

The Effects of Financial Relationships on Employment Relationships and Executive Compensation: The Japanese Model of Corporate Governance Revisited

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Abstract

Using comprehensive panel data of Japanese listed companies, we examine how the relationship between firms and financial institutions affects the relationships among employees, managers, and firms. We find that close relationships with financial institutions improve firm performance and that there are significant effects of lending relationships on the average years of service of employees and average wage and welfare expenses. However, the effect of financial relationships on personnel compensation for managers is of limited significance. Further, these effects differ for the firms listed in the first section and those listed in the second section of the Tokyo Stock Exchange. In particular, the employees of the first section listed companies receive benefits arising from close bank-firm relationships, but those of the second section listed companies do not. These asymmetric effects of financial relationships on the conditions of employees and executive compensation are puzzling because financial relationships in Japanese firms provide few managerial incentives for concern about maintaining stable employment relationships, whereas a close bank-firm relationship has been believed to contribute to stable employment.

1. INTRODUCTION

The primary aim of this paper is to investigate the effect of bank-firm relationships on the benefits for employees and executives of a firm. Past literature of corporate finance has focused on numerous desirable features of close bank-firm relationships that contribute to firm performance and efficiency. However, few studies have emphasized the effect of bank-firm relationships on managers' incentives for maintaining these relationships and on employment conditions. In this paper, we determine whether or not the financial relationships of a firm affect the length of continuous employment and the payments to managers and employees by using the data of Japanese firms listed in the Tokyo Stock Exchange (TSE).

It has been argued that the Japanese economy is a bank-oriented economy where managers can run their firms in the interest of the employees and of themselves. Aoki (1988), for example, emphasizes correspondence between the main bank system and the lifetime employment system in Japan, given the environmental constraints—including political system, culture, habits, and customs—and that Japanese firms may have gained some advantages from this reciprocity between financial and employment systems. In other words, employees and managers in a bank-oriented economy would gain benefits from close bank-firm relations. The chief concern in this paper is to study whether or not there are any direct incentives and benefits for the managers and employees of the firm for maintaining such a bank-oriented system.¹

Further, although previous studies have concentrated mainly on an aspect of the *keiretsu*, we consider the difference between the firms listed in the first and second sections of the TSE. Focusing on such discrepancy in the listed sections is important. First, although the stereotyped Japanese model of firms has been characterized as a structure consisting of the *keiretsu*, main bank system, life-time employment, and government guidance, these unique features would be valid only for the well-established big firms.² Second, the role of

¹ See Hoshi and Kashyap (2001) for long-term perspectives on the Japanese financial system.

² For example, in a recent comprehensive study on Japanese corporate financing, Wu and Xu

financial institutions should differ according to the stage of development of firms. However, it is generally difficult to measure the difference using simple figures such as the growth rate of profits, sales, investment, and employment because they reflect short-term business performance and industry specific circumstances.³ The two-section system of the TSE in Japan would provide a unique database for an insight in this regard.

The general conclusion of this paper is that, while financial relationships are the key factors influencing firm performance, the length of continuous employment, and the payments to employees, they have little effect on executive compensation. We find the differences of the effects of close ties of financial institutions on firm performance and the conditions for employment between the first and second section listed companies. Close relations with the main bank led to benefits for the employees of the first section listed companies in particular, whereas this was not the case for the second section listed companies.

This result is puzzling in a twofold manner. First, the managerial incentive scheme of firms in bank-oriented economies such as Japan may not differ from those of firms in market-oriented economies such as America. Managers, both in bank- and market-oriented economies would only be motivated by short-term firm performance.⁴ Second, it would be difficult to explain why and how financial relationships affect the difference in the conditions of employment if managerial decision-making is not affected directly by financial relationships.⁵

(2005) suggest that there are differences between large and small-to-medium-sized *keiretsu* firms.

³ While there is a considerable body of literature related to comparative studies of national economies and the relationship between financial structure and economic development, few studies have focused on the relationship between the maturity of firms and the effects of the financial structure in an economy. Levine (1997) presents an informative survey in this regard.

⁴ This has already been emphasized in literature involving empirical studies on executive compensation. However, these studies did not consider the effects of financial relationships. See Kaplan (1994) and Kato and Kubo (2006).

⁵ A prominent hypothesis regarding the managerial objectives of modeled Japanese firms is the employee ruling firm hypothesis. The main claim of this hypothesis is that Japanese firms are managed so as to maximize the income per employee. More recently, it has been recognized that benefits for employees and banks may coexist in Japanese firms in the form

An outline of the paper is as follows. Section 2 reviews the relationships among financial relationships, employment system, and corporate governance through managerial incentive schemes with a focus on Japanese firms. Section 3 describes our data, and section 4 explains the impact of regressions of employment terms, firm performance, and managerial incentive schemes on the measures of financial relationships. Finally, section 5 summarizes the implications of the results and provides suggestions for future research.

2. INCENTIVE SCHEME AND EMPLOYMENT STABILITY IN JAPANESE FIRMS

It has been argued that one of the most important features of Japanese firms is that their main managerial objective is to advance the interests of their employees rather than to maximize profits for stockholders. Empirical examination of executive compensation is a promising area of study to further investigate the managerial objectives of firms. Kaplan (1994) studied the relation of top management turnover and cash compensation to earning levels, changes in earnings, stock returns, and sales growth in large Japanese companies, and then, compared these relations to those of large American companies. He found that Japanese turnover and compensation responded to all four types of performance measures studied and that the responses were surprisingly similar to its American counterpart.

Although the study by Kaplan (1994) was a breakthrough in the field of empirical investigation of managerial objectives of Japanese firms *via* managerial incentive schemes, in our opinion, this study has two problems. Firstly, it does not explicitly consider that managers of Japanese firms may encounter substantial interference from their main banks and other financial institutions. If Japanese banks control and discipline the managers

of a combination of the systems of lifetime employment and the main bank. The combination and interaction of financial and employment systems in the Japanese economy has received international attention in recent years, particularly through comparison with “Western” economic systems. Further, Japanese managers are particularly motivated by the ambition to become the leaders of an industrial association or a business community (Aoki, 1988, chapter 6). Discerning whether or not Japanese firms are fundamentally different from firms of other nations, some authors, including Aoki (1994) and Osano and Serita (1995), assert that the aforementioned combination (and not individual subsystems such as financial relationships and employment relationships) is the key to the problem.

effectively—as asserted by the institutional complementarities theory—then the financial relationships should affect executive compensation schemes. Secondly, the study ignores managers’ concerns about employee welfare, which has been regarded as the most unique feature of Japanese managerial behavior. Although Kaplan (1994) concluded that the widely held view about Japanese firms being more able to invest in new projects with little or no short-run payoff is puzzling, subsequent empirical studies have shown that managers’ compensation in Japan may be even more complicated than Kaplan (1994) considered.⁶ In particular, Xu (1997) and Kato and Kubo (2006) show that it is important to design managerial incentive schemes in Japan that motivate not only the managers, but also the employees. This empirical result is consistent with the casual views about Japanese firms whose managers are expected to maximize or mediate the benefits of not only the stockholders, but also the stakeholders.⁷

There are several remarks on the Japanese corporate financing structure with respect to our empirical studies in the next section. First, the banks are linked with the firms in various ways: the main banks, for example, share the stocks of borrowing firms, appoint some directors to the firms, and provide the firms with implicit insurance against their financial difficulties. Moreover, the largest lenders are generally large stockholders in Japan. These facts make it difficult to identify and distinguish the interests of the stakeholders of the Japanese firms (Aoki and Patrick, 1994, chapter 6). Evidently, almost every firm borrows from several banks and various financial institutions, and the loan amounts from these non-main banks are significant. This *multiple credit relationship* should be considered when we study financial relationships in Japanese firms.

Second, it is well known that there is a problem of a moral hazard with main banks: they may neglect monitoring and financial rescuing, and there is little incentive for main

⁶ Managerial compensation may also be affected by other conditions. See Abowd and Kaplan (1999) for a complete survey.

⁷ This could be rationalized in several ways. First, the directors were not motivated to maximize stock return and short-term performance under the existing company laws. For example, it was virtually impossible for Japanese firms to provide stock options to its managers until 1997. Second, Japanese executives are usually appointed through the promotion system of the internal labor market. Therefore, executive rewards schemes are considered as an extension of the compensation system for employees. See, Kato and Kubo (2006).

banks to help firms in difficulty *ex post*. Aoki and Dore (1994) and Aoki and Patrick (1994) suggested two possible mechanisms for coping with this problem. In the first mechanism, the influential “voice” of the permanent employees endowed with strong employment rights may deter the main bank from failing to rescue. The second mechanism involves reciprocal *ex post* monitoring among banks lending to the firm, including government banks.⁸ It is believed that the government ensures that the main banks continuously monitor firms and provide relief to firms in financial difficulty. Borrowing from government banks may particularly affect the managerial behavior of private firms. As Okazaki (1996) shows, the Ministry of International Trade and Industry and the Bank of Japan determined the firms that are eligible to be financed by government-affiliated financial institutions. Therefore, the lending of government banks may have some signaling effects in that a “stable” relationship with government banks would strengthen the main bank relations. In past literature, government financial institutions such as the Japan Development Bank and the Export-Import Bank of Japan⁹ are not considered to be a main bank even if their lending share is the largest because these banks do not monitor the firm continuously. However, in this paper, we explicitly examine that the government bank may play the distinctive role of a “main” bank if its lending share is the largest. In sum, the employment system and executive incentive scheme of Japanese firms would be influenced by financial relationships, particularly those with the main banks and government banks.

Finally, we focus on the difference between the effects of financial relationships with first and second section listed companies in the TSE, which has not been focused on in past literature. TSE adopts a system of two sections. Usually, the companies in the second section would be transferred to the first section if they attain certain additional qualifications of liquidity of the stock and firm performance. Although there is little academic research on this issue, there seem to be two casual views about the difference between the first section and second section of the TSE. The first view emphasizes the reputation of the companies, and therefore, focuses on the effects on the implicit costs of recruiting the employees and

⁸ See Sheard (1994). Also, see Hoshi and Kashyap (2001).

⁹ In 1999, these government banks were integrated into the new government-affiliated public bank, Development Bank of Japan Inc., and it was furthermore privatized on October 1, 2008.

corporate financing. The other view stresses on stock liquidity. Actually, in many cases, founding families are major stockholders of second listed companies. This weakens the governance functions of stock market. These effects of stock liquidity, reputation, and corporate governance, if any, should directly or indirectly influence the conditions of employee and executive compensations through corporate financing.

3. DATA AND ESTIMATION PROCEDURE

3.1 Sample Description

The issue of what is the typical Japanese model of firms turns on a specific sample period we will make use of. As Noguchi (1998) discusses, although we may consider that the “Japanese economic system” was established in 1940, it was in the 1980s, during its transition to an economy with a stable rate of growth, that it began to garner academic attention as a possible option for an economic system. Therefore, we will consider 1984–1998 as the sample period of this paper.¹⁰ There are several reasons for the transition of the Japanese economy. First of all, the Nakasone cabinet, considered to be conservative mainstream, gained power in 1982 and the Liberal Democratic Party cabinet demitted office in 1994 when the Murayama coalition cabinet of the socialist party took office. This was a very important development because the government plays a key role in the Japanese economic system. Further, Japan’s relationship with the American economy after the Plaza Accord in 1985, when the value of the yen peaked, highlighted the distinctions between the two countries’ economies. During this period, the Japanese economy reached the height of prosperity (“Japan as number one,” the title of the book by Ezra F. Vogel, became a popular slogan), and then, descended into the abyss of the “lost years.” Therefore, this was the last period when the distinctive characteristics, if any, of Japanese firms existed. This period immediately preceded the start of the restructure-reform period wherein the Anglo-Saxon system was introduced.

¹⁰ Kim et al. (2007) considers the period from 1983 to 1996 for a sample of Japanese commercial banks since Japanese banks operated under a less restrictive regulatory environment then.

The data are collected for the companies (excluding finance and insurance companies) listed on the first and second sections of the Tokyo, Osaka, and Nagoya stock markets on the basis of their annual securities reports submitted to the Ministry of Finance. There are around 1,800 companies in each sample year. Note that our analysis is limited by inevitable restrictions of the data—the data are not complete for all listed firms in all sample years and some companies changed their dates of settlement in the sample period.

【TABLE 1 Here】

Table 1 provides the summary of our data. Here, we define “main bank” as a bank whose share of short-term loans is the largest among private banks. The three columns under the main banks present the number of firms of whom a main bank is one of the top ten shareholders, the top shareholder, and the largest long-term lender, respectively.

Table 1 indicates three noteworthy descriptive characteristics of Japanese corporate financing. First, main banks are major stockholders of borrowing firms in many cases. Second, government banks are important lenders to firms. Over 20 percent of the sample consists of firms whose leading bank is a government financial institution. Third, the intensity of the relationship between government banks and private firms seems to differ between the first and second section listed firms.

【TABLE 2 Here】

Table 2 compares the Japanese firms listed in the first and second sections. Tokyo, Osaka, and Nagoya stock markets divide their markets into two sections: the first section and the second section. In principle, newly listed stocks are assigned to the second section, and after a certain period (usually, one year), the stocks that meet the standards for the first section shall be designated as first section stocks.¹¹ For example, 216 companies from the

¹¹ The main differences in the listing criteria for the first section and the second section are as follows: the minimum number of stockholders, 2,200 and 800; the minimum shares outstanding, 20,000 and 4,000; and the minimum aggregate market value of stocks at listing,

second section that were designated in the first section during the years 1984–1993, while only one company from the first section was designated in the second section in the same period.

Both sections are formally categorized on the basis of stock liquidity—the number of stocks and trading volumes—and business conditions of issuing. Roughly speaking, the average size of the firms listed in the second section is one-tenth of that of the first section listed firms. Although the firms listed in the first section are more diverse in size than those listed in the second section, it is widely believed that companies listed on the first section are more reliable and have greater prestige. However, the advantages of the two-section stock market system are unclear. Moreover, to the best of our knowledge, little research has been conducted with regard to how this system affects corporate financing of Japanese firms. One of the merits of our study will be that it analyzes firm behavior by explicitly separating them according to the two sections.

It is worth mentioning that the sample period contains the “bubble” times and the ensuing crash of the Japanese stock market in 1989–1990, when the stock prices declined continuously. It is well known that this decline in stock prices extinguished substantial hidden profits of Japanese banks, and it should, therefore, be noted that their lending behavior may have changed during this period.

3.2 Panel Analysis Procedures

We use panel data that are available for n firms over T time periods. As mentioned above, there may be missing observations or unequal numbers of observations for some firms. The dependent variable, Y_i^t , is to be explained by some regressor X_i^t and Z^t ; Y_i^t is the observation on variable Y for firm i at time t , and may be a measure of corporate governance of firm i , while X_i^t is the observed explanatory variable that may be a measure of the lending relationship between firm i and financial institutions at time t . Z^t is the macro variable that affects all firms. The basic model is given by:

50 billion yen and 1 billion yen (as in April 2009). The criteria have been changed several times. The detailed listing criteria are provided at <http://www.tse.or.jp>.

$$Y_i^t = \alpha_i + \beta_i X_i^t + \gamma_i Z^t + \varepsilon_i^t, \quad i = 1, 2, \dots, n, t = 1, 2, \dots, T,$$

where ε_i^t is the error term.

To control for factors that may affect the entire economy each year (expressed as Z^t), we include year dummies in every regression. As mentioned above, the data that we use are unbalanced, that is, there are different numbers of observations for each cross-section firm. While estimating, we assume that the independence across time series and cross-section units will work the same, irrespective of whether the data are balanced or unbalanced and with or without gaps.

We can distinguish the following four models according to the assumption about the parameters, specifically about the intercept term α_i . The pooling model—OLS (ordinary least squares) on the total—proposes that α and β are constant over time for each firm; the between-individuals model (OLS on the individual mean) specifies the same relationship between the means for each individual; the fixed effect model (the within-individuals model) assumes that there are common slopes, but each cross-section unit has its own intercept—an individual dummy—that is, the intercept term is assumed to explicitly vary over individual firms; and in the random effect model (the variance-components model), the slopes are treated as identical over all cross-section units (so that, $\beta_i = \beta$ for all i) but the intercepts are treated as random variables, and not fixed constants. The random effect model (variance component estimator) has the advantage of consistency of treatment—just as ε_i^t represents general ignorance and is modeled as a random variable, similarly, α_i represents case-specific ignorance and is modeled as a random variable.

There have been several arguments related to choosing between the random effect and the fixed effect model. The variance component estimator is asymptotically efficient and consistent under the null of uncorrelated intercepts because it is a generalized least squares estimator. However, unlike the fixed effect model, where all time invariant effects are subtracted out, the variance component estimates are inconsistent when the individual intercepts are correlated with the independent variables.

In the following, we employ the Hausman specification test for the difference between the fixed effect and the random effect estimates in order to choose the model. As a

result, we will report only the results of the fixed effect model in most cases—the single exception being the results of the relationship between executive rewards and firm performance—because the null hypotheses of the tests are rejected with a very low significance level.

3.3 Measures of Lending Relationship

3.3.1 Loan share of a Main Bank

Table 3 provides a summary of some important measures of lending relationships between Japanese firms and financial institutions.

【TABLE 3 Here】

Although main banks are considered to play various roles in the Japanese economy, in this paper, we use the loan share of a main bank as a proxy of the strength of the relationship with the main bank. Specifically, we employ the loan share of short-term loans among *private* banks because it is usually one of the requisites for a main bank that its loan share should be the largest among private banks. It should be noted that the largest loan share is regarded as a primary condition of the main bank, but not a necessary condition. Occasionally, a bank whose loan share is not the largest is perceived as a “main bank” in consideration of other factors such as the period of lending relations, stockholding of the borrowing firm, directors appointed by the bank to the borrowing firm, and keiretsu relations.

【TABLE 4 Here】

Table 4 shows that there is no significant difference in the loan share of main banks between the companies listed in the first and second sections, while there is a considerable difference in the share of government financial institutions, with a very large standard deviation in the second section.

3.3.2 *Multiple Reciprocal Relationships with Financial Institutions other than Main Bank*

The second and more precise approach for lending relationships is to explicitly consider the role of financial relationships with banks apart from main banks—such as with non-main banks or the external credit market. In fact, the long-term loan shares for Japanese listed companies in Table 4 indicate that firms borrow from various financial institutions other than main banks and that the companies listed in the second section depend on private firms, while the ones listed in the first section rely on government financial institutions.

It is empirically more difficult to quantify the strength and stability of these multiple reciprocal relationships among firms, main banks, and other financial institutions. In this paper, we employ “information content” (hereafter, IC) as a proxy for the “stability” of the lending relationships between various financial institutions and a firm, $IC \equiv - \sum_i \sigma_i^t \log(\sigma_i^t / \sigma_i^{t-1})$, where σ_i^t is the loan share of the i -th financial institution at time t .¹² There are at least two intuitive reasons that IC is appropriate for a measure of “stability” in the relationships between several financial institutions and a firm. First, if the lending of every financial institution grows proportionally, that is, all the shares remain at the same levels, then IC takes the maximum value of zero. Second, IC represents the degree of concentration of lending shares, and assigns lower values when the shares move towards a more even state—analogous to an inequality measure of income distribution or to the degree of monopoly. Inasmuch as we have noted that the main bank relationship strengthens when the share of the main bank increases, we could consider that a firm is in a stronger lending relationship when the borrowing is concentrated at a few institutions, that is, when there is more intensive or monopolistic lending.

The last row of Table 3 reports the IC values of long-term loans to the first and second section listed firms. The IC value for the second section is higher than that for the first section.

¹² $IC = [\sum_i \sigma_i^t \log \sigma_i^{t-1} - H(\sigma_1^t)]$, where $H(\sigma_1^t) \equiv \sum_i \sigma_i^t \log \sigma_i^t$ is an entropy. See Golan, Judge and Miller (1996, chapter 2). With regard to a necessary condition for the maximum value of IC, for given σ_i^{t-1} and the restriction $\sum_i \sigma_i^t = 0$, when we calculate $\partial IC / \partial \sigma_i^t = 0$, we get that $\log \sigma_i^{t-1} - \log \sigma_i^t + 1 - \lambda = 0$, $i = 1, \dots, n$, where λ is a Lagrange multiplier of the restriction $\sum_i \sigma_i^t = 0$. This implies that $\log(\sigma_1^t / \sigma_1^{t-1}) = \log(\sigma_2^t / \sigma_2^{t-1}) = \dots = \log(\sigma_n^t / \sigma_n^{t-1})$.

This reflects that the firms listed in the second section borrow intensively from fewer institutions, for example, their borrowing from city banks is very large, while that from foreign banks is very little.

3.4 Effects of the Government and Shareholders

As mentioned above, there is a large difference in the share of government financial institutions and the standard deviation between the first and second section listed firms. Basically, lending from government-affiliated financial institutions comes from the *Government Investment and Loan Program*—also called the “second government budget”—and it could be interpreted as a measure of commitment by the government. For example, on the basis of case studies, Okazaki (1996) concludes that lending by government banks is effective as a vital instrument of fund allocation policy in postwar Japan. Therefore, lending from government banks indicates industrial policy, and is expected to prime a reservoir of funds of private banks. This is called the *Cow-bell effect*. If the loan share of a government financial institution is the largest, even firms with lower than average quality will be financed in many more markets with lower costs. Thus, it is important to discern whether a government financial institution is deeply committed to a firm (for example, as a “main bank”) or not. In this context, although there are several arguments about the role of government financial institutions, it seems that their important effects are qualitative rather than quantitative in nature. In light of this, we use a dummy variable that takes the value of one as a measure variable representing the strength of the relationship between firms and government financial institutions if the firm’s leading bank is a government financial institution.

Since the classic work of Berle and Means (1956), it has been widely accepted that a large corporation is controlled by the management rather than the owners, and that the management may sacrifice the interest of owners, such as profits. Further, as suggested by Jensen and Meckling (1976), some efforts to monitor managerial decisions and behavior may raise stockholders’ profits, but when a firm has many shareholders and lenders, the magnitude of monitoring effort exerted by them will be less than the (socially) optimal magnitude because of the external effect of one monitoring on the benefits of the others. In this context, stockholders’ interference would directly affect managerial behavior and

agency costs. Here, we use the accumulated holdings percentage of the top ten stockholders as a measure of the strength of these stockholders' interference because, as noted above, diffusely held firms would be poorly monitored.

4. REGRESSION RESULTS

4.1 Financial Relations and Firm Performance

The variables of interest in this case—as performance measures—are the increasing rate of stock prices (the highest and lowest price during each year), gross profits on sales per total assets, operating income per total assets, ordinary income per total assets, and sales growth rate.¹³

【TABLE 5 Here】

A descriptive summary of these performance measures is provided in Table 5. For all performance measures, the first section listed firms exhibit better performance than the second section listed ones in this case.¹⁴ As mentioned previously, since the sample period includes the crash of the stock market, the average increasing rates of the stock prices are negative. In particular, the decline of the stock prices of the section listed firms was very severe.

【TABLE 6 (a), (b), and (c) Here】

Tables 6 (a), (b), and (c) present the results of the regressions of the effects of lending relationships on firm performance.

Both stable main bank and long-term loan relationships have significant positive

¹³ There have been arguments about adequate performance measures of a firm. See Kaplan (1994), and Abowd and Kaplan (1999) for the literature.

¹⁴ This may cause some bias in the regression results.

effects on the performance of the first and second section listed firms as well as their overall performance, though some of these effects are insignificant—however, they still have a positive impact—for the second section listed companies. The effects of strong ties with government banks are insignificant as a whole, except for the positive effect on the ordinal income ratio. Although, apparently, the government banks did not contribute to improving the performance of Japanese firms, their effect is unclear. In particular, the first section listed firms have a negative impact on almost all performance measures, except for the operating income ratio per total assets.

The concentration of stockholders has negative effects on the incomes and profits per asset and a positive influence on the stock prices and growth of the firm. However, these effects are consistent among the first listed, second listed firms, and their total.

Generally, the results for the first and second listed firms differ in several important aspects. Particularly, the effects of financial relations on stock prices and firm growth differ. The long-term relationship with banks contributes to the stock prices for the total. However, it has negative effects on the first listed companies and has no significant effects on the second listed companies. Further, it contributes to the growth of the first listed companies, whereas it has no significant effect on the second listed companies.

4.2 The Interaction between Financial and Employment Relations

【TABLE 7 Here】

Table 7 reports the results of the regression of the average years of service of employees on the measures of financial relationships. In the regression, we consider three other independent variables—the ratio of the number of male workers to the total number of workers, the ratio of the number of blue-collar workers to the total number of workers, and the average age of the workers—to control the firm-specific circumstances. The estimated coefficients of these control variables are statistically significant and have the predicted signs in all regressions.

Remarkably, all the effects of financial relationships have opposite signs in the first section listed and the second section listed firms. In particular, close relations with the main

bank has negative effect on the length of employment in the second section listed firms. Further, the effect of the government financial institution dummy is negative and significant for the first section listed firms. Stable stockholders contribute to longer periods of employment for the first section listed companies, while the corresponding result for the second section listed firms is the opposite.

【TABLE 8 Here】

Table 8 presents the results of the regression of the average monthly wage and welfare expense on the measures of financial relationships. It shows that the effects from financial relationships between the first and second section listed firms also differ. A stronger relationship with a government financial institution definitely reduces the length of labor services. For the first section listed firms, there is evidence of close coordination between the length of labor services of the employees and financial relationships. However, for the second section listed firms, stable and stronger relationships between a firm and financial institutions seem to be associated with a disadvantage to the employees.

Overall, a stable relationship with the main bank and the concentration of stock holders contribute to longer employment and higher wages. However, a stable and strong financial relationship is *not* to the advantage of the employees in the second section listed firms, while it acts for the benefit of the workers in the first section listed firms. Rather unexpectedly, major stockholders seem to have a strong positive impact on employment conditions in Japanese firms.

4.3 Managerial Incentives and Financial Relationship

【TABLE 9 Here】

Table 9 presents the results of the regressions of the compensation-performance relationship, which includes measures of financial relationships.¹⁵ There are two technical

¹⁵ The R² statistics of this study are higher than those of previous studies on the relationship

comments on the regressions. First, we report the results of the between-individuals model and the fixed effect model because the null hypothesis that the intercept terms are the same for all individual firms is not rejected here. Furthermore, the estimated results with respect to financial relationships differ according to the regression method used. Second, many researchers in related studies have encountered a multicollinearity problem because firm performance measures are generally correlated to each other. In addition, performance measures may be correlated to financial variables as suggested above. While this could create some problems in the estimation in this study, it should be noted that the results of the previous subsection suggest that the relationship may be weak as a whole.

With regard to performance measures, our results are basically consistent with those of Kaplan (1994), though he focused only on very large companies. Specifically, he emphasized that cash compensation for Japanese directors is statistically related to all performance measures. However, the measures of financial relationships are not significant as a whole.

Overall, any financial relationship has little influence on executive rewards, and neither banks nor shareholders exert an effect on executive rewards. Remarkably, however, strong connections with government banks seem to reduce executive rewards, while strong connections of firms with main banks and major stockholders have a positive effect on executive effect on executive rewards.

These results imply that managers of Japanese firms have little personal incentive to establish closer relationships between their firm and banks. Particularly, it seems that close ties with government banks roughly lead to penalties for managers. Given these implications, the widely held view that Japanese firms are closely associated with banks and that banks control them is rather puzzling. Financial institutions would be unable to exert influence over the firms' managers if they cannot affect the managers' motivation.

between firm performance and executive compensation. See Kaplan (1994), Kubo (2005), and Sakawa and Watanabel (2008).

5. CONCLUDING REMARKS

We studied the relationships between Japanese firms and financial institutions, including major stockholders and government financial institutions, and examined their relations with respect to the firm's performance, employment conditions, and managerial incentives using comprehensive panel data of listed companies. In particular, our study explicitly considered the difference between the sections of stock markets in order to get some insights into the so-called Japanese firm model, whereas almost all previous empirical studies on Japanese firms were conducted from the perspective of *keiretsu* versus non-*keiretsu* firms.

Our findings through panel regressions are summarized as follows. First, strong and stable financial relationships have a positive influence on wages of the firms listed in the first section. However, they negatively affect the employment conditions of the second section listed firms. A government bank dummy, which indicates that a government bank is the leading bank for a firm, has a significantly negative effect on both first and second section listed firms. Second, stronger and stable financial relationships tend to be positively related to firm performance, depending on the performance measures used. However, in this case, the effect of government banks is either negative or not significant. Finally, as Kaplan (1994) found for the largest firms in Japan and America, we can confirm that executive cash compensation is sensitive to the firm's performance measures, which represent the short-term profits of the stockholders. Further, we find that the executive compensation scheme is almost unrelated to financial relationship measures apart from the aforementioned dummy variable, which is negatively related to executive compensation.

The implications of our results on Japanese listed companies are clear. First, although previous related studies have neglected this aspect, the effects of lending relationships on managerial behavior in the first and second section listed firms may differ. Second, both managers and employees, particularly those of the firms listed in the second section, have weak personal incentives to establish closer relationships between their firms and banks. Given this result, the widely held view that Japanese firms tend to "tie up" with banks is doubtful. Finally, we find that main bank relationships and multiple credit relationships apparently influence firm behavior in the same direction. On the whole, we find little

evidence supporting that the influence of main banks is more significant than that of other financial institutions and major stockholders.

Rather surprisingly, our results suggest that major stockholders may play active roles in Japanese firms. Further, our results contradict the widely accepted idea that lending from government banks is virtually a governmental subsidy and that it could act as rents to borrowing firms in Japan. A possible interpretation of our results with regard to government banks may be that they have been asked to lend a helping hand to (at least from the short-term perspective) inefficient firms whose financing cannot be borne by private banks. However, this interpretation is not supported because it is inconsistent with other empirical results: Firstly, the government bank dummy is insignificant in the regression of performance measures. And secondly, the first section listed companies are more efficient with respect to our performance measures, while the percentage of the companies listed in the first section whose leading banks are government banks is somewhat higher than that of the second section listed companies.¹⁶

These asymmetric effects of financial relationships on the conditions of employee and executive compensation are puzzling because the effects imply that financial relationships in Japan, including those with main banks and government banks, provided little managerial incentives for concern about stable employment relationships, whereas a close bank-firm relationship in Japan has been believed to contribute to stable employment. A possible explanation is that both financial and employment relationships would evolve according to the development of a firm. Our results of the discrepancy between the first and second section listed firms justify this explanation.

¹⁶ Another important point concerns the managerial objective of Japanese banks. It is very obvious that corporate governance through bank lending would fail if the bank itself is irrational. Therefore, it is important to study the managerial objectives of Japanese banking. See Izawa and Tsutsui (1998).

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TABLE 1 Summary of the Sample

	Number of the Observation	1st Section				2nd Section					
		Top 10 Shareholders	<u>Main Bank</u> Top Shareholders	Top Long-term Lender	Government Bank is the Top Lender	Top 10 Shareholders	<u>Main Bank</u> Top Shareholders	Top Long-term Lender	Government Bank is the Top Lender		
1982	1509	1012	740	115	90	214	495	290	24	67	54
1983	1635	1104	807	131	118	220	529	327	24	87	64
1984	1655	1111	812	127	119	228	542	344	20	101	65
1985	1664	1115	831	118	127	229	547	359	24	116	64
1986	1671	1114	833	117	148	227	555	370	27	122	57
1987	1645	1077	797	85	155	216	566	393	18	126	51
1988	1657	1067	765	66	145	199	588	383	12	116	52
1989	1766	1111	783	72	139	195	651	426	14	141	54
1990	1838	1150	793	66	146	194	684	442	18	136	55
1991	1862	1149	805	70	157	185	711	451	20	144	66
1992	1888	1153	814	71	158	197	733	454	24	142	57
1993	1930	1154	834	70	170	211	774	498	23	170	61
1994	1958	1152	729	68	153	183	804	414	17	149	49

Note: “Main bank” is the largest lender of short-term loans among private banks. Each column under the main banks presents the number of firms whose main bank is also one of top 10 shareholders, the top shareholders, and the largest long-term lender respectively.

TABLE 2 Comparisons of the First and Second Section Listed Companies

	Mean	-----	
		1st Section	2nd Section
Total Assets (million yen)	165,825.10	247,093.18	22,192.13
Net Sales (million yen)	195,826.34	291,329.31	27,158.10
Total Stock Issued (1,000 shares)	131,214.56	194,977.56	19,012.54
Accumulated Holdings of the Top 10 Stockholders (%)	49.09	45.62	55.39
Number of Employees	2,525.07	3,603.75	617.38

TABLE 3 Measures of Lending Relationships

	Mean	-----	
		1st Section	2nd Section
Share of Main Bank Loan within Private Banks	0.22678 (0.21918)	0.22325 (.21755)	0.23346 (0.22210)
IC Measure of Stability of Private Financial Relationship	-1.05489 (0.87670)	-1.13142 (0.91175)	-0.91992 (0.79354)
Loan Share of Government Bank	0.11233 (0.22265)	0.13375 (0.23408)	0.073809 (0.19465)

Note: Figures in parenthesis denote standard deviation. Main bank is defined as a bank whose short-term loan share is the largest.

TABLE 4 Shares of Long-Term Loans

	Mean (%)	1st Section	2nd Section
City Banks	18.261	15.873	22.471
Regional Banks	3.6856	2.5303	5.7116
Trust Banks	12.866	13.619	11.568
Long-term Credit Banks	13.403	14.053	12.266
Foreign Banks	0.3444	0.49015	0.090967
Second Regional Banks	0.82278	0.37204	1.6138
<i>Shoko Chukin Bank, and Norinchukin Bank</i>	1.5644	1.3016	2.0294
Life Insurance Companies	8.4222	9.5843	6.4169
Non-life Insurance Companies	0.44531	0.48187	0.38198
Government Banks	6.3528	7.8042	3.7336
Government Financial Institutions	4.7489	5.4582	3.5244
IC Measure of Stability	-0.78764	-0.84774	-0.68151
(Standard Deviation)	(0.63872)	(0.65565)	(0.59309)

Note: *Shoko Chukin Bank's* former name is Central Bank for Commercial and Industrial Cooperatives, and *Norinchukin Bank's* former name is Central Cooperative Bank for Agriculture and Forestry.

TABLE 5 Performance Measures of Firms

	Mean (%)	1st Section	2nd Section
Increasing Rate of Stock Price:			
Highest Stock Price during Year	-1.5620	-0.097812	-4.2845
Lowest Stock Price during Year	-2.1823	-0.92799	-4.5151
Gross Profits on Sales/Total Assets	4.5338	4.6580	4.3005
Operating Income/Total Assets	4.1255	4.4019	3.6124
Ordinary Income/Total Assets	6.7934	7.0519	6.3113
Sales Growth Rate	3.8349	3.9208	3.6764

TABLE 6 (a) All Companies (Fixed Effect Regression)

Independent	Increasing Rate of Stock Price		Gross Profits on Sales Rate	Operating Income Rate	Ordinary Income Rate	Growth of Sales
	Highest Price	Lowest Price				
Main Bank	0.032352 (1.59703)	0.035943 (1.79527) *	0.422354E-02 (2.82516) **	0.527683E-02 (3.41610) **	0.353299E-02 (2.41323) **	0.022637 (3.44761) **
Long-term Loan Relationship	-0.17211E-02 (-0.16828)	0.017362 (1.71765) *	0.264918E-02 (3.55582) **	0.800612E-02 (10.4003) **	0.383626E-02 (5.25813) **	0.662809E-02 (1.99741) *
Government Bank	0.42541E-02 (0.340488)	-0.32973E-02 (-0.267021)	0.39923E-03 (0.427565)	0.254979E-02 (2.64248) **	0.364644E-03 (0.398727)	-0.88284E-02 (-2.15857) **
Top 10 Stockholders' Share	0.24926E-04 (3.69596) **	0.181876E-02 (2.72870) **	-0.39595E-05 (-14.3844) **	-0.37222E-05 (-13.0854) **	-0.35559E-05 (-13.1894) **	0.104649E-04 (4.83052) **
\bar{R}^2	0.236854	0.293336	0.535647	0.591370	0.551180	0.175276
Number of the Observation	19839	19839	22673	22677	22677	20638

Note: Figures in parenthesis denote t-value. ** denote 5% significant, and *,10% significant. Year dummies are included in every regression.

TABLE 6 (b) First Section Listed Companies (Fixed Effect Regression)

Independent	Increasing Rate of Stock Price		Gross Profits on Sales Rate	Operating Income Rate	Ordinary Income Rate	Growth of Sales
	Highest Price	Lowest Price				
Main Bank	0.016506 (1.22153)	0.011796 (0.546650)	0.520684E-02 (2.91899) **	0.769457E-02 (4.22700) **	0.409032E-02 (2.34900) **	0.022444 (3.16485) **
Long-term Loan Relationship	-0.013454 (-2.95643) **	0.827594E-02 (0.767923)	0.143445E-02 (1.62487)	0.656298E-02 (7.28491) **	0.252061E-02 (2.92485) **	0.722647E-02 (2.04000) **
Government	-0.871842E-02 (-1.20558)	-0.020748 (-1.67434)	-0.267688E-03 (-0.260558)	0.179875E-02 (1.71569) *	-0.145910E-03 (-0.145488)	-0.010803 (-2.63237) **
Top 10 Stockholders' Share	0.951621E-06 (0.430122)	0.279525E-04 (3.66098) **	-0.397353E-05 (-9.12128) **	-0.408065E-05 (-9.17909) **	-0.361865E-05 (-8.50927) **	-0.112367E-05 (-0.450057)
\bar{R}^2	0.307693	0.371446	0.579064	0.631306	0.596877	0.213949
Number of the Observation	12894	12894	14469	14469	14469	13280

Note: Figures in parenthesis denote t-value. ** denote 5% significant, and *,10% significant. Year dummies are included in every regression.

TABLE 6 (c) Second Section Listed Companies (Fixed Effect Regression)

Independent	Increasing Rate of Stock Price		Gross Profits on Sales Rate	Operating Income Rate	Ordinary Income Rate	Growth of Sales
	Highest Price	Lowest Price				
Main Bank	0.042443 (0.969571)	0.073502 (1.80993) *	0.322137E-02 (1.21242)	0.175454E-02 (0.626964)	0.312909E-02 (1.19589)	0.025304 (1.91042) *
Long-term Loan Relationship	-0.477367E-02 (-0.211717)	0.031466 (1.50432)	0.563803E-02 (4.19507) **	0.011395 (8.05070) **	0.693065E-02 (5.23678) **	0.586739E-02 (0.856083)
Government	0.077058 (2.42673) **	0.040790 (1.38467)	0.188641E-02 (0.950444)	0.394902E-02 (1.88833) *	0.142357E-02 (0.728029)	-0.415269E-02 (-0.425808)
Top 10 Stockholders' Share	0.922964E-05 (0.696416)	0.967495E-05 (0.786905)	-0.399301E-05 (-10.4000) **	-0.344907E-05 (-8.52631) **	-0.353140E-05 (-9.33645) **	0.249815E-04 (6.19557) **
\bar{R}^2	0.199784	0.204569	0.470612	0.527965	0.475090	0.134454
Number of the Observation	6926	6926	8174	8178	8178	7332

Note: Figures in parenthesis denote t-value. ** denote 5% significant, and *,10% significant. Year dummies are included in every regression.

TABLE 7 Average Years of Service of Employees

Independent	Total	Fixed Effect Regression	
		1st Section	2nd Section
Loan Share of Main Bank	2.90094 (3.44642) **	1.87713 (1.67526) *	-2.04242 (-2.30537) **
Long-term Loan Relationship	-1.54667 (-3.68470) **	-2.10060 (-3.78734) **	2.33933 (5.22006) **
Government Bank is Leading	-0.303964 (-0.577975)	-1.79502 (-2.78204) **	2.55366** (3.86778) **
Top 10 Stockholders' Share	0.917506 (58.3280) **	0.621944 (22.3805) **	-383087 (-17.1721) **
Ratio of Male Workers	33.8760 (16.4089) **	43.7344 (14.4600) **	5.46392 (2.83993) **
Ratio of Blue-collar Workers	5.07401 (5.10609) **	0.797247 (0.569741)	6.97156 (7.16530) **
Average Age of Workers	0.780414E-04 (1.56315)	0.597246E-04 (1.13766)	0.350121 (79.9845) **
\bar{R}^2	0.858465	0.829683	0.947948
Number of the observation	22675	14469	8176

Note: Figures in parenthesis denote t-value. ** denote 5% significant, and *, 10% significant. Year dummies are included in every regression.

TABLE 8 Average Monthly Wage and Welfare Expenses

Independent	Total	Fixed Effect Regression		
		1st Section	2nd Section	
Loan Share of Main Bank	0.118141 (3.06876) **	0.181737 (3.40542) **	-0.015731 (-0.312924)	
Long-term Loan Relationship	0.096682 (4.87548) **	0.148568 (5.38042) **	0.316644E-02 (0.123128)	
Government Bank is Leading	-0.118606 (-4.67213) **	-0.082312 (-2.52366) **	-0.198437 (-5.17779) **	
Top 10 Stockholders' Share	0.277445E-02 (3.90591) **	0.47968E-02 (3.71545) **	-0.116792E-02 (-0.928891)	
Ratio of Male Workers	0.287043 (3.36444) **	0.669209 (5.05666) **	-0.133018 (-1.36767)	
Ratio of Blue-collar Workers	-0.150501 (-3.19053) **	-0.038143 (-0.546383)	-0.386551 (-6.82715) **	
Average Age of Workers	0.491249E-07 (0.025313)	0.454724E-07 (0.021603)	0.108439E-02 (4.53074) **	
	\bar{R}^2	0.889323	0.882819	0.909131
Number of the observation	16807	10543	6243	

Note: Figures in parenthesis denote t-value. ** denote 5% significant, and *,10% significant. Year dummies are included in every regression.

TABLE 9 Executive Rewards and Firm Performance

Dependent: Percent Change in Directors' Salaries and Bonuses

Independent	Total	Regression on Means			Fixed Effect Regression	
		1st Section	2nd Section	Total	1st Section	2nd Section
Change in the Highest Stock Price	2.31164 (2.62096) **	3.57095 (3.43982) **	0.518812 (0.319445)	0.101073 (0.214450)	-0.480367 (-0.755858)	1.17626 (1.96861) *
Sales Growth	0.244057 (7.41155) **	0.273082 (7.10229) **	0.195777 (3.36645) **	0.175542 (8.89568) **	0.168768 (5.63785) **	0.175963 (8.40598) **
Change in Business Profits/Assets	0.071286 (0.059948)	2.06675 (1.14630)	0.081389 (0.046832)	3.76126 (5.69824) **	4.91590 (4.82315) **	2.64323 (3.90948) **
Loan Share of Main Bank	1.63427 (1.41904)	2.78380 (2.07292) **	0.771732 (0.369042)	-0.521818 (-0.382028)	-0.456583 (-0.244462)	-2.54258 (-1.51024)
Long-term Loan Relationship	0.109197 (0.301383)	0.585626 (1.45268)	-0.993830 (-1.35726)	-0.211742 (-0.285093)	-0.301558 (-0.292686)	-0.862822 (-0.944436)
Government Bank	-2.70062 (-4.02950) **	-3.56913 (-5.00517) **	0.656035 (0.443981)	-0.199285 (-0.223930)	0.281654 (0.236963)	-0.666438 (-0.553718)
Top 10 Stockholders' Share	-0.126E-03 (-0.82186)	0.116728E-03 (0.622493)	-0.416377E-03 (-1.49723)	0.179312E-03 (0.391809)	0.362821E-03 (0.5126963)	0.371642E-03 (0.676685)
\bar{R}^2	0.080036	0.123805	0.073871	0.041859	0.031017	0.112990
Number of the Observations	8860	6023	2837	8860	6023	2837
F-statistics (significance level)	0.96312 (0.8141)	0.86615 (0.9973)	1.3482 (0.0000)			
Hausman Specification Test (significance level)				$\chi^2(18) = 12.3$ (0.8336)	$\chi^2(18) = 13.6$ (0.7521)	$\chi^2(18) = 24.6$ (0.1349)

Note: Figures in parenthesis denote t-value. ** denote 5% significant, and *, 10% significant. Year dummies are included in every regression. Null hypothesis of the F-test and Chi-square test is that the intercept is same for all individual firms