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Agency Hypothesis or Joint Determination
Hypothesis?*

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The Determinants of Executive Compensation in Japan and the UK:
Agency Hypothesis or Joint Determination Hypothesis? ¹

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Abstract

Although there are many studies on executive compensation, many of these studies often take for granted the 'Anglo-American style of corporate governance'. This paper seeks to contrast the effect of corporate governance on the directors' incentive, by comparing the UK and Japan. There is a positive and significant relationship between directors' pay and employees' average wage in Japan, suggesting that both directors and employees have a similar incentive system while no such relationship is observed in the UK. These results suggest that the difference in corporate governance affects the director's salary and their incentives.

The Determinants of Executive Compensation in Japan and the UK: Agency Hypothesis or Joint Determination hypothesis?

1. Introduction

It is widely believed that the behaviours of large Japanese companies are different from those of British counterparts, particularly, in terms of their corporate governance style (Abegglen, and Stalk, 1985, Aoki, 1988, Dore, 1987). Although there are many studies on executive compensation, both in the UK and Japan (Cosh and Hugh, 1997, Conyon, 1995, 1997, Conyon, Gregg, and Machin, 1995, Conyon and Leech, 1994, Conyon and Nicolitsas, 1998, Gregg, Machin and Szymanski, 1993, McKnight, 1996, Kato, 1997, Kaplan, 1994, Xu, 1997), much of the literature tends to focus on the relationship between directors' pay and the stock market performance. Many of these studies often take for granted the 'Anglo-American style of corporate governance'. This paper seeks to contrast the effect of corporate governance on the determinants of executive pay, by comparing the UK and Japan.

There is a considerable difference between Japan and the UK in terms of corporate governance. For example, shareholders and the financial market have considerable power over directors in large UK companies. There are more hostile take-overs in the UK than in Japan (Odagiri, 1994, Prowse, 1994). In big British companies, the proportion of non-executive directors on the board of directors is about 40% on average (Conyon, Gregg, and Machin, 1995), while in Japan, many companies do not have non-executive directors. In Japan, other stakeholders, such as banks, group companies, and employees have strong incentive to monitor top managers (Itami, 1994, Sheard, 1989).

The purpose of this research is to analyse directors' incentives in large companies in Japan and the UK, with particular emphasis on the relationship between corporate governance and executive compensation. For example, shareholders in large UK companies have relatively strong powers to control top managers and their compensation through remuneration committees and other devices. Principal-agent theory predicts that a director's salary depends on a firm's performance, particularly its stock market performance, in order to motivate top managers to work towards increasing shareholders' interest. Then, we hypothesise that there is a positive relationship between directors' salary and stock market performance in the UK.

In contrast, shareholders have very limited power over top managers in large Japanese companies while employees have strong incentive to monitor top managers. In Japan, a director's salary has many similarities with an employee's wage: Both directors and employees are paid a monthly wage and bonuses in similar way. Both a director's salary and an employee's wage are affected by the firm's performance, such as its sales and profit. In addition, an employee's wage is, in practice, one of the most important determinants of a director's salary. Thus, we can hypothesise that directors' salary is determined jointly with employees' average wages. In other words, there is a positive relationship between a director's salary and an employee's wage in Japan.

In the next section, we review some previous studies on executive pay in the UK and Japan. Then, in section 3, we examine agency hypothesis and joint determination hypothesis, both of which explain the determinants of directors' salary. In addition, an account is provided of the corporate governance systems in both countries, showing that there are significant differences between the two. It is also shown how our

hypotheses are drawn from these differences. Section 4 describes how directors' compensation are set and disclosed in both countries. Section 5 explains the model and variables used to analyse the determinants of executive compensation, followed by section 6, which describes data. Then, the results of these estimations for both countries are shown in section 7. Finally, the contribution of this research to the literature on corporate governance and executive compensation is explained.

2. Previous research on executive pay in the UK and Japan

Much attention has been paid to the relationship between directors' pay and firm performance in the UK. Some studies have suggested that there is a positive relationship between company performance and directors' remuneration (McKnight, 1996, Conyon, 1997, Ingham and Thompson, 1995). For example, McKnight (1996) finds a positive correlation between change in top pay and firms' earnings per share. By analysing 213 large UK companies between 1988-1993, Conyon (1997) finds that directors' compensation in large UK companies is positively related to current shareholders' return but much less so to previous year's shareholders' return. Ingham and Thompson's (1995) results similarly show that top pay is positively correlated with current profit. However, some studies have suggested that the relationship is weak (Gregg et al., 1993, Conyon, 1995). According to Gregg, Machin and Szymanski (1993), the link between directors' remuneration and company performance is disappearing. Conyon and Leech (1994) found a positive relationship albeit a weak one.

There has been relatively little work analysing the determinants of executive compensation in Japan. Recently, however, some studies have been published in

response to the increasing attention to this topic in the US and the UK (Kato, 1997, Kato and Rockel, 1992a, Kaplan, 1994, Xu, 1997). Some studies have suggested that there is a positive relationship between firm performance and directors' pay (Kaplan 1994, Xu, 1997). Kaplan finds a positive and significant relationship with firm performance, suggesting that directors in large Japanese firms have an incentive to work towards better company performance. In addition, Kato (1997) show a positive relationship between profit and directors' pay. In contrast, Kato and Rockel (1992a) find no relationship between shareholders' return and presidents' pay.

3. Hypotheses

In this section, we describe agency theory and joint determination hypothesis to draw our hypotheses. We also look at the corporate governance system in the UK and Japan, with particular emphasis on the effectiveness of monitoring to top directors. Table 1 summarises our discussion.

3.1. Agency hypothesis

Most previous studies on directors' compensation referred to the principal-agent theory. As a principal, shareholders try to motivate top manager to work towards higher shareholders' return. However, managers may have their own goals and may want to pursue their own interest in managing the company. Although shareholders want to monitor the top directors, shareholders may not have enough information or knowledge for this. Therefore, shareholders may link executive compensation with

shareholders' returns. As top pay depends on the stock market performance, directors may be motivated to work hard to improve the stock market value of the company. If this is the case, there is a positive relationship between shareholders' returns and executive compensation.

3.1.1. Shareholders and financial market in the UK

In large British firms, there are various corporate governance mechanisms through which shareholders and financial market can exercise their power over top managers. These mechanisms include non-executive directors, remuneration committee and hostile take-overs. For example, the proportion of non-executive directors on the board of directors is about 40% on average in large UK companies (Conyon, Gregg, and Machin, 1995). These non-executive directors may have incentives to monitor top managers on behalf of shareholders, as they are relatively independent from current top management team of the company.

In response to recommendations by Cadbury and Greenbury committees, many large UK companies have tried to change their executive pay policy. For example, many large UK companies have remuneration committees (Conyon, Gregg, and Machin, 1995, Main and Johnson, 1993), which is often composed mainly by non-executive directors. In 1988, 54% of large companies in the UK had remuneration committees, compared with 94% in 1992 (Conyon, Gregg, and Machin, 1995).

In addition, many large UK companies have annual incentive schemes for their top directors. The Monks partnership (1994) reports that 71% of FT-SE 350 companies have such schemes. Many companies introduce annual incentive schemes in order to

motivate the directors. As many annual incentive schemes set a performance target, managers should have a clear idea of their goals (Williams, 1994). Therefore, it is suggested that many large companies in the UK are trying to motivate managers to work harder toward achieving shareholders' goals by strengthening the link between directors' pay and firm performance.

Moreover, hostile take-over may be an important mechanism for disciplining managers in the UK. Mergers and acquisitions are often observed, and significant numbers of these are hostile take-overs. According to Prowse (1994), 37.1% of attempted mergers and acquisitions in the UK were hostile take-overs, in the period 1985-1989. It is suggested that executives in the UK are under more pressure from the financial market. These discussions suggest that shareholders in large UK firms have more power over top managers than their Japanese counterparts. This argument leads to our research hypothesis.

Hypothesis 1: In the UK, there is a positive relationship between directors' compensation and company performance, particularly stock market performance.

3.1.2. Shareholders and financial market in Japan

It is often argued that shareholders have very limited power over top managers in large Japanese companies (Fukao, 1995). Monitoring mechanisms, such as board of directors, annual general meeting of shareholders and financial market fail to monitor directors. For example, as remuneration committee is not usually used in most Japanese

companies, shareholders cannot influence the financial incentive of directors. Virtually, no company has nomination committees until recently. Boards of directors also fail to monitor senior management in Japan (Fukao, 1995) because directors regard the president as their boss. Similarly, annual general meeting of shareholders also fails to control top managers, as the annual general meeting of shareholders is usually controlled by the current management team (Matsumoto, 1991). In addition, because of cross-shareholding among companies, few hostile take-overs are observed in Japan in comparison to the US and the UK (Odagiri, 1994). The majority of shares in large companies are owned by other companies and financial institutions, rather than individual investors (Prowse, 1994, Fukao, 1995). Banks will not intervene in the management of a company unless it is in financial crisis².

Above description of corporate governance in Japan suggests that both the financial market and shareholders have limited power over the executives of large firms. In other words, shareholders have little power to influence the financial incentive of directors, which leads to another hypothesis.

Hypothesis 2: In Japan, there is little relationship between directors' compensation and stock market performance.

3.2. Joint determination hypothesis

² In the case of financial crisis, banks try to push their own personnel into the company as directors to monitor the management properly (Kaplan and Minton, 1993).

3.2.1. 'Implicit investment' by employees

Then, who is monitoring top managers in large Japanese companies? Itami (1994) suggests that employees may have an incentive to monitor top managers, as employees are implicitly investing in their company through long-term employment relationship and deferred compensation³. It is often the case that an employee's salary is less than his contribution to the company when he is young. His salary increases as he become older because of the seniority based pay system, as pay in large Japanese companies depend more on age and tenure than in other countries (Shimada 1981, Mincer and Higuchi, 1988). When he becomes older, his salary may be more than his contribution to the company. In other words, he receives a return to his capital that is implicitly invested in the company. If the company does well, employees may eventually receive a good return, or alternatively lose their money if the company fails. Because of this implicit investment, employees are considered to be implicit equity holders of the company. Thus, employees in these companies may have incentives for monitoring the management, to ensure that their implicit investment is protected.

As employees are implicitly investing in the companies, they receive a return to their investment in terms of bonus and wage increase. In other words, a significant proportion of company profit is distributed to employees in large Japanese companies.

Some empirical studies show that wages in Japan are more flexible than in other countries because of bonuses and the wage bargaining system, suggesting a certain proportion of profit is distributed to their employees. A bonus usually makes up

³ Some previous researches suggest that bank monitoring is the key monitoring devices toward directors in large Japanese companies (Kaplan and Minton, 1993, Sheard, 1989). Monitoring by employees through implicit investment can be another key monitoring devices toward directors, in addition to bank monitoring.

20-30% of an employee's total annual salary (Hart and Kawasaki, 1999)⁴. The amount of bonus changes every year, reflecting the company's performance: Freeman and Weitzman (1987) find a positive relationship between bonus and company profit. In addition, the amount of the monthly wage is affected by company performance through 'annual wage increase'. Hart and Kawasaki (1999) showed a positive relationship between profit and annual wage increase. Both sales and profit are considered to be important performance figures, as sales determine the company's ability to pay.

Thus, it is suggested that employees are receiving a certain proportion of company profit, with other investors in large companies in Japan. If the company performs well, they will receive a larger return; But if the company performs less well, their bonus will be smaller. Thus, employees do have a strong incentive to monitor the company, so that they can receive larger bonuses.

3.2.2. Directors' compensations in Japan

Directors' salary usually consists of monthly pay and an annual bonus in large Japanese companies. The proportion of bonus is usually around 10-30% of the total annual salary⁵. Directors receive an annual bonus at the end of the fiscal year. In practice, directors' bonus is paid as a part of the distribution of profit. Xu (1997) suggests that directors do not receive their bonuses when a company performs badly. In practice, the amount of bonus for individual directors is determined by presidents on the basis of their rank.

Similarly, in practice, directors' monthly pay is also determined by presidents,

⁴ According to Hart and Kawasaki, (1999), bonuses consist of 19% of the total labour cost in Japan while in the UK it is 1.09%.

⁵ In our sample from 1994-1995, the ratio of directors' bonuses to their total annual income is 16%,

according to a pay table which is based on the rank, and performance of the firm, such as its sales and profit. As a director's bonus is calculated as a proportion of their monthly pay, it also reflects the change in monthly pay.

It is often the case that a director's monthly pay increases after wage bargaining between management and employees. As a director's monthly pay is often determined as a proportion of the highest paid employees' monthly wage, it will increase when an employee's wage increases. In addition to employees' wages, company performance, and the rate of inflation are also important factors that determine the amount of a director's monthly wage.

3.2.3. Joint determination hypothesis

Above description shows that the salaries of both directors and employees are determined in similar ways in large Japanese companies. The next question then arises. Why are both directors and employees paid in a similar way? One of the most important reasons may be that from the viewpoint of corporate governance, both directors and employees are in similar positions in the firm: both of them are implicitly investing in the company.

As discussed earlier, employees in large Japanese firms are investing in a company by acquiring firm specific skills and by implicit investment through deferred compensation (Itami, 1994), implying that they have an incentive to monitor top management. Directors are also implicit investors in the company, as in large companies most of them are 'promoted' employees. As both employees and directors are implicit investors in the company, both a director's salary and an employee's wage can be seen

while Xu (1997) reports it is 26% in 1983-91.

as the return for their investment in terms of bonus and wage increase. As these are returns on their implicit investment, their salaries and wages reflect a firm's performance.

Hypothesis

The above discussion shows that both a director's compensation and an employee's wage are paid in similar ways: Both employees and directors receive monthly pay and bonuses. Both a director's salary and an employee's wage are determined in similar ways, and reflect the firm's performance. As they are paid in similar ways, and as an employee's wage is one of the important factors determining a director's pay, we can draw the following hypothesis.

Hypothesis 3: In Japan, there is a positive relationship between directors' pay and employees' wage

In contrast, there are few such mechanisms in the UK by which directors' salary is influenced by employees' wage. As described above, in most large UK companies, directors' pay is determined by a remuneration committee, which is often composed of non-executive directors. Remuneration committees try to set directors' salary according to firm performance, such as Earnings Per Share (EPS), profit, or stock market return. In other words, we can predict that there will be little relationship between directors' salary and employees' wage in the UK.

Hypothesis 4: In the UK, there is little relationship between directors' pay and

employees' wage.

4. How Directors' Pay is set and disclosed in Japan and the UK

Japan

According to Japan's company law, directors' compensation must be approved by shareholders at the annual general meeting (AGM). All types of compensation, such as pay, bonuses and retirement bonuses are required to be approved at the AGM. However, it is unlikely that the AGM does not approve director's compensation plan proposed by current directors.

In practice, at the AGM, current management teams propose 'the maximum pay bill for directors' which the company can pay and then it is approved by the AGM. This pay bill is usually larger than the amount actually paid so that current management teams do not have to propose pay bills for AGM every year. The shareholders do not know how much money will actually be paid for directors on approval. Although the actual payments for directors are disclosed in annual reports, amounts of compensation for each of the directors are not disclosed.

It should be noted that the 'maximum pay bill' that the company is able to pay may not be the same as the pay bill that the company pays in reality. Table 2 summarises the approval and disclosure of pay bill in Japan. Usually, the 'maximum pay bill' is larger than the 'actual pay bill' paid by the company.

It is not required that this 'maximum pay bill' has to be approved every year. For example, this pay bill should be renewed when the number of directors increases. In

Nippon Steel, the ‘pay bill which the company can pay for all of the directors’ was on the agenda of the AGM only 6 times from 1975 until 1997. In 1996, amongst 2286 listed companies in Japan, only 140 companies changed their pay bill for directors.

Companies are required to explain the reason why the pay bill should be increased by company law. The reasons actually explained in the AGMs include 1) an increase in the number of directors, 2) inflation and 3) an increase in employees’ wages. Usually company performance, such as stock price, is not used to justify the increase in the pay bill for directors. Thus, company performance, such as the profit before tax or stock price, may not be considered, either by the directors or shareholders, to be an important factor for the determination of the executive compensation.

After the ‘maximum amount’ is set in the AGM, the board of directors decides how much pay should be paid to each director within this maximum. In practice, the president is asked by the board to decide the pay package for each director. Then, the president decides the pay package for everyone, including himself.

It is noted that it was virtually impossible for companies to give stock options to its directors until 1997 by company law. As this research uses 1995 and 1996 data for Japan’s estimation⁶, directors usually do not receive stock option in our sample period.

UK

There are three main types of cash compensation for directors in the UK; fixed salary, annual incentive (AI) and long-term incentive (LTI). In addition to cash compensation, other form of compensation, such as stock option, may be paid to directors. Though not all the companies have all these types of compensation, most

⁶ We will examine our data in detail in section 6.

large companies in the UK have some kind of annual incentive.

In many UK companies, directors' compensation is discussed in remuneration committees (Conyon, Gregg, and Machin, 1995), in which certain number of non-executive directors participate. In addition, many of these companies disclose the detail of individual directors' compensation in their annual reports, along with some recommendations.

It is often the case in large companies in the UK that the amount of annual incentive is determined according to firm performance. Typical annual incentive schemes in large UK companies can be described as follows (Williams, 1994). First, the performance measure for company performance, for example, profit before tax, is chosen. Then the performance target is set in terms of this performance measure.

The amount of annual incentive may be linked to the firm performance, though this link may not necessarily be able to be described by a formula. Usually, some minimum performance target is set and if managers fail to achieve this target, then they will not receive any bonus. It is often the case that the link between bonus and performance is larger as performance improves.

The maximum amount of annual bonus is usually set and is shown as a percentage of the director's fixed salary. Usually, the maximum amount is within the range of 20 to 50% of the fixed salary. This maximum amount of bonus is set to prevent companies from paying enormous amount of bonus to directors.

Income Data Services (1996) report that profits and growth in earnings per share are the most important measures for company performance, accompanied by individual achievement in relation to agreed targets. Williams (1994) reports that the most widely used performance measures among companies are profit both in the Hay

consulting survey and in the Monks partnership survey. Hay reports 67% of companies use profit as the measure for company performance, while Monks partnership shows that 77% of companies measure their performance by profit. In both surveys, EPS comes next to profit, 49% in the Hay report and 52% in the Monks report. They show that these two measures are much more widely used compared to other measures, such as cash flow or stock price.

5. Model and Variables

To test above hypotheses, we estimate following equation.

$$\ln(\text{Comp}_t) = f(\text{stockmarket}_t, \text{profit}_t, \ln(\text{sales})_t, \text{wage}_t)$$

Comp is a director's compensation and *stockmarket* is a measure of stock market performance of the company. The details of these variables are discussed below for each country.

Variables (Japan)

EXECUTIVE COMPENSATION: Three types of directors' compensation are used as dependent variables. These are directors' normal pay, annual bonus, and total pay⁷.

⁷ Stock options, and benefits are not included. Stock option was virtually not allowed by company law in our sample period in Japan, though it became possible after 1997. Benefits, such as company car are not included in our analysis. According to Abowd and Bognanno (1995), the proportion of these benefit to total salary is quite similar between in Japan and the UK, i.e. around 30% of total compensation, excluding stock option.

In following section, we report the results of regressions on the *level* of directors' compensation in Japan and the UK. We obtained similar results using the *change* of top pay as dependent variable, though not reported in this paper. If we assume the proportion of benefit to total compensation is

Directors' normal pay is paid monthly while annual bonus is paid at the end of fiscal year. Directors' normal pay is calculated by dividing the pay bill for directors by the number of directors. Similarly, the director's bonus is calculated by dividing total amount of bonus for directors by the number of directors. We also use directors' total pay, which is a sum of directors' normal pay and their bonus. These pay variables are dependent variables in this research and log-transformed. The data are taken from the NIKKEI NEEDS DATABASE. The data source is each company's annual report.

It is noted that we use directors' *average* salary, instead of CEO's salary. As listed companies in Japan are not required to disclose the pay packages of individual directors, we cannot observe president's pay directly. Some previous studies use 'presidents' income'⁸ as a dependent variable (Kato and Rockel, 1992). However, this research uses 'directors' average salary', instead of 'president's income', as 'president's income' includes income from outside the company he or she manages. In addition, we can obtain 'president' income' for only those presidents whose income exceeds certain threshold, which may cause sample selection bias.

SHAREHOLDER'S RETURN: We use shareholders' return as a measure of stock market performance in Japan. The shareholders' total return (ROR) is reported on *Kabushiki Toshi Shuekiritsu* (Rate of Return on Stocks in Japan). This ROR shows the percentage gain for shareholders, including the dividend, capital gain from stock price evaluation and other gains.

relatively unchanged in both countries, as suggested by Abowd and Bognanno (1995), the results of the regression on the change of directors' *cash* compensation will be similar as that of the regression on the change of directors' *total reward*, including their non-cash benefit. Therefore, we may be able to guess that our results would not be very different if we include non-cash benefit, such as company car.

⁸ The amount of 'president's income' can be calculated from the data disclosed by tax office.

PROFIT: Profit before tax is used as independent variable.

WAGE: The employees' average wage is used as independent variable. This is calculated by dividing the total labour cost by the number of employees. Thus, this variable includes all the labour costs to the company, including both cash compensation and other benefits. Cash compensation includes both monthly salary and bonus. Joint determination hypothesis predicts that the coefficient of an employee's average wage is positive and significant.

SALES: In this research, SALES is used as size variable. Following previous studies, Sales is log-transformed. These size variables are included to control the size effect on top executive compensation.

Variables (UK)

TOP DIRECTORS' PAY: Three types of directors' pay are used as dependent variables; these are fixed salary, annual incentive and total salary of highest paid director⁹. The amount of total salary is not necessarily the sum of the fixed salary and annual incentive, as some companies have long-term incentive scheme. The stock option is not included.

One of the possible limitation of this research is that stock option is not included our data. Considering its importance, it would be desirable that stock options would be included to our analysis. However, difficulties in evaluating stock option, along with the

⁹ Highest paid director is not necessarily a CEO of the company.

volatility of stock price will make it difficult to analyse it. In addition, one of the main focuses of this research is the relationship between directors' pay and employees' average wage. For this purpose, directors' cash salary would be more important than stock option, as the value of stock option will not correlated with employees wage.

PROFIT: Profit before tax is used as independent variable.

STOCK MARKET CAPITALISATION: In addition to profit, this research will use stock market capitalisation as a measure of stock market performance in the UK. Stock market capitalisation shows the 'value of the company' in the stock market and therefore, reflects shareholders' wealth in the stock market. Thus, if the coefficient is positive and significant, top directors may have incentives to work toward the 'value of the company'. Agency hypothesis suggests that the coefficient of stock market capitalisation will be positive and significant in the UK.

EMPLOYEE'S WAGE: Employees' average wage is calculated by dividing wage bill by the number of employees. Agency theory suggests that there is little relationship between director's' salary and employees' wage in the UK. This variable is included to contrast the effect of employees' wage on directors' salary in the UK and Japan.

SIZE: Following previous studies, log of sales is used as independent variable in the UK. This size variable is included to control the size effect on director's pay.

6. Data

Japan

In this research, 210 of Japan's large listed companies are used as the sample. The stock price of these companies are used to calculate the NIKKEI INDEX, Japan's most widely used stock market index¹⁰. The time period covered is 1995 and 1996. Most variables, including directors' pay and their bonus, are taken from the NIKKEI NEEDS DATABASE. Other variables are taken from *Toyo Keizai Yakuin Shikihou* (*Directory of Directors*) and *Kabushiki Toshi Shuekiritsu* (*Rate of Return on Stocks in Japan*). The NIKKEI NEEDS DATABASE and *Toyo Keizai Yakuin Shikihou* is based on each company's annual report. The shareholder's return, which is taken from *Kabushiki Toshi Shuekiritsu* (*Rate of Return on Stocks in Japan*), is calculated by *NIHON SHYOKEN KEIZAI KENKYUSHO* (*Japan Institute of Securities and Economics*), and is based on stock price and dividend.

UK

As for the UK data, 210 listed companies data are used as the sample. As our main aim is to compare the results between the UK and Japan, we choose samples which will match the Japanese sample. We choose 210 companies from UK's listed companies. We have chosen these companies so that the size distribution of the companies will be similar in both samples¹¹. Sales are used as the criteria to construct a

¹⁰ NIKKEI index is calculated by using the share price of 225 companies. Among them, 15 financial companies are excluded from our sample.

¹¹ Specifically, we have sorted the listed companies in London Stock Exchange by the amount of sales. In Japan's sample, there are 139 companies whose sales are larger than 1 million GBP in 1993, and 71 companies whose sales are less. In listed companies in the UK, there were 116 companies whose sales are larger than 1 million GBP and we include all these 116 companies in our UK sample.

sample as sales are one of the most important factors that affect the amount of executive compensation. 1994 and 95 data are collected for each company. The data analysed here is taken from Monks partnership's "United Kingdom Board Earnings, October 1995", and "United Kingdom Board Earnings, October 1994". These data sets contain comprehensive data on executive compensation and company performance, including the detailed composition of highest paid director's salary taken from annual reports of listed companies.

One of the advantages of this Monks Partnership's data set is that it reveals the details of directors' remuneration, showing the fixed salary and annual bonus of the highest paid director. This enables us to know if the company has an annual incentive or other long-term incentive. The other advantage of Monks Partnerships' data is that it is based on each company's annual report, which is relatively reliable data source.

In addition, we obtained company's wage bill and the number of employees from Fame database to calculate employees' average wage in each company.

7. Results

Descriptive statistics in table 3 illustrates that the proportion of bonus/incentives to total salary for directors is smaller in Japan than in the UK. More than 80% of total pay is normal pay in Japan while in the UK, fixed pay consists of almost 70% of total compensation. It is also noted that the amount of bonus decreases in Japan in this period. This may reflect the general economic condition that most Japanese companies face financial setback in this period. In contrast, the increase of

In addition, we randomly chose another 94 companies among listed companies, whose sales is less

annual incentive is very large in the UK. This may be because large companies have achieved good performance in this period, or because they are introducing new annual incentive scheme (Monks partnership, 1994, Williams, 1994).

The econometric results for the determination of directors' compensation are contained in tables 4 and 5. Table 4 shows regression results for Japan's data, and table 5 shows the results for UK's data. There are a number of striking features about these results. We will examine these features by looking at coefficients for each independent variable. It should be noted that we use directors' average compensation as dependent variable for Japan's estimation and highest paid directors' salary for UK's estimation.

One of our main concerns is on the relationship between employees' wage and directors' salary. One of the most important results in table 5 is that we find positive correlation between directors' salary and employees' wage in large Japanese companies. These results are in line with our joint determination hypothesis that both employees and directors in these companies are paid in similar ways. All the coefficients of employees' wage are positive and significant at the 1% level. It should be noted that both directors' normal pay and their bonus has strong association with employees' wage.

In contrast, table 5 illustrates that there is no such relationship in the UK. There is no relationship between top directors' pay and employees' wage in large British firms. These results are in line with our hypotheses that in Japan, directors' salary is determined jointly with employees' wage, while in the UK, there is no such mechanism.

than 1 million GBP.

The other main issue addressed in this paper is the relationship between stock market performance and directors' salary in both countries. According to table 4, shareholders' return shows little effect on directors' salary in large Japanese firms. Some coefficients of shareholders' return are negative, showing that directors' salary in large Japanese firms is not affected by shareholders' return. In other words, directors in Japan may have little financial incentive to work toward shareholders' return. In contrast, table 5 illustrates positive and significant relationship between stock market capitalisation and director's salary in the UK, suggesting that top directors in large UK firms have financial incentives to work harder to achieve better stock market performance.

Turning to profit, in Japan, we find positive relationship between directors' *bonus* and profit while we cannot find positive relationship between directors' *normal pay* and profit. This may be because in large Japanese firms, directors' bonus is paid as a part of distribution of profit. As for UK, the effect of profit on directors' compensation is not conclusive. Some coefficients of profit are positive though some are not.

We find strong relationship between directors' compensation and sales both in Japan and the UK. These results are in line with Rosen's (1990) argument that this positive relationship can be found in most studies on executive pay.

8. Concluding remarks

One of the most striking features of our research is that this research focuses on the relationship between directors' pay and employees' wage. Although much attention has been paid to the relationship between top pay and company performance, little attention has been paid to directors' pay-employees' wage relationship. In this research, we try to analyse directors' pay from the viewpoint of joint determination hypothesis. It may be important to incorporate employees' wage in analysing directors' pay, as many reports, such as Greenbury report suggest the importance of taking care of various stakeholders, such as employees of the firm (Greenbury committee, 1995).

It is often argued that directors in Japan's larger companies pay little attention to shareholders' interest. Instead, it is said that directors and employees have same incentive structure, i.e. many directors consider themselves as a 'promoted' employee, rather than as agents of shareholders. Our results are in line with these arguments.

This research has provided the first systematic evidence that there is a positive relationship between employee's wage and director's salary in large Japanese companies. Employees' wages have explanatory power for both directors' pay and their bonus. According to Freeman and Weitzman (1987), employee's bonus reflects the firm's performance, particularly its profit. Our results show that directors' average bonus is also affected by its profit. Therefore, the positive relationship between directors' salary and employee's wage may show that both director's salary and employee's wage are affected by the same factor, suggesting both directors and employees have a similar incentive system. These results indicate that both director's salary and employee's wage can be analysed from the same viewpoint in Japan.

In contrast, this research does not find any relationship between shareholders'

return and directors' compensation in Japan. Thus, directors are considered to have little financial incentive to pursue shareholders' interest, because they will receive little reward for doing so. These results may provide empirical support for why large companies in Japan seem to ignore the shareholder's interest.

Some previous studies on directors' salary in large Japanese firms argue that there is a positive relationship between directors' pay and stock market performance (Kaplan, 1994, Xu, 1997). However, this research shows that there is no relationship between director's salary and shareholder's interest using the new data set. So why is our result different from those of previous research? One reason may be that our data set is taken in the recession period. It is often the case that director's salary increases over time whether or not their performance improves. On the other hand, it may be the case that stock prices of most large companies increase in a boom period. If these are the case, then one may observe a positive relationship between stock price and director's salary, which may not necessarily reflect the company's pay policy toward directors as the conditions in the stock market greatly affect this.

As our data set is taken from the recession period, many companies' stock prices may not improve. However, the principal-agent theory suggests a positive relationship even in a recession period. As described above, this research does not observe any positive relationship between shareholder's return and director's salary, contrary to previous studies. Thus, it is suggested that previous research may observe a positive relationship that is not based on the company's pay policy, as both shareholder's return and director's salary may increase in a boom period, i.e. the result has been distorted by the condition of the stock market at the time.

In addition, this is the first time research that compares the determinants of directors' compensation in Japan and UK. This research shows that there is a significant difference in the determinants of top directors' compensation in these countries. In Japan, there is a positive correlation between directors' compensation and employees' wage while shareholders' return cannot explain executive compensation. In contrast, in the UK, there is a positive relationship between top directors' pay and stock market value of the company while employees' wage does not affect top pay. This result is in line with the study by Kato and Rockel (1994), who report that there is a difference in the determinants of executive compensation between in Japan and the US, showing that shareholders' return has little explanatory power for top director's pay in Japan.

There is a difference in corporate governance style between in the UK and Japan. Shareholders and financial markets have considerable power over top directors in the UK, while in Japan employees have an incentive to monitor top managers. Our analysis on the comparison of the determinants of executive compensation in both countries suggests that the difference in corporate governance does affect the director's salary and their incentives.

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Table 1. Corporate governance in Japan and the UK

	Japan	UK
Non executive directors (NED)	Very few Some directors come from group companies, particularly from banks and government.	About 40% of board of directors are NED. Recommended by Cadbury/Greenbury committees
Remuneration /nomination committee	No	Recommended by Cadbury/Greenbury committees Many large companies already introduced.
Hostile take-overs and M&A	Rare	Common
Do employees have implicit investment in the company?	Yes thorough deferred compensation	Less so than in Japan
Does employees' salary reflect firm performance?	Employees' annual bonus usually consists of about 20-30% of their total salary, and reflects firm performance.	Less so than in Japan

Table 2. Approval and disclosure of directors' compensation in Japan

	Approval by AGM of shareholders	Disclosure
Maximum pay bill for directors that company can pay	Yes Not every year	Yes Disclosed in AGM when it is proposed
Pay bill for directors actually paid by the company	No	Yes Disclosed in annual report every year
Compensation for each of the directors	No	Not disclosed

AGM: Annual general meeting of shareholders

Table 3. Summary Statistics: Japan and the UK

	Japan		UK
	Mean (in ,000 GBP)		Mean (in ,000 GBP)
Total pay	103.4	Total pay	416.8
Normal pay	85.72	Fixed pay	289.8
Bonus	16.57	Annual incentive	76.28
Change of total pay	1.087	Change in total pay	13.33
Change of normal pay	0.3617	Change in fixed pay	4.341
Change of bonus	-0.6278	Change in annual incentive	37.32

1 JPY=190 GBP

It is not appropriate to compare the figures in this table directly, as this table illustrates the directors' *average* salary in Japan and the salary of *highest paid director* in the UK.

The amount of total pay in the UK is larger than the sum of fixed pay and annual incentive, because the amount of total pay includes other styles of cash compensation, such as long-term incentive. Stock option is not included in total pay, however.

Table 4: Regression results: Japan

	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 6
Dependent. Variable	Total pay	Normal pay	Bonus	Total pay	Normal pay	Bonus
Profit	5.02e-7	-4.22e-07	3.58-e06	5.54e-07	-8.57e-08	4.03e-06
	(1.13e-06)	(8.74e-07)	(1.05e-06)***	(1.17e-06)	(9.16e-07)	(1.13e-06)***
Shareholders' return	-0.00124	0.0000126	0.0000255	-0.00155	-0.000223	-0.000257
	(0.000945)	(0.0000851)	(0.000671)	(0.000976)	(0.000892)	(0.00072)
Employees' Wage	0.0529	0.0691	0.0843			
	(0.0129)***	(0.0112)***	(0.128)***			
ln(Sales)	0.11	0.0953	0.151	0.148	0.14	0.233
	(0.0264)***	(0.021)***	(0.0349)***	(0.0254)***	(0.0206)***	(0.0349)***
Constant	1.049	0.946	-1.722	1.0066	0.934	-2.094
	(0.306)***	(0.247)***	(0.414)***	(0.315)***	(0.259)***	(0.44)***
R-sq.	0.264	0.206	0.227	0.25	0.165	0.257
N	236	368	282	236	368	282

Estimation using random effect model

Standard errors are in parenthesis

*** Significant at the 1% level** Significant at the 5% level* Significant at the 10% level

Total: ln(total pay) Normal pay: ln(normal pay) Bonus: ln(annual bonus)

Employees' Wage: Employees' average wage

The data period covered is 1995 and 1996.

Table 5: Regression results: UK

	Eq. 1	Eq. 2	Eq. 3	Eq. 4	Eq. 5	Eq. 6
Dependent. Variable	Total pay	Fixed pay	Annual incentive	Total pay	Fixed pay	Annual incentive
Profit	0.0000578 (0.000105)	-0.000139 (0.000100)	0.0000219 (0.000364)	0.0000533 (0.000104)	-0.000130 (0.0000999)	-8.51e-06 (0.000363)
Stock market capitalisation	0.000028 (0.0000127)**	0.0000424 (0.0000116)** *	0.0000347 (0.0000425)	0.0000284 (0.0000127)**	0.0000416 (0.0000116)** *	0.0000361 (0.0000425)
Employees' Wage	0.00238 (0.00231)	-0.00271*** (0.000100)	0.00901 (0.00617)			
ln(Sales)	0.270 (0.0353)***	0.241 (0.0335)***	0.258 (0.097)***	0.2736 (0.0351)***	0.235 (0.0334)***	0.276 (0.0970)***
Constant	3.789 (0.245)***	3.894 (0.235)***	2.048 (0.678)***	3.807 (0.244)***	3.880 (0.234)***	2.103 (0.679)***
R-sq.	0.382	0.376	0.162	0.376	0.366	0.144
N	395	347	249	397	349	250

Estimation using random effect model

Standard errors are in parenthesis

*** Significant at the 1% level** Significant at the 5% level* Significant at the 10% level

Total: ln(total pay) Fixed pay: ln(fixed pay) Annual incentive: ln(annual incentive)

The data period covered is 1994 and 1995.

Employees' Wage Employees' average wage