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Abstract

This study examines whether the sustained lower profitability and market valuation of Japanese firms compared to global peer firms can be explained by the structure of insider dominate board of directors and the employment system which hinders flexible employment adjustments by using cross-country data. Firstly we show that level of outside director ratio and flexibility of employment adjustment both differ consistently across 27 countries in the analyzed period. We show that these two factors significantly explain observed variation of financial performance across countries significantly. In addition, we show that not only do these two factors have significant explanation power over the relatively poor performance of Japanese firms, but also over the better financial performance and growth rate of US firms.

Keywords: Corporate Governance, Labor Law, Cross-country analysis, Japan
JEL classification: G34, G38, O57

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1. Introduction

This study examines if the relatively poor performance of large Japanese firms can be explained by differences in corporate governance structures and the employment system. Many Japanese firms employ distinct governance approaches in which most of the board members are promoted from within the firms. The Japanese employment model is strongly characterized by the nature of the lifetime employment system, and the mobility of managers and workers in the market is relatively low. We examine whether Japanese-style corporate governance and an employment system with such distinct characteristics explain the performance of Japanese firms using cross-country data. Unlike previous cross-country analyses, we examine both the corporate governance effect and the employment protection effect on firms' behavior simultaneously. Even when effective corporate governance urges managers to make efforts to reallocate resources efficiently to respond to economic and business environmental changes, if labor law and social customs hinder the flexible reallocation of human resources, it is difficult for managers to implement strategic change and restructuring promptly. Our study is the first comprehensive study to test how far corporate governance and the employment system explain the performance of Japanese firms.

In recent years, many international comparative studies have demonstrated that differences in firm-level and country-level corporate governance lead to differences in firms' valuations and performance.[1] Although Japanese firms are characterized by boards of directors dominated by insiders (Hoshi and Kashyap, 2001), board reform has become one of the most important topics relating to corporate governance among regulators and practitioners recently. Thus, the outside director ratio is a variable of interest to explain the impact of firm-level corporate governance structures. The insider-dominated board has increasingly been seen as a major cause of poor governance of Japanese firms in recent years, and this is why the corporate governance code in Japan, which was introduced in 2015, recommended listed firms to introduce two or more outside directors as one of the measures to strengthen the corporate governance of Japanese firms. In our sample, the mean outside director ratio of firms for 27 countries is 47%, whereas that of Japanese firms is 14%.

To capture the firm-level differences of corporate governance, we also examine the role of institutional shareholders on firm performance. Institutional investors are expected to

[1] As for firm-level governance, many studies evaluate the impact of firm-level governance on the valuation of firms in a cross-section of countries (Durnev and Kim, 2005; Aggarwal et al., 2009; Chhaochharia and Laeven, 2009; Bruno and Classens, 2010). For example, Durnev and Kim (2005) show that firm-level governance has a significant relationship with firm value in a cross-section setting.

play a key role not only in disciplining management but also in urging appropriate investment to maximize shareholder value (Ferrira and Matos, 2008; Aggarwala et al., 2011). Since one common goal of institutional shareholders is to maximize returns from their portfolio investment, they are expected to play a similar role to that of outside directors on boards, although they are not exempt from their own free-rider problem.

Recent studies also reveal that differences in employment protection also affect corporate performance and corporate behavior (Botero et al., 2004; Caballero et al., 2013; Simintzi et al., 2014; Xing et al., 2017). For example, Caballero et al. (2013) use data from 60 countries to analyze the relationship between the strength of employment protection regulations and the speed of employment adjustment and productivity in firms in each country. They demonstrate that the speed of employment adjustment after an economic shock is relatively faster among countries with looser regulations. Specifically, they show that the speed of employment adjustment in responding to an economic shock declines by about one third when regulation is tightened from the 20 percentile level to the 80 percentile level. They also report that such a reduction in adjustment speed results in a drop in productivity by about 0.85% among the firms in the sample. Slower employment adjustment implies that firms are cautious about increasing employment, even under strong economic conditions.

Thus, both corporate governance and the employment system are potential factors affecting the corporate performance of Japanese firms. Many practitioners have pointed out that one of the reasons for low profitability among Japanese firms is that they cannot give up low-profit businesses in earlier stages to focus on areas where they have a comparative advantage.[2] The benefits of withdrawing from unprofitable businesses cannot be acquired without organizational downsizing and restructuring. This implies that the problem could lie with the inflexible labor market, which keeps Japanese firms from implementing necessary restructuring. Using cross-country data, we investigate whether this argument explains the performance of Japanese firms.

In this study, we focus on three variables relating to corporate governance and the employment system: the outside director ratio, institutional ownership, and the flexibility of employment adjustment. One common characteristic of these three variables is that they should reflect a degree of outsider involvement in firm management on the board, in the shareholder base, and in the workplace.

We use a sample of 1,548 firms over 27 countries with sales of US$3 million or more

[2] "Mezameru Shihon: ROE, Amerika no Senaka Tōku (Awakened Capitals: ROE, Lagging Behind the United States)." The Nikkei Morning Edition, August, 16, 2014.

and create panel data that cover seven years from 2006 to 2012. This timeline is ideal since it includes the financial crisis period, when effective corporate governance and flexibility of employment adjustment were important to respond to both economic downturns during the crisis and economic recovery in the post-crisis period. Japanese firms consist of roughly one fifth of the sample. We first show that the ratios of earnings before interest, taxes, depreciation and amortization (EBITDA) to total assets and Tobin's q for Japanese firms are lower by 4.1% and 0.64, respectively, compared to other countries after taking into account firm-specific characteristics, the industry, and the macro environment, whereas we did not observe a difference between Japanese and other countries' firms in terms of sales growth for the next three years. This means the Japanese firms have problems, especially in terms of implementing profitable management.

Next, we show that the outside director ratio and the difficulty of hiring and firing employees, which is an indicator of the flexibility of employment adjustment, have significant effects on the performance of all the sample firms. Our empirical results, both in panel regressions and propensity score matching tests, consistently show that the outside director ratio and the difficulty of hiring and firing employees explain roughly a quarter of the difference in profitability and approximately 50% of Tobin's q, respectively, between Japanese firms and non-Japanese firms. In addition, we show that these two factors explain the relatively high stock valuation and sales growth of US firms. Thus, our results and argument are not specific to the Japanese case. Moreover, they suggest that an important cause of the low profitability and low-firm value of Japanese firms is insider-centric corporate governance and the inflexible employment system.

This paper is organized as follows: Section 2 introduces our hypotheses; Section 3 describes the sample and data; Section 4 presents the empirical results; Section 5 presents robustness tests by employing propensity score matching tests; and Section 6 summarizes our findings and presents their implications.

2. Hypothesis and Variables of Interest

In this study, using cross-country data, we test the hypothesis that weak corporate governance and employment protection making it difficult for firms to employ human resources in a flexible manner are the causes of the low profitability and low market valuation of Japanese firms in the world.

To test the hypothesis, we try to explain the differences of the ratios of EBITDA to total assets, Tobin's q, and sales growth over three years between Japanese firms and other global firms with variables related to corporate governance and employment protection. Although firm-level and country-level corporate governance characteristics should affect

each other, we focus on firm-level variables for two reasons. One is that country-level variables, such as the anti-director rights index (ADRI) (La Porta et al., 1998; and La Porta et al., 2002), disregard firm-level differences of corporate governance. The second reason is that reliable county-level governance variables are not updated year by year, although series of corporate governance reforms have been introduced in most of the countries analyzed in the period surveyed.

We employ two variables relating to corporate governance in our test. One is the outside director ratio and the other is institutional ownership. Thus, we consider the effects on firm management of independent players on the board and among shareholders, respectively. Outside directors are expected to play a disciplining function through monitoring the management team and demanding management replacement when necessary (Weisbach, 1988; Byrd and Hickman, 1992; Hermalin and Weisbach, 1998; and Saito et al., 2016), while urging the management team to execute necessary investments based on their insider information. Empirically, Dahya et al., 2008; and Aggarwal et al., 2009) show the significant effects of board independence on firm value. Dahya et al. (2008) find that board independence is positively related to firm value in countries with poor investor protection. Aggarwal et al. (2009) also show that a firm whose board is not controlled by more than 50% of independent outside directors is worth less than one that is. The corporate governance code introduced in Japan in 2015 recommends listed firms to appoint at least two independent directors with sufficient qualities. For example, the board of Hitachi Ltd., Japan's largest electronics manufacturer, consisted of more than half outside directors for the first time in 2012, including two non-Japanese outside directors. Takashi Kawamura, Chairman of Hitachi at the time, declared that this reform of the board had had significant impacts on the management by bringing a sense of tension into the boardroom.[3] In addition, a board of directors dominated by insiders almost always nominates an insider as the CEO. Under such a process, it would be difficult for CEOs of Japanese firms to conduct aggressive restructuring as it would draw strong criticism from insiders, such as division managers and employees. As the outsider director ratio in Japan is significantly lower in than other developed countries, parties such as international institutional investors have showed concern over the function of Japanese boards of directors. Therefore, this study hypothesizes that insider-dominating boards of directors with a low outsider director ratio could be the cause of the relatively low performance of Japanese firms.

[3] Management Investor Forum of the Ministry of Economy, Industry, Trade of Japan.
http://www.meti.go.jp/policy/economy/keiei_innovation/kigyoukaikei/pdf/20150610_mif_news.pdf.

We also use the ownership ratio of institutional investors in our analysis. Institutional investors are expected to play a key role not only in disciplining management but also in urging appropriate investment to maximize shareholder value (Ferrira and Matos, 2008; and Aggarwala et al., 2011). Thus, we examine whether higher institutional ownership has a positive effect on profitability, market valuation and sales growth of firms. In cases where institutional investors have strong collective negotiating power, they can potentially have both disciplinary effects and stimulative effects on managers to engage in net positive present value projects.

However, it is not obvious if institutional investors play a role in monitoring individual firms. For example, passive funds would not be interested in improving the management of individual firms that are merely part of their diversified investments (MacCahery et al., 2016). Based on a cross-country analysis, Ferrira and Matos (2008) report that while foreign investors, relative to all institutional investors, have a positive effect on corporate performance and stock prices, such a positive effect cannot be confirmed for domestic institutional investors. Hiraki and Ito (2009) show that institutional investors affiliated with corporate groups in Japan tend to make excessive investments in poorly-performing firms within the same group. Therefore, whether institutional investors have the expected effect or not is an interesting question to be examined. We hypothesize that higher institutional investor ownership in a company is associated with higher profitability, higher stock valuation, and higher growth of the company.

Another distinct characteristic of Japanese firms, which could potentially have significant effects on corporate financial performance, is the lifetime employment system. Although the lifetime employment is not a legal requirement, it has been widely adopted, especially among large firms, in Japan. As employees also assume this practice as a given right, Japanese firms face relatively inflexible employment adjustment. This limits labor mobility in the market, and it is highly likely that this difficulty with employment adjustment limits opportunities to withdraw from unprofitable businesses and restructure through mergers and acquisitions. It might also restrict aggressive business expansion and risk-taking for growing firms. Thus, we examine whether the inflexibility of employment adjustment is causing lower performance in Japanese firms.

Botero et al. (2004) use data from 85 countries to demonstrate that although stricter regulations to protect employees positively affect employee salaries, the unemployment rate among young people increases. It implies that while legal protection for employment works to the advantage of existing employees, it could potentially reduce employment itself. Their index is an indicator showing to what extent employees are protected from being dismissed by firms. When this index is high, it indicates that the level of protection

is high.[4]

On the other hand, it is highly possible that whether employment adjustment can be carried out flexibly or not is affected not only by the legal system but also by other factors, such as social tolerance and customs related to employee dismissal. To incorporate this perspective into our analysis, we use an index that measures the flexibility of employment adjustment based on survey research. The Executive Opinion Survey by the World Economic Forum, which is a survey conducted among management executives in 144 countries around the world, indexes managers' perceptions in business practices.[5] Especially, we use the Hiring and Firing Practices index from the survey, which asks managers how flexibly a firm can hire new personnel and fire excess workers. When this index is high, it implies that the managers feel they can flexibly make employment adjustments. In our study, we use annual survey results (fielded one year prior to the analyzed fiscal year) based on the responses from management executives in more than 13,000 firms around the world. The data for Japan is constructed from the responses of 179 firms with the cooperation of the Japan Association of Corporate Executives. Thus, we investigate whether higher flexibility of employment adjustment is associated with higher performance of Japanese firms. Thus, we hypothesize that higher flexibility of employment adjustment is associated with higher performance of firms in Japan.

Although we use firm-level variables to examine the effects of corporate governance on corporate performance, we focus only on country-level variables to examine the effects of flexibility on employment adjustment. This is because it is difficult to collect a reliable and common proxy variable of flexibility of employment adjustment for global firms and firm-level flexibility of employment adjustment is largely determined by country-level factors, such as labor law and other regulations. In most of the countries, firms have high flexibility for corporate governance structure, but not for the employment system.

3. Sample and Summary Statistics

3.1 Sample, data, and variables

We use Datastream to collect firms' financial information and details of boards of directors. The information on shareholder structure is collected from Capital IQ. To collect variables for comprehensive use in our analysis, we focus on large firms. This study's sample includes firms with sales of more than US$3 billion in FY2012. We exclude firms in the financial and utility sectors as they are heavily regulated, and their

[4] It should be noted scoring labor laws is extremely difficult. In indicators of employment protection based on legislation in each country published by the OECD, employment protection indicators have been fluctuating widely; meanwhile, labor laws in Japan have not changed much over the past 10 years.

[5] This is a part of the Global Competitiveness Index (GCI) published by the Forum.

profitability is not comparable with similarly sized firms. Following the sample selection procedures of La Porta et al. (1998), we exclude countries that do not have at least 10 adequately sized companies to make a comparison of firm performance. As a result, 1,548 firms in 27 countries are included in the sample. We capture a large portion of the non-financial firms included in the Nikkei 225 Index and the S&P500, which are the representative stock market benchmarks in Japan and the US, respectively.

We create balanced panel data of sample firms from 2006 to 2012 (10,830 firm-years), and the sample includes 298 Japanese firms (19% of the entire sample) and 470 US firms (30% of the entire sample). Thus, roughly half of our sample is from the US and Japan, with the remainder from the other 25 countries.

Table 1 appears around here

Table 1 shows the distribution of the number of firms in the sample, the median of the ratio of EBITDA to total assets, Tobin's q, and mean of sales growth for the next three years over the sample period. By using EBITDA, we exclude the bias from different corporate tax rates by country. Japan is ranked at the bottom of the 27 countries in all profitability indicators: the ratio of EBITDA to total assets and the ratio of EBITDA to sales. Furthermore, Japan is among the bottom-ranked group in terms of Tobin's q. Our proxy for Tobin's q is the ratio of market capitalization plus book value of total liability to book value of total assets. Besides Japan, countries such as South Korea, Italy and France were found to be in the group of countries with low levels of profitability and firm value. The US was found to be in the group of countries with high profitability and market valuation. Thus, it is not the case that profitability indicators are low in Japan, South Korea, Italy and France because these countries are developed. Considering that the risk-free interest rate in Japan is the lowest in the world, we also cannot attribute the low market value of Japanese firms to the cost of capital.

Table 2 appears around here

Table 2 shows descriptive statistics of sample firms by country over the sample period, 2006 to 2012. The countries are sorted in descending order by the ratio of EBITDA to total assets, and Japan is ranked at the bottom. Looking at the log of sales, we find that the differences in the averages between Japanese firms and the overall sample as well as

the US sample are small. The debt ratio of Japanese firms is slightly lower than the overall average and the US average. It has been said that Japanese firms obtain funds mainly through borrowing from their primary banks. However, as far as the relatively large firms included in the sample are concerned, the dependence on borrowing among Japanese firms is lower than among US firms. This might be because Japanese firms refrained from investing after the banking crisis of the early 2000s. As for the age of firms, the average among Japanese firms in 2009 was 85 years, which is older than the overall average of 72 years and the US average of 66 years.[6] This means the percentage of mature firms is relatively higher among the Japanese sample. Since each of these variables could affect a firm's profitability and stock price, we control their effects during the regression analysis outlined in the next section.

Looking at the corporate governance-related variables, the outside director ratio in Japan is notably low. The average among Japanese firms is 14%, which is much lower than the overall average of 47% and the US average of 70%.[7] [8]

The percentage of shares held by institutional investors is also relatively low in Japan. The average among the Japanese firms in the sample is 32%, while the overall average is 41% and the US and UK averages are 57% and 58%, respectively. In contrast, the averages for countries such as France and Germany are similar to that of Japanese firms.

As another measure to capture the flexibility of managers to implement employment adjustments, we use the Hiring and Firing Practices Index of the World Economic Forum published in 2014. A higher number in this index means that the managers in a given country have responded to the questionnaire from the World Economic Forum that an employment adjustment is easier. The score for Japan is 3.12 and lower than the overall average of 4.08 and the US average of 5.23. This suggests that managers of Japanese firms strongly feel it is difficult to make employment adjustments. For example, when a dismissal objectively lacks a rational reason and cannot be recognized as socially acceptable action under the Labor Contract Act in Japan, it is considered as an abuse of rights and is voided; therefore, firms cannot dismiss employees by paying severance. Restructuring without providing a severance payment is legally allowed when there is a rational reason and it is socially acceptable. In reality, criteria such as "rational reason"

[6] The year 2009 is the middle of the sample period.

[7] It should be noted, however, that this was the number prior to the introduction of the corporate governance code in 2015 in Japan. Since the corporate governance code requires listed firms to have two outside directors, the percentage of firms on the First Section of the Tokyo Stock Exchange (TSE) that have two or more outside directors rose to 48% (an increase of 27% compared to the previous year) in 2015. That said, the outside director ratio is still 22%, and there was no significant increase even when we look at the figure for FY 2015.

[8] The outside director ratio for Germany, where a dual board system is applied, is the ratio of the number of outside directors to the number of supervisory board members.

and “socially acceptable” are determined in a strict manner by the court. This is probably the reason why managers in Japan perceive restructuring as extremely difficult in practice.

In Figure 1, we present the ranges of 25 percentiles and 75 percentiles in the sample period for the outsider director ratio (Panel A), institutional ownership (Panel B), and the Hiring and Firing Practice Index (Panel C), respectively. Panel A and Panel B show that differences in the outsider director ratio and the Hiring and Firing Practice Index by country are fixed and persistent during the period. In Panel C, the differences in the institutional investor ratio are less clear than for the other two variables. These results indicate that the outside director ratio and flexibility of employment adjustment have time invariant characteristics of country specific factors. Thus, we expect that, in the regression model, inclusion of country fixed effects in explanatory variables should obscure potential effects from the outside director ratio and the Hiring and Firing Practice Index.

Figure 1 appear around here

3.2 Characteristics of variables of interest

We focus on the variables related to corporate governance and employment protection. We employ the outside director ratio and institutional ownership as proxy variables of corporate governance, and the Hiring and Firing Index as a proxy variable of flexibility in employment adjustment. Before we start testing by using these variables, we would like to clarify the relationships among these three variables and indexes of effectiveness of corporate governance and employee protection developed from a legal aspect.

Strengthening the legal protection for minority shareholders has a positive effect on the corporate value of firms in a country (La Porta et al., 2002). One of the frequently used indexes constructed from a legal aspect in corporate governance literature is the revised ADRI (La Porta et al., 2008), a revised version of the ADRI (or the shareholder protection index) proposed by La Porta et al. (1998). The ADRI represents the power balance between minority shareholders and the board of directors based on the legal system in each country; a higher score implies that minority shareholder protection is extensive and the negotiation power of minority shareholders is strong. Japan scored 4.5, which is higher than the average score of sample countries (=3.71). This implies that the legal right of minority shareholders is highly protected in Japan, though there is a view that cross-shareholdings among firms has been common in Japan to suppress these highly protected minority shareholder rights.

A legal index related to employment protection was developed by Botero et al. (2004). The employment protection index is an index to show how well employees are protected

from being dismissed by a firm based on the labor law of each country. When this index increases, it indicates that the level of employee protection is stronger. Japan's score is 0.16, which is lower than the overall average of 0.34 and the US average of 0.22. Therefore, at least from this index, we cannot say in relative terms that the hurdles for dismissing employees under the Japanese legal system are high, which contradicts the finding shown in Panel C of Figure 1 that Japan is a country where employment adjustment is relatively difficult.

In our sample, the correlation coefficient between ADRI and the outside director ratio is -0.537, and that between the ADRI and institutional investor ownership is -0.25. The high negative correlation coefficient between the ADRI and the outside director ratio is surprising, considering the fact that one of the key roles of outside directors is to protect minority shareholders. This result could be partially because the outside director ratio is relatively low, as described earlier, while the ADRI is high in Japan, which accounts for 19% of the total sample. When we use the ADRI as a proxy variable for effectiveness of corporate governance in the following tests, it does not show significant power to explain differences in firm valuation, profitability, and growth, which implies that the outside director ratio is a more reliable indicator of the effectiveness of corporate governance.

The correlation coefficient between the employment protection index by Botero et al. (2004) and the Hiring and Firing Practices Index based on survey research by the World Economic Forum is -0.67. It needs to be noted that the scale is opposite between the employment protection index and the Hiring and Firing Practices Index. This indicates that the perception of managers about the flexibility of labor markets is strongly correlated with the legal protection level of employees in a country. In other words, the employment adjustment flexibility index based on the survey research is a variable that reflects the legal system of employment in each country. However, in the case of Japan, the employment protection index does not correspond to the management of Japanese firms relating to flexibility of employment adjustment. When we use the employment protection index by Botero et al. (2004) in the following tests instead of the Hiring and Firing Practices Index, it shows similar results, but the explanatory power is weaker. This indicates that the Hiring and Firing Index seems to be a better variable to capture the effects of an employment system on firm performance.

Table 3 appears around here

The correlation coefficients among the explanatory variables used in this study are shown in Table 3. The figures for the correlation matrix are the ones in FY 2006, which

is the first fiscal year of the analysis. For both firm level and country level, the highest correlation coefficient among these variables is between the Hiring and Firing Practices Index and the outside director ratio, which is roughly 0.5. This implies that when flexibility of employment adjustment is high, the outside director ratio is also high, and vice versa. When the labor market is less liquid, corporate insiders also tend to control their boards. Japan is a typical example of the type of country in which employees assume lifetime employment as part of their career plan and boards are dominated by insiders who are promoted from within the company. The allocation of ownership between shareholders and employees is expected to reduce employees' concern of hold-up problems, but overly strong employee protection reduces managerial flexibility in managing a company efficiently. Thus, there is a trade-off between outsider monitoring and insider protection, and if the outside director ratio and/or flexibility of employment adjustment contribute to this, a firm's financial performance is an empirical issue.

4. Empirical Results

4.1 Empirical Model and Basic Analysis

To analyze the effect of corporate governance and employment protection on firm performance, we run the following regression using the sample introduced in Section 3.

$$Y = Constant_{i,t} + \beta_g Governance \wedge Employment_{i,t} + \beta_n DummyVariableforJapan_{i,t} + \beta_c ControlVariables_{i,t} + u_{i,t}$$

where the subscripts *i* and *t* in each variable denote company and year, respectively, and u is the error term.

The coefficient β_g represents the effect of corporate governance and employment protection-related variables in the overall sample population while β_n captures the fixed effect of Japanese firms. Based on observations from Table 1, this fixed effect of Japanese firms is expected to be negative and significant if the effects of corporate governance and employment protection are not taken into consideration. We expect that adding these two variables should reduce the absolute value of the fixed effect β_n of Japanese firms.

The dependent variables, Y, used in the analysis are the ratio of EBITDA to total assets (ROA) as a profitability indicator, Tobin's q as an indicator to measure firm value, and the annual rate of sales growth for the next three years.

As explanatory variables, we use a year dummy and an industry dummy variable to control for macroeconomic and industry trends, but not a country dummy except for in our first regression model, which is shown in Table 4. Since our purpose is to explain the

fixed effect of Japanese firms, we do not use a country dummy in other regression models. In addition, as we show in Panels A and C of Figure 1, the inclusion of a country fixed effect is expected to obscure the effects of the outside director ratio and the Hiring and Firing Practice Index as these two variables themselves seem to have characteristics of a country fixed effect.

The natural logarithm of sales is used as a proxy for firm size, and the interest-bearing debt to total asset ratio is included to control for the effect of capital structure. We also use the natural logarithm of firm age, defined as a firm's years in business, to control for the life cycle of the firm. When we use Tobin's q as the dependent variable, the ratio of EBITDA to total assets (ROA) is also included to control for profitability. As control variables for the business environment in each country where firms are located, a G7 country dummy, per capita GDP, and GDP growth rate (over the past three years) are also used.

In the analysis, we employ pooled regressions with two-way clustered standard errors (firm level and country level) and all explanatory variables are contemporaneous.

In the first regression test, we construct a model that examines the effects of the three variables of interest in this study, namely the outside director ratio, the institutional investor ratio, and the Hiring and Firing Practices Index.

Table 4 appears around here

Table 4 summarizes our results. Models (1) to (3) include country fixed effects, and Models (4) to (6) include the G7 dummy instead of country fixed effects. In Models (1) to (3), the outside director ratio is positive and significant for sales growth. The institutional investor ratio is not significant in the three models. The Hiring and Firing Practice Index is positive and significant for the q ratio.

On the other hand, in Models (4) to (6), where country fixed effects are not included, the outside director ratio is positive and significant at the 1% level for both profitability and the q ratio. The Hiring and Firing Practice Index is positive and significant at the 1% level in all models. On the other hand, the institutional investor ratio is positive and significant solely for the q ratio. The results are consistent with our hypothesis that the outsider director ratio and flexibility of employment adjustment enhance the profitability of firms and stock valuation. In addition, the flexibility of employment adjustment enhances the growth of firms. The finding that the inclusion of country fixed effects obscures the effects of the outside director ratio and the Hiring and Firing Practice Index is consistent with our discussion about Figures 1 and 3 in Section 3.3. Since the goal of

this paper is to explain the negative coefficient of a Japan dummy in our regression model for firm performance, we decide not to include country fixed effects in the following regressions as the country fixed effect absorbs the effects of the outside director ratio and the Hiring and Firing Practice Index, which have time invariant characteristics.

4.2 Effects of corporate governance and employment protection

In Table 5, we add a Japan dummy and analyze if Japanese firms show significantly low performance after controlling for various factors. The coefficient of the dummy for Japan is negative and significant in the models that use profitability and firm value as dependent variables. The ratios of EBITDA to total assets and to Tobin's q of Japanese firms are lower by 4.4% and 0.71, respectively, compared to those of other countries after taking into account firm-specific characteristics, the industry, and the macro environment in a country. On the other hand, we do not find any significant results in terms of sales growth. Therefore, we do not observe a difference between Japanese and non-Japanese firms in terms of sales growth.

In Models (4) to (6) in Table 5, we include three variables of interest in the regression model. A one-year lag for the outside director ratio is used as a variable for board structure, while a one-year lag for institutional ownership is used as a variable for shareholder structure. We predict that a firm with a higher outside director ratio will be monitored more effectively by the board of directors to suppress agency problems. We also predict that firms with a high institutional ownership rate will show a disciplining effect on management through the exercise of voting rights (exercising the voice option) and the selling of shares (the Wall Street rule) by investors.

The outside director ratio was found to be positive and significant for ROA and sales growth. Institutional ownership only has significant and positive effects on the q ratio. The Hiring and Firing Practice Index has positive and statistically significant effects in all models. These results are consistent with our hypotheses that a higher outside director ratio, rate of institutional ownership, and flexibility of employment adjustment all contribute to higher financial performance and growth of firms.

Among these three variables, institutional ownership is significant only for Tobin's q. In fact, the coefficients of institutional ownership for EBITDA/Assets and sales growth are both negative, although they are not statistically significant. A possible reason for this weak impact of institutional ownership is because we limited our sample to very large firms. Institutional investors, who typically mimic stock market benchmarks, cannot exclude shares of these large firms from their portfolios even when they are relatively

poor performers due to corporate governance problems. Such passive institutional investors might not have adequate strength to discipline firm management due to a lack of motivation to pay attention to corporate governance issues of relevant firms and a lack of exit options.

When the outside director ratio, institutional ownership, and the Hiring and Firing Practices Index are added altogether to the explanatory variables, the coefficient of the Japan dummy is still negative and significant for ROA and the q ratio, but becomes much smaller. The absolute value of the coefficient of the dummy for Japan decreased from 0.044 to 0.031 for the ratio of EBITDA to total assets and from 0.71 to 0.33 for Tobin's q compared to Models (1) and (2). This result indicates that about a quarter of the difference in profitability between the overall sample and Japan is explained essentially by two variables, the outside director ratio and the Hiring and Firing Practices Index. More than 50% of the low assessments of Japanese firms in the stock market can be explained by three variables, the outside director ratio, institutional ownership, and the flexibility of employment adjustment. These results indicate that the relatively poor performance of Japanese firms is explained both by its ineffective corporate governance and the low flexibility of employment adjustment. Table 2 shows that the outside director ratio in Japan is the lowest level by international standards, and hence we could say that by increasing this ratio, we could improve the profitability and firm value of Japanese firms.

In addition, in Model (6), the coefficient of the dummy for Japan is significantly positive for sales growth, which means that the sales growth of Japanese firms is larger than comparable firms in other countries after controlling for the outside director ratio and the Hiring and Firing Practices Index.

Table 5 appears around here

In Table 6, we present the results of regression models that include one of the three variables of interest—the outside director ratio, institutional ownership, and the Hiring and Firing Practices Index—one by one with other control variables.

Panel A and Panel B show that the outside director ratio and the Hiring and Firing Practices Index respectively reduce the absolute value of the the coefficient of the Japan dummy. On the other hand, Panel B shows institutional ownership alone does not significantly reduce the absolute value of the coefficient of the Japan dummy for EBITDA/Assets and sales growth. These results are consistent with the results in Table 5, which show that the outside director ratio and the Hiring and Firing Practices Index are more important than institutional ownership, at least in our sample and the period

considered.

Table 6 appears around here

So far, we have shown results for an analysis that uses firm-level corporate governance variables. It is undeniable that these firm-specific variables could already be affected by the legal systems at the country level. Then, we use the Revised ADRI based on La Porta et al. (2008) as an indexed legal system variable directly related to corporate governance. We also use the Employment Laws Index by Botero et al. (2004) as a proxy for the level of employment protection in each country.

Although we do not show the results of the regressions in the table, when we conduct a similar analysis, as shown in Table 6, we find no statistically significant results for ADRI. In addition, we also find no notable change in the coefficient of the dummy for Japan. Based on this finding, it doesn't seem that minority shareholder protection is a culprit for the low profitability and low firm value of Japanese firms.

As for the Employment Laws Index by Botero et al. (2004), we obtained similar results as when we used the Hiring and Firing Practices Index. We found that the coefficient of the dummy variable for Japan is relatively smaller when we use the Hiring and Firing Practices index compared with when we use the Employment Laws Index by Botero et al. (2004). This implies that the Hiring and Firing Practices Index explains more about the relationship between the difficulty for Japanese firms to make employment adjustments and low performance measured by profitability (the ratio of EBITDA to total assets) and firm value (Tobin's q).

The analyses up to this point show that, in terms of corporate governance, the outside director ratio and the Hiring and Firing Practices Index have good explanatory power for the low profitability and low market value of Japanese firms.

As Botero et al. (2004) indicate, although when the level of legal protection is higher, salary levels would increase for employees, it also would increase the unemployment rate among young people. By transitioning to a system in which necessary employment adjustments can be easily implemented, we might also be able to predict the effect of expanding employment in industries with growth opportunities in Japan.

5. Robustness Tests

5.1 Effects of corporate governance and employment protection: the US case

In the previous section, we showed that the outside director ratio and the Hiring and Firing Practices Index have significantly positive effects on financial performance of the

firms in our sample. In addition, these two factors explain the relatively low financial performance and low stock valuation of Japanese firms in a significant manner.

However, since the low outside director ratio and the inflexibility of employment adjustment are quite unique aspects of Japanese firms, one might argue that the results presented in the above sections are only applicable to companies from Japan.

Thus, in this section, we examine if these three variables also explain the relatively high performance of US firms. As shown in Table 1, the number of US firms is the largest among all the countries in our sample. The next largest number is for Japan. These two countries make up roughly half of our sample. Since US firms fall into one of the highest profitability and q ratio groups and Japanese firms are in one of the lowest profitability and q ratio groups (see Table 1), if the outside director ratio, institutional ownership, and the flexibility of employment adjustment explain both high and low abnormal performance and growth, we can say that these three factors explain the differences in the profitability, stock valuation, and growth of firms among the countries in our sample.

Table 7 appears around here

In Table 7, like in Table 5 where we examined the effects on the Japan dummy, we show that the coefficient of the US dummy changes if we include the outside director ratio, institutional ownership, and the Hiring and Firing Practices Index. In Models (1) to (3), we show results for ROA, the q ratio, and sales growth without controlling for the three variables of interest in this study. ROA, the q ratio, and sales growth for US firms are higher than for comparable non-US firms by 4.3%, 0.74, and 7.6%, respectively. In Models (4) to (6), the outside director ratio, institutional ownership, and the Hiring and Firing Practices Index are included in the explanatory variables. The coefficient of the outside director ratio is positive and significant in Models (4) and (5), whereas that of the Hiring and Firing Practices Index is positive in Models (4) to (6) but only significant in Model (6), and that of institutional ownership is positive only for the q ratio. The coefficients of the US dummy in Models (4) to (6) are smaller compared to those matching in Models (1) to (3). In fact, the US dummy in Models (5) and (6) become insignificant, which implies that the relatively high q ratio and sales growth of US firms compared to non-US firms are due to the relatively high outside director ratio, higher institutional ownership, and flexibility in employee adjustment in US firms.

In Table 8, we show results of regressions that include both the Japan dummy and the US dummy simultaneously. The regression models are those that simply add the US dummy in the explanatory variable to Models (4) to (6) in Table 5. The coefficients of the

Japan dummy do not change materially from those in Models (4) to (6) in Table 5. This indicates that the results in Table 5 are robust even after controlling for the effects of US firms, which make up the largest portion of our sample. On the other hand, as in Models (4) to (6) in Table 7, the coefficient for US firms is positive and significant only for ROA and not significant for the q ratio and sales growth anymore. This implies that the significantly high stock valuation and higher growth of US firms are explained away by our three variables relating to corporate governance and employment adjustment. Thus, our evidence indicates that corporate governance and the employment system explain why Japanese firms consistently financially underperform and US firms overperform in a significant sense, at least in the analyzed period.

Table 8 appears around here

5.2 Propensity Score Matching Analysis

In the previous section, we found that the low outside director ratio and the inflexibility to hire and fire employees primarily explain the low profitability, low firm value and high sales growth of Japanese firms. One concern with the results is whether we could properly control for factors that explain the performance of sample firms. Thus, to examine the robustness of our results, we employ a bias-corrected matching estimate (Abadie and Imbens, 2011) in this section. For each year, firms in Japan are considered as the treated group and those outside Japan in the same industry are used as a control group. To control for the level of economic development, we use only firms in G7 countries (Japan, US, Italy, France, Germany, UK, and Canada). The treated and control samples are pooled across all years to estimate the propensity score as a function of firm covariates. The covariates used here are the log of sales, the debt ratio, and the log of firm age. We use nearest-neighbor matching for these covariates, which matches a firm from the control group with the closest one from the treated group in terms of propensity score. We show the results of the propensity score matching analysis in Table 9. To calculate the propensity score, Model (1) uses the log of sales as the covariate in addition to matching with Year and Industry. Model (2) adds the debt ratio and the log of firm age as the covariates in model (1). Then, we add the outsider director ratio, institutional ownership, and the Hiring and Firing Practices Index in model (3). Table 9 shows the matching results for the respective models for each dependent variable. For example, -0.041 in the first row of Model (1) is the difference of EBITDA/Assets between Japanese firms and their matching firms estimated by the matching Model (1).

Table 9 appears around here

As for the Japan dummy, the results in Table 9 show Japanese firms have a lower EBITDA/Assets ratio by 0.048 and a lower Tobin's q by 0.58 than firms in other countries with similar firm characteristics in Model (2). When we include the outsider director ratio and the Hiring and Firing Practices Index in Model (3), Japanese firms have a lower EBITDA/Assets ratio by 0.014 and a lower Tobin's q by 0.18 than firms in other countries.

Comparing the results of Models (2) and (3), the difference decreases by about 0.034 when we use the EBITDA/Assets ratio, and decreases about by 0.399 for Tobin's q. In other words, the outsider director ratio and the Hiring and Firing Practices Index explain about roughly 70% of the respective differences in ROA and in Tobin's q. This is consistent with the results in the previous section that the two factors are causes of the low profitability and firm value of Japanese firms.

In terms of sales growth, Japanese firms have higher sales growth by 0.060 than firms in other countries when we include the outsider director ratio and the Hiring and Firing Practices Index in Model (3). Consistent with previous results, we find a combination of lower profitability, lower firm value and higher sales growth as characteristics of Japanese firms in comparison with other countries' firms.

6. Conclusion

This study examines if the relatively poor financial and stock performances of large Japanese firms can be explained by their different corporate governance structure and flexibility of employment adjustment by using cross-country data. To our knowledge, this is the first empirical study to analyze Japanese corporate performance from both corporate governance and employment system perspectives simultaneously. We focus on three variables relating to corporate governance and the employment system: the outside director ratio, institutional ownership, and the flexibility of employment adjustment. These variables commonly reflect the degree of outsider involvement in firm management.

Our empirical results show that both a board of directors dominated by insiders and an employment system that hinders flexible employment adjustments have significant explanatory power for the poor performance of Japanese firms. In addition, we also show that the relatively good financial performance, high stock prices, and high growth rate of US firms can also be explained to a large extent by their high outside director ratio, high institutional ownership and high flexibility of employment adjustment.

These results have practical implications for the future direction of corporate

governance and employment law reforms. First, the active involvement of outside directors is essential for a board of directors to play an effective role in monitoring and disciplining management. Introducing the objective viewpoints of outside directors into management progresses the restructuring of unprofitable businesses that insiders cannot initiate and promotes investment in innovation, which is inevitably associated with higher risk. A higher outside director ratio should contribute to achieving active involvement of outside directors in corporate decision making.

Second, enabling flexible implementation of employment adjustment would allow managers to optimize the allocation of human resources. Flexibility in adjusting employment to economic volatility allows management not only to implement required downsizing of their business but also to expand employment promptly when encountering growth opportunities.

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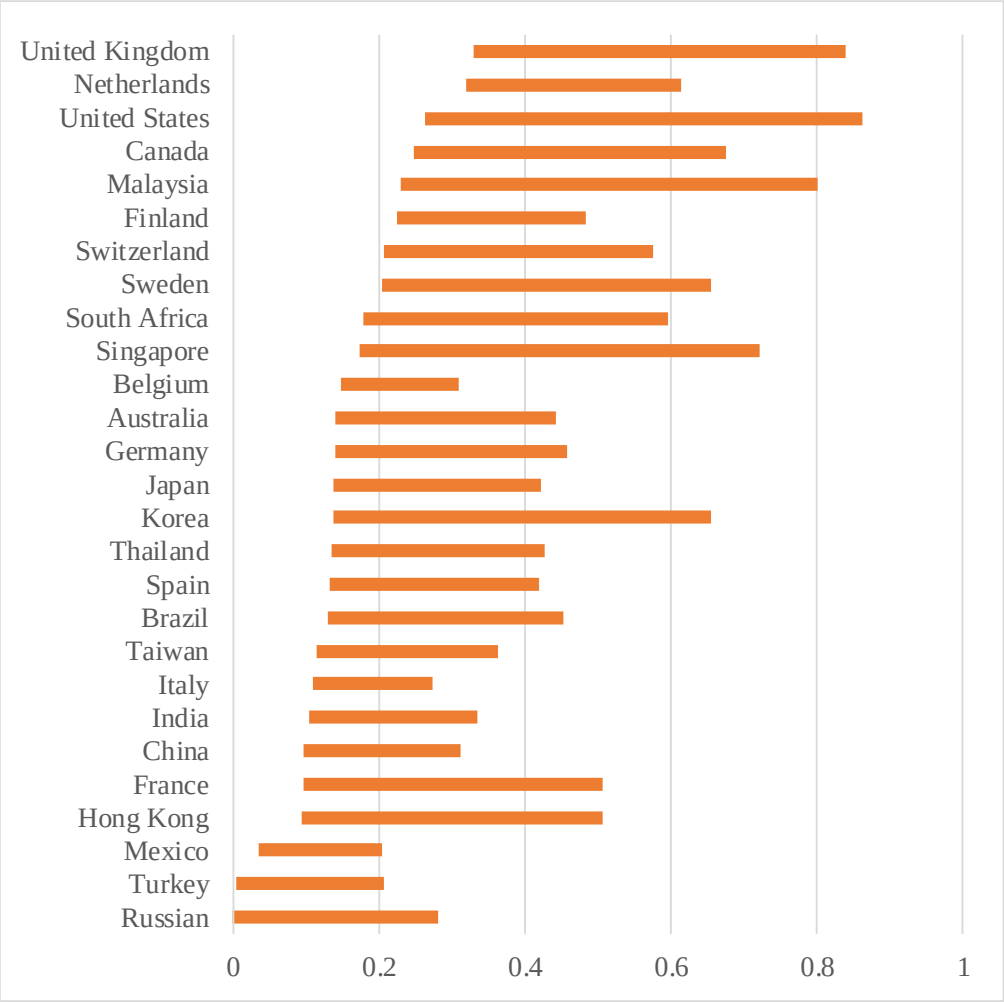
Figure 1. Range of 25 and 75 Percentiles of Variables of Interest in The Sample Period

Panel A. Outside Director Ratio

Panel B. Institutional Ownership



Panel C. Hiring and Firing Practice Index

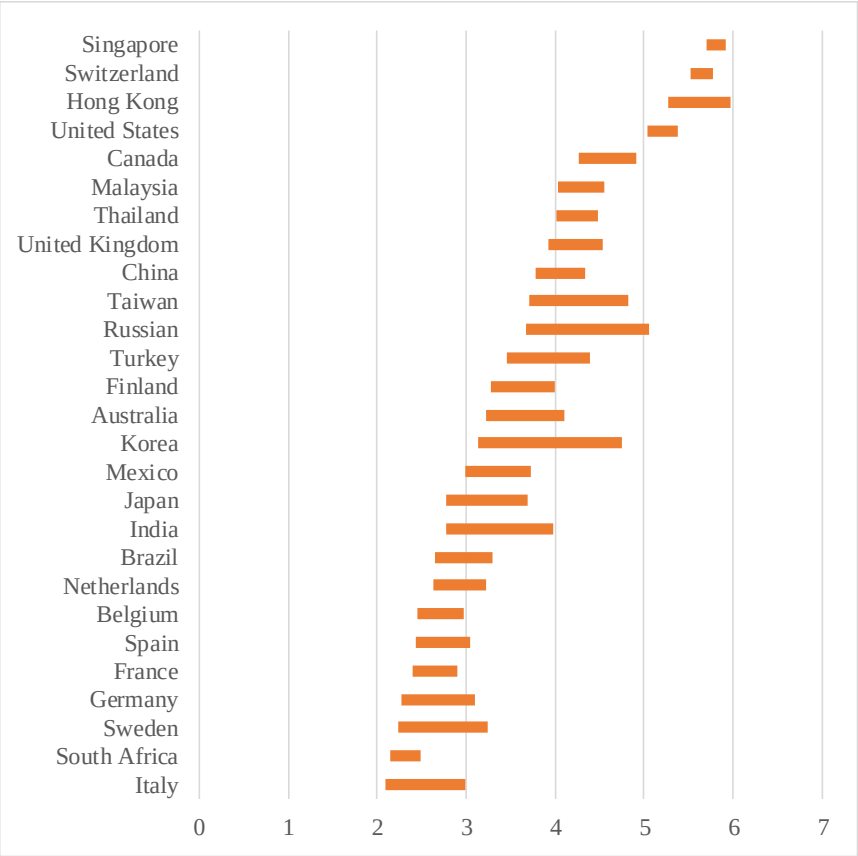


Table 1: Profitability and Firm Value in Each Country

		EBITDA/ Assets	Tobin's q	Sales growth
Country	Firm*Year	Median	Median	Median
Russian	137	0.182	1.645	0.21
South Africa	119	0.181	3.179	0.09
Thailand	105	0.166	2.396	0.32
India	262	0.165	2.820	0.42
Malaysia	70	0.147	1.856	0.22
Turkey	82	0.142	2.095	0.10
United States	3168	0.141	2.456	0.14
Brazil	135	0.138	1.619	0.23
Mexico	123	0.136	1.934	0.11
Canada	334	0.136	1.791	0.13
Switzerland	239	0.129	2.386	0.17
Australia	199	0.125	1.933	0.23
Belgium	76	0.125	1.528	0.05
Taiwan	214	0.124	1.630	0.20
Sweden	182	0.123	2.155	0.04
United Kingdom	610	0.123	2.207	0.08
Netherlands	162	0.118	1.833	0.04
Singapore	98	0.116	1.536	0.24
Germany	406	0.113	1.497	0.07
Korea	324	0.105	1.104	0.22
Hong Kong	269	0.105	1.433	0.42
France	458	0.105	1.375	0.04
Finland	122	0.102	1.261	0.00
Italy	165	0.101	1.061	0.02
Spain	118	0.100	1.654	0.04
China	277	0.099	1.941	0.69
Japan	2035	0.091	1.138	0.10
Sum	10489	0.119	1.769	0.13

Table 2: Descriptive Statistics by Country

		EBITDA/ Assets	Ln sales	Debt ratio	Firm age	Institutional ownership	Outside director ratio	Hiring and firing practices
Country	Firm*Year	Median	Mean	Mean	Mean	Mean	Mean	Mean
Russian	137	0.182	15.94	0.16	34.0	0.18	0.20	4.31
South Africa	119	0.181	15.65	0.12	52.4	0.41	0.56	2.37
Thailand	105	0.166	15.36	0.18	29.8	0.33	0.41	4.31
India	262	0.165	15.42	0.18	46.2	0.27	0.54	3.43
Malaysia	70	0.147	14.99	0.17	57.0	0.49	0.69	4.28
Turkey	82	0.142	15.51	0.16	56.0	0.13	0.02	3.95
United States	3168	0.141	15.91	0.24	65.8	0.57	0.70	5.23
Brazil	135	0.138	16.10	0.24	60.5	0.32	0.19	2.92
Mexico	123	0.136	15.49	0.15	65.2	0.15	0.28	3.31
Canada	334	0.136	15.82	0.22	58.6	0.45	0.72	4.62
Switzerland	239	0.129	15.63	0.15	97.4	0.37	0.37	5.64
Australia	199	0.125	15.51	0.23	72.2	0.32	0.70	3.73
Belgium	76	0.125	15.93	0.18	151.5	0.26	0.36	2.80
Taiwan	214	0.124	15.58	0.12	34.4	0.30	0.20	4.38
Sweden	182	0.123	15.68	0.16	99.0	0.47	0.36	2.82
United Kingdom	610	0.123	15.88	0.20	89.7	0.58	0.51	4.26
Netherlands	162	0.118	16.05	0.21	90.0	0.45	0.32	2.98
Singapore	98	0.116	15.82	0.14	41.2	0.41	0.59	5.82
Germany	406	0.113	16.11	0.19	98.5	0.31	0.50	2.59
Korea	324	0.105	16.02	0.14	47.2	0.39	0.47	3.68
Hong Kong	269	0.105	15.22	0.18	47.5	0.33	0.37	5.60
France	458	0.105	16.04	0.17	96.9	0.33	0.54	2.61
Finland	122	0.102	15.74	0.15	116.1	0.35	0.40	3.67
Italy	165	0.101	15.75	0.22	69.0	0.21	0.42	2.60
Spain	118	0.100	15.84	0.30	62.0	0.34	0.36	2.76
China	277	0.099	15.32	0.13	32.6	0.23	0.36	4.15
Japan	2035	0.091	15.93	0.14	84.9	0.32	0.14	3.12
Sum	10489	0.119	15.83	0.19	71.8	0.41	0.47	4.08

a)The outside director ratio for China, Germany and Netherlands, where a dual board system is applied, is the ratio of the number of supervisory board members to the number of management board members.

Table 3. Correlation Coefficients

Panel A: Firm-Level Correlation

	EBITDA/ Assets	Tobin's q	Sales growth	Outside director ratio	Institutional ownership	Hiring and firing practices
EBITDA/Assets	1					
Tobin's q	0.4832	1				
Sales growth	0.0592	0.201	1			
Outside director ratio	0.1931	0.2501	0.0142	1		
Institutional ownership	0.0294	0.1286	-0.0305	0.3184	1	
Hiring and firing practices	0.1713	0.2637	0.1592	0.5081	0.3112	1

Panel B. Country-Level Correlation

	Outside director ratio	Institutional ownership	Hiring and firing practices
Outside director ratio	1		
Institutional ownership	0.3158	1	
Hiring and firing practices	0.4987	0.3006	1

Table 4. Basic Regression Model

Dependent variable =	EBITDA / Assets	Tobin's q	Sales growth	EBITDA / Assets	Tobin's q	Sales growth
	(1)	(2)	(3)	(4)	(5)	(6)
Outside director ratio	0.011	0.260	0.096 ***	0.039 ***	0.621 ***	0.041
	(0.008)	(0.236)	(0.035)	(0.010)	(0.207)	(0.038)
Institutional ownership	-0.007	0.265	0.009	-0.002	0.363 **	-0.001
	(0.005)	(0.163)	(0.028)	(0.006)	(0.180)	(0.023)
Hiring and firing practices	-0.002	0.188 **	0.106	0.010 ***	0.200 ***	0.040 ***
	(0.004)	(0.089)	(0.072)	(0.003)	(0.052)	(0.010)
G7 (dummy)				-0.013	-0.087	0.003
				(0.009)	(0.144)	(0.021)
Ln (sales)	-0.002	-0.125 **	-0.078 ***	-0.003 **	-0.134 **	-0.075 ***
	(0.001)	(0.054)	(0.007)	(0.002)	(0.055)	(0.008)
Debt ratio	-0.058 ***	1.664 ***	-0.054	-0.044 ***	1.787 ***	-0.071 *
	(0.014)	(0.461)	(0.040)	(0.011)	(0.394)	(0.038)
Ln (firm age)	0.003	-0.063 **	-0.034	0.004	-0.051 *	-0.037 ***
	(0.002)	(0.030)	(0.004)	(0.002)	(0.028)	(0.006)
EBITDA/Assets		11.712 ***			12.301 ***	
		(0.930)			(0.867)	
Per capita GDP	0.000	0.000	0.000	0.000	0.000	0.000 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP growth	0.001	-0.016	-0.005	0.000	0.012	0.012
	(0.001)	(0.039)	(0.008)	(0.001)	(0.032)	(0.007)
Intercept	YES	YES	YES	YES	YES	YES
Country dummy	YES	YES	YES	No	No	No
Year dummy	YES	YES	YES	YES	YES	YES
Industry dummy	YES	YES	YES	YES	YES	YES
R-squared	0.230	0.385	0.364	0.187	0.362	0.335
Observations	8609	8274	7956	8609	8274	7956

Robust standard errors clustered by firm and coutnrly in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5: Effect of Corporate Governance and Employment Protection on Performance of Japanese Firms

Dependent variable =	EBITDA / Assets	Tobin's q	Sales growth	EBITDA / Assets	Tobin's q	Sales growth
	(1)	(2)	(3)	(4)	(5)	(6)
Japan (dummy)	-0.044 ***	-0.710 ***	-0.018	-0.031 ***	-0.333 ***	0.068 ***
	(0.008)	(0.154)	(0.021)	(0.006)	(0.093)	(0.024)
Outside director ratio				0.015 *	0.360	0.095 ***
				(0.009)	(0.232)	(0.033)
Institutional ownership				-0.004	0.339 *	0.004
				(0.006)	(0.175)	(0.024)
Hiring and firing practices				0.008 **	0.175 ***	0.045 ***
				(0.003)	(0.049)	(0.012)
G7 (dummy)	0.008	0.229	0.008	0.000	0.051	-0.025
	(0.008)	(0.172)	(0.031)	(0.009)	(0.148)	(0.023)
Ln (sales)	-0.002	-0.171 ***	-0.076	-0.003 *	-0.133 **	-0.075 ***
	(0.001)	(0.056)	(0.007)	(0.002)	(0.056)	(0.008)
Debt ratio	-0.050 ***	1.795 ***	-0.055	-0.051 ***	1.698 ***	-0.056
	(0.012)	(0.482)	(0.040)	(0.013)	(0.419)	(0.039)
Ln (firm age)	-0.001	-0.036	-0.036 ***	0.003 **	-0.054 *	-0.036 ***
	(0.002)	(0.035)	(0.004)	(0.002)	(0.028)	(0.006)
EBITDA/Assets		12.029 ***			12.156 ***	
		(0.789)			(0.902)	
Per capita GDP	0.000	0.000	0.000	0.000	0.000	0.000 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP growth	0.000	0.050	0.019	0.000	0.009	0.012 *
	(0.001)	(0.031)	(0.007)	(0.001)	(0.033)	(0.007)
Intercept	YES	YES	YES	YES	YES	YES
Country dummy	NO	NO	NO	NO	No	No
Year dummy	YES	YES	YES	YES	YES	YES
Industry dummy	YES	YES	YES	YES	YES	YES
R-squared	0.169	0.333	0.306	0.197	0.364	0.338
Observations	10448	9952	9600	8609	8274	7956

Robust standard errors clustered by firm and coutnrly in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6. Respective Effects of Corporate Governance and Employment Protection

Dependent variable =	EBITDA / Assets	Tobin's q	Sales growth
Panel A			
Japan (dummy)	-0.035 ***	-0.485 ***	0.036 **
	(0.008)	(0.135)	(0.014)
Outside director ratio	0.021 **	0.573 ***	0.127 ***
	(0.009)	(0.210)	(0.026)
Intercept	YES	YES	YES
Control variables	YES	YES	YES
Country dummy	NO	NO	NO
Year dummy	YES	YES	YES
Industry dummy	YES	YES	YES
Panel B			
Japan (dummy)	-0.044 ***	-0.618 ***	-0.012
	(0.008)	(0.166)	(0.025)
Institutional ownership	0.001	0.508 ***	0.049 *
	(0.006)	(0.170)	(0.028)
Intercept	YES	YES	YES
Control variables	YES	YES	YES
Country dummy	NO	NO	NO
Year dummy	YES	YES	YES
Industry dummy	YES	YES	YES
Panel C			
Japan (dummy)	-0.035 ***	-0.493 ***	0.033 *
	(0.006)	(0.094)	(0.018)
Hiring and firing practices	0.008 ***	0.215 ***	0.049 ***
	(0.003)	(0.049)	(0.011)
Intercept	YES	YES	YES
Control variables	YES	YES	YES
Country dummy	NO	NO	NO
Year dummy	YES	YES	YES
Industry dummy	YES	YES	YES

Robust standard errors clustered by firm and coutnrly in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 7. Effect of Corporate Governance and Employment Protection on Performance of US Firms

Dependent variable =	EBITDA / Assets	Tobin's q	Sales growth	EBITDA / Assets	Tobin's q	Sales growth
	(1)	(2)	(3)	(4)	(5)	(6)
USA (dummy)	0.043 ***	0.736 ***	0.076 ***	0.034 ***	0.344	-0.012
	(0.009)	(0.229)	(0.011)	(0.010)	(0.296)	(0.040)
Outside director ratio				0.028 ***	0.507 ***	0.045
				(0.010)	(0.186)	(0.037)
Institutional ownership				-0.004	0.343 *	0.000
				(0.006)	(0.184)	(0.024)
Hiring and firing practices				0.002	0.117	0.043 ***
				(0.004)	(0.085)	(0.017)
G7 (dummy)	-0.020 **	-0.250	-0.023	-0.022 **	-0.181	0.006
	(0.009)	(0.209)	(0.021)	(0.010)	(0.181)	(0.026)
Ln (sales)	-0.002	-0.172 ***	-0.076 ***	-0.003 **	-0.135 **	-0.075 ***
	(0.001)	(0.054)	(0.008)	(0.001)	(0.055)	(0.008)
Debt ratio	-0.052 ***	1.795 ***	-0.081 **	-0.050 ***	1.711 ***	-0.069 *
	(0.011)	(0.451)	(0.034)	(0.012)	(0.429)	(0.034)
Ln (firm age)	0.001	-0.007	-0.032 ***	0.003 **	-0.052 *	-0.037 ***
	(0.002)	(0.033)	(0.005)	(0.002)	(0.027)	(0.006)
EBITDA/Assets		11.923 ***			12.152 ***	
		(0.820)			(0.938)	
Per capita GDP	0.000	0.000	0.000 **	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP growth	0.000	0.045 *	0.016 **	0.001	0.012	0.012
	(0.001)	(0.027)	(0.007)	(0.001)	(0.032)	(0.007)
Intercept	YES	YES	YES	YES	YES	YES
Country dummy	NO	NO	NO	NO	No	No
Year dummy	YES	YES	YES	YES	YES	YES
Industry dummy	YES	YES	YES	YES	YES	YES
R-squared	0.173	0.335	0.314	0.198	0.363	0.335
Observations	10448	9952	9600	8609	8274	7956

Robust standard errors clustered by firm and coutnrly in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 8. Effect of Corporate Governance and Employment Protection on Performance of Japanese and US Firms

Dependent variable =	EBITDA / Assets	Tobin's q	Sales growth
	(1)	(2)	(3)
Japan (dummy)	-0.027 ***	-0.296 **	0.068 ***
	(0.005)	(0.130)	(0.024)
Outside director ratio	0.008	0.294	0.095 ***
	(0.008)	(0.222)	(0.032)
Institutional ownership	-0.005	0.324 *	0.004
	(0.006)	(0.175)	(0.024)
Hiring and firing practices	0.001	0.104	0.046 ***
	(0.003)	(0.077)	(0.017)
USA (dummy)	0.030 ***	0.305	-0.001
	(0.007)	(0.279)	(0.031)
G7 (dummy)	-0.009	-0.048	-0.025
	(0.009)	(0.203)	(0.025)
Ln (sales)	-0.003 *	-0.133 **	-0.075 ***
	(0.002)	(0.056)	(0.008)
Debt ratio	-0.055 ***	1.640 ***	-0.056
	(0.013)	(0.440)	(0.039)
Ln (firm age)	0.003 **	-0.054 *	-0.036 ***
	(0.002)	(0.028)	(0.006)
EBITDA/Assets		12.040 ***	
		(0.938)	
Per capita GDP	0.000	0.000	0.000 ***
	(0.000)	(0.000)	(0.000)
GDP growth	0.000	0.009	0.012 *
	(0.001)	(0.032)	(0.007)
Intercept	YES	YES	YES
Country dummy	NO	NO	NO
Year dummy	YES	YES	YES
Industry dummy	YES	YES	YES
R-squared	0.206	0.365	0.338
Observations	8609	8274	7956

Robust standard errors clustered by firm and coutnrly in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 9. Propensity Score Matching Test

This table shows difference of respective performance variables between Japan firms and their matching firms selected by propensity score matching (bias adjusted) from sample firms from G7 countries (US, UK, Germany, Canada, Japan, France, Italy). Matching firms are two nearest neighbors by exact matching of year and industry. Variables used to calculate the propensity score in each model are shown in the table under respective model column.

	(1)	(2)	(3)
EBITDA / Assets	-0.041 ***	-0.048 ***	-0.014 ***
	(0.002)	(0.002)	(0.003)
Tobin's q	-1.328 ***	-0.577 ***	-0.178 ***
	(0.055)	(0.044)	(0.051)
Sales growth	-0.009	-0.013	0.060 ***
	(0.008)	(0.009)	(0.012)
Exact matching			
Year	YES	YES	YES
Industry	YES	YES	YES
Variables for calculating the propensity score			
Ln (sales)	YES	YES	YES
Debt ratio	NO	YES	YES
Ln (firm age)	NO	YES	YES
Outside director ratio	NO	NO	YES
Institutional ownership	NO	NO	YES
Hiring and firing practices	NO	NO	YES

*** p<0.01, ** p<0.05, * p<0.1