are determining the monitoring level.

In this paper, the monitoring level and the wage of the incumbent CEO are determined together in the negotiation between the incumbent CEO and the incumbent board. The incumbent board is either composed solely of insiders who are all CEO candidates (J-system), or composed solely of outsiders who are regarded as those who do not have an incentive to become the successor CEO (A-system).⁷ There are two major differences between this paper and Hermalin and Weisbach (1998). For one, this paper extends their model to explain the rationale for the J-system and allows a comparison of monitoring levels between the J-system and the A-system, while their paper provides a theoretical analysis on how the endogenously chosen board of directors becomes less independent of CEO under a system in which a new CEO is recruited from outside the board (which is referred to as ‘A-system’ in this paper). Second, while their paper focuses on inefficiencies created through a change in the board’s lack of independence (from k_0 to k_1), this paper focuses on inefficiencies that occur regardless of the board independence for both the J-system and A-system. In other words, I show that regardless of the CEO appointment policy and the board’s lack of independence, inevitable inefficiencies (namely, ‘distortion’, explained in the next paragraph) arise when the incumbent board and CEO have the say in determining the new board member, and this weakens board monitoring intensities.⁸

I show that the equilibrium monitoring level is higher under the J-system than under the A-system, because negotiations held under the J-system exhibit less distortion of the expected surplus to be divided among the negotiating parties (the incumbent CEO and the incumbent board). Specifically, determining the monitoring level is synonymous with determining the probability of replacing the incumbent CEO with a new CEO, which brings in a new executive (newcomer) to the firm. This implies that a fraction of the Nash bargaining surplus will be given to this newcomer who did not exist when the negotiation was taking place. Note that there are two possible cases for the newcomers. When the board recruits the CEO from outside as in the A-system, the newcomer is the new CEO. When the board promotes one of the incumbent directors to the CEO as in the J-system, the newcomer is then the new director who is hired to refill the board.⁹ The incumbent executives agree to keep the incumbent CEO, if they believe that the amount of surplus which will be given to the newcomer exceeds the additional profit the new CEO will bring to the firm. In this paper, the new CEO is assumed to bring the same amount of additional profit regardless of whether s/he is from inside or outside the board.¹⁰ Thus, the J-system exhibits less distortion than the A-system, for the fraction of surplus to be given to the new director (a lower ranked executive) is smaller than the fraction given to

the new CEO (a high ranked executive).

I also argue that, if this is the case, why Japanese boards are not functioning as effective monitoring device. I find the answer in life-time employment where they promote low-ranking employees to the posts of executives as the cause of low monitoring (less CEO turnovers) in Japanese firms. Note that this type of internal promotion (employee to executive) must be distinguished from the internal promotion from low-ranking executive to CEO. In short, life-time employment allows employees to work in the same company for a long time, and it creates strong friendships or bonds among the employees, resulting in higher k_0 in the J-system than in the A-system.

The insight this paper provides goes beyond a comparison of two corporate governance systems. That is, it gives another implication to the finding of Agrawal et al (2006). They point out that firms promote insiders internally to become CEOs either because insiders have acquired a firm-specific knowledge, or they give insiders an incentive to work hard. However, it could be that firms internally appoint new CEOs in order to minimise the distortion of the bargaining surplus among the incumbent management group.

The rest of the paper is organised as follows. Section two provides some specifics on the model structure common to both governance systems. Section three discusses the A-system, and section four the J-system. Section five discusses the efficiency of the recent legal reforms on Japanese corporate governance. Section six concludes.

2 Model

There are two players: the board (whose members act as a single player) and incumbent CEO. The theoretical setting is a Nash bargaining game in which these two players negotiate over two issues to be written on the contract; the wage of the incumbent CEO and a choice of a new director to be appointed to the board (which affects board monitoring intensity). I show that when these two players (the incumbent executives) determine the above issues, inefficiencies arise regardless of J-system or A-system, and weakens board monitoring intensities. However, negotiations held under the J-system exhibit less distortion of the expected surplus to be divided by the incumbent executives, and thus the J-system produces more monitoring than the A-system.

2.1 Timing

The model consists of four stages, as follows. The incumbent board's measure of lack of independence k_0 is exogenously given. The number of directors n is given exogenously in this section, but I endogenise it in the Appendix, A.8. The CEO bonus level b is given exogenously in this section as well, because the main finding of this paper is unaffected

even if it is treated endogenously. (That is, the monitoring level, p , is the same for both endogenously determined b and exogenously given b .)¹¹

First stage - The board and incumbent CEO Nash bargain over a new director to be appointed to the board (monitoring level), and CEO wage level w :

When a new member is appointed to the board, the new board will have a different measure of monitoring cost (precisely, by measuring how independent the board is from the incumbent CEO) from the incumbent board whose measure of monitoring cost is denoted k_0 .¹² The new board's measure of monitoring cost is denoted k_1 . All incumbent directors except the one who is going to leave the board (e.g. by retirement) participate in the negotiation.¹³ They act as one player that maximises its pay-off in the next stage onwards. The board needs to keep its size at n , and thus, remaining directors and the CEO determine who to hire to refill the vacancy in the management group.¹⁴ The ability of the incumbent CEO is either high (H) or low (L). I assume that the incumbent CEO's priors are $\gamma > 1/2$ for being H . This CEO is assumed to have acquired firm-specific knowledge during the trial period before Nash bargaining stage.¹⁵ The priors for any CEO potentials are assumed to be precisely $1/2$ for both H and L . If there is a breakdown in negotiations, I assume the incumbent CEO is dismissed and the board hires a new CEO. Since prior beliefs on the ability of any CEO candidates are $1/2$ for H and L , the new CEO does not have any bargaining power. Therefore, I assume that if the negotiation breaks down, the initial board pays the starting bonus to the new CEO, and also determines a new director to be appointed to the board. This is done by maximising the expected pay-off of the board assuring at least the reservation utility of the newly hired CEO.

Second stage - The CEO is monitored by the new board and the board updates its assessment of CEO ability:

The monitoring level is expressed as $p \in [0, 1]$. It is interpreted as the probability of succeeding in getting informative indication about the ability of the CEO. That is, with probability p the board obtains an informative indication about the incumbent CEO's ability. The informative information is expressed as $y \in Y = \{y_H, y_L\}$. The board believes the incumbent CEO is likely to be high-skilled if it obtains y_H , and it believes the incumbent CEO is likely to be low-skilled if it obtains y_L . With probability $1-p$ the board does not obtain informative indication. The board disutility of monitoring is expressed as $k_1 \cdot d(p)$. (This is explained in section 2.2.2)

Third stage - The new board decides to retain the incumbent CEO, or fire him/her and hire a new CEO:

The same board as in stage two decides to retain or rehire the incumbent CEO depending on the information. With probability p the board observes either y_H (observed with probability q), or y_L (with probability $1-q$). The board retains the incumbent CEO if it observes y_H , but fires if it observes y_L . When the incumbent CEO is fired, a new CEO is hired. With probability $1-p$, the board has no reason to fire the incumbent CEO, and thus retains the incumbent CEO.

Fourth stage - Payouts are made and outcomes are realised:

The firm's profit is a random variable denoted by \tilde{X} dependent on the ability of the CEO. I denote by X the realised profit which belongs to $\{X_H, X_L\}$ where $X_H > X_L$. The board receives x from X , specifically $\rho X = x$ where ρ is exogenously given and is $\rho \in (0, 1)$. Each director receives x/n as a payment. If the incumbent CEO is retained to this last stage, s/he receives not only w , but also a bonus of $b > 0$. If the incumbent CEO was fired prior to this stage, the new CEO who is serving at this stage receives the starting bonus. Thus, all the players including the newcomer (a new CEO under the A-system; a new director under the J-system), collect their money.¹⁶

2.2 Players' Problems

2.2.1 The incumbent CEO's Problem

The incumbent CEO's objectives are the same for both J-system and A-system. The expected utility of the incumbent CEO is expressed as:

$$w + [p(k_1)z + (1 - p(k_1))]b, \quad (1)$$

where the first term w is the wage and the second term is the bonus which s/he receives with probability $[p(k_1)z + (1 - p(k_1))]$. This probability is the chance of the incumbent CEO being retained after being monitored by the board. Specifically, with probability $p(k_1)$, the board obtains an informative indication from reviewing this CEO's conduct ('monitoring'), and with probability q , the board sees this CEO to be high-skilled. The probability the board does not obtain any informative indication regarding the CEO's ability is $(1 - p)$. I show in Proposition One that the monitoring level p is a function of a measure of the new board's lack of independence k_1 , and thus denoted as $p(k_1)$.

2.2.2 The Board's Problem

The board's problem is different between A-system and J-system, because under the latter system, all the incumbent directors are equally given a chance to become the succeeding CEO himself. Other than this, the board's objectives are similar for both A-system and J-system.¹⁷

The A-system

The board's objective under the A-system is to maximise the expected profit of the firm, less the cost of monitoring, the wage to the incumbent CEO, and either the bonus to the incumbent CEO, or a starting salary to the new CEO.

$$\begin{aligned} \Omega_A = & p_A(k_1) \cdot [zx_H + (1-z)x_N] + (1-p_A(k_1))x_I - k_m \cdot d(p_A(k_1)) \\ & - w_A - [p_A(k_1) \cdot z + (1-p_A(k_1))]b - p_A(k_1) \cdot (1-z)s. \end{aligned} \quad (2)$$

The first term of the above expression is the expected pay-off after obtaining an informative indication. That is, with probability $p_A(k_1)$ the board obtains an informative indication about the incumbent CEO. With probability $(1-z)$, the board observes y_H and believes that the CEO is likely to be high-skilled. Hence the board retains this CEO who is expected to bring the expected pay-off x_H . With probability $(1-z)$, the board believes that the CEO is likely to be low-skilled. In this case, the board replaces the incumbent CEO and hires a new CEO who is expected to bring x_N . The second term is the pay-off after the board failed to obtain an informative indication, which occurs with probability $(1-p_A(k_1))$. Thus, the board has no reason to fire the incumbent CEO and the expected profit of the firm is then denoted as x_I . The third term is the cost of monitoring. Disutility of monitoring is expressed as $k_m \cdot d(\cdot)$: k_m is the measure of the board's lack of independence and m is denoted either 0 (the initial board at stage one), or 1 (the new board at stage two), and $d(\cdot)$ is strictly increasing, strictly convex, twice continuously differentiable function. I assume interior solutions. That is, $d'(p) \rightarrow 0$ as $p \rightarrow 0$ and $d'(p) \rightarrow \infty$ as $p \rightarrow 1$ where $p \in [0,1]$. The fourth term is the wage it must pay to the incumbent CEO. The fifth term is the bonus to the incumbent CEO which will be paid with probability $[p_A(k_1) \cdot z + (1-p_A(k_1))]$. The sixth term is a starting bonus b the board will pay to the new CEO with probability $p_A(k_1) \cdot (1-z)$. The starting bonus b is given exogenous, because the firms usually follow the amount determined in the market for the new CEO's starting bonus. (As noted above, even if this is endogenously determined, the logic found in this paper is the same.) After the CEO acquires some firm-specific knowledge, then the CEO negotiates his/her wage as in this model. The utility Ω_A is concave in p_A .

The J-system

The board of the J-system is expressed as below:

$$\Omega_J = p_J(k_1) \left[zx_H + (1-z) \left(\frac{n-1}{n} x_N + b \right) \right] + (1-p_J(k_1))x_I - k_m \cdot d(p_J(k_1)) - w_J - b. \quad (3)$$

The difference from that of the A-system comes from the real-world practice that CEOs are internally promoted from the board members. This is reflected in the first term. Specifically, y_H is obtained with probability z , and then the expected profit is x_H . When y_L is observed with probability $(1-z)$, then the incumbent CEO is fired; then, one of the board members becomes a new CEO and receives b , and the remaining $n-1$ directors receive $\frac{x_N}{n}$. Thus, the pay-off to the board is $(\frac{n-1}{n}x_N + b)$. (Recall that the number of the directors is maintained at n : if the board dismisses the incumbent CEO, one of the directors becomes the new CEO. To maintain the board size, usually a low-ranking employee is promoted to a new director. This new director also receives x_N in the last stage, but this is not reflected in (3), for the board members are not internalising his/her welfare.) The fifth term b , is the starting bonus given to the new CEO (who was a director before succeeding the post of CEO). The amount of starting bonus for the new CEO under the J-system is equivalent to the amount determined as a bonus for the incumbent CEO, because this new CEO was formally one of the directors who was participating in Nash bargaining. Other terms are as (2). The relations between the expected profit and the information are induced by the Bayes' update. The profit is induced as $x_H > x_I > x_N > x_L$ and $x_H > x_I > x_{\tilde{N}} > x_L$.

3 The A-System

3.1 The Expected Pay-off of the Board

The utility for the board under the A-system at stage two (that is, (2) with $m=1$) is expressed as

$$\Omega_A = p_A [zx_H + (1-z)x_N] + (1-p_A)x_I - k_1 \cdot d(p_A) - w_A - [p_A \cdot z + (1-p_A)]b - p_A \cdot (1-z)s. \quad (4)$$

The board chooses the monitoring level so as to maximise Ω_A . Thus, the first-order condition with respect to p_A is

$$\frac{\partial \Omega_A}{\partial p_A} = z \cdot x_H + (1-z)x_N - x_I - k_1 \cdot d'(p_A) - (z-1)b - (1-z)s = 0. \quad (5)$$

The above expression is sufficient as well as necessary. Define $p_A(k_1)$ to

be the solution to (5). Furthermore, by differentiating (5) with respect to k_1 , I have $-k_1 \cdot d''(p_A(k_1)) \cdot p_A'(k_1) - d'(p_A(k_1)) = 0$, and hence $p_A'(k_1) = -\frac{-d'(p_A(k_1))}{-k_1 \cdot d''(p_A(k_1))} < 0$.

As a result, there is an inverse relationship between the level of monitoring p and the new board measure of monitoring cost k_1 , which establishes:

Proposition 1 *Where the new board consists of directors who incur less monitoring cost, the intensity to which it monitors the CEO increases under the A-system.*

Proposition One implies that when the incumbent executives decide the new director to be appointed to the board in the first stage, it can be considered that they are deciding the monitoring level of the new board.

3.2 Nash Bargaining

The board and the CEO choose the optimum k_1^* and w_A^* to maximise the following Nash product:

$$V_A = \{ [p_A(k_1) \cdot z + (1 - p_A(k_1))]b + w_A - \theta_C \} \times \left\{ \begin{aligned} & p_A(k_1) \cdot [z \cdot x_H + (1 - z) \cdot x_N] + (1 - p_A(k_1))x_I \\ & - k_0 \cdot d(p_A(k_1)) - w_A - [p_A(k_1) \cdot z + (1 - p_A(k_1))]b - p_A(k_1)(1 - z)s - \theta_A \end{aligned} \right\} \quad (6)$$

Recall that Nash bargaining stage is at stage one, so the players are the incumbent CEO and the initial board whose measure of monitoring cost is k_0 . After the bargaining, the board member change due to the turn-over of directors, and this new board's measure of monitoring cost is expressed as k_1 . In other words, the board that decides the new board composition and the board that later monitors the CEO is different. This is the reason why the third term in the second bracket is expressed as $k_0 \cdot d(p_A(k_1))$. The reservation utility of the CEO and the board are denoted as θ_C and θ_A respectively. θ_A is the expected pay-off of the board if it hires a replacement CEO. The board's reservation utility θ_A , is in the Appendix A.1. θ_C equals s , which is the starting salary of any outside CEO. The threat point is in the interior of the feasible set, so they enter into negotiation. The proof is in the Appendix A.2. I define the solution for $Max V_A$ as k_1^* and w_A^* . Then the monitoring level is denoted as $p_A(k_1^*)$, and establishes:

Proposition 2 *Where the equilibrium level of monitoring for the A-system is expressed as:*

$$d'(p_A(k_1^*)) = \frac{1}{k_0} [zx_H + (1 - z)x_N - x_I - (1 - z)s]. \quad (7)$$

The implication of Proposition Two is that the level of monitoring p_A is negatively related

to s under the A-system. That is, the higher the starting bonus of the new CEO, the less the board monitors under the A-system. The last term $(1-z)s$ is a fraction of the Nash bargaining surplus that is given to the newcomer who did not exist when the negotiation was taking place. Thus, the larger s , the more distortion in the expected bargaining surplus which should be divided among the executives who participate in the negotiation. To minimise this distortion caused by the transfer of expected surplus to the newcomer, the board reduces the monitoring level to keep the incumbent CEO in place. The proof of this Proposition is in the Appendix A.3.

4 The J-System

4.1 The Expected Pay-off of the Board

The utility of the J-system at stage two (that is, (3) with $m=1$) is expressed as:

$$\Omega_J = p_J \left[zx_H + (1-z) \left(\frac{n-1}{n} x_N + b \right) \right] + (1-p_J)x_I - k_1 \cdot d(p_J) - w_J - b. \quad (8)$$

The optimum level of monitoring is derived by the first-order condition with respect to

$$p_J \text{ is } \frac{\partial \Omega_J}{\partial p_J} = z \cdot x_H + (1-z) \left(\frac{n-1}{n} x_N + b \right) - x_I - k_1 \cdot d'(p_J) = 0. \quad (9)$$

The above expression is sufficient as well as necessary. Define $p_J(k_1)$ to be the solution to (9). Furthermore, similar to the A-system, it can be shown that k_1 and p have an inverse relationship by differentiating (9) with respect to k_1 . This leads to:

Proposition 3 (*Analogous to Proposition One*) *Where the new board consists of directors who incur less monitoring cost, the intensity to which it monitors the CEO increases under the J-system.*

Similar to Proposition One, Proposition Three implies that when the board and the incumbent CEO decide on a new director to be appointed to the board as a first stage, it can be treated as if they are deciding the monitoring level of the new board.

4.2 Nash Bargaining

When the incumbent CEO and the board enter into negotiation, they choose k_1^* and w_J^* to maximise

$$V_J = \{ [p_J(k_1) \cdot z + (1 - p_J(k_1))]b + w_J - \theta_C \} \\ \times \left\{ p_J(k_1) \cdot \left[zx_H + (1 - z) \left(\frac{n-1}{n} x_N + b \right) \right] + (1 - p_J(k_1))x_I - k_0 \cdot d(p_J(k_1)) - w_J - b - \theta_J \right\}. \quad (10)$$

The reservation utility of the Japanese board is expressed as θ_J , and this is the expected pay-off if the board hires a replacement CEO. The reservation utility θ_J , is in the Appendix A 4. Again, the reservation utility for the CEO is s , that is $\theta_C = s$.¹⁸ The threat point is in the interior of the feasible set so they enter into negotiation. The proof is in the Appendix A 5. I denote k_1^* and w_J^* to be the solution to $Max V_J$. Then the monitoring level is denoted as $p_J(k_1^*)$ which establishes:

Proposition 4 *Where the equilibrium level of monitoring for the J-system is expressed as*

$$d'(p_J(k_1^*)) = \frac{1}{k_0} \left[zx_H + (1 - z)x_N - x_I - (1 - z) \frac{1}{n} x_N \right]. \quad (11)$$

The implication of Proposition Four is that the number of directors and the monitoring level are positively related. That is, the larger the size of the board, the more the board monitors under the J-system. The proof of this Proposition is in the Appendix A.6. Under the J-system, when the incumbent CEO is fired, one of the directors becomes the next CEO and one of the long term employees is promoted to a directorship. This implies, with probability $(1-z)$, a share of x_N / n from the whole board pay-off x_N , will be paid to the new director (who is the ‘newcomer’). This payment to the new director is the cause of distortion of Nash bargaining surplus which would be divided only by the two negotiating players if there were no CEO replacement. Thus, the smaller n , the larger the fraction of bargaining surplus to be transferred to the newcomer, and hence the board acts to decrease the monitoring level to increase the probability that the incumbent CEO is kept in place.

Proposition Four implies that as a system, the J-system can function as a monitoring device. Traditionally, Japanese companies tend to have larger boards than US companies, but because of the other problems caused by having large boards, some companies are run inefficiently. Many lawyers, policy makers, and economists have attributed the cause of inefficiency to oversized boards, but Proposition Four proves that this is not always true.

Proposition Four suggests that if companies wish to raise monitoring levels, the size of the board n should be increased in order to minimise distortion under the J-system. Although increasing the number of the directors induces the Japanese board to produce strong monitoring in the model, in practice it incurs some costs that are not discussed in the model. For example, it could slow down the decision-making of the board, and it

could render each director's conduct obscure. More importantly, although increase in n reduces the distortion of the Nash bargaining surplus, it may reduce the amount of salary each director receives as well. However, since the increase in monitoring levels raises the corporate value X , the amount each director receives may not decrease as compared to the case where n is small, if the marginal increase in X is larger enough.¹⁹ Increasing the number of directors may incur some other problems, such as free rider problems. I also show in the Appendix A 8, that if $d(\cdot)$ is a function of n , the Japanese board becomes inefficiently oversized. However, whether n is determined endogenously in the model or given exogenously to the model do not affect the monitoring level p .

Furthermore, Proposition Four gives an insight into the recent legislation in Japan. In 2002 the Japanese Commercial Codes were amended to give some companies a choice of governance structure of the traditional Japanese system or the new Japanese system referred to as *Companies with Committees*.²⁰ The new system encourages companies to have smaller boards with committees comprised of a majority of outside directors. However, not only those companies that chose to adopt the new system, but also the companies who chose to stick with the traditional system are reducing the number of directors as well. They are decreasing the number of directors but instead have created a special post of corporate officers, who do not legally serve on the board but do receive a certain amount of share of profits of the firm, just as other directors do.²¹ This implies the recent practice in Japanese firms to reduce the number of directors may render board's weak monitoring device. The proof is in Appendix A 7. Compensating those who are deprived of a director's post with a new post as corporate officers does not induce the board to produce stronger monitoring. This is because the effect of distortion to each incumbent player becomes larger. Therefore, the level of monitoring may become worse. Increasing the number of directors incurs some trade-offs as argued in the above paragraph, but I emphasise that reducing the directors and creating a post of corporate officer is not a sensible policy either.

Lastly, there is a way to avoid distortion under the J-system. Those companies that wish to do so should not fill the vacancy caused on the board by promoting an employee to a directorship. To be more specific, the vacancy is derived from a promotion of one of the incumbent directors to be the new CEO after the incumbent CEO was hired. This means that, even if the incumbent CEO were deprived of his/her title as CEO, if s/he could serve on the board as one of the inside directors to fill in the vacancy, there will be no distortion in the distribution of bargaining surplus. As mentioned earlier, in Japanese practice, retired CEOs usually remain in the company anyway. They may be given a special title, such as advisor, but not belong to management or the board. Since a retired CEO is not forbidden to serve on the board, it would be more efficient if s/he were given a post as one of the inside directors rather than an advisor, so that vacancy created to the board

would not be filled with non-incumbent members.

Next, I compare the level of monitoring between the A-system and the J-system which leads to the following proposition:

Proposition 5

1. Suppose $s < \frac{1}{n}x_N$, that is, the amount of starting salary to the new CEO is smaller than the amount of salary to the new director, then the A-system produces stronger monitoring than the J-system. Then for all levels of monitoring cost k_1 , the board of the A-system monitors the incumbent CEO more intensely than the board of the J-system; $p_A(k_1) > p_J(k_1)$. Suppose next, $s > \frac{1}{n}x_N$, then for all levels of measure of monitoring cost k_1 , the opposite is true; $p_J(k_1) > p_A(k_1)$.
2. Moreover, the monitoring cost k_1 differs between the two systems. When $s < \frac{1}{n}x_N$, it is less costly for the board of the A-system to monitor the CEO as compared to the board of the J-system; $k_1^{*A} < k_1^{*J}$. When $s > \frac{1}{n}x_N$, the board of the A-system incurs more cost in monitoring as compared to the board of the J-system; $k_1^{*A} > k_1^{*J}$.
3. Thus, when $s < \frac{1}{n}x_N$ holds, the A-system produces far more intensive monitoring than the J-system; $p_A(k_1^{*A}) > p_J(k_1^{*J})$. When $s > \frac{1}{n}x_N$ holds, the J-system produces far more intensive monitoring than the A-system; $p_J(k_1^{*J}) > p_A(k_1^{*A})$.

Proof.

1: Second stage

Recall $d'(p) > 0$. Then, by comparing (5) and (9), and holding fixed k_1 of both A-system and J-system at the same level, it is obvious that $p_A(k_1) > p_J(k_1)$ holds when s is smaller than $\frac{1}{n}x_N$, and $p_J(k_1) > p_A(k_1)$ holds when s is larger than $\frac{1}{n}x_N$.

2: First stage

k_1 may be the same level in both systems, but usually they are different. In the A-system, from (5) and (7), k_1 is calculated as

$$k_1^A = k_0 \left\{ 1 + \frac{(1-z)b}{zx_H + (1-z)x_N - x_I - (1-z)s} \right\} \tag{12}$$

In the J-system, from (9) and (11), k_1 is calculated as

$$k_1^J = k_0 \left\{ 1 + \frac{(1-z)b}{zx_H + (1-z)x_N - x_I - (1-z)\frac{x_N}{n}} \right\} \tag{13}$$

Then, when $s > \frac{1}{n}x_N$, (12) is larger than (13), and when $s < \frac{1}{n}x_N$, the opposite is true.

3: First stage

Hence, when $s > \frac{1}{n}x_N$ holds, from (7) and (11), the J-system produces far more intensive monitoring than the A-system. When $s < \frac{1}{n}x_N$ holds, the A-system produces far more intensive monitoring than the J-system.

Proposition Five has two important implications. First, the board under the J-system may produce stronger monitoring than the board under the A-system. Propositions Two and Four prove that board has intrinsic weakness in monitoring the CEO. That is, when the incumbent CEO has the power to negotiate with the board a new director to be appointed to the board (which affects the monitoring levels), there will be distortion of Nash bargaining surplus which both negotiating parties wish to minimise. The monitoring level determined by two players who wish to share the surplus only by themselves thus sometimes departs from the optimum monitoring level.

Moreover, the amount of distortion is determined by whom they have for CEO succession candidates in both corporate governance systems. Hence, if a company wishes to strengthen the board monitoring, it should appoint the new CEO from inside the incumbent board members when $s > \frac{1}{n}x_N$ holds, and hire from outside the board when $s < \frac{1}{n}x_N$ holds.

Second, Proposition Five explains one of the reasons why some Japanese companies are claimed to produce inefficient monitoring even when they have large boards (that is large n in this paper). It is shown in Propositions Two, Four, and Five that as a system, the J-system functions as well as the A-system. However, the difference comes from the parameter k_0 , which is the measure of monitoring costs for the incumbent board, and is exogenously given and treated as equal in both A-system and J-system. In practice, they are not the same. When k_0 is the same in both systems, the right-hand sides of (7) and (11) are compared with only two parameters; s and $\frac{1}{n}x_N$. However, if k_0 is different between two systems, the right-hand sides of both equations are not that simply compared. Specifically, k_0 is likely to be much larger in Japan. One of the reasons is that strong personal relations have been created between the CEO and the board in Japanese firms where the board traditionally consists of long-term employees who were promoted to directors not just by their ability but also by seniority. This has a psychological effect on the Japanese directors and in the model it can be interpreted as higher k_0 as compared to that of the A-system. Given these facts, I show how the difference in k_0 affects the monitoring levels. I first focus on the case where $s > \frac{1}{n}x_N$. From Proposition Five, if k_0 is fixed at the same level, (7) $>$ (11) holds, which suggests it is more costly for the board of the A-system to monitor the CEO. However, if k_0 of the J-system is larger than that of the A-system, this inequality may reverse. That is, even if (11) $<$ (7) holds, the J-system may yield weak

monitoring. Next, I focus on the case where $s < \frac{1}{n}x_N$. In this case, it is obvious that if k_0 in the J-system is large, what is provided in Proposition Five is even more stressed. This is why it is perceived by many that the boards of the J-system produce relatively weak monitoring.

Therefore, the way to make the boards under the J-system work as a strong monitoring device without increasing n is to adopt outside directors who are independent of the CEO, so that their presence on the board would lower the level of k_0 . Note that internally promoting a director to the position of CEO and internally promoting a low ranking employee to a position of directorship must be distinguished. This paper has shown that the J-system (a system in which CEOs are chosen from the incumbent directors) may produce more monitoring than the A-system (a system in which CEOs are recruited from outside the board). However, it is shown in Proposition Five that internal promotion of a low-ranking employee to directorship causes the board monitoring to be weak under the J-system.

5 Conclusion

In this paper, I compare two corporate governance systems for monitoring CEOs; the A-system and the J-system. In the former system, I assume the CEO is always recruited from outside the board. In the latter system, the CEO is always internally promoted. In addition to the assumption that the board is composed entirely of inside directors, which is common in Japanese practice, the CEO is elected from the board of directors, and hence in the model the channel to become CEO in traditional Japanese companies is through the board of directors. I show that when the incumbent CEO and the board negotiate over topics that affect monitoring level (for example, a new director to be appointed to the board), such negotiations exhibit distortion in the distribution of bargaining surplus, and hence board monitoring becomes weak regardless of the governance system. However, I show that the equilibrium monitoring level may become higher under the J-system than under the A-system, because under a system in which the CEO is internally promoted from inside directors, there is less distortion of bargaining surplus to be divided by the negotiating parties. I also argue that board monitoring of CEOs under the J-system can be strengthened by appointing independent directors rather than internally promoting a successful low ranking employee to the position of directorship.

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Appendix

A 1. The threat point of the board under the A-system

The threat point of the board under the A-system, θ_A , is expressed as:

$$\theta_A = p_{0A}^* [q \cdot x_{NH} + (1-q)x_N] + (1-p_{0A}^*)x_N - w_A^\circ - k_0^\circ \cdot d(p_{0A}^*) - [p_{0A}^* \cdot q + (1-p_{0A}^*)]b^\circ - p_{0A}^*(1-q)s, \quad (14)$$

where p_{0A}^* is the optimum level of monitoring chosen by the board when its measure of monitoring cost is k_1° , and hence p_{0A}^* is a function of k_1° . The first term $p_{0A}^* [q \cdot x_{NH} + (1-q)x_N]$ is the expected pay-off when the board obtains an informative information about CEO ability: with probability q the new CEO is retained and the profit that is stochastic to his/her ability is x_{NH} but with probability $(1-q)$, the new CEO is fired and another new CEO is hired, and hence the profit that is determined stochastically to the CEO's ability is x_N . The second term $(1-p_{0A}^*)x_N$ is the pay-off when the board obtains no informative information and hence the new CEO is retained.

Hence the profit is x_N . The wage w_A° equals $s - [p_{0A}^* \cdot q + (1-p_{0A}^*)]b^\circ$, because the incumbent board alone decides the wage, subject to at least guaranteeing the reservation utility of the newly hired CEO. The new director is also appointed by the board alone.

The fourth term, $k_0 \cdot d(p_{0A}^*)$ is the cost of monitoring. The fifth term is the bonus to the CEO. The last term is the starting bonus for a new CEO who will be appointed if the CEO in place is fired. I assume $z > q$.

A 2. Proof of participation constraint for the negotiation under the A-system

The addition of the threat points for the board and the CEO is

$$T_A(p) = p[q \cdot x_{NH} + (1 - q)x_N] + (1 - p)x_N - k_0 \cdot d(p) - p(1 - q)s, \tag{15}$$

for $s = w + [p \cdot q + (1 - p)]b$.

The addition of (1) and (2) is

$$G_A(p) = p[z \cdot x_H + (1 - z)x_N] + (1 - p)x_I - k_0 \cdot d(p) - p(1 - z)s. \tag{16}$$

It is assumed that $z > q$, and hence (15) < (16) if p is the same. Hence, if we denote by p_0^* the level of monitoring that maximises (15), and plug this into both (15) and (16), then, $T_A(p_0^*) < G_A(p_0^*)$ holds. Denote the monitoring level that maximises (16) as p_A^* . Then $G_A(p_0^*) < G_A(p_A^*)$ holds. Therefore, $T_A(p_0^*) < G_A(p_A^*)$ holds and the feasible set is in the interior of the addition of the players' utilities.

Q.E.D.

A.3. Proof of Proposition 2: (7)

The first-order condition maximizing V_A with respect to k_1 yields

$$\begin{aligned} & \left\{ p_A(k_1) \cdot [zx_H + (1 - z)x_N] + (1 - p_A(k_1))x_I - k_0 \cdot d(p_A(k_1)) \right\} \\ & \left\{ -w_A - [p_A(k_1) \cdot z + (1 - p_A(k_1))]b - p_A(k_1) \cdot (1 - z)s - \theta_A \right\} \\ & \times (z - 1)b \\ & + \{ [p_A(k_1) \cdot z + (1 - p_A(k_1))]b + w_A - \theta_C \} \\ & \times \{ zx_H + (1 - z)x_N - x_I - k_0 \cdot d'(p_A(k_1)) - (z - 1)b - (1 - z)s \} \\ & = 0. \end{aligned} \tag{17}$$

The first-order condition maximizing V_A with respect to w_A yields

$$\begin{aligned} & \{ p_A(k_1) \cdot [z \cdot x_H + (1 - z)x_N] + (1 - p_A(k_1))x_I - k_0 \cdot d(p_A(k_1)) \\ & - w_A - [p_A(k_1) \cdot z + (1 - p_A(k_1))]b - p_A(k_1) \cdot (1 - z)s - \theta_A \} \end{aligned} \tag{18}$$

Notice that the first term of (18) equals the first term of (17). Thus, substituting (18) into (17) and solving for $d'(p_A(k_1^*))$ yields the equilibrium level of monitoring as expressed in (7):

$$d'(p_A(k_1^*)) = \frac{1}{k_0} \{ zx_H + (1 - z)x_N - x_I - (1 - z)s \}. \tag{19}$$

Q.E.D.

A 4. The threat point of the board under the J-system

The threat point of the board under the J-system is expressed as

$$\begin{aligned} \theta_J = & p_{0_J}^* \cdot q \left[(n-1) \frac{x_{NH}}{n} + b_{0_J}^\circ + w_{0_J}^\circ \right] + p_{0_J}^* \cdot (1-q) \left[\frac{(n-1)^2}{n^2} x_N + \frac{n-1}{n} b_{0_J}^\circ + w_{0_J}^\circ \right] \\ & + (1-p_{0_J}^*) \left[(n-1) \frac{x_N}{n} + b_{0_J}^\circ + w_{0_J}^\circ \right] - w_{0_J}^\circ - b_{0_J}^\circ - k_0 \cdot d(p_{0_J}^*), \end{aligned} \quad (19)$$

where $p_{0_J}^*$ is the optimum level of monitoring chosen by the board when its measure of monitoring cost is k_1° , and hence $p_{0_J}^*$ is a function of k_1° . The first and the second terms are the expected pay-offs of the board when the new CEO is internally promoted after the breakdown of negotiation. (Recall that under the J-system, when the negotiation breaks down in the first stage the board fires the incumbent CEO and one of the incumbent directors becomes the new CEO.)

The first term $p_{0_J}^* \cdot q \left[(n-1) \frac{x_{NH}}{n} + b_{0_J}^\circ + w_{0_J}^\circ \right]$ is the expected pay-off to the incumbent board members when the informative information about new CEO ability is obtained through monitoring and the board believes that the new CEO is high-skilled and thus retains him/her. The third term $(1-p_{0_J}^*) \left[(n-1) \frac{x_N}{n} + b_{0_J}^\circ + w_{0_J}^\circ \right]$ is the expected pay-off when the board obtains no informative information about the new CEO ability and hence has no choice but to retain him/her. When the board retains this new CEO after either obtaining an informative information (the first term), or not obtaining any informative information (the third term), there will be no further changes in the board members. Therefore, at the point of Nash bargaining in the first stage (on-the-path), the incumbent directors know that if the bargaining breaks down one of themselves will receive $b_{0_J}^\circ$ and $w_{0_J}^\circ$, and the remaining $n-1$ directors will receive either $\frac{x_{NH}}{n}$, or $\frac{x_N}{n}$.

The second term is the expected pay-off when the board believes this new CEO is low-skilled as a result of monitoring and hence fires him/her and promotes another director to the post of CEO (which will be the second CEO in the off-the-path). Note that this second new CEO could be either one of the initial directors who was participating in the Nash bargaining, or the director who was newly appointed to the board to fill in the vacancy caused by the first CEO replacement. If it is the latter case, then, the first new CEO (the one promoted after the initial incumbent CEO was fired) receives $w_{0_J}^\circ$, and the second new CEO (the one promoted after the first new CEO was fired) receives $b_{0_J}^\circ$.²² Thus, it is with probability $\frac{n-1}{n}$ that n incumbent directors receive $b_{0_J}^\circ$. The expected pay-off to the incumbent members who were not promoted to the post of CEO is as follows: if the newly-hired director becomes a CEO with probability of $\frac{1}{n}$, the remaining incumbent directors receive $(n-1) \frac{x_N}{n}$, but if one of the remaining incumbent directors becomes a CEO with probability $\frac{n-1}{n}$, one of them receives $b_{0_J}^\circ$, but the remaining $n-2$ will receive $\frac{x_N}{n}$. The

wage w°_J will be paid to the CEO in position, so one of the incumbent directors receives this. Therefore, the expected pay-off is expressed as

$$\frac{1}{n} \left[(n-1) \frac{x_N}{n} \right] + \frac{n-1}{n} \left[b^\circ_J + (n-2) \frac{x_N}{n} \right] + w^\circ_J = \left[\frac{(n-1)^2}{n^2} x_N + \frac{n-1}{n} b^\circ_J + w^\circ_J \right].$$

The fourth term is the wage w°_J and this equals $s - [p_{0_J}^* \cdot q + (1 - p_{0_J}^*)] b^\circ_J$, because the incumbent board alone decides the wage as to maximise its expected pay-off subject to at least assuring the reservation utility of the newly-hired CEO. The board also appoints a new director by itself. The last term is the cost of monitoring.

A 5. Proof of participation constraint for the negotiation in the J-system

The addition of the threat points for the board and the CEO is

$$T_J(p) = p \cdot q \left[(n-1) \frac{x_{NH}}{n} + b \right] + p \cdot (1-q) \left[\frac{(n-2)^2}{n^2} x_N + \frac{n-1}{n} b \right] + (1-p) \left[(n-1) \frac{x_N}{n} + b \right] - b - k_0 \cdot d(p) + s. \tag{20}$$

The addition of (1) and (8) yields

$$G_J(p) = [p \cdot z + (1-p)]b + p \left[z \cdot x_H + (1-z) \left(\frac{n-1}{n} x_N + b \right) \right] + (1-p)x_I - k_0 \cdot d(p) - b. \tag{21}$$

It is assumed that $z > q$, and hence (20) < (21) holds if p is the same in both expressions. (First, organise all the terms that have b into one term, and then compare them between (20) and (21). Hence, if we denote by p_0^* , the level of monitoring that maximises (20), and plug this into both (20) and (21), $T_J(p_0^*) < G_J(p_0^*)$ holds. Denote the level of monitoring that maximises (21) as p_J^* then $G_J(p_0^*) < G_J(p_J^*)$ holds. Therefore, $T_J(p_0^*) < G_J(p_J^*)$ holds and the feasible set is in the interior of the addition of the player’s utilities.

Q.E.D.

A 6. Proof of Proposition 4: (11)

The first-order condition maximizing V_J with respect to k_1 yields,

$$\left\{ p_J(k_1) \cdot \left[zx_H + (1-z) \left(\frac{n-1}{n} x_N + b \right) \right] + (1-p_J(k_1))x_I - k_0 \cdot d'(p_J(k_1)) - w_J - b - \theta_J \right\} \times (z-1)b + \{ [p_J(k_1) \cdot z + (1-p_J(k_1))]b + w_J - \theta_C \} \times \left\{ zx_H + (1-z) \left(\frac{n-1}{n} x_N + b \right) - x_I - k_0 \cdot d'(p_J(k_1)) \right\} = 0. \tag{22}$$

The first-order condition maximizing V_J with respect to w_J yields,

$$\begin{aligned} & \left\{ p_J(k_1) \cdot \left[zx_H + (1-z) \left(\frac{n-1}{n} x_N + b \right) \right] + (1-p_J(k_1))x_I - k_0 \cdot d(p_J(k_1)) - w_J - b - \theta_J \right\} \\ & - \{ [p_J(k_1) \cdot z + (1-p_J(k_1))]b + w_J - \theta_C \} \\ & = 0. \end{aligned} \quad (23)$$

Notice that the first terms of (22) and (23) are the same. Thus, substituting (23) into (22), and solving for $d'(p_J(k_1^*))$ yields the equilibrium monitoring level as expressed in (11):

$$d'(p_J(k_1^*)) = \frac{1}{k_0} \left\{ z \cdot x_H + (1-z)x_N - x_I - (1-z) \frac{x_N}{n} \right\}. \quad \text{Q.E.D.}$$

A 7. Proof of ‘Corporate officers’ may weaken board monitoring

For simplicity, I assume that the number of directors is reduced to one-half. By reducing the number of board will reduce the profit of the firm, but does not reduce the amount of payment which will be paid to the new director. In other words, $\frac{1}{n}x_N$ remains unchanged. I rewrite (11) as $d'(p_J(k_1^*)) = \frac{1}{k_0} [zx_H + (1-z)x_N - x_I] - \frac{1}{k_0} (1-z) \frac{1}{n} x_N$.

The first-term of the right-hand side decreases because x_H, x_N, x_I all become one-half, but the second term of the right-hand side, which causes the distortion of the Nash bargaining surplus remains the same.

Q.E.D.

A 8. Endogenously determining the size of the board, n .

This section also shows that endogenising b does not affect the substantial result of the paper. To do so, I let p be the function of k_1 and b . It is clear that taking first order conditions to (25) and (28) with respect to b yields the same result as (7) and (11). Suppose the incumbent board and CEO negotiate over the size of the board. I let the disutility of monitoring to be the function of $p(k_1, b)$ and n , and hence it is expressed as $d(p(k_1, b), n)$.

I assume $d(\cdot)$ is a convex function in n , and there exists \bar{n} where $d(\cdot)$ is minimum given p and b . That is, $\frac{\partial d(p, 0)}{\partial n} < 0$, and $\frac{\partial d(p, n)}{\partial n} > 0$ for some $\bar{n} > 0$.

Under the A-system, the board expected utility will be expressed as

$$p_A(k_1, b_A) \cdot [zx_H + (1-z)x_N] + (1-p_A(k_1, b_A))x_I - k_m \cdot d(p_A(k_1, b_A), n) - w_A - [p_A(k_1, b_A) \cdot z + (1-p_A(k_1, b_A))]b_A - p_A(k_1, b_A) \cdot (1-z)s. \tag{24}$$

Then, the Nash product, V_{An} is expressed as

$$\left\{ p_A(k_1, b_A) \cdot [zx_H + (1-z)x_N] + (1-p_A(k_1, b_A))x_I - k_0 \cdot d(p_A(k_1, b_A), n) \right\} \left\{ -w_A - [p_A(k_1, b_A) \cdot z + (1-p_A(k_1, b_A))]b_A - p_A(k_1, b_A) \cdot (1-z)s - \theta_A \right\} \times \left\{ [p_A(k_1, b_A) \cdot z + (1-p_A(k_1, b_A))]b_A + w_A - \theta_C \right\} \tag{25}$$

The first-order condition maximising V_{An} with respect to n yields:

$$\left\{ [p_A(k_1, b_A) \cdot z + (1-p_A(k_1, b_A))]b_A + w_A - \theta_C \right\} \left\{ -k_0 \cdot \frac{\partial d(p_A(k_1, b_A), n)}{\partial n} \right\} = 0. \tag{26}$$

Next, the board expected utility under the J-system is expressed as

$$p_J(k_1, b_J) \cdot \left[zx_H + (1-z) \left(\frac{n-1}{n} x_N + b_J \right) \right] + (1-p_J(k_1, b_J))x_I - k_m \cdot d(p_J(k_1, b_J), n) - w_J - b_J. \tag{27}$$

Then, the Nash product V_{Jn} is expressed as

$$\left\{ p_J(k_1, b_J) \cdot \left[zx_H + (1-z) \left(\frac{n-1}{n} x_N + b_J \right) \right] + (1-p_J(k_1, b_J))x_I - k_0 \cdot d(p_J(k_1, b_J), n) - w_J - b_J - \theta_J \right\} \times \left\{ [p_J(k_1, b_J) \cdot z + (1-p_J(k_1, b_J))]b_J + w_J - \theta_C \right\} = 0. \tag{28}$$

The first-order condition maximising V_{Jn} with respect to n yields:

$$\left\{ [p_J(k_1, b_J) \cdot z + (1-p_J(k_1, b_J))]b_J + w_J - \theta_J \right\} \times \left\{ p_J(k_1, b_J)(1-z)x_N(-n^2(n-1) + n^{-1}) - k_0 \cdot \frac{\partial d(p_J(k_1, b_J), n)}{\partial n} \right\} = 0. \tag{29}$$

The first term of both (26) and (29) are positive, and hence the second terms for both expressions equal 0.

That is, for the A-system,

$$\frac{\partial d(p_A(k_1, b_A), n)}{\partial n} = 0, \tag{30}$$

and for the J-system,

$$p_J(k_1, b_J) \cdot (1-z)x_N n^{-2} - k_0 \cdot \frac{\partial d(p_J(k_1, b_J), n)}{\partial n} = 0. \tag{31}$$

From (30), the size of the board is determined at the optimum level under the A-system.

However, from (31), the board size is determined at the level that is larger than the optimum under the J-system.

Also note that taking first order conditions to (25) and (28) with respect to b and w and k_1 yield the same result as (7) and (11), respectively.

Q.E.D.

End Notes

- 1 The legislation passed in 2003 gives firms a choice of corporate governance; a traditional Japanese corporate governance or a new corporate governance referred to as *companies with committees*. The latter requires boards to have committees which are comprised of majority of outside directors. However, as of May 2009, only about hundred companies in Japan have switched to this governance system.
- 2 For example, boards of Canon, Nintendo, and Toyota are composed almost entirely of inside directors, majority of which have been working for over thirty years for the same company. (As of May, 2009)
- 3 Parrino [1997] classifies a succeeding CEO as an insider if s/he had been employed by the firm for more than one year before succeeding to the post of CEO.
- 4 It is also mandatory to concurrently hold posts of chairman of the board and CEO.
- 5 Currently, whether to mandate the presence of outside directors on Japanese corporate boards is discussed among the group of lawyers, economists, practitioners, and the politicians.
- 6 The board updates the incumbent CEO's ability by monitoring (e.g. reviewing his/her conduct). Then, if it believes that the CEO has poor ability, the board will replace the CEO. Therefore, the purpose of the monitoring is to fire a substandard CEO and to hire a new CEO who is expected to increase the corporate profit. (The profit of the firm is dependent on the ability of the CEO in their model and also in this paper.)
- 7 For simplicity, I assume that the outside directors have no incentive to succeed the post of CEO. This is because outside directors usually have other occupations, such as professor, and can be considered to have less incentive to become the CEO of the company which s/he works as outside director.
- 8 The level of monitoring is a measure of board's lack of independency from the incumbent CEO as in Hermalin and Weisbach [1998]. The other way to interpret the level of monitoring is to consider it as the amount of cost the board is willing to incur in reviewing the CEO's conduct.
- 9 In the long term, the board size may decrease, but in the short term, the board needs to keep a certain number of directors to keep its job operating.
- 10 There are both merits and demerits for CEOs hired from outside and promoted from inside the board. For example, outside CEO candidates may be management experts in the same industry and may be talented. However, they may not fit the culture of the company. On the other hand, insider CEO candidates may be very knowledgeable about their company, but at the same time, may not be able to make the necessary changes in management.
- 11 To endogenously treat b , the incumbent board and CEO may negotiate; a new director to be appointed, CEO wage level w , and CEO bonus level b in Nash bargaining. The distortion (which is the main finding of this paper) is measured by the amount which the newcomer(s) receive in place of negotiating parties, as shown in Propositions Two and Four. The CEO's expected profit is expressed as $w + (\text{the probability of obtaining } b)b$. This is determined at unique level in the bargaining. This holds true for both endogenously treated b and exogenously treated b . Therefore, the level of monitoring, p , is not affected by whether b is endogenously determined or exogenously given. That is, whether b is treated endogenously or exogenously does not affect the main finding of this paper. See the Appendix A.8 for detail. What I am mentioning here is easily derived from Appendix A.8, where I model the players' objectives with endogenous n .
- 12 Refilling the board after a reason which the incumbent board members have no controls (i.e. exogenous reasons such as retirement, death, and etc.) must be distinguished from

- refilling the board after a reason which the incumbent members do have some influences (i.e. CEO replacement where the incumbent members have a choice to retain or fire the CEO).
- 13 The director who leaves the board at this stage due to retirement or any other exogenous reasons does not participate in Nash bargaining, and thus, at Nash bargaining stage, there will be $n-1$ directors. However, when the board and incumbent CEO Nash bargain, the board objective is considered as that of n directors. Nash bargaining solution is unique up to Affine transformation, and therefore, whether there are n or $n-1$ directors on the board does not affect the result.
 - 14 In this model, if m directors are retiring, m new directors will be appointed. This is because, in the long term, the board size may decrease, but in the short term, the board needs to keep a certain number of directors to keep its job operating.
 - 15 I assume $\gamma > 1/2$ to drop the first three stages (before the Nash bargaining stage) as provided in Hermalin and Weisbach [1998]. The interpretation of the first three stages in their model could be the trial period, where they hire a new CEO whose ability is no different from any other CEO candidates. They let the board do the first update on the ability of this CEO before proceeding to Nash bargaining to give a bargaining power to the incumbent CEO, but this process can be shortened by assuming $\gamma > 1/2$.
 - 16 To be more precise, under the A-system, the new CEO (who is a newcomer) who was recruited from outside the board receives a starting bonus. Under the J-system, the new CEO who was promoted from inside the board receives a starting bonus, and a new director (who is a newcomer) who was promoted to the board receives a pay as a director.
 - 17 Note that if we assume that ‘hats’ above the variables indicate per-person level, then $x = n\hat{x}$, $d = n\hat{d}$ and $w = n\hat{w}$ hold. As noted in footnote 13, Nash bargaining solution is unique up to Affine transformation.
 - 18 In Japanese practice, when a CEO resigns without causing serious damage while on duty, s/he is often given an alternative post in the company. Under the current law, s/he may become one of the inside directors and remain on the board, or s/he may be given a post out of the board, such as an advisor. See the Supreme Court decision of 20 Dec, 1966, 20-10, min-syu, 2160. In such cases, the reservation utility of the incumbent CEO is more than s . When the CEO remains on the board, his/her reservation utility becomes that of the directors, but when s/he becomes an advisor, s/he receives some fixed amount. To discuss the former case, another model is required, but it is more natural in practice that once a CEO has resigned, s/he either leaves the company or is given a post out of the board (e.g. an advisor). Therefore, it is innocuous to assume that the reservation utility for the CEO is s for simplicity.
 - 19 The problem that may arise if the amount of pay each director receives becomes low is that directors may try to increase their payments in a different way. For example, directors might raise the fraction of the share the board receives from the corporate profit X . That is, in this model, the board might raise ρ ; which would leave the amount of $(1-\rho)X$ small, and may decrease the amount shareholders receive. Given all these arguments, in practice, the cost of increasing n is not trivial and it may not be easy to increase the number of directors.
 - 20 Sutoh and Takehara [2007] finds no evidence that the company with committees system produces more monitoring than the traditional J-system.
 - 21 Corporate officers referred to as Shikko-yakuin are neither director nor CEO. Their primary job is said to be executing the decisions made by the board of directors. Interested readers are referred to Sarra and Nakahigashi [2002].
 - 22 With probability $p(1-q)\frac{1}{n}$, b_J° will be given to this ‘newcomer’ to the board.

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